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EM-SPRINT-088-140218

February 14, 2014

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051
Attn: Ms. Melanie Bachman, Executive Director

Re: 37 Peach Orchard Road, Naugatuck (next to Prospect), CT

Dear Ms. Bachman,

On behalf of Sprint Nextel Corporation ("Sprint"), enclosed for filing are an original and two (2) copies of Sprint's Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site.

I also enclose herewith a check in the amount of $625.00 representing the fee for the Notice of Exempt Modification.

If you have any questions, please feel free to contact me.

Thank you,

By: _____

Name: David Weisman
Vertical Development LLC, an authorized representative of Sprint Nextel
Vertical Development LLC
20 Commercial Street
Branford, CT 06405
Phone – 401-743-9011
Fax – 401-633-6202
DWeisman@verticaldevelopmentllc.com

CC: Mayor Robert A. Mezzo
Borough of Naugatuck
Town Hall
229 Church Street
Naugatuck, CT 06770

Notice of Exempt Modification

37 Peach Orchard Road, Naugatuck (next to Prospect), CT

Sprint Nextel Corporation ("Sprint") submits this Notice of Exempt Modification to the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-73 and 16-50j-72(b) of the Regulations of Connecticut State Agencies ("Regulations") in connection with Sprint's planned modification of antennas and associated equipment on an existing 276' guyed tower located off 37 Peach Orchard Road in the Borough of Naugatuck (next to Prospect). More particularly, Sprint plans to upgrade this site by adding 4G LTE technology to its facilities. The proposed modifications will not increase the tower height, extend the boundaries of the tower site, cause a significant adverse change or alteration in the physical or environmental characteristics of the site, increase noise levels at the tower site boundary by six (6) decibels, add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996, as amended, and the State Department of Energy and Environmental Protection, pursuant to Section 22a-162 of the Connecticut General Statutes, or impair the structural integrity of the facility, as determined in a certification provided by a professional engineer licensed in Connecticut.

To better meet the growing voice and data demands of its wireless customers, Sprint is upgrading their network nationwide to include 4G technology, which will provide faster service and better overall performance. Pursuant to the 4G upgrade at this site, Sprint will add antennas, install RRHs, notch filters and combiners, and install related equipment to its equipment area within the fenced tower compound.

The 276' guyed tower located off 37 Peach Orchard Road in the Borough of Naugatuck (lat. 41° 31' 04.63", long. 73° 01' 06.43") is owned by Channel 20. It is located on a 7.9 acre parcel. Sprint currently has four (4) antennas (two (2) antennas on one (1) sector and one (1) antenna each on two (2) sectors) with a centerline of 210' installed on the tower. Sprint's base station equipment is located within a fenced compound close to the base of the tower. A site plan depicting this is attached.

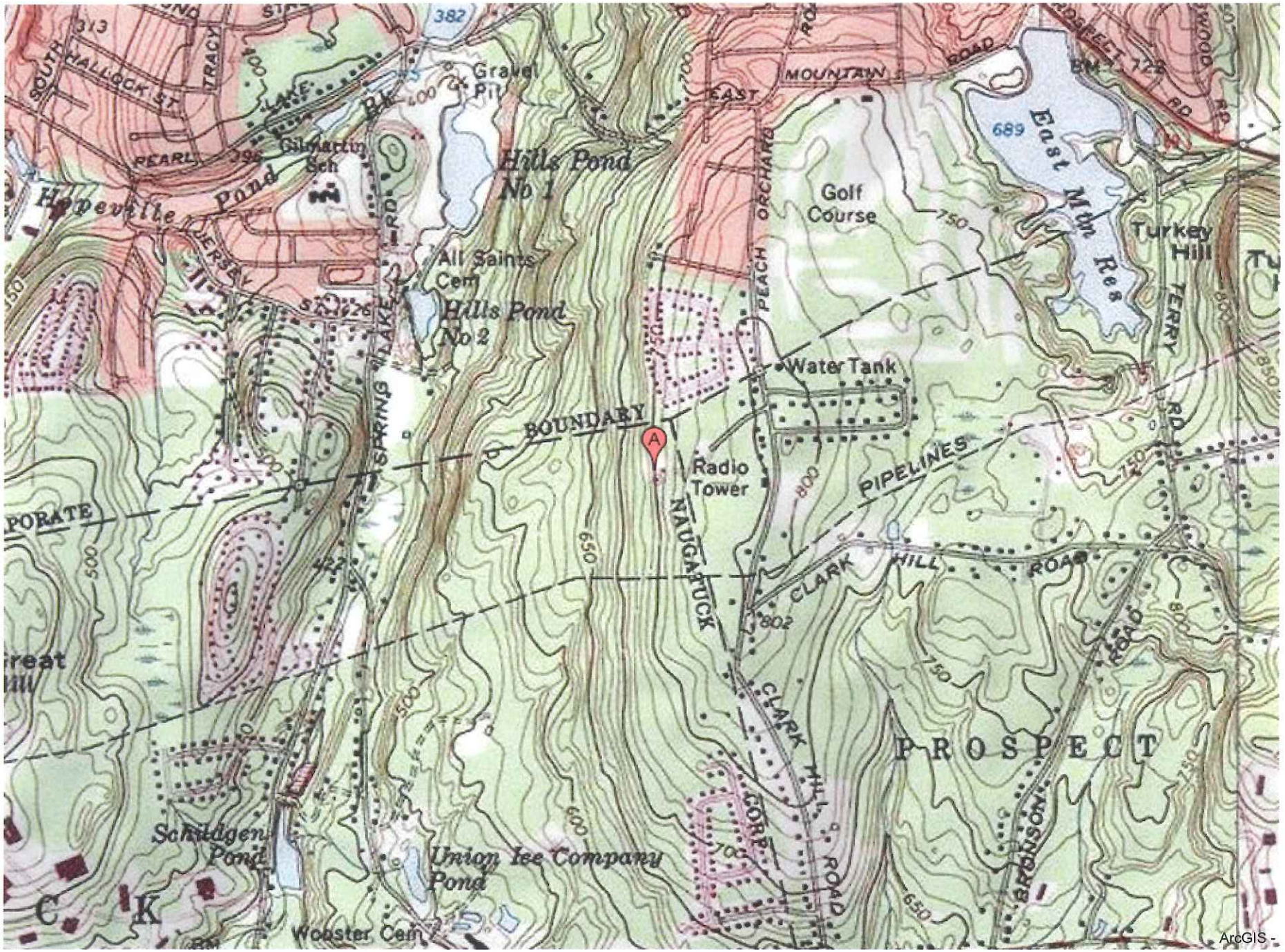
Sprint plans to add three (3) RFS APXVSPP18-C-A20 antennas, one (1) per sector, all with a centerline of 210'. Connected to each new RFS antenna will be one (1) ALU 800 MHz RRH with one (1) ALU 800 MHz notch filter attached to it, two (2) ALU 1900 MHz RRHs, and one (1) 1900 combiner, all of which will be located behind the antenna. After the new antennas have been tested and are deployed on-air, the four (4) previously existing antennas will be removed. The height of the tower will not need to be increased. Sprint also plans to install a new fiber junction box and a new Ciena equipment enclosure, both on new H-frames, and retrofit or replace the existing BTS cabinet within its fenced equipment space. A junction box will also be installed on the cable tray. The compound's boundaries will not need to be extended. The proposed modifications will not cause a significant adverse change or alteration in the physical or environmental characteristics of the site, since it is already a telecommunications installation and the modifications will be compatible with this. Other than brief, construction-related noise, these modifications will not increase noise levels at the tower site boundary by six (6) decibels.

The proposed modifications will not add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996, as amended, and the State Department of Energy and Environmental Protection, pursuant to Section 22a-162 of the Connecticut General Statutes. A radio frequency emissions analysis prepared by EBI Consulting indicates that the proposed final configuration (including other carriers on the tower) will emit 26.916% of the allowable FCC established general public limit sampled at the ground level (see the 5th page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, January 2, 2014). Emission values for the Sprint antennas have been calculated from the sample point, which is the top of a six foot person standing at the base of the tower. Emissions values for additional carriers were based upon values listed in Connecticut Siting Council active database (see the 3rd and 4th page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, January 2, 2014).

The information used in the report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1 (see the second page of Radio Frequency Emissions Analysis Report - Evaluation of Human Exposure Potential to Non-Ionizing Emissions, January 2, 2014).

The proposed modifications will not impair the structural integrity of the facility. Sprint commissioned Infinigy Engineering to perform a structural analysis of the tower to verify that it can support the proposed loading. The structure and foundation were found to be of "Sufficient Capacity" with the proposed modifications (see the first page of Post-Mod Tower Analysis Report, January 27, 2014). The tower is rated at 96% of its capacity with the proposed modifications (see the first page of Post-Mod Tower Analysis Report, January 27, 2014).

In conclusion, Sprint's proposed modifications do not constitute a modification subject to the Council's review because Sprint will not change the height of the tower, will not extend the boundaries of the compound, will not cause a significant adverse change or alteration in the physical or environmental characteristics of the site, will not increase the noise levels at the site, will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards, and will not impair the structural integrity of the facility. Therefore, Sprint respectfully requests that the Council acknowledge that this Notice of Exempt Modification meets the Council's exemption criteria.



Peach Orchard Road, Naugatuck, CT

Peach Orchard Road, Naugatuck, CT

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: CT03XC025

Smaller WTXX Tower
37 Peach Orchard Road
Prospect, CT 06712

January 2, 2014

EBI Project Number: 69132805

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

January 2, 2014

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

Re: Emissions Values for Site: **CT03XC025 – Smaller WTXX Tower**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 37 Peach Orchard Road, Prospect, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades 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 μW/cm2 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 public 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 public 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the cellular band is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the PCS band 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 upgrades to the existing Sprint Wireless antenna facility located at 37 Peach Orchard Road, Prospect, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. 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 emissions were calculated using the following assumptions:

1) 6 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) 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.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **210 feet** above ground level (AGL)
7) 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT03XC025 - Smaller WTXX Tower
Site Addresss	37 Peach Orchard Road, Prospect, CT, 06712
Site Type	Guyed Tower

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	6	120	15.9	210	204	1/2 "	0.5	0	4160.8422	35.94404	3.59440%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	210	204	1/2 "	0.5	0	389.96892	3.368803	0.59415%
														Sector total Power Density Value:		4.189%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	6	120	15.9	210	204	1/2 "	0.5	0	4160.8422	35.94404	3.59440%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	210	204	1/2 "	0.5	0	389.96892	3.368803	0.59415%
														Sector total Power Density Value:		4.189%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	6	120	15.9	210	204	1/2 "	0.5	0	4160.8422	35.94404	3.59440%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	210	204	1/2 "	0.5	0	389.96892	3.368803	0.59415%
														Sector total Power Density Value:		4.189%	

Site Composite MPE %	
Carrier	MPE %
Sprint	12.566%
Prospect Police	0.320%
AT&T	13.400%
T-Mobile	0.630%
Total Site MPE %	**26.916%**

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Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **12.566% (4.189% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **26.916%** of the allowable FCC established general public 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.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

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Post-Mod Tower Analysis Report

January 27, 2014

Site Name	Smaller WTXX Tower
Infinigy Job Number	286-016
Client	Sprint
Site Location	37 Peach Orchard Rd., Prospect, CT 06712 New Haven County 41° 31' 4.6122" N NAD83 73° 1' 6.4128" W NAD83
Structure Type	276' Guyed Tower
Structural Usage Ratio	**96%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements with the modifications listed below installed. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

- Installation of L2-1/2"x2-1/2"x1/4" mid-panel horizontals from 2'-42'
- Replacement of existing horizontals at 62' with new L2-1/2"x2-1/2"x1/4" horizontals
- Replacement of existing horizontals from 122'-142' with new L2-1/2"x2-1/2"x1/4" horizontals

1-27-14

Joseph R. Johnston, P.E.
Department Manager - Structural

Contents

Introduction

Infinigy Engineering has been requested to perform a structural analysis on the existing 276' Guyed Tower. All supporting documents have been obtained from Alcatel Lucent and are assumed to be accurate and applicable to this site. The tower was analyzed using tnxTower version 6.1.3.1 tower analysis software.

Supporting Documentation

Construction Drawings	Infinigy Job #286-016, dated December 18, 2013
Revised Tower Mapping	Armor Tower Project #Sprint CT03XC025, dated December 17, 2013
Modification Drawings	Stainless Project #350804, dated November 16, 2012
Previous Analysis	Armor Tower Project #Sprint CT03XC025, dated August 29, 2012
Tower Mapping	Armor Tower Project #Sprint CT03XC025, dated August 29, 2012
Previous Analysis	Stainless Report #350803, dated August 23, 2012

Analysis Code Requirements

Wind Speed	100 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 3/4" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2003 IBC / 2005 CT Supplement with 2009 CT Amendments
Structure Class	2
Exposure Category	B
Topographic Category	5
Calculated Crest Height	296 ft

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the modified structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

The existing foundation was not evaluated because no information was made available at the time of this analysis. We recommend a foundation mapping and geotechnical investigation be completed and the existing foundations evaluated prior to installing the proposed loading and modifications.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Joseph R. Johnston, P.E.
Department Manager - Structural | Infinigy
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790 | (M) (518) 669-4428
jjohnston@infinigy.com | www.infinigy.com

Existing and Reserved Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
268.0	2	Ice Shields	Leg	--	--
264.0	2	RFS DA6-65AC w/ Radome	Pipe	(4) EW63	
253.0	1	Andrew KP4F-17	Pipe	(1) 7/8"	
236.0	3	RFS APXV18-206515L-2	Sector Frames	(12) 1 5/8" (1) 3/8"	T-Mobile
208.0	4	EMS FS65-17-DP	Sector Frames	(12) 1 5/8"	Sprint
192.0	1	1' STD Dish	Pipe	(1) ½"	--
175.0	1	Ice Shield	Leg	--	
173.0	1	6' Grid Dish	Pipe	(1) RG6	
160.0	1	20' Dipole	Side Arm	(1) 7/8"	
150.0	2	Powerwave 7740.00.00	Sector Frames	(12) 1 5/8" (2) 5/8" (1) 3/8"	AT&T
	4	Powerwave 7770.00.00			
58.0	1	Weather Station	Leg	(2) 1/8"	--

Proposed Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
208.0	3	RFS APXVSPP18-C-A20	Sector Frames	(3) 1 ¼" Hybriflex	Sprint
	6	ALU 800 MHz RRH			

Install proposed coax alongside existing Sprint lines.

Structure Usages

Leg (T18)	96.0	Pass
Diagonal (T14)	81.2	Pass
Horizontal (T14)	76.4	Pass
Secondary Horizontal (T26)	5.3	Pass
Top Girt (T18)	57.8	Pass
Guy A (T14)	86.0	Pass
Guy B (T14)	86.4	Pass
Guy C (T14)	89.4	Pass
Top Guy Pull-Off (T9)	25.3	Pass
Torque Arm Top (T9)	27.1	Pass
Torque Arm Bottom (T9)	66.5	Pass
Bolt Checks	81.2	Pass
RATING =	**96.0**	**Pass**

Foundation Reactions

Reaction Data	Design Reactions	Analysis Reactions	Result
Base Compression (kip)	N/A	219.8	N/A
Base Shear (kip)	N/A	1.7	N/A
Anchor Uplift (kip)	N/A	67.4	N/A
Anchor Shear (kip)	N/A	57.5	N/A

The existing foundation was not evaluated because no information was made available at the time of this analysis. We recommend a foundation mapping and geotechnical investigation be completed and the existing foundations evaluated prior to installing the proposed loading and modifications.

Deflection, Twist, and Sway

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
208.0	2.69	0.09	0.02

*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.
*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.
*Per ANSI/TIA-222-G Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.
*It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-G Annex D or other appropriate microwave signal degradation limits based on the provided values above.

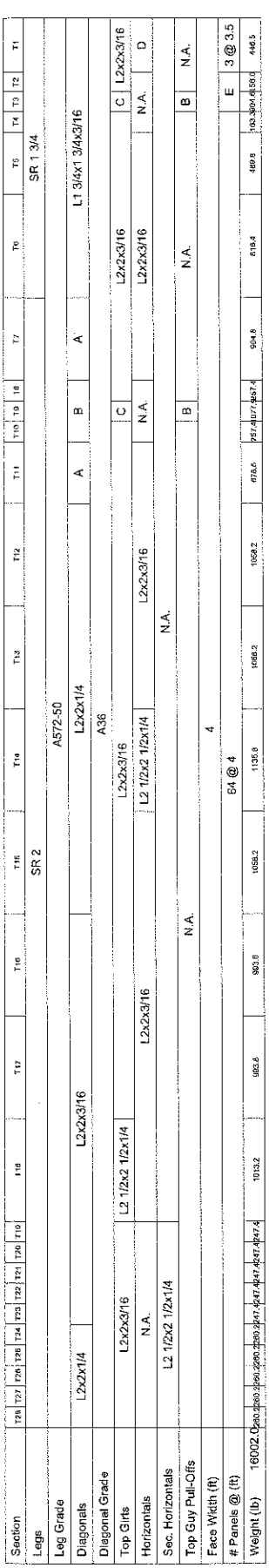
Assumptions and Limitations

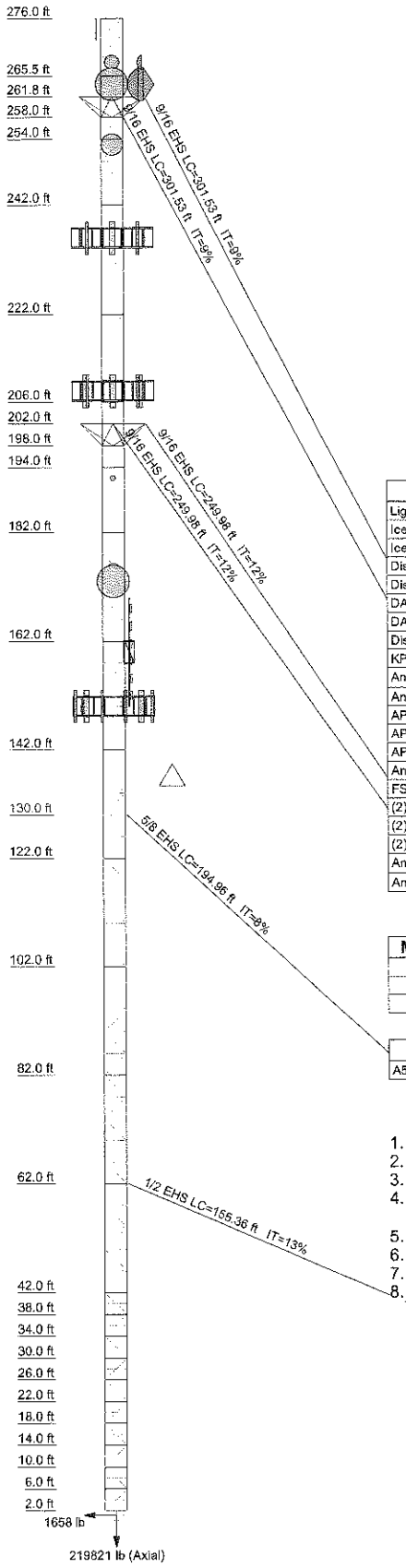
All engineering services are completed assuming all information provided to Infinigy Engineering is current and correct. If actual conditions differ from those described in this report we should be notified immediately to complete a revised evaluation.

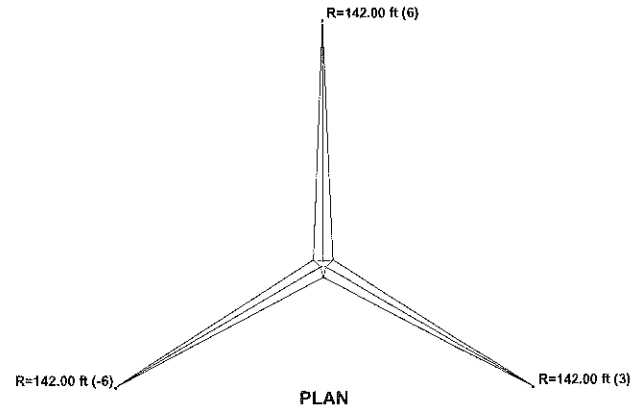
It is the responsibility of the client to ensure that the information provided to Infinigy Engineering is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the design drawings and specifications that have been supplied.

All calculations are completed in accordance with generally accepted engineering principles and practices. Infinigy Engineering is not responsible the conclusions, opinions, and recommendations made by others based on the information we supply.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.







DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	274	Angle Sector Frame (Sprint)	208
Ice Shield	268	APXVSPP18-C-A20 (Sprint)	208
Ice Shield	268	APXVSPP18-C-A20 (Sprint)	208
Dish Pipe Mount	264	APXVSPP18-C-A20 (Sprint)	208
Dish Pipe Mount	264	(2) FS65-17-DP (Sprint)	208
DA6-65AC w/ Radome	264	FS65-17-DP (Sprint)	208
DA6-65AC w/ Radome	264	Dish Pipe Mount	192
Dish Pipe Mount	253	Dish Pipe Mount	192 - 173
KP4F-17	253	1' HP Dish	192
Angle Sector Frame (T-Mobile)	236	Ice Shield	175
Angle Sector Frame (T-Mobile)	236	6' Grid Dish	173
APXV18-206515L-2 (T-Mobile)	236	20' Dipole	160
APXV18-206515L-2 (T-Mobile)	236	Pipe Side Arm	160
APXV18-206515L-2 (T-Mobile)	236	(2) 7770.00.00 (ATI)	150
Angle Sector Frame (T-Mobile)	236	(2) 7770.00.00 (ATI)	150
FS65-17-DP (Sprint)	208	(2) 7740.00.00 (ATI)	150
(2) 800 MHz RRH (Sprint)	208	Pipe Sector Frame (ATI)	150
(2) 800 MHz RRH (Sprint)	208	Pipe Sector Frame (ATI)	150
(2) 800 MHz RRH (Sprint)	208	Pipe Sector Frame (ATI)	150
Angle Sector Frame (Sprint)	208	Weather Station	58
Angle Sector Frame (Sprint)	208		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2 1/2x1/4	D	L2x2x3/16
B	L2 1/2x2 1/2x3/8	E	2 @ 3.75
C	N.A.		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 100 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 5 with Crest Height of 296.00 ft
8. TOWER RATING: 96%

ALL REACTIONS ARE FACTORED

Infinigy Engineering
1033 Watervliet Shaker Road.
Albany, NY 12205
Phone: (518) 690-0790
FAX: (518) 690-0793

Job: **286-016**			
Project: ***Smaller WTXX Tower***			
Client: Sprint	Drawn by: JJohnston	App'd:	
Code: TIA-222-G	Date: 01/27/14	Scale: NTS	
Path:		Dwg No. E-1	

tnxTower	Job	Page
	286-016	1 of 53
Infinigy Engineering 1033 Watervliet Shaker Road. Albany, NY 12205 Phone: (518) 690-0790 FAX: (518) 690-0793	Project Smaller WTXX Tower	Date 10:15:09 01/27/14
	Client Sprint	Designed by JJohnston

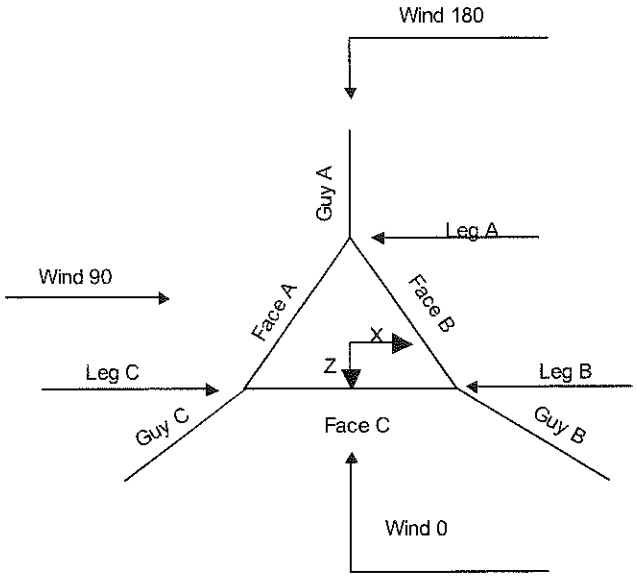
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 276.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.00 ft at the top and 4.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

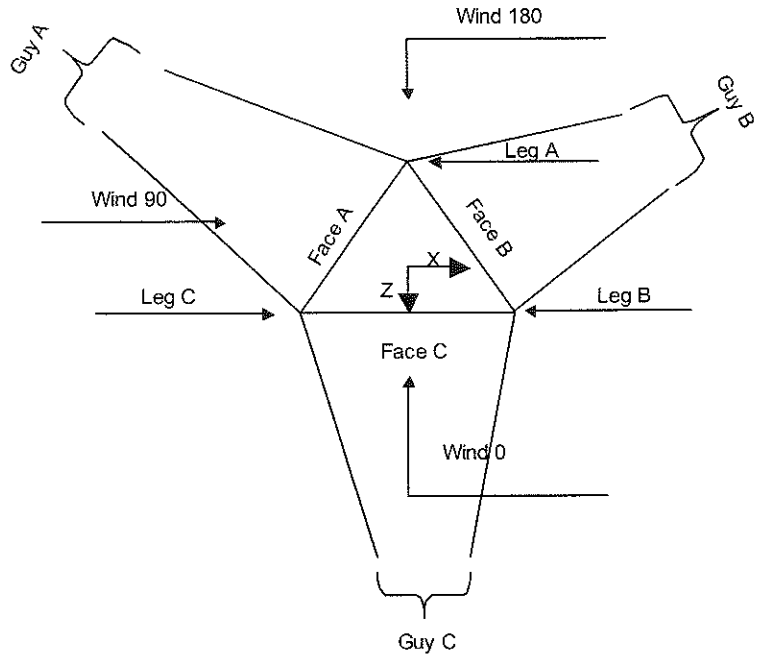
Tower is located in New Haven County, Connecticut.
Basic wind speed of 100 mph.
Structure Class II.
Exposure Category B.
Topographic Category 5.
Crest Height 296.00 ft.
SEAW RSM-03 procedures for wind speed-up calculations are used.
Topographic Feature: Hill.
Slope Distance L: 1581.00 ft.
Distance from Crest x: 1120.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
I-Beam base is 2.00 ft above the pivot.
Pressures are calculated at each section.
Safety factor used in guy design is 1.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	√ Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans For Wind Area	Ignore Redundant Members in FEA
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	SR Leg Bolts Resist Compression
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	√ All Leg Panels Have Same Allowable
Escalate Ice	Bypass Mast Stability Checks	Offset Girt At Foundation
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Consider Feedline Torque
Use Special Wind Profile	√ Project Wind Area of Appurt.	√ Include Angle Block Shear Check
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	SR Members Have Cut Ends	Include Shear-Torsion Interaction
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	√ Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
Add IBC .6D+W Combination	Use TIA-222-G Tension Splice Capacity Exemption	



Corner & Starmount Guyed Tower



Face Guyed

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	276.00-265.50			4.00	1	10.50
T2	265.50-261.75			4.00	1	3.75
T3	261.75-258.00			4.00	1	3.75
T4	258.00-254.00			4.00	1	4.00
T5	254.00-242.00			4.00	1	12.00
T6	242.00-222.00			4.00	1	20.00
T7	222.00-206.00			4.00	1	16.00
T8	206.00-202.00			4.00	1	4.00
T9	202.00-198.00			4.00	1	4.00
T10	198.00-194.00			4.00	1	4.00
T11	194.00-182.00			4.00	1	12.00
T12	182.00-162.00			4.00	1	20.00
T13	162.00-142.00			4.00	1	20.00
T14	142.00-122.00			4.00	1	20.00
T15	122.00-102.00			4.00	1	20.00
T16	102.00-82.00			4.00	1	20.00

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T17	82.00-62.00			4.00	1	20.00
T18	62.00-42.00			4.00	1	20.00
T19	42.00-38.00			4.00	1	4.00
T20	38.00-34.00			4.00	1	4.00
T21	34.00-30.00			4.00	1	4.00
T22	30.00-26.00			4.00	1	4.00
T23	26.00-22.00			4.00	1	4.00
T24	22.00-18.00			4.00	1	4.00
T25	18.00-14.00			4.00	1	4.00
T26	14.00-10.00			4.00	1	4.00
T27	10.00-6.00			4.00	1	4.00
T28	6.00-2.00			4.00	1	4.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	276.00-265.50	3.50	K Brace Left	No	Yes	0.0000	0.0000
T2	265.50-261.75	3.75	Diag Down	No	Yes	0.0000	0.0000
T3	261.75-258.00	3.75	X Brace	No	Yes	0.0000	0.0000
T4	258.00-254.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T5	254.00-242.00	4.00	K Brace Left	No	Yes	0.0000	0.0000
T6	242.00-222.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T7	222.00-206.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T8	206.00-202.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T9	202.00-198.00	4.00	X Brace	No	Yes	0.0000	0.0000
T10	198.00-194.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T11	194.00-182.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T12	182.00-162.00	4.00	K Brace Left	No	Yes	0.0000	0.0000
T13	162.00-142.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T14	142.00-122.00	4.00	K Brace Left	No	Yes	0.0000	0.0000
T15	122.00-102.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T16	102.00-82.00	4.00	K Brace Left	No	Yes	0.0000	0.0000
T17	82.00-62.00	4.00	K Brace Right	No	Yes	0.0000	0.0000
T18	62.00-42.00	4.00	K Brace Left	No	Yes	0.0000	0.0000
T19	42.00-38.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T20	38.00-34.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T21	34.00-30.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T22	30.00-26.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T23	26.00-22.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T24	22.00-18.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T25	18.00-14.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T26	14.00-10.00	4.00	Diag Up	No	Yes	0.0000	0.0000
T27	10.00-6.00	4.00	Diag Down	No	Yes	0.0000	0.0000
T28	6.00-2.00	4.00	Diag Up	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 276.00-265.50	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 265.50-261.75	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T3 261.75-258.00	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T4 258.00-254.00	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T5 254.00-242.00	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T6 242.00-222.00	Solid Round	1 3/4	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T7 222.00-206.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T8 206.00-202.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T9 202.00-198.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T10 198.00-194.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T11 194.00-182.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T12 182.00-162.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T13 162.00-142.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T14 142.00-122.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T15 122.00-102.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T16 102.00-82.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T17 82.00-62.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T18 62.00-42.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T19 42.00-38.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T20 38.00-34.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T21 34.00-30.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T22 30.00-26.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T23 26.00-22.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T24 22.00-18.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T25 18.00-14.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T26 14.00-10.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T27 10.00-6.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T28 6.00-2.00	Solid Round	2	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 276.00-265.50	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 265.50-261.75	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 261.75-258.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T4 258.00-254.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T5 254.00-242.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T6 242.00-222.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T7 222.00-206.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T8 206.00-202.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T9 202.00-198.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T10 198.00-194.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T11 194.00-182.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T12 182.00-162.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T13 162.00-142.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T14 142.00-122.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T15 122.00-102.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T16 102.00-82.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T17 82.00-62.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T18 62.00-42.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T19 42.00-38.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T20 38.00-34.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T21 34.00-30.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T22 30.00-26.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T23 26.00-22.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T24 22.00-18.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T25 18.00-14.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T26 14.00-10.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T27 10.00-6.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T28 6.00-2.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 276.00-265.50	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T2 265.50-261.75	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T3 261.75-258.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T4 258.00-254.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T5 254.00-242.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T6 242.00-222.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T7 222.00-206.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T8 206.00-202.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T9 202.00-198.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T10 198.00-194.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T11 194.00-182.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T12 182.00-162.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T13 162.00-142.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T14 142.00-122.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T15 122.00-102.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T16 102.00-82.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T17 82.00-62.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T18 62.00-42.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T19 42.00-38.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T20 38.00-34.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T21 34.00-30.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T22 30.00-26.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T23 26.00-22.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T24 22.00-18.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T25 18.00-14.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T26 14.00-10.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T27 10.00-6.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)

Tower Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
ft							
T28 6.00-2.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
ft						
T19 42.00-38.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T20 38.00-34.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T21 34.00-30.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T22 30.00-26.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T23 26.00-22.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T24 22.00-18.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T25 18.00-14.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T26 14.00-10.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T27 10.00-6.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T28 6.00-2.00	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft^2	in					in	in
T1 276.00-265.50	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2 265.50-261.75	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 261.75-258.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 258.00-254.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 254.00-242.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 242.00-222.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 222.00-206.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
ft	ft^2	in					in	in
T8 206.00-202.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 202.00-198.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 198.00-194.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 194.00-182.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T12 182.00-162.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T13 162.00-142.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T14 142.00-122.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T15 122.00-102.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T16 102.00-82.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T17 82.00-62.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T18 62.00-42.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T19 42.00-38.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T20 38.00-34.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T21 34.00-30.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T22 30.00-26.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T23 26.00-22.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T24 22.00-18.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T25 18.00-14.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T26 14.00-10.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T27 10.00-6.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T28 6.00-2.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
ft															
T1 276.00-265.50	No	No	1	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	1	1	1	1
T2 265.50-261.75	No	No	1	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T3	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
261.75-258.00				0.85	0.85	0.85	0.85	0.85	1	1
T4	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
258.00-254.00				0.85	0.85	0.85	0.85	0.85	1	1
T5	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
254.00-242.00				0.85	0.85	0.85	0.85	0.85	1	1
T6	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
242.00-222.00				0.85	0.85	0.85	0.85	0.85	1	1
T7	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
222.00-206.00				0.85	0.85	0.85	0.85	0.85	1	1
T8	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
206.00-202.00				0.85	0.85	0.85	0.85	0.85	1	1
T9	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
202.00-198.00				0.85	0.85	0.85	0.85	0.85	1	1
T10	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
198.00-194.00				0.85	0.85	0.85	0.85	0.85	1	1
T11	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
194.00-182.00				0.85	0.85	0.85	0.85	0.85	1	1
T12	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
182.00-162.00				0.85	0.85	0.85	0.85	0.85	1	1
T13	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
162.00-142.00				0.85	0.85	0.85	0.85	0.85	1	1
T14	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
142.00-122.00				0.85	0.85	0.85	0.85	0.85	1	1
T15	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
122.00-102.00				0.85	0.85	0.85	0.85	0.85	1	1
T16	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
102.00-82.00				0.85	0.85	0.85	0.85	0.85	1	1
T17	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
82.00-62.00				0.85	0.85	0.85	0.85	0.85	1	1
T18	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
62.00-42.00				0.85	0.85	0.85	0.85	0.85	1	1
T19	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
42.00-38.00				0.85	0.85	0.85	0.85	0.85	1	1
T20	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
38.00-34.00				0.85	0.85	0.85	0.85	0.85	1	1
T21	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
34.00-30.00				0.85	0.85	0.85	0.85	0.85	1	1
T22	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
30.00-26.00				0.85	0.85	0.85	0.85	0.85	1	1
T23	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
26.00-22.00				0.85	0.85	0.85	0.85	0.85	1	1
T24	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
22.00-18.00				0.85	0.85	0.85	0.85	0.85	1	1
T25	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
18.00-14.00				0.85	0.85	0.85	0.85	0.85	1	1
T26	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
14.00-10.00				0.85	0.85	0.85	0.85	0.85	1	1
T27	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
10.00-6.00				0.85	0.85	0.85	0.85	0.85	1	1
T28 6.00-2.00	No	No	1	0.85	0.85	0.85	0.85	0.85	1	1
				0.85	0.85	0.85	0.85	0.85	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 276.00-265.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 265.50-261.75	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 261.75-258.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 258.00-254.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 254.00-242.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 242.00-222.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 222.00-206.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 206.00-202.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 202.00-198.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 198.00-194.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 194.00-182.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 182.00-162.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 162.00-142.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 142.00-122.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 122.00-102.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 102.00-82.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 82.00-62.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 62.00-42.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 42.00-38.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 38.00-34.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 34.00-30.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 30.00-26.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 26.00-22.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 22.00-18.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 18.00-14.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T26 14.00-10.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T27 10.00-6.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T28 6.00-2.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
276.00-265.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
265.50-261.75		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
261.75-258.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
258.00-254.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
254.00-242.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
242.00-222.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7	Flange	0.6250	3	0.7500	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
222.00-206.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8	Flange	0.6250	3	0.7500	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
206.00-202.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9	Flange	0.6250	3	0.7500	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
202.00-198.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10	Flange	0.6250	3	0.7500	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
198.00-194.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11	Flange	0.6250	3	0.7500	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
194.00-182.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
182.00-162.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
162.00-142.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
142.00-122.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
122.00-102.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
102.00-82.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
82.00-62.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T18	Flange	0.6250	3	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
62.00-42.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T19	Flange	0.6250	3	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
42.00-38.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T20	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
38.00-34.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T21	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
34.00-30.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T22	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
30.00-26.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T23	Flange	0.6250	0	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
26.00-22.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T24	Flange	0.6250	3	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
22.00-18.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T25	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
18.00-14.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T26	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
14.00-10.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T27 10.00-6.00	Flange	0.6250	0	0.6250	1	0.6250	1	0.0000	0	0.6250	0	0.6250	1	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T28 6.00-2.00	Flange	0.6250	0	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	1	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
261.75	EHS	A	9/16	3150.00	9%	21000	0.671	290.70	142.00	0.0000	6.00	100%
		B	9/16	3150.00	9%	21000	0.671	293.34	142.00	0.0000	3.00	100%
		C	9/16	3150.00	9%	21000	0.671	301.30	142.00	0.0000	-6.00	100%
202	EHS	A	9/16	4200.00	12%	21000	0.671	239.85	142.00	0.0000	6.00	100%
		B	9/16	4200.00	12%	21000	0.671	242.30	142.00	0.0000	3.00	100%
		C	9/16	4200.00	12%	21000	0.671	249.73	142.00	0.0000	-6.00	100%
130	EHS	A	5/8	3392.00	8%	21000	0.813	186.67	142.00	0.0000	6.00	100%
		B	5/8	3392.00	8%	21000	0.813	188.67	142.00	0.0000	3.00	100%
		C	5/8	3392.00	8%	21000	0.813	194.83	142.00	0.0000	-6.00	100%
62	EHS	A	1/2	3497.00	13%	21000	0.517	150.33	142.00	0.0000	6.00	100%
		B	1/2	3497.00	13%	21000	0.517	151.47	142.00	0.0000	3.00	100%
		C	1/2	3497.00	13%	21000	0.517	155.19	142.00	0.0000	-6.00	100%

Guy Data(cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
261.75	Torque Arm	12.00	30.0000	Bat Ear	A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x3/8
202	Torque Arm	12.00	30.0000	Bat Ear	A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x3/8
130	Corner						
62	Corner						

Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
261.75	A572-50 (50 ksi)	Solid Round			No	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/8
202.00	A572-50 (50 ksi)	Solid Round			No	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/8
130.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
62.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
261.75	195.06	196.83	202.17		8.77 5.1 sec/pulse	8.93 5.2 sec/pulse	9.41 5.3 sec/pulse	
202	160.94	162.58	167.57		4.53 3.7 sec/pulse	4.62 3.7 sec/pulse	4.91 3.8 sec/pulse	
130	151.76	153.39	158.40		4.12 3.5 sec/pulse	4.21 3.5 sec/pulse	4.48 3.7 sec/pulse	
62	77.72	78.31	80.23		1.67 2.2 sec/pulse	1.69 2.2 sec/pulse	1.77 2.3 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
261.75	No	No	1	1	1	1	1	1
202	No	No	1	1	1	1	1	1
130	No	No			1	1	1	1
62	No	No			1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
261.75	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
202	0.0000 A325N	0	0.0000	1	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
130	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
62	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
261.75	A	133.88	24	6	1.7377
	B	132.38	24	6	1.7358
	C	127.88	24	6	1.7301
202	A	104.00	22	6	1.6963
	B	102.50	22	6	1.6939
	C	98.00	22	5	1.6867
130	A	68.00	20	5	1.6284
	B	66.50	20	5	1.6249
	C	62.00	19	5	1.6139
62	A	34.00	16	4	1.5221
	B	32.50	16	4	1.5154
	C	28.00	16	4	1.4934

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 1/4" Hybriflex Cable (Sprint) ***	A	No	Ar (CaAa)	208.00 - 5.00	0.0000	0.4	3	2	0.5000	1.5400		1.00
1 5/8 (AT&T)	A	No	Ar (CaAa)	150.00 - 5.00	0.0000	0	12	6	0.5000	1.9800		1.04
5/8 (AT&T)	A	No	Ar (CaAa)	150.00 - 5.00	0.0000	-0.3	2	2	0.5000	0.8800		0.40
3/8 (AT&T) ***	A	No	Ar (CaAa)	150.00 - 5.00	0.0000	-0.35	1	1	0.4400	0.4400		0.08
1/8" ***	A	No	Ar (CaAa)	58.00 - 5.00	0.0000	-0.25	2	2	0.2500	0.1300		0.03
1 5/8 (Sprint)	B	No	Ar (CaAa)	208.00 - 5.00	-0.5000	-0.35	9	3	0.5000	1.9800		1.04
1 5/8 (Sprint) ***	B	No	Ar (CaAa)	208.00 - 5.00	-0.5000	-0.35	1	1	0.5000	1.9800		1.04
1 5/8 (T-Mobile)	B	No	Ar (CaAa)	236.00 - 5.00	0.0000	-0.1	12	4	0.5000	1.9800		1.04
3/8 (T-Mobile)	B	No	Ar (CaAa)	236.00 - 5.00	0.0000	-0.5	1	1	0.4400	0.4400		0.08
Feedline	B	No	Af (CaAa)	236.00 - 5.00	-0.5000	-0.1	1	1	0.5000	3.0000		8.40

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Ladder (Af) (T-Mobile)												
***												
1/2	B	No	Ar (CaAa)	192.00 - 5.00	0.0000	0.38	1	1	0.5000	0.5800		0.25
***												
EW63	B	No	Ar (CaAa)	264.00 - 5.00	0.0000	0.2	3	3	0.5000	1.5742		0.51
EW63	B	No	Ar (CaAa)	264.00 - 5.00	0.0000	0.2	1	1	0.5000	1.5742		0.51
***												
7/8	C	No	Ar (CaAa)	253.00 - 5.00	0.0000	-0.2	1	1	0.5000	1.1100		0.54
0.27" RG-6/U	B	No	Ar (CaAa)	173.00 - 5.00	0.0000	0.1	1	1	0.2700	0.2700		0.04
***												
1 5/8 (Sprint)	C	No	Ar (CaAa)	208.00 - 5.00	0.0000	0	2	2	0.5000	1.9800		1.04
***												
7/8	C	No	Ar (CaAa)	160.00 - 5.00	0.0000	0.2	1	1	0.5000	1.1100		0.54
***												
Safety Line 3/8	C	No	Ar (CaAa)	274.00 - 10.00	0.0000	0.4	1	1	0.3750	0.3750		0.22
Climbing Ladder	C	No	Af (CaAa)	274.00 - 10.00	0.0000	0.45	1	1	0.2500	1.5000		7.90

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	276.00-265.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	2.444	0.000	69.02
T2	265.50-261.75	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	1.417	0.000	4.59
		C	0.000	0.000	1.078	0.000	30.45
T3	261.75-258.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.361	0.000	7.65
		C	0.000	0.000	1.078	0.000	30.45
T4	258.00-254.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	2.519	0.000	8.16
		C	0.000	0.000	1.150	0.000	32.48
T5	254.00-242.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.556	0.000	24.48
		C	0.000	0.000	4.671	0.000	103.38
T6	242.00-222.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	53.474	0.000	334.24
		C	0.000	0.000	7.970	0.000	173.20
T7	222.00-206.00	A	0.000	0.000	0.924	0.000	6.00
		B	0.000	0.000	60.755	0.000	388.80
		C	0.000	0.000	7.168	0.000	142.72
T8	206.00-202.00	A	0.000	0.000	1.848	0.000	12.00
		B	0.000	0.000	22.119	0.000	133.60
		C	0.000	0.000	3.178	0.000	42.96
T9	202.00-198.00	A	0.000	0.000	1.848	0.000	12.00
		B	0.000	0.000	22.119	0.000	133.60
		C	0.000	0.000	3.178	0.000	42.96
T10	198.00-194.00	A	0.000	0.000	1.848	0.000	12.00
		B	0.000	0.000	22.119	0.000	133.60
		C	0.000	0.000	3.178	0.000	42.96
T11	194.00-182.00	A	0.000	0.000	5.544	0.000	36.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		B	0.000	0.000	66.936	0.000	403.30
		C	0.000	0.000	9.534	0.000	128.88
T12	182.00-162.00	A	0.000	0.000	9.240	0.000	60.00
		B	0.000	0.000	112.051	0.000	673.44
		C	0.000	0.000	15.890	0.000	214.80
T13	162.00-142.00	A	0.000	0.000	30.008	0.000	166.88
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	17.888	0.000	224.52
T14	142.00-122.00	A	0.000	0.000	61.160	0.000	327.20
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	18.110	0.000	225.60
T15	122.00-102.00	A	0.000	0.000	61.160	0.000	327.20
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	18.110	0.000	225.60
T16	102.00-82.00	A	0.000	0.000	61.160	0.000	327.20
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	18.110	0.000	225.60
T17	82.00-62.00	A	0.000	0.000	61.160	0.000	327.20
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	18.110	0.000	225.60
T18	62.00-42.00	A	0.000	0.000	61.576	0.000	328.16
		B	0.000	0.000	112.294	0.000	673.80
		C	0.000	0.000	18.110	0.000	225.60
T19	42.00-38.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T20	38.00-34.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T21	34.00-30.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T22	30.00-26.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T23	26.00-22.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T24	22.00-18.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T25	18.00-14.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T26	14.00-10.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	3.622	0.000	45.12
T27	10.00-6.00	A	0.000	0.000	12.336	0.000	65.68
		B	0.000	0.000	22.459	0.000	134.76
		C	0.000	0.000	2.472	0.000	12.64
T28	6.00-2.00	A	0.000	0.000	3.084	0.000	16.42
		B	0.000	0.000	5.615	0.000	33.69
		C	0.000	0.000	0.618	0.000	3.16

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	276.00-265.50	A	1.858	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	8.761	0.000	176.79
T2	265.50-261.75	A	1.853	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.228	0.000	55.27
		C		0.000	0.000	3.858	0.000	77.79
T3	261.75-258.00	A	1.851	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	7.041	0.000	91.97
		C		0.000	0.000	3.854	0.000	77.68
T4	258.00-254.00	A	1.848	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	7.505	0.000	97.93
		C		0.000	0.000	4.107	0.000	82.73
T5	254.00-242.00	A	1.843	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	22.478	0.000	292.72
		C		0.000	0.000	17.569	0.000	326.45
T6	242.00-222.00	A	1.831	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	84.673	0.000	1554.11
		C		0.000	0.000	29.940	0.000	551.98
T7	222.00-206.00	A	1.817	0.000	0.000	2.550	0.000	33.31
		B		0.000	0.000	88.540	0.000	1697.30
		C		0.000	0.000	26.281	0.000	467.13
T8	206.00-202.00	A	1.809	0.000	0.000	5.089	0.000	66.33
		B		0.000	0.000	30.581	0.000	593.21
		C		0.000	0.000	10.848	0.000	167.46
T9	202.00-198.00	A	1.805	0.000	0.000	5.084	0.000	66.21
		B		0.000	0.000	30.556	0.000	592.28
		C		0.000	0.000	10.835	0.000	167.10
T10	198.00-194.00	A	1.802	0.000	0.000	5.080	0.000	66.08
		B		0.000	0.000	30.531	0.000	591.33
		C		0.000	0.000	10.822	0.000	166.74
T11	194.00-182.00	A	1.795	0.000	0.000	15.209	0.000	197.48
		B		0.000	0.000	95.604	0.000	1822.71
		C		0.000	0.000	32.386	0.000	498.01
T12	182.00-162.00	A	1.780	0.000	0.000	25.241	0.000	326.40
		B		0.000	0.000	164.325	0.000	3083.33
		C		0.000	0.000	53.691	0.000	822.20
T13	162.00-142.00	A	1.759	0.000	0.000	55.116	0.000	838.78
		B		0.000	0.000	166.838	0.000	3091.49
		C		0.000	0.000	61.627	0.000	932.20
T14	142.00-122.00	A	1.735	0.000	0.000	99.570	0.000	1594.92
		B		0.000	0.000	165.785	0.000	3055.26
		C		0.000	0.000	62.014	0.000	931.02
T15	122.00-102.00	A	1.708	0.000	0.000	98.904	0.000	1574.32
		B		0.000	0.000	164.573	0.000	3013.88
		C		0.000	0.000	61.394	0.000	914.41
T16	102.00-82.00	A	1.676	0.000	0.000	98.118	0.000	1550.17
		B		0.000	0.000	163.142	0.000	2965.42
		C		0.000	0.000	60.663	0.000	895.02
T17	82.00-62.00	A	1.637	0.000	0.000	97.154	0.000	1520.82
		B		0.000	0.000	161.388	0.000	2906.63
		C		0.000	0.000	59.766	0.000	871.60
T18	62.00-42.00	A	1.587	0.000	0.000	105.796	0.000	1545.05
		B		0.000	0.000	159.108	0.000	2831.24
		C		0.000	0.000	58.600	0.000	841.75
T19	42.00-38.00	A	1.547	0.000	0.000	21.400	0.000	305.54
		B		0.000	0.000	31.462	0.000	554.52
		C		0.000	0.000	11.536	0.000	163.73
T20	38.00-34.00	A	1.531	0.000	0.000	21.299	0.000	302.97
		B		0.000	0.000	31.320	0.000	549.92
		C		0.000	0.000	11.463	0.000	161.93
T21	34.00-30.00	A	1.513	0.000	0.000	21.188	0.000	300.13

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
		B		0.000	0.000	31.162	0.000	544.85
		C		0.000	0.000	11.383	0.000	159.94
T22	30.00-26.00	A	1.493	0.000	0.000	21.063	0.000	296.96
		B		0.000	0.000	30.985	0.000	539.19
		C		0.000	0.000	11.292	0.000	157.74
T23	26.00-22.00	A	1.471	0.000	0.000	20.921	0.000	293.37
		B		0.000	0.000	30.784	0.000	532.78
		C		0.000	0.000	11.189	0.000	155.24
T24	22.00-18.00	A	1.445	0.000	0.000	20.754	0.000	289.21
		B		0.000	0.000	30.549	0.000	525.37
		C		0.000	0.000	11.069	0.000	152.37
T25	18.00-14.00	A	1.413	0.000	0.000	20.555	0.000	284.26
		B		0.000	0.000	30.266	0.000	516.53
		C		0.000	0.000	10.924	0.000	148.96
T26	14.00-10.00	A	1.373	0.000	0.000	20.303	0.000	278.09
		B		0.000	0.000	29.910	0.000	505.52
		C		0.000	0.000	10.742	0.000	144.73
T27	10.00-6.00	A	1.319	0.000	0.000	19.960	0.000	269.79
		B		0.000	0.000	29.424	0.000	490.73
		C		0.000	0.000	7.233	0.000	78.26
T28	6.00-2.00	A	1.231	0.000	0.000	4.851	0.000	64.15
		B		0.000	0.000	7.159	0.000	116.82
		C		0.000	0.000	1.743	0.000	18.12

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	276.00-265.50	-1.1327	0.7444	-1.7633	1.1764
T2	265.50-261.75	-0.2073	0.7649	-1.4881	1.2096
T3	261.75-258.00	0.2803	0.5891	-1.1136	0.9573
T4	258.00-254.00	0.3394	0.7135	-1.1706	1.1180
T5	254.00-242.00	0.4646	0.8890	-0.8734	1.3232
T6	242.00-222.00	1.4902	-0.8729	0.0163	-0.0157
T7	222.00-206.00	1.5479	-1.3411	0.2278	-0.4347
T8	206.00-202.00	1.2012	-2.0850	0.2161	-0.7443
T9	202.00-198.00	1.1223	-1.9480	0.0894	-0.6105
T10	198.00-194.00	1.2012	-2.0850	0.2180	-0.7462
T11	194.00-182.00	1.2359	-2.0493	0.3621	-0.6669
T12	182.00-162.00	1.2580	-2.0674	0.4033	-0.6628
T13	162.00-142.00	0.5985	-1.9294	0.0477	-0.5407
T14	142.00-122.00	-0.0665	-1.8670	-0.2756	-0.5470
T15	122.00-102.00	-0.0669	-1.8764	-0.2722	-0.5574
T16	102.00-82.00	-0.0669	-1.8764	-0.2692	-0.5668
T17	82.00-62.00	-0.0669	-1.8764	-0.2655	-0.5786
T18	62.00-42.00	-0.0785	-1.8669	-0.2657	-0.5775
T19	42.00-38.00	-0.0790	-1.8103	-0.2750	-0.5472
T20	38.00-34.00	-0.0790	-1.8103	-0.2734	-0.5522
T21	34.00-30.00	-0.0790	-1.8103	-0.2716	-0.5579
T22	30.00-26.00	-0.0790	-1.8103	-0.2696	-0.5643
T23	26.00-22.00	-0.0790	-1.8103	-0.2673	-0.5717
T24	22.00-18.00	-0.0790	-1.8103	-0.2647	-0.5804
T25	18.00-14.00	-0.0790	-1.8103	-0.2615	-0.5911
T26	14.00-10.00	-0.0790	-1.8103	-0.2574	-0.6048
T27	10.00-6.00	0.1126	-2.0043	0.1960	-0.9664

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T28	6.00-2.00	0.0783	-1.3939	0.1206	-0.6233

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	28	Safety Line 3/8	265.50 - 274.00	0.6000	0.5282
T1	29	Climbing Ladder	265.50 - 274.00	0.6000	0.5282
T2	18	EW63	261.75 - 264.00	0.6000	0.5423
T2	19	EW63	261.75 - 264.00	0.0001	0.0001
T2	28	Safety Line 3/8	261.75 - 265.50	0.6000	0.5423
T2	29	Climbing Ladder	261.75 - 265.50	0.6000	0.5423
T3	18	EW63	258.00 - 261.75	0.6000	0.3894
T3	19	EW63	258.00 - 261.75	0.0001	0.0001
T3	28	Safety Line 3/8	258.00 - 261.75	0.6000	0.3894
T3	29	Climbing Ladder	258.00 - 261.75	0.6000	0.3894
T4	18	EW63	254.00 - 258.00	0.6000	0.5547
T4	19	EW63	254.00 - 258.00	0.0001	0.0001
T4	28	Safety Line 3/8	254.00 - 258.00	0.6000	0.5547
T4	29	Climbing Ladder	254.00 - 258.00	0.6000	0.5547
T5	18	EW63	242.00 - 254.00	0.6000	0.5555
T5	19	EW63	242.00 - 254.00	0.0001	0.0001
T5	21	7/8	242.00 - 253.00	0.6000	0.5555
T5	28	Safety Line 3/8	242.00 - 254.00	0.6000	0.5555
T5	29	Climbing Ladder	242.00 - 254.00	0.6000	0.5555
T6	12	1 5/8	222.00 - 236.00	0.6000	0.5572
T6	13	3/8	222.00 - 236.00	0.6000	0.5572
T6	14	Feedline Ladder (Af)	222.00 - 236.00	0.6000	0.5572
T6	18	EW63	222.00 - 242.00	0.6000	0.5572
T6	19	EW63	222.00 - 242.00	0.0001	0.0001
T6	21	7/8	222.00 -	0.6000	0.5572

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	28	Safety Line 3/8	242.00 222.00 - 242.00	0.6000	0.5572
T6	29	Climbing Ladder	222.00 - 242.00	0.6000	0.5572
T7	1	1 1/4" Hybriflex Cable	206.00 - 208.00	0.6000	0.5340
T7	9	1 5/8	206.00 - 208.00	0.6000	0.5340
T7	10	1 5/8	206.00 - 208.00	0.0001	0.0001
T7	12	1 5/8	206.00 - 208.00	0.6000	0.5340
T7	13	3/8	206.00 - 222.00	0.6000	0.5340
T7	14	Feedline Ladder (Af)	206.00 - 222.00	0.6000	0.5340
T7	18	EW63	206.00 - 222.00	0.6000	0.5340
T7	19	EW63	206.00 - 222.00	0.0001	0.0001
T7	21	7/8	206.00 - 222.00	0.6000	0.5340
T7	24	1 5/8	206.00 - 208.00	0.6000	0.5340
T7	28	Safety Line 3/8	206.00 - 222.00	0.6000	0.5340
T7	29	Climbing Ladder	206.00 - 222.00	0.6000	0.5340
T8	1	1 1/4" Hybriflex Cable	202.00 - 206.00	0.6000	0.5354
T8	9	1 5/8	202.00 - 206.00	0.6000	0.5354
T8	10	1 5/8	202.00 - 206.00	0.0001	0.0001
T8	12	1 5/8	202.00 - 206.00	0.6000	0.5354
T8	13	3/8	202.00 - 206.00	0.6000	0.5354
T8	14	Feedline Ladder (Af)	202.00 - 206.00	0.6000	0.5354
T8	18	EW63	202.00 - 206.00	0.6000	0.5354
T8	19	EW63	202.00 - 206.00	0.0001	0.0001
T8	21	7/8	202.00 - 206.00	0.6000	0.5354
T8	24	1 5/8	202.00 - 206.00	0.6000	0.5354
T8	28	Safety Line 3/8	202.00 - 206.00	0.6000	0.5354
T8	29	Climbing Ladder	202.00 - 206.00	0.6000	0.5354
T9	1	1 1/4" Hybriflex Cable	198.00 - 202.00	0.6000	0.3725
T9	9	1 5/8	198.00 - 202.00	0.6000	0.3725
T9	10	1 5/8	198.00 - 202.00	0.0001	0.0001
T9	12	1 5/8	198.00 - 202.00	0.6000	0.3725
T9	13	3/8	198.00 -	0.6000	0.3725

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	14	Feedline Ladder (Af)	202.00 198.00 -	0.6000	0.3725
T9	18	EW63	202.00 198.00 -	0.6000	0.3725
T9	19	EW63	202.00 198.00 -	0.0001	0.0001
T9	21	7/8	202.00 198.00 -	0.6000	0.3725
T9	24	1 5/8	202.00 198.00 -	0.6000	0.3725
T9	28	Safety Line 3/8	202.00 198.00 -	0.6000	0.3725
T9	29	Climbing Ladder	202.00 198.00 -	0.6000	0.3725
T10	1	1 1/4" Hybriflex Cable	202.00 194.00 -	0.6000	0.5364
T10	9	1 5/8	198.00 194.00 -	0.6000	0.5364
T10	10	1 5/8	198.00 194.00 -	0.0001	0.0001
T10	12	1 5/8	198.00 194.00 -	0.6000	0.5364
T10	13	3/8	198.00 194.00 -	0.6000	0.5364
T10	14	Feedline Ladder (Af)	198.00 194.00 -	0.6000	0.5364
T10	18	EW63	198.00 194.00 -	0.6000	0.5364
T10	19	EW63	198.00 194.00 -	0.0001	0.0001
T10	21	7/8	198.00 194.00 -	0.6000	0.5364
T10	24	1 5/8	198.00 194.00 -	0.6000	0.5364
T10	28	Safety Line 3/8	198.00 194.00 -	0.6000	0.5364
T10	29	Climbing Ladder	198.00 194.00 -	0.6000	0.5364
T11	1	1 1/4" Hybriflex Cable	198.00 182.00 -	0.6000	0.5374
T11	9	1 5/8	194.00 182.00 -	0.6000	0.5374
T11	10	1 5/8	194.00 182.00 -	0.0001	0.0001
T11	12	1 5/8	194.00 182.00 -	0.6000	0.5374
T11	13	3/8	194.00 182.00 -	0.6000	0.5374
T11	14	Feedline Ladder (Af)	194.00 182.00 -	0.6000	0.5374
T11	16	1/2	194.00 182.00 -	0.6000	0.5374
T11	18	EW63	192.00 182.00 -	0.6000	0.5374
T11	19	EW63	194.00 182.00 -	0.0001	0.0001
T11	21	7/8	194.00 182.00 -	0.6000	0.5374
T11	24	1 5/8	194.00 182.00 -	0.6000	0.5374
T11	28	Safety Line 3/8	194.00 182.00 -	0.6000	0.5374

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T11	29	Climbing Ladder	194.00 182.00 - 194.00	0.6000	0.5374
T12	1	1 1/4" Hybriflex Cable	162.00 - 182.00	0.6000	0.5523
T12	9	1 5/8	162.00 - 182.00	0.6000	0.5523
T12	10	1 5/8	162.00 - 182.00	0.0001	0.0001
T12	12	1 5/8	162.00 - 182.00	0.6000	0.5523
T12	13	3/8	162.00 - 182.00	0.6000	0.5523
T12	14	Feedline Ladder (Af)	162.00 - 182.00	0.6000	0.5523
T12	16	1/2	162.00 - 182.00	0.6000	0.5523
T12	18	EW63	162.00 - 182.00	0.6000	0.5523
T12	19	EW63	162.00 - 182.00	0.0001	0.0001
T12	21	7/8	162.00 - 182.00	0.6000	0.5523
T12	22	0.27" RG-6/U	162.00 - 173.00	0.0001	0.0001
T12	24	1 5/8	162.00 - 182.00	0.6000	0.5523
T12	28	Safety Line 3/8	162.00 - 182.00	0.6000	0.5523
T12	29	Climbing Ladder	162.00 - 182.00	0.6000	0.5523
T13	1	1 1/4" Hybriflex Cable	142.00 - 162.00	0.6000	0.5553
T13	3	1 5/8	142.00 - 150.00	0.6000	0.5553
T13	4	5/8	142.00 - 150.00	0.6000	0.5553
T13	5	3/8	142.00 - 150.00	0.6000	0.5553
T13	9	1 5/8	142.00 - 162.00	0.6000	0.5553
T13	10	1 5/8	142.00 - 162.00	0.0001	0.0001
T13	12	1 5/8	142.00 - 162.00	0.6000	0.5553
T13	13	3/8	142.00 - 162.00	0.6000	0.5553
T13	14	Feedline Ladder (Af)	142.00 - 162.00	0.6000	0.5553
T13	16	1/2	142.00 - 162.00	0.6000	0.5553
T13	18	EW63	142.00 - 162.00	0.6000	0.5553
T13	19	EW63	142.00 - 162.00	0.0001	0.0001
T13	21	7/8	142.00 - 162.00	0.6000	0.5553
T13	22	0.27" RG-6/U	142.00 - 162.00	0.0001	0.0001
T13	24	1 5/8	142.00 - 162.00	0.6000	0.5553
T13	26	7/8	142.00 -	0.6000	0.5553

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			160.00		
T13	28	Safety Line 3/8	142.00 - 162.00	0.6000	0.5553
T13	29	Climbing Ladder	142.00 - 162.00	0.6000	0.5553
T14	1	1 1/4" Hybriflex Cable	122.00 - 142.00	0.6000	0.5515
T14	3	1 5/8	122.00 - 142.00	0.6000	0.5515
T14	4	5/8	122.00 - 142.00	0.6000	0.5515
T14	5	3/8	122.00 - 142.00	0.6000	0.5515
T14	9	1 5/8	122.00 - 142.00	0.6000	0.5515
T14	10	1 5/8	122.00 - 142.00	0.0001	0.0001
T14	12	1 5/8	122.00 - 142.00	0.6000	0.5515
T14	13	3/8	122.00 - 142.00	0.6000	0.5515
T14	14	Feedline Ladder (Af)	122.00 - 142.00	0.6000	0.5515
T14	16	1/2	122.00 - 142.00	0.6000	0.5515
T14	18	EW63	122.00 - 142.00	0.6000	0.5515
T14	19	EW63	122.00 - 142.00	0.0001	0.0001
T14	21	7/8	122.00 - 142.00	0.6000	0.5515
T14	22	0.27" RG-6/U	122.00 - 142.00	0.0001	0.0001
T14	24	1 5/8	122.00 - 142.00	0.6000	0.5515
T14	26	7/8	122.00 - 142.00	0.6000	0.5515
T14	28	Safety Line 3/8	122.00 - 142.00	0.6000	0.5515
T14	29	Climbing Ladder	122.00 - 142.00	0.6000	0.5515
T15	1	1 1/4" Hybriflex Cable	102.00 - 122.00	0.6000	0.5626
T15	3	1 5/8	102.00 - 122.00	0.6000	0.5626
T15	4	5/8	102.00 - 122.00	0.6000	0.5626
T15	5	3/8	102.00 - 122.00	0.6000	0.5626
T15	9	1 5/8	102.00 - 122.00	0.6000	0.5626
T15	10	1 5/8	102.00 - 122.00	0.0001	0.0001
T15	12	1 5/8	102.00 - 122.00	0.6000	0.5626
T15	13	3/8	102.00 - 122.00	0.6000	0.5626
T15	14	Feedline Ladder (Af)	102.00 - 122.00	0.6000	0.5626
T15	16	1/2	102.00 - 122.00	0.6000	0.5626
T15	18	EW63	102.00 -	0.6000	0.5626

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	19	EW63	122.00 102.00 -	0.0001	0.0001
T15	21	7/8	122.00 102.00 -	0.6000	0.5626
T15	22	0.27" RG-6/U	122.00 102.00 -	0.0001	0.0001
T15	24	1 5/8	122.00 102.00 -	0.6000	0.5626
T15	26	7/8	122.00 102.00 -	0.6000	0.5626
T15	28	Safety Line 3/8	122.00 102.00 -	0.6000	0.5626
T15	29	Climbing Ladder	122.00 102.00 -	0.6000	0.5626
T16	1	1 1/4" Hybriflex Cable	122.00 82.00 - 102.00	0.6000	0.5672
T16	3	1 5/8	82.00 - 102.00	0.6000	0.5672
T16	4	5/8	82.00 - 102.00	0.6000	0.5672
T16	5	3/8	82.00 - 102.00	0.6000	0.5672
T16	9	1 5/8	82.00 - 102.00	0.6000	0.5672
T16	10	1 5/8	82.00 - 102.00	0.0001	0.0001
T16	12	1 5/8	82.00 - 102.00	0.6000	0.5672
T16	13	3/8	82.00 - 102.00	0.6000	0.5672
T16	14	Feedline Ladder (Af)	82.00 - 102.00	0.6000	0.5672
T16	16	1/2	82.00 - 102.00	0.6000	0.5672
T16	18	EW63	82.00 - 102.00	0.6000	0.5672
T16	19	EW63	82.00 - 102.00	0.0001	0.0001
T16	21	7/8	82.00 - 102.00	0.6000	0.5672
T16	22	0.27" RG-6/U	82.00 - 102.00	0.0001	0.0001
T16	24	1 5/8	82.00 - 102.00	0.6000	0.5672
T16	26	7/8	82.00 - 102.00	0.6000	0.5672
T16	28	Safety Line 3/8	82.00 - 102.00	0.6000	0.5672
T16	29	Climbing Ladder	82.00 - 102.00	0.6000	0.5672
T17	1	1 1/4" Hybriflex Cable	62.00 - 82.00	0.6000	0.5729
T17	3	1 5/8	62.00 - 82.00	0.6000	0.5729
T17	4	5/8	62.00 - 82.00	0.6000	0.5729
T17	5	3/8	62.00 - 82.00	0.6000	0.5729
T17	9	1 5/8	62.00 - 82.00	0.6000	0.5729
T17	10	1 5/8	62.00 - 82.00	0.0001	0.0001
T17	12	1 5/8	62.00 - 82.00	0.6000	0.5729
T17	13	3/8	62.00 - 82.00	0.6000	0.5729
T17	14	Feedline Ladder (Af)	62.00 - 82.00	0.6000	0.5729
T17	16	1/2	62.00 - 82.00	0.6000	0.5729
T17	18	EW63	62.00 - 82.00	0.6000	0.5729
T17	19	EW63	62.00 - 82.00	0.0001	0.0001
T17	21	7/8	62.00 - 82.00	0.6000	0.5729
T17	22	0.27" RG-6/U	62.00 - 82.00	0.0001	0.0001
T17	24	1 5/8	62.00 - 82.00	0.6000	0.5729
T17	26	7/8	62.00 - 82.00	0.6000	0.5729
T17	28	Safety Line 3/8	62.00 - 82.00	0.6000	0.5729
T17	29	Climbing Ladder	62.00 - 82.00	0.6000	0.5729
T18	1	1 1/4" Hybriflex Cable	42.00 - 62.00	0.6000	0.5785
T18	3	1 5/8	42.00 - 62.00	0.6000	0.5785
T18	4	5/8	42.00 - 62.00	0.6000	0.5785
T18	5	3/8	42.00 - 62.00	0.6000	0.5785
T18	7	1/8"	42.00 - 58.00	0.6000	0.5785
T18	9	1 5/8	42.00 - 62.00	0.6000	0.5785
T18	10	1 5/8	42.00 - 62.00	0.0001	0.0001
T18	12	1 5/8	42.00 - 62.00	0.6000	0.5785
T18	13	3/8	42.00 - 62.00	0.6000	0.5785
T18	14	Feedline Ladder (Af)	42.00 - 62.00	0.6000	0.5785
T18	16	1/2	42.00 - 62.00	0.6000	0.5785

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	18	EW63	42.00 - 62.00	0.6000	0.5785
T18	19	EW63	42.00 - 62.00	0.0001	0.0001
T18	21	7/8	42.00 - 62.00	0.6000	0.5785
T18	22	0.27" RG-6/U	42.00 - 62.00	0.0001	0.0001
T18	24	1 5/8	42.00 - 62.00	0.6000	0.5785
T18	26	7/8	42.00 - 62.00	0.6000	0.5785
T18	28	Safety Line 3/8	42.00 - 62.00	0.6000	0.5785
T18	29	Climbing Ladder	42.00 - 62.00	0.6000	0.5785
T19	1	1 1/4" Hybriflex Cable	38.00 - 42.00	0.6000	0.4853
T19	3	1 5/8	38.00 - 42.00	0.6000	0.4853
T19	4	5/8	38.00 - 42.00	0.6000	0.4853
T19	5	3/8	38.00 - 42.00	0.6000	0.4853
T19	7	1/8"	38.00 - 42.00	0.6000	0.4853
T19	9	1 5/8	38.00 - 42.00	0.6000	0.4853
T19	10	1 5/8	38.00 - 42.00	0.0001	0.0001
T19	12	1 5/8	38.00 - 42.00	0.6000	0.4853
T19	13	3/8	38.00 - 42.00	0.6000	0.4853
T19	14	Feedline Ladder (Af)	38.00 - 42.00	0.6000	0.4853
T19	16	1/2	38.00 - 42.00	0.6000	0.4853
T19	18	EW63	38.00 - 42.00	0.6000	0.4853
T19	19	EW63	38.00 - 42.00	0.0001	0.0001
T19	21	7/8	38.00 - 42.00	0.6000	0.4853
T19	22	0.27" RG-6/U	38.00 - 42.00	0.0001	0.0001
T19	24	1 5/8	38.00 - 42.00	0.6000	0.4853
T19	26	7/8	38.00 - 42.00	0.6000	0.4853
T19	28	Safety Line 3/8	38.00 - 42.00	0.6000	0.4853
T19	29	Climbing Ladder	38.00 - 42.00	0.6000	0.4853
T20	1	1 1/4" Hybriflex Cable	34.00 - 38.00	0.6000	0.4881
T20	3	1 5/8	34.00 - 38.00	0.6000	0.4881
T20	4	5/8	34.00 - 38.00	0.6000	0.4881
T20	5	3/8	34.00 - 38.00	0.6000	0.4881
T20	7	1/8"	34.00 - 38.00	0.6000	0.4881
T20	9	1 5/8	34.00 - 38.00	0.6000	0.4881
T20	10	1 5/8	34.00 - 38.00	0.0001	0.0001
T20	12	1 5/8	34.00 - 38.00	0.6000	0.4881
T20	13	3/8	34.00 - 38.00	0.6000	0.4881
T20	14	Feedline Ladder (Af)	34.00 - 38.00	0.6000	0.4881
T20	16	1/2	34.00 - 38.00	0.6000	0.4881
T20	18	EW63	34.00 - 38.00	0.6000	0.4881
T20	19	EW63	34.00 - 38.00	0.0001	0.0001
T20	21	7/8	34.00 - 38.00	0.6000	0.4881
T20	22	0.27" RG-6/U	34.00 - 38.00	0.0001	0.0001
T20	24	1 5/8	34.00 - 38.00	0.6000	0.4881
T20	26	7/8	34.00 - 38.00	0.6000	0.4881
T20	28	Safety Line 3/8	34.00 - 38.00	0.6000	0.4881
T20	29	Climbing Ladder	34.00 - 38.00	0.6000	0.4881
T21	1	1 1/4" Hybriflex Cable	30.00 - 34.00	0.6000	0.4913
T21	3	1 5/8	30.00 - 34.00	0.6000	0.4913
T21	4	5/8	30.00 - 34.00	0.6000	0.4913
T21	5	3/8	30.00 - 34.00	0.6000	0.4913
T21	7	1/8"	30.00 - 34.00	0.6000	0.4913
T21	9	1 5/8	30.00 - 34.00	0.6000	0.4913
T21	10	1 5/8	30.00 - 34.00	0.0001	0.0001
T21	12	1 5/8	30.00 - 34.00	0.6000	0.4913
T21	13	3/8	30.00 - 34.00	0.6000	0.4913
T21	14	Feedline Ladder (Af)	30.00 - 34.00	0.6000	0.4913
T21	16	1/2	30.00 - 34.00	0.6000	0.4913
T21	18	EW63	30.00 - 34.00	0.6000	0.4913
T21	19	EW63	30.00 - 34.00	0.0001	0.0001
T21	21	7/8	30.00 - 34.00	0.6000	0.4913
T21	22	0.27" RG-6/U	30.00 - 34.00	0.0001	0.0001
T21	24	1 5/8	30.00 - 34.00	0.6000	0.4913

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T21	26	7/8	30.00 - 34.00	0.6000	0.4913
T21	28	Safety Line 3/8	30.00 - 34.00	0.6000	0.4913
T21	29	Climbing Ladder	30.00 - 34.00	0.6000	0.4913
T22	1	1 1/4" Hybriflex Cable	26.00 - 30.00	0.6000	0.4948
T22	3	1 5/8	26.00 - 30.00	0.6000	0.4948
T22	4	5/8	26.00 - 30.00	0.6000	0.4948
T22	5	3/8	26.00 - 30.00	0.6000	0.4948
T22	7	1/8"	26.00 - 30.00	0.6000	0.4948
T22	9	1 5/8	26.00 - 30.00	0.6000	0.4948
T22	10	1 5/8	26.00 - 30.00	0.0001	0.0001
T22	12	1 5/8	26.00 - 30.00	0.6000	0.4948
T22	13	3/8	26.00 - 30.00	0.6000	0.4948
T22	14	Feedline Ladder (Af)	26.00 - 30.00	0.6000	0.4948
T22	16	1/2	26.00 - 30.00	0.6000	0.4948
T22	18	EW63	26.00 - 30.00	0.6000	0.4948
T22	19	EW63	26.00 - 30.00	0.0001	0.0001
T22	21	7/8	26.00 - 30.00	0.6000	0.4948
T22	22	0.27" RG-6/U	26.00 - 30.00	0.0001	0.0001
T22	24	1 5/8	26.00 - 30.00	0.6000	0.4948
T22	26	7/8	26.00 - 30.00	0.6000	0.4948
T22	28	Safety Line 3/8	26.00 - 30.00	0.6000	0.4948
T22	29	Climbing Ladder	26.00 - 30.00	0.6000	0.4948
T23	1	1 1/4" Hybriflex Cable	22.00 - 26.00	0.6000	0.4988
T23	3	1 5/8	22.00 - 26.00	0.6000	0.4988
T23	4	5/8	22.00 - 26.00	0.6000	0.4988
T23	5	3/8	22.00 - 26.00	0.6000	0.4988
T23	7	1/8"	22.00 - 26.00	0.6000	0.4988
T23	9	1 5/8	22.00 - 26.00	0.6000	0.4988
T23	10	1 5/8	22.00 - 26.00	0.0001	0.0001
T23	12	1 5/8	22.00 - 26.00	0.6000	0.4988
T23	13	3/8	22.00 - 26.00	0.6000	0.4988
T23	14	Feedline Ladder (Af)	22.00 - 26.00	0.6000	0.4988
T23	16	1/2	22.00 - 26.00	0.6000	0.4988
T23	18	EW63	22.00 - 26.00	0.6000	0.4988
T23	19	EW63	22.00 - 26.00	0.0001	0.0001
T23	21	7/8	22.00 - 26.00	0.6000	0.4988
T23	22	0.27" RG-6/U	22.00 - 26.00	0.0001	0.0001
T23	24	1 5/8	22.00 - 26.00	0.6000	0.4988
T23	26	7/8	22.00 - 26.00	0.6000	0.4988
T23	28	Safety Line 3/8	22.00 - 26.00	0.6000	0.4988
T23	29	Climbing Ladder	22.00 - 26.00	0.6000	0.4988
T24	1	1 1/4" Hybriflex Cable	18.00 - 22.00	0.6000	0.5036
T24	3	1 5/8	18.00 - 22.00	0.6000	0.5036
T24	4	5/8	18.00 - 22.00	0.6000	0.5036
T24	5	3/8	18.00 - 22.00	0.6000	0.5036
T24	7	1/8"	18.00 - 22.00	0.6000	0.5036
T24	9	1 5/8	18.00 - 22.00	0.6000	0.5036
T24	10	1 5/8	18.00 - 22.00	0.0001	0.0001
T24	12	1 5/8	18.00 - 22.00	0.6000	0.5036
T24	13	3/8	18.00 - 22.00	0.6000	0.5036
T24	14	Feedline Ladder (Af)	18.00 - 22.00	0.6000	0.5036
T24	16	1/2	18.00 - 22.00	0.6000	0.5036
T24	18	EW63	18.00 - 22.00	0.6000	0.5036
T24	19	EW63	18.00 - 22.00	0.0001	0.0001
T24	21	7/8	18.00 - 22.00	0.6000	0.5036
T24	22	0.27" RG-6/U	18.00 - 22.00	0.0001	0.0001
T24	24	1 5/8	18.00 - 22.00	0.6000	0.5036
T24	26	7/8	18.00 - 22.00	0.6000	0.5036
T24	28	Safety Line 3/8	18.00 - 22.00	0.6000	0.5036
T24	29	Climbing Ladder	18.00 - 22.00	0.6000	0.5036
T25	1	1 1/4" Hybriflex Cable	14.00 - 18.00	0.6000	0.5093
T25	3	1 5/8	14.00 - 18.00	0.6000	0.5093

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T25	4	5/8	14.00 - 18.00	0.6000	0.5093
T25	5	3/8	14.00 - 18.00	0.6000	0.5093
T25	7	1/8"	14.00 - 18.00	0.6000	0.5093
T25	9	1 5/8	14.00 - 18.00	0.6000	0.5093
T25	10	1 5/8	14.00 - 18.00	0.0001	0.0001
T25	12	1 5/8	14.00 - 18.00	0.6000	0.5093
T25	13	3/8	14.00 - 18.00	0.6000	0.5093
T25	14	Feedline Ladder (Af)	14.00 - 18.00	0.6000	0.5093
T25	16	1/2	14.00 - 18.00	0.6000	0.5093
T25	18	EW63	14.00 - 18.00	0.6000	0.5093
T25	19	EW63	14.00 - 18.00	0.0001	0.0001
T25	21	7/8	14.00 - 18.00	0.6000	0.5093
T25	22	0.27" RG-6/U	14.00 - 18.00	0.0001	0.0001
T25	24	1 5/8	14.00 - 18.00	0.6000	0.5093
T25	26	7/8	14.00 - 18.00	0.6000	0.5093
T25	28	Safety Line 3/8	14.00 - 18.00	0.6000	0.5093
T25	29	Climbing Ladder	14.00 - 18.00	0.6000	0.5093
T26	1	1 1/4" Hybriflex Cable	10.00 - 14.00	0.6000	0.5165
T26	3	1 5/8	10.00 - 14.00	0.6000	0.5165
T26	4	5/8	10.00 - 14.00	0.6000	0.5165
T26	5	3/8	10.00 - 14.00	0.6000	0.5165
T26	7	1/8"	10.00 - 14.00	0.6000	0.5165
T26	9	1 5/8	10.00 - 14.00	0.6000	0.5165
T26	10	1 5/8	10.00 - 14.00	0.0001	0.0001
T26	12	1 5/8	10.00 - 14.00	0.6000	0.5165
T26	13	3/8	10.00 - 14.00	0.6000	0.5165
T26	14	Feedline Ladder (Af)	10.00 - 14.00	0.6000	0.5165
T26	16	1/2	10.00 - 14.00	0.6000	0.5165
T26	18	EW63	10.00 - 14.00	0.6000	0.5165
T26	19	EW63	10.00 - 14.00	0.0001	0.0001
T26	21	7/8	10.00 - 14.00	0.6000	0.5165
T26	22	0.27" RG-6/U	10.00 - 14.00	0.0001	0.0001
T26	24	1 5/8	10.00 - 14.00	0.6000	0.5165
T26	26	7/8	10.00 - 14.00	0.6000	0.5165
T26	28	Safety Line 3/8	10.00 - 14.00	0.6000	0.5165
T26	29	Climbing Ladder	10.00 - 14.00	0.6000	0.5165
T27	1	1 1/4" Hybriflex Cable	6.00 - 10.00	0.6000	0.5263
T27	3	1 5/8	6.00 - 10.00	0.6000	0.5263
T27	4	5/8	6.00 - 10.00	0.6000	0.5263
T27	5	3/8	6.00 - 10.00	0.6000	0.5263
T27	7	1/8"	6.00 - 10.00	0.6000	0.5263
T27	9	1 5/8	6.00 - 10.00	0.6000	0.5263
T27	10	1 5/8	6.00 - 10.00	0.0001	0.0001
T27	12	1 5/8	6.00 - 10.00	0.6000	0.5263
T27	13	3/8	6.00 - 10.00	0.6000	0.5263
T27	14	Feedline Ladder (Af)	6.00 - 10.00	0.6000	0.5263
T27	16	1/2	6.00 - 10.00	0.6000	0.5263
T27	18	EW63	6.00 - 10.00	0.6000	0.5263
T27	19	EW63	6.00 - 10.00	0.0001	0.0001
T27	21	7/8	6.00 - 10.00	0.6000	0.5263
T27	22	0.27" RG-6/U	6.00 - 10.00	0.0001	0.0001
T27	24	1 5/8	6.00 - 10.00	0.6000	0.5263
T27	26	7/8	6.00 - 10.00	0.6000	0.5263
T28	1	1 1/4" Hybriflex Cable	5.00 - 6.00	0.6000	0.5424
T28	3	1 5/8	5.00 - 6.00	0.6000	0.5424
T28	4	5/8	5.00 - 6.00	0.6000	0.5424
T28	5	3/8	5.00 - 6.00	0.6000	0.5424
T28	7	1/8"	5.00 - 6.00	0.6000	0.5424
T28	9	1 5/8	5.00 - 6.00	0.6000	0.5424
T28	10	1 5/8	5.00 - 6.00	0.0001	0.0001
T28	12	1 5/8	5.00 - 6.00	0.6000	0.5424
T28	13	3/8	5.00 - 6.00	0.6000	0.5424

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T28	14	Feedline Ladder (Af)	5.00 - 6.00	0.6000	0.5424
T28	16	1/2	5.00 - 6.00	0.6000	0.5424
T28	18	EW63	5.00 - 6.00	0.6000	0.5424
T28	19	EW63	5.00 - 6.00	0.0001	0.0001
T28	21	7/8	5.00 - 6.00	0.6000	0.5424
T28	22	0.27" RG-6/U	5.00 - 6.00	0.0001	0.0001
T28	24	1 5/8	5.00 - 6.00	0.6000	0.5424
T28	26	7/8	5.00 - 6.00	0.6000	0.5424

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Lightning Rod	C	From Leg	1.00 0.00 0.00	0.0000	274.00	No Ice 1/2" Ice 1" Ice	1.00 2.02 3.05	1.00 2.02 3.05	1.00 10.26 25.89
***									
Dish Pipe Mount	A	From Leg	1.00 0.00 0.00	0.0000	264.00	No Ice 1/2" Ice 1" Ice	2.59 3.02 3.47	2.59 3.02 3.47	63.77 93.94 128.59
Dish Pipe Mount	B	From Leg	1.00 0.00 0.00	0.0000	264.00	No Ice 1/2" Ice 1" Ice	2.59 3.02 3.47	2.59 3.02 3.47	63.77 93.94 128.59
***									
Dish Pipe Mount	A	From Leg	1.00 0.00 0.00	0.0000	253.00	No Ice 1/2" Ice 1" Ice	2.59 3.02 3.47	2.59 3.02 3.47	63.77 93.94 128.59
***									
APXV18-206515L-2 (T-Mobile)	A	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	3.52 3.87 4.23	2.05 2.38 2.71	17.60 37.36 61.42
APXV18-206515L-2 (T-Mobile)	B	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	3.52 3.87 4.23	2.05 2.38 2.71	17.60 37.36 61.42
APXV18-206515L-2 (T-Mobile)	C	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	3.52 3.87 4.23	2.05 2.38 2.71	17.60 37.36 61.42
Angle Sector Frame (T-Mobile)	A	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame (T-Mobile)	B	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame (T-Mobile)	C	From Leg	3.00 0.00 0.00	0.0000	236.00	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
***									
APXVSPP18-C-A20 (Sprint)	A	From Leg	3.00 0.00 0.00	0.0000	208.00	No Ice 1/2" Ice 1" Ice	8.26 8.81 9.36	5.28 5.74 6.20	57.00 106.52 162.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
APXVSPP18-C-A20	B	From Leg	3.00	0.0000	208.00	No Ice	8.26	5.28	57.00
(Sprint)			0.00			1/2" Ice	8.81	5.74	106.52
			0.00			1" Ice	9.36	6.20	162.12
APXVSPP18-C-A20	C	From Leg	3.00	0.0000	208.00	No Ice	8.26	5.28	57.00
(Sprint)			0.00			1/2" Ice	8.81	5.74	106.52
			0.00			1" Ice	9.36	6.20	162.12
(2) FS65-17-DP	A	From Leg	3.00	0.0000	208.00	No Ice	10.16	4.28	34.00
(Sprint)			0.00			1/2" Ice	10.85	5.35	77.74
			0.00			1" Ice	11.54	6.43	129.63
FS65-17-DP	B	From Leg	3.00	0.0000	208.00	No Ice	10.16	4.28	34.00
(Sprint)			0.00			1/2" Ice	10.85	5.35	77.74
			0.00			1" Ice	11.54	6.43	129.63
FS65-17-DP	C	From Leg	3.00	0.0000	208.00	No Ice	10.16	4.28	34.00
(Sprint)			0.00			1/2" Ice	10.85	5.35	77.74
			0.00			1" Ice	11.54	6.43	129.63
(2) 800 MHz RRH	A	From Leg	3.00	0.0000	208.00	No Ice	2.25	2.40	64.00
(Sprint)			0.00			1/2" Ice	2.46	2.61	86.12
			2.00			1" Ice	2.68	2.83	111.30
(2) 800 MHz RRH	B	From Leg	3.00	0.0000	208.00	No Ice	2.25	2.40	64.00
(Sprint)			0.00			1/2" Ice	2.46	2.61	86.12
			2.00			1" Ice	2.68	2.83	111.30
(2) 800 MHz RRH	C	From Leg	3.00	0.0000	208.00	No Ice	2.25	2.40	64.00
(Sprint)			0.00			1/2" Ice	2.46	2.61	86.12
			2.00			1" Ice	2.68	2.83	111.30
Angle Sector Frame	A	From Leg	3.00	0.0000	208.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00			1/2" Ice	22.20	13.00	510.00
			0.00			1" Ice	26.50	17.05	620.00
Angle Sector Frame	B	From Leg	3.00	0.0000	208.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00			1/2" Ice	22.20	13.00	510.00
			0.00			1" Ice	26.50	17.05	620.00
Angle Sector Frame	C	From Leg	3.00	0.0000	208.00	No Ice	17.90	8.95	400.00
(Sprint)			0.00			1/2" Ice	22.20	13.00	510.00
			0.00			1" Ice	26.50	17.05	620.00
***									
Dish Pipe Mount	A	From Leg	0.50	0.0000	192.00	No Ice	2.59	2.59	63.77
			0.00			1/2" Ice	3.02	3.02	93.94
			0.00			1" Ice	3.47	3.47	128.59
***									
Dish Pipe Mount	A	From Leg	0.50	0.0000	192.00 - 173.00	No Ice	2.59	2.59	63.77
			0.00			1/2" Ice	3.02	3.02	93.94
			0.00			1" Ice	3.47	3.47	128.59
***									
20' Dipole	B	From Leg	1.00	0.0000	160.00	No Ice	6.00	6.00	60.00
			0.00			1/2" Ice	8.03	8.03	103.17
			0.00			1" Ice	10.08	10.08	159.01
Pipe Side Arm	B	From Leg	1.00	0.0000	160.00	No Ice	1.77	5.20	150.00
			0.00			1/2" Ice	2.00	5.50	175.00
			0.00			1" Ice	2.50	6.00	200.00
***									
(2) 7740.00.00	A	From Leg	3.00	0.0000	150.00	No Ice	3.37	2.07	26.20
(AT&T)			0.00			1/2" Ice	3.70	2.39	45.83
			0.00			1" Ice	4.08	2.72	69.66
(2) 7770.00.00	B	From Leg	3.00	0.0000	150.00	No Ice	5.88	2.93	27.00
(AT&T)			0.00			1/2" Ice	6.31	3.27	59.63
			0.00			1" Ice	6.75	3.63	97.06
(2) 7770.00.00	C	From Leg	3.00	0.0000	150.00	No Ice	5.88	2.93	27.00
(AT&T)			0.00			1/2" Ice	6.31	3.27	59.63

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	6.75	3.63	97.06
Pipe Sector Frame (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.40 19.50 24.60	7.20 10.50 13.80	300.00 415.00 530.00
Pipe Sector Frame (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.40 19.50 24.60	7.20 10.50 13.80	300.00 415.00 530.00
Pipe Sector Frame (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice	14.40 19.50 24.60	7.20 10.50 13.80	300.00 415.00 530.00
***									
Weather Station	A	From Leg	0.00 0.00 0.00	0.0000	58.00	No Ice 1/2" Ice 1" Ice	0.50 0.63 0.78	0.50 0.63 0.78	10.00 15.96 23.49

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
Ice Shield	A	Grid	From Leg	3.00 0.00 0.00	0.0000		268.00	2.80	No Ice 1/2" Ice 1" Ice	6.16 6.53 6.90	10.91 44.43 77.95
Ice Shield	B	Grid	From Leg	3.00 0.00 0.00	0.0000		268.00	2.80	No Ice 1/2" Ice 1" Ice	6.16 6.53 6.90	10.91 44.43 77.95
DA6-65AC w/ Radome	A	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		264.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.86	440.00 589.23 738.45
DA6-65AC w/ Radome	B	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	0.0000		264.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.86	440.00 589.23 738.45
***											
KP4F-17	A	Grid	From Leg	1.00 0.00 0.00	0.0000		253.00	4.00	No Ice 1/2" Ice 1" Ice	10.10 13.09 16.08	198.00 265.19 332.38
***											
1' HP Dish	A	Paraboloid w/Shroud (HP)	From Leg	0.50 0.00 0.00	0.0000		192.00	1.00	No Ice 1/2" Ice 1" Ice	0.79 0.92 1.06	20.00 24.72 29.45
***											
Ice Shield	A	Grid	From Leg	1.00 0.00 0.00	0.0000		175.00	2.80	No Ice 1/2" Ice 1" Ice	6.16 6.53 6.90	10.91 44.43 77.95
6' Grid Dish	A	Grid	From Leg	1.00 0.00 0.00	0.0000		173.00	6.00	No Ice 1/2" Ice 1" Ice	28.27 29.07 29.86	143.00 292.23 441.45
***											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	Dead+Wind 0 deg - Service+Guy
28	Dead+Wind 30 deg - Service+Guy
29	Dead+Wind 60 deg - Service+Guy
30	Dead+Wind 90 deg - Service+Guy
31	Dead+Wind 120 deg - Service+Guy
32	Dead+Wind 150 deg - Service+Guy
33	Dead+Wind 180 deg - Service+Guy
34	Dead+Wind 210 deg - Service+Guy
35	Dead+Wind 240 deg - Service+Guy
36	Dead+Wind 270 deg - Service+Guy
37	Dead+Wind 300 deg - Service+Guy
38	Dead+Wind 330 deg - Service+Guy

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	276 - 265.5	2.217	29	0.0812	0.0689
T2	265.5 - 261.75	2.337	29	0.0816	0.0696
T3	261.75 - 258	2.379	29	0.0819	0.0641
T4	258 - 254	2.428	29	0.0814	0.0641
T5	254 - 242	2.476	29	0.0770	0.0895
T6	242 - 222	2.596	29	0.0597	0.0689
T7	222 - 206	2.686	29	0.0303	0.0870
T8	206 - 202	2.696	29	0.0249	0.0854
T9	202 - 198	2.696	29	0.0272	0.0691

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T10	198 - 194	2.705	29	0.0292	0.0693
T11	194 - 182	2.724	27	0.0257	0.1050
T12	182 - 162	2.771	27	0.0144	0.0908
T13	162 - 142	2.718	27	0.0498	0.1484
T14	142 - 122	2.491	27	0.0709	0.1334
T15	122 - 102	2.217	27	0.0618	0.1831
T16	102 - 82	1.942	27	0.0756	0.1733
T17	82 - 62	1.583	27	0.0916	0.2142
T18	62 - 42	1.177	27	0.0871	0.1945
T19	42 - 38	0.846	27	0.0839	0.2381
T20	38 - 34	0.777	27	0.0857	0.2104
T21	34 - 30	0.706	27	0.0880	0.2408
T22	30 - 26	0.632	27	0.0906	0.2128
T23	26 - 22	0.555	27	0.0934	0.2429
T24	22 - 18	0.476	27	0.0962	0.2147
T25	18 - 14	0.394	27	0.0988	0.2450
T26	14 - 10	0.309	27	0.1012	0.2157
T27	10 - 6	0.223	27	0.1032	0.2459
T28	6 - 2	0.134	27	0.1046	0.2165

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
274.00	Lightning Rod	29	2.241	0.0813	0.0702	112616
268.00	Ice Shield	29	2.310	0.0815	0.0714	87284
264.00	DA6-65AC w/ Radome	29	2.354	0.0817	0.0677	49039
261.75	Guy	29	2.379	0.0819	0.0641	31755
253.00	KP4F-17	29	2.488	0.0756	0.0941	41337
236.00	APXV18-206515L-2	29	2.636	0.0501	0.0750	32729
208.00	APXVSPP18-C-A20	29	2.697	0.0243	0.0935	129739
202.00	Guy	29	2.696	0.0272	0.0691	22394
192.00	1' HP Dish	27	2.734	0.0227	0.1178	48191
185.67	Dish Pipe Mount	27	2.762	0.0126	0.1036	33889
179.33	Dish Pipe Mount	27	2.775	0.0192	0.1020	27538
175.00	Ice Shield	27	2.774	0.0271	0.1047	26139
173.00	6' Grid Dish	27	2.771	0.0308	0.1016	25569
160.00	20' Dipole	27	2.701	0.0531	0.1512	25266
150.00	(2) 7740.00.00	27	2.595	0.0665	0.1367	47625
130.00	Guy	27	2.326	0.0649	0.1633	85296
62.00	Guy	27	1.177	0.0871	0.1945	34944
58.00	Weather Station	27	1.106	0.0855	0.2129	44941

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	276 - 265.5	26.528	2	0.3390	0.5317
T2	265.5 - 261.75	26.968	2	0.3398	0.5355
T3	261.75 - 258	27.116	2	0.3397	0.5143

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T4	258 - 254	27.296	2	0.3375	0.5140
T5	254 - 242	27.476	2	0.3276	0.5623
T6	242 - 222	27.878	2	0.2896	0.5328
T7	222 - 206	27.970	2	0.2202	0.5626
T8	206 - 202	27.670	2	0.1915	0.5562
T9	202 - 198	27.570	2	0.1885	0.5287
T10	198 - 194	27.506	2	0.1850	0.5295
T11	194 - 182	27.429	2	0.1733	0.4944
T12	182 - 162	27.042	2	0.2202	0.6169
T13	162 - 142	25.672	2	0.4404	0.6536
T14	142 - 122	23.368	2	0.6057	0.7671
T15	122 - 102	20.738	2	0.6220	0.7594
T16	102 - 82	18.008	2	0.7111	0.8810
T17	82 - 62	14.775	2	0.8123	0.8514
T18	62 - 42	11.210	2	0.8184	0.9481
T19	42 - 38	7.888	2	0.8249	0.9062
T20	38 - 34	7.200	2	0.8368	0.9942
T21	34 - 30	6.499	2	0.8507	0.9149
T22	30 - 26	5.784	2	0.8657	1.0026
T23	26 - 22	5.053	2	0.8812	0.9214
T24	22 - 18	4.307	2	0.8964	1.0088
T25	18 - 14	3.547	2	0.9107	0.9244
T26	14 - 10	2.774	2	0.9234	1.0122
T27	10 - 6	1.990	2	0.9338	0.9261
T28	6 - 2	1.196	2	0.9412	1.0139

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
274.00	Lightning Rod	2	26.615	0.3392	0.5372	1385
268.00	Ice Shield	2	26.869	0.3397	0.5429	917
264.00	DA6-65AC w/ Radome	2	27.025	0.3398	0.5273	1424
261.75	Guy	2	27.116	0.3397	0.5143	5410
253.00	KP4F-17	2	27.518	0.3246	0.5711	8980
236.00	APXV18-206515L-2	2	27.977	0.2679	0.5178	6546
208.00	APXVSPP18-C-A20	2	27.721	0.1936	0.5697	17212
202.00	Guy	2	27.570	0.1885	0.5287	5066
192.00	1' HP Dish	2	27.381	0.1664	0.4920	7924
185.67	Dish Pipe Mount	2	27.189	0.1859	0.5637	6030
179.33	Dish Pipe Mount	2	26.917	0.2470	0.6422	5100
175.00	Ice Shield	2	26.677	0.2934	0.6598	4870
173.00	6' Grid Dish	2	26.551	0.3157	0.6610	4775
160.00	20' Dipole	2	25.477	0.4624	0.6594	4731
150.00	(2) 7740.00.00	2	24.366	0.5583	0.7231	8250
130.00	Guy	2	21.799	0.6189	0.7582	19374
62.00	Guy	2	11.210	0.8184	0.9481	8222
58.00	Weather Station	2	10.533	0.8154	0.9078	10619

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	276	Leg	A325N	0.6250	3	221.17	20708.70	0.011	1	Bolt Tension
		Diagonal	A325N	0.6250	1	597.27	6475.78	0.092	1	Member Block Shear
		Horizontal	A325N	0.6250	1	107.95	7495.31	0.014	1	Member Block Shear
		Top Girt	A325N	0.6250	1	46.77	7495.31	0.006	1	Member Block Shear
T2	265.5	Leg	A325N	0.6250	3	819.28	20708.70	0.040	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2583.43	6475.78	0.399	1	Member Block Shear
		Top Girt	A325N	0.6250	1	759.28	7495.31	0.101	1	Member Block Shear
T3	261.75	Leg	A325N	0.6250	3	311.36	20708.70	0.015	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3293.34	6475.78	0.509	1	Member Block Shear
T4	258	Leg	A325N	0.6250	3	2840.38	20708.70	0.137	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2725.82	6475.78	0.421	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2610.98	12425.20	0.210	1	Bolt Shear
T5	254	Leg	A325N	0.6250	3	3402.33	20708.70	0.164	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2243.50	6475.78	0.346	1	Member Block Shear
		Horizontal	A325N	0.6250	1	530.37	7495.31	0.071	1	Member Block Shear
		Top Girt	A325N	0.6250	1	291.71	7495.31	0.039	1	Member Block Shear
T6	242	Leg	A325N	0.6250	3	3152.11	20708.70	0.152	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2334.91	6475.78	0.361	1	Member Block Shear
		Horizontal	A325N	0.6250	1	565.18	7495.31	0.075	1	Member Block Shear
		Top Girt	A325N	0.6250	1	111.95	7495.31	0.015	1	Member Block Shear
T7	222	Leg	A325N	0.6250	3	2821.33	20708.70	0.136	1	Bolt Tension
		Diagonal	A325N	0.7500	1	5574.21	12539.10	0.445	1	Member Block Shear
		Horizontal	A325N	0.6250	1	981.25	7495.31	0.131	1	Member Block Shear
		Top Girt	A325N	0.6250	1	210.42	7495.31	0.028	1	Member Block Shear
T8	206	Leg	A325N	0.6250	3	2902.25	20708.70	0.140	1	Bolt Tension
		Diagonal	A325N	0.7500	1	7836.73	17892.40	0.438	1	Bolt Shear
		Top Girt	A325N	0.6250	1	890.70	7495.31	0.119	1	Member Block Shear
T9	202	Leg	A325N	0.6250	3	2339.71	20708.70	0.113	1	Bolt Tension
		Diagonal	A325N	0.7500	1	8545.16	17892.40	0.478	1	Bolt Shear
T10	198	Leg	A325N	0.6250	3	5381.34	20708.70	0.260	1	Bolt Tension
		Diagonal	A325N	0.7500	1	5781.76	17892.40	0.323	1	Bolt Shear
		Top Girt	A325N	0.6250	1	1830.85	7495.31	0.244	1	Member Block Shear
T11	194	Leg	A325N	0.6250	3	6327.86	20708.70	0.306	1	Bolt Tension
		Diagonal	A325N	0.7500	1	4909.33	12539.10	0.392	1	Member Block

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
										Shear
		Horizontal	A325N	0.6250	1	986.42	7495.31	0.132 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	351.62	7495.31	0.047 ✓	1	Member Block Shear
T12	182	Leg	A325N	0.6250	3	6744.92	20708.70	0.326 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3029.56	9993.75	0.303 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1077.12	7495.31	0.144 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	371.09	7495.31	0.050 ✓	1	Member Block Shear
T13	162	Leg	A325N	0.6250	3	5721.35	20708.70	0.276 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	6387.82	9993.75	0.639 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1030.76	7495.31	0.138 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	523.09	7495.31	0.070 ✓	1	Member Block Shear
T14	142	Leg	A325N	0.6250	3	6378.88	20708.70	0.308 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	8112.93	9993.75	0.812 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	9490.42	12425.20	0.764 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	1	363.01	7495.31	0.048 ✓	1	Member Block Shear
T15	122	Leg	A325N	0.6250	3	6788.77	20708.70	0.328 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3583.99	9993.75	0.359 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1058.26	7495.31	0.141 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	387.70	7495.31	0.052 ✓	1	Member Block Shear
T16	102	Leg	A325N	0.6250	3	6978.98	20708.70	0.337 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2673.90	7495.31	0.357 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1087.92	7495.31	0.145 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	389.99	7495.31	0.052 ✓	1	Member Block Shear
T17	82	Leg	A325N	0.6250	3	7234.04	20708.70	0.349 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	4987.72	7495.31	0.665 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1127.68	7495.31	0.150 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	369.96	7495.31	0.049 ✓	1	Member Block Shear
T18	62	Leg	A325N	0.6250	3	7684.90	20708.70	0.371 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	4167.85	7495.31	0.556 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1197.96	7495.31	0.160 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	7177.21	12425.20	0.578 ✓	1	Bolt Shear
T19	42	Leg	A325N	0.6250	3	7807.86	20708.70	0.377 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	1657.32	7495.31	0.221 ✓	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.6250	1	349.97	7495.31	0.047 ✓	1	Member Block Shear
T20	38	Diagonal	A325N	0.6250	1	1172.48	7495.31	0.156 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	346.54	7495.31	0.046 ✓	1	Member Block Shear
T21	34	Diagonal	A325N	0.6250	1	717.18	7495.31	0.096 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	342.22	7495.31	0.046 ✓	1	Member Block Shear
T22	30	Diagonal	A325N	0.6250	1	644.94	12425.20	0.052 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	1	339.70	7495.31	0.045 ✓	1	Member Block Shear
T23	26	Diagonal	A325N	0.6250	1	790.23	12425.20	0.064 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	1	339.00	7495.31	0.045 ✓	1	Member Block Shear
T24	22	Leg	A325N	0.6250	3	8238.16	20708.70	0.398 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	1154.54	12425.20	0.093 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	1	339.46	7495.31	0.045 ✓	1	Member Block Shear
T25	18	Diagonal	A325N	0.6250	1	1640.03	12425.20	0.132 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	1	339.13	7495.31	0.045 ✓	1	Member Block Shear
T26	14	Diagonal	A325N	0.6250	1	1665.31	9993.75	0.167 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	335.68	7495.31	0.045 ✓	1	Member Block Shear
T27	10	Diagonal	A325N	0.6250	1	2053.95	9993.75	0.206 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	334.65	7495.31	0.045 ✓	1	Member Block Shear
T28	6	Diagonal	A325N	0.6250	1	2392.27	9993.75	0.239 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	252.72	7495.31	0.034 ✓	1	Member Block Shear

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_n lb	Required S.F.	Actual S.F.
T3	261.75 (A) (547)	9/16 EHS	3150.00	35000.04	11841.10	21000.00	1.000	1.773 ✓
	261.75 (A) (548)	9/16 EHS	3150.00	35000.04	11406.90	21000.00	1.000	1.841 ✓
	261.75 (B) (541)	9/16 EHS	3150.00	35000.04	11265.00	21000.00	1.000	1.864 ✓
	261.75 (B) (542)	9/16 EHS	3150.00	35000.04	11963.70	21000.00	1.000	1.755 ✓
	261.75 (C) (535)	9/16 EHS	3150.00	35000.04	11623.90	21000.00	1.000	1.807 ✓

Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T_u lb	Allowable ϕT_n lb	Required S.F.	Actual S.F.
	261.75 (C) (536)	9/16 EHS	3150.00	35000.04	11323.00	21000.00	1.000	1.855 ✓
T9	202.00 (A) (565)	9/16 EHS	4200.00	35000.04	16827.20	21000.00	1.000	1.248 ✓
	202.00 (A) (566)	9/16 EHS	4200.00	35000.04	16547.70	21000.00	1.000	1.269 ✓
	202.00 (B) (559)	9/16 EHS	4200.00	35000.04	16038.60	21000.00	1.000	1.309 ✓
	202.00 (B) (560)	9/16 EHS	4200.00	35000.04	16969.00	21000.00	1.000	1.238 ✓
	202.00 (C) (553)	9/16 EHS	4200.00	35000.04	16969.90	21000.00	1.000	1.237 ✓
	202.00 (C) (554)	9/16 EHS	4200.00	35000.04	16338.20	21000.00	1.000	1.285 ✓
T14	130.00 (A) (573)	5/8 EHS	3392.00	42399.99	21870.70	25440.00	1.000	1.163 ✓
	130.00 (B) (572)	5/8 EHS	3392.00	42399.99	21979.40	25440.00	1.000	1.157 ✓
	130.00 (C) (571)	5/8 EHS	3392.00	42399.99	22742.70	25440.00	1.000	1.119 ✓
T18	62.00 (A) (576)	1/2 EHS	3497.00	26900.04	12887.70	16140.00	1.000	1.252 ✓
	62.00 (B) (575)	1/2 EHS	3497.00	26900.04	13008.20	16140.00	1.000	1.241 ✓
	62.00 (C) (574)	1/2 EHS	3497.00	26900.04	13566.70	16140.00	1.000	1.190 ✓

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	1 3/4	10.50	3.50	96.0 K=1.00	2.4053	1.00	-1065.63	55173.40	0.019 [1] ✓
T2	265.5 - 261.75	1 3/4	3.75	3.75	102.9 K=1.00	2.4053	1.00	-3643.63	49937.80	0.073 [1] ✓
T3	261.75 - 258	1 3/4	3.75	3.75	102.9 K=1.00	2.4053	1.00	-2802.23	49937.80	0.056 [1] ✓
T4	258 - 254	1 3/4	4.00	4.00	109.7 K=1.00	2.4053	1.00	-25563.40	44889.40	0.569 [1] ✓
T5	254 - 242	1 3/4	12.00	4.00	109.7 K=1.00	2.4053	1.00	-30620.90	44889.40	0.682 [1] ✓
T6	242 - 222	1 3/4	20.00	4.00	109.7 K=1.00	2.4053	1.00	-32631.00	44889.40	0.727 [1] ✓
T7	222 - 206	2	16.00	4.00	96.0 K=1.00	3.1416	1.00	-26121.50	72063.20	0.362 [1] ✓
T8	206 - 202	2	4.00	4.00	96.0 K=1.00	3.1416	1.00	-26120.20	72063.20	0.362 [1] ✓
T9	202 - 198	2	4.00	4.00	96.0	3.1416	1.00	-21057.40	72063.20	0.292 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00					✓
T10	198 - 194	2	4.00	4.00	96.0 K=1.00	3.1416	1.00	-48432.00	72063.20	0.672 [1] ✓
T11	194 - 182	2	12.00	4.00	96.0 K=1.00	3.1416	1.00	-56950.70	72063.20	0.790 [1] ✓
T12	182 - 162	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-62187.80	72063.20	0.863 [1] ✓
T13	162 - 142	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-59510.90	72063.20	0.826 [1] ✓
T14	142 - 122	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-57409.90	72063.20	0.797 [1] ✓
T15	122 - 102	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-61098.90	72063.20	0.848 [1] ✓
T16	102 - 82	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-62810.90	72063.20	0.872 [1] ✓
T17	82 - 62	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-65106.40	72063.20	0.903 [1] ✓
T18	62 - 42	2	20.00	4.00	96.0 K=1.00	3.1416	1.00	-69164.10	72063.20	0.960 [1] ✓
T19	42 - 38	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-70270.70	119454.00	0.588 [1] ✓
T20	38 - 34	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-71503.90	119454.00	0.599 [1] ✓
T21	34 - 30	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-72298.90	119454.00	0.605 [1] ✓
T22	30 - 26	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-73170.60	119454.00	0.613 [1] ✓
T23	26 - 22	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-73624.80	119454.00	0.616 [1] ✓
T24	22 - 18	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-74143.40	119454.00	0.621 [1] ✓
T25	18 - 14	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-74268.30	119454.00	0.622 [1] ✓
T26	14 - 10	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-74427.80	119454.00	0.623 [1] ✓
T27	10 - 6	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-74347.40	119454.00	0.622 [1] ✓
T28	6 - 2	2	4.00	2.00	48.0 K=1.00	3.1416	1.00	-73896.30	119454.00	0.619 [1] ✓

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	L1 3/4x1 3/4x3/16	5.32	5.12	152.1 K=0.85	0.6211	-599.20	6065.43	0.099 [1] ✓

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T2	265.5 - 261.75	L1 3/4x1 3/4x3/16	5.48	5.28	156.9 K=0.85	0.6211	-2590.01	5699.73	0.454 [1]
T3	261.75 - 258	L1 3/4x1 3/4x3/16	5.48	2.64	78.4 K=0.85	0.6211	-3595.30	14554.40	0.247 [1]
T4	258 - 254	L1 3/4x1 3/4x3/16	5.66	5.45	161.9 K=0.85	0.6211	-2963.19	5354.63	0.553 [1]
T5	254 - 242	L1 3/4x1 3/4x3/16	5.66	5.45	161.9 K=0.85	0.6211	-2165.58	5354.63	0.404 [1]
T6	242 - 222	L1 3/4x1 3/4x3/16	5.66	5.45	161.9 K=0.85	0.6211	-2347.67	5354.63	0.438 [1]
T7	222 - 206	L2 1/2x2 1/2x1/4	5.66	5.42	112.6 K=0.85	1.1900	-5731.01	19775.10	0.290 [1]
T8	206 - 202	L2 1/2x2 1/2x3/8	5.66	5.42	113.5 K=0.85	1.7300	-7836.73	28433.80	0.276 [1]
T9	202 - 198	L2 1/2x2 1/2x3/8	5.66	2.71	56.8 K=0.85	1.7300	-8545.16	47304.50	0.181 [1]
T10	198 - 194	L2 1/2x2 1/2x3/8	5.66	5.42	113.5 K=0.85	1.7300	-5781.76	28433.80	0.203 [1]
T11	194 - 182	L2 1/2x2 1/2x1/4	5.66	5.42	112.6 K=0.85	1.1900	-5337.03	19775.10	0.270 [1]
T12	182 - 162	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-3105.07	10595.30	0.293 [1]
T13	162 - 142	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-6740.73	10595.30	0.636 [1]
T14	142 - 122	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-8389.19	10595.30	0.792 [1]
T15	122 - 102	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-3798.05	10595.30	0.358 [1]
T16	102 - 82	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-2908.69	8200.77	0.355 [1]
T17	82 - 62	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-5514.86	8200.77	0.672 [1]
T18	62 - 42	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-4532.78	8200.77	0.553 [1]
T19	42 - 38	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-2047.23	8200.77	0.250 [1]
T20	38 - 34	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-1537.03	8200.77	0.187 [1]
T21	34 - 30	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-1094.17	8200.77	0.133 [1]
T22	30 - 26	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-644.94	8200.77	0.079 [1]
T23	26 - 22	L2x2x3/16	5.66	5.42	140.3 K=0.85	0.7150	-790.23	8200.77	0.096 [1]
T24	22 - 18	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-1154.54	10595.30	0.109 [1]
T25	18 - 14	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-1640.03	10595.30	0.155 [1]
T26	14 - 10	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-2014.81	10595.30	0.190 [1]
T27	10 - 6	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-2512.32	10595.30	0.237 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T28	6 - 2	L2x2x1/4	5.66	5.42	141.4 K=0.85	0.9380	-2763.02	10595.30	0.261 [1] ✓

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	L2x2x3/16	4.00	3.85	99.8 K=0.85	0.7150	-122.27	13716.20	0.009 [1] ✓
T5	254 - 242	L2x2x3/16	4.00	3.85	99.8 K=0.85	0.7150	-530.37	13716.20	0.039 [1] ✓
T6	242 - 222	L2x2x3/16	4.00	3.85	99.8 K=0.85	0.7150	-565.18	13716.20	0.041 [1] ✓
T7	222 - 206	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-887.48	13793.90	0.064 [1] ✓
T11	194 - 182	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-986.42	13793.90	0.072 [1] ✓
T12	182 - 162	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1077.12	13793.90	0.078 [1] ✓
T13	162 - 142	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1030.76	13793.90	0.075 [1] ✓
T14	142 - 122	L2 1/2x2 1/2x1/4	4.00	3.83	79.6 K=0.85	1.1900	-994.37	27612.50	0.036 [1] ✓
T15	122 - 102	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1058.26	13793.90	0.077 [1] ✓
T16	102 - 82	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1087.92	13793.90	0.079 [1] ✓
T17	82 - 62	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1127.68	13793.90	0.082 [1] ✓
T18	62 - 42	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-1197.96	13793.90	0.087 [1] ✓

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T19	42 - 38	L2 1/2x2 1/2x1/4	4.00	3.83	93.7 K=1.00	1.1900	-1217.12	24289.50	0.050 [1] ✓
T20	38 - 34	L2 1/2x2 1/2x1/4	4.00	3.83	93.7 K=1.00	1.1900	-1238.48	24289.50	0.051 [1] ✓
T21	34 - 30	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1252.25	24289.50	0.052 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00				✓
T22	30 - 26	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1267.35	24289.50	0.052 [1]
					K=1.00				✓
T23	26 - 22	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1275.22	24289.50	0.053 [1]
					K=1.00				✓
T24	22 - 18	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1284.20	24289.50	0.053 [1]
					K=1.00				✓
T25	18 - 14	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1286.36	24289.50	0.053 [1]
					K=1.00				✓
T26	14 - 10	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1289.13	24289.50	0.053 [1]
					K=1.00				✓
T27	10 - 6	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1287.73	24289.50	0.053 [1]
					K=1.00				✓
T28	6 - 2	L2 1/2x2 1/2x1/4	4.00	3.83	93.7	1.1900	-1279.92	24289.50	0.053 [1]
					K=1.00				✓

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	L2x2x3/16	4.00	3.85	99.8	0.7150	-51.60	13716.20	0.004 [1]
					K=0.85				✓
T2	265.5 - 261.75	L2x2x3/16	4.00	3.85	99.8	0.7150	-742.69	13716.20	0.054 [1]
					K=0.85				✓
T4	258 - 254	L2x2x3/16	4.00	3.85	99.8	0.7150	-2610.98	13716.20	0.190 [1]
					K=0.85				✓
T5	254 - 242	L2x2x3/16	4.00	3.85	99.8	0.7150	-257.21	13716.20	0.019 [1]
					K=0.85				✓
T6	242 - 222	L2x2x3/16	4.00	3.85	99.8	0.7150	-55.62	13716.20	0.004 [1]
					K=0.85				✓
T7	222 - 206	L2x2x3/16	4.00	3.85	99.8	0.7150	-131.90	13716.20	0.010 [1]
					K=0.85				✓
T8	206 - 202	L2x2x3/16	4.00	3.83	99.2	0.7150	-801.34	13793.90	0.058 [1]
					K=0.85				✓
T10	198 - 194	L2x2x3/16	4.00	3.83	99.2	0.7150	-2508.72	13793.90	0.182 [1]
					K=0.85				✓
T11	194 - 182	L2x2x3/16	4.00	3.83	99.2	0.7150	-217.71	13793.90	0.016 [1]
					K=0.85				✓
T12	182 - 162	L2x2x3/16	4.00	3.83	99.2	0.7150	-204.93	13793.90	0.015 [1]
					K=0.85				✓
T13	162 - 142	L2x2x3/16	4.00	3.83	99.2	0.7150	-339.52	13793.90	0.025 [1]
					K=0.85				✓
T14	142 - 122	L2x2x3/16	4.00	3.83	99.2	0.7150	-165.57	13793.90	0.012 [1]
					K=0.85				✓
T15	122 - 102	L2x2x3/16	4.00	3.83	99.2	0.7150	-179.41	13793.90	0.013 [1]
					K=0.85				✓

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T16	102 - 82	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-167.69	13793.90	0.012 [1]
T17	82 - 62	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-139.26	13793.90	0.010 [1]
T19	42 - 38	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-102.52	13793.90	0.007 [1]
T20	38 - 34	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-102.71	13793.90	0.007 [1]
T21	34 - 30	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-100.88	13793.90	0.007 [1]
T22	30 - 26	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-95.50	13793.90	0.007 [1]
T23	26 - 22	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-95.64	13793.90	0.007 [1]
T24	22 - 18	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-91.74	13793.90	0.007 [1]
T25	18 - 14	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-92.03	13793.90	0.007 [1]
T26	14 - 10	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-84.19	13793.90	0.006 [1]
T27	10 - 6	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-86.61	13793.90	0.006 [1]
T28	6 - 2	L2x2x3/16	4.00	3.83	99.2 K=0.85	0.7150	-21.00	13793.90	0.002 [1]

[1] P_u / ϕP_n controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T3	261.75 - 258	L2 1/2x2 1/2x3/8	4.00	3.85	95.0 K=1.00	1.7300	-2709.08	40258.80	0.067 [1]
T9	202 - 198	L2 1/2x2 1/2x3/8	4.00	3.83	94.5 K=1.00	1.7300	-5896.82	40546.10	0.145 [1]

[1] P_u / ϕP_n controls

Torque-Arm Bottom Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T3	261.75 - 258 (539)	L3 1/2x3 1/2x3/8	7.17	7.08	123.7 K=1.00	2.4800	-17514.30	35890.70	0.488 [1]
T3	261.75 - 258	L3 1/2x3 1/2x3/8	7.17	7.08	123.7	2.4800	-17815.50	35890.70	0.496 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
	(540)				K=1.00				✓
T3	261.75 - 258 (545)	L3 1/2x3 1/2x3/8	7.17	7.08	123.7 K=1.00	2.4800	-17462.70	35890.70	0.487 [1] ✓
T3	261.75 - 258 (546)	L3 1/2x3 1/2x3/8	7.17	7.08	123.7 K=1.00	2.4800	-17500.50	35890.70	0.488 [1] ✓
T3	261.75 - 258 (551)	L3 1/2x3 1/2x3/8	7.17	7.08	123.7 K=1.00	2.4800	-17742.50	35890.70	0.494 [1] ✓
T3	261.75 - 258 (552)	L3 1/2x3 1/2x3/8	7.17	7.08	123.7 K=1.00	2.4800	-17620.40	35890.70	0.491 [1] ✓
T9	202 - 198 (557)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-23218.70	34917.20	0.665 [1] ✓
T9	202 - 198 (558)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-22343.40	34917.20	0.640 [1] ✓
T9	202 - 198 (563)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-22061.50	34917.20	0.632 [1] ✓
T9	202 - 198 (564)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-23030.90	34917.20	0.660 [1] ✓
T9	202 - 198 (569)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-22962.70	34917.20	0.658 [1] ✓
T9	202 - 198 (570)	L3 1/2x3 1/2x3/8	7.30	7.20	125.8 K=1.00	2.4800	-22738.70	34917.20	0.651 [1] ✓

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	1 3/4	10.50	3.50	96.0	2.4053	663.52	108238.00	0.006 [1] ✓
T2	265.5 - 261.75	1 3/4	3.75	3.75	102.9	2.4053	2457.85	108238.00	0.023 [1] ✓
T3	261.75 - 258	1 3/4	3.75	3.75	102.9	2.4053	467.94	108238.00	0.004 [1] ✓
T4	258 - 254	1 3/4	4.00	4.00	109.7	2.4053	234.12	108238.00	0.002 [1] ✓
T5	254 - 242	1 3/4	12.00	4.00	109.7	2.4053	6966.71	108238.00	0.064 [1] ✓
T6	242 - 222	1 3/4	20.00	4.00	109.7	2.4053	8979.40	108238.00	0.083 [1] ✓
T7	222 - 206	2	16.00	4.00	96.0	3.1416	1218.26	141372.00	0.009 [1] ✓
T11	194 - 182	2	12.00	4.00	96.0	3.1416	1348.63	141372.00	0.010 [1] ✓
T12	182 - 162	2	20.00	4.00	96.0	3.1416	7502.72	141372.00	0.053 [1] ✓

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	162 - 142	2	20.00	4.00	96.0	3.1416	3349.51	141372.00	0.024 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	L1 3/4x1 3/4x3/16	5.32	5.12	114.5	0.3604	597.27	15675.30	0.038 [1]
T2	265.5 - 261.75	L1 3/4x1 3/4x3/16	5.48	5.28	118.1	0.3604	2583.43	15675.30	0.165 [1]
T3	261.75 - 258	L1 3/4x1 3/4x3/16	5.48	2.64	59.0	0.3604	3293.34	15675.30	0.210 [1]
T4	258 - 254	L1 3/4x1 3/4x3/16	5.66	5.45	121.8	0.3604	2725.82	15675.30	0.174 [1]
T5	254 - 242	L1 3/4x1 3/4x3/16	5.66	5.45	121.8	0.3604	2243.50	15675.30	0.143 [1]
T6	242 - 222	L1 3/4x1 3/4x3/16	5.66	5.45	121.8	0.3604	2334.91	15675.30	0.149 [1]
T7	222 - 206	L2 1/2x2 1/2x1/4	5.66	5.42	84.6	0.7284	5574.21	31687.00	0.176 [1]
T8	206 - 202	L2 1/2x2 1/2x3/8	5.66	5.42	86.4	1.0514	7710.57	45736.20	0.169 [1]
T9	202 - 198	L2 1/2x2 1/2x3/8	5.66	2.71	43.2	1.0514	4026.18	45736.20	0.088 [1]
T10	198 - 194	L2 1/2x2 1/2x3/8	5.66	5.42	86.4	1.0514	5712.14	45736.20	0.125 [1]
T11	194 - 182	L2 1/2x2 1/2x1/4	5.66	5.42	84.6	0.7284	4909.33	31687.00	0.155 [1]
T12	182 - 162	L2x2x1/4	5.66	5.42	106.8	0.5629	3029.56	24485.10	0.124 [1]
T13	162 - 142	L2x2x1/4	5.66	5.42	106.8	0.5629	6387.82	24485.10	0.261 [1]
T14	142 - 122	L2x2x1/4	5.66	5.42	106.8	0.5629	8112.93	24485.10	0.331 [1]
T15	122 - 102	L2x2x1/4	5.66	5.42	106.8	0.5629	3583.99	24485.10	0.146 [1]
T16	102 - 82	L2x2x3/16	5.66	5.42	105.4	0.4308	2673.90	18739.00	0.143 [1]
T17	82 - 62	L2x2x3/16	5.66	5.42	105.4	0.4308	4987.72	18739.00	0.266 [1]
T18	62 - 42	L2x2x3/16	5.66	5.42	105.4	0.4308	4167.85	18739.00	0.222 [1]
T19	42 - 38	L2x2x3/16	5.66	5.42	105.4	0.4308	1657.32	18739.00	0.088 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T20	38 - 34	L2x2x3/16	5.66	5.42	105.4	0.4308	1172.48	18739.00	0.063 [1]
T21	34 - 30	L2x2x3/16	5.66	5.42	105.4	0.4308	717.18	18739.00	0.038 [1]
T22	30 - 26	L2x2x3/16	5.66	5.42	105.4	0.4308	281.74	18739.00	0.015 [1]
T23	26 - 22	L2x2x3/16	5.66	5.42	105.4	0.4308	310.48	18739.00	0.017 [1]
T24	22 - 18	L2x2x1/4	5.66	5.42	106.8	0.5629	794.70	24485.10	0.032 [1]
T25	18 - 14	L2x2x1/4	5.66	5.42	106.8	0.5629	1169.64	24485.10	0.048 [1]
T26	14 - 10	L2x2x1/4	5.66	5.42	106.8	0.5629	1665.31	24485.10	0.068 [1]
T27	10 - 6	L2x2x1/4	5.66	5.42	106.8	0.5629	2053.95	24485.10	0.084 [1]
T28	6 - 2	L2x2x1/4	5.66	5.42	106.8	0.5629	2392.27	24485.10	0.098 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	276 - 265.5	L2x2x3/16	4.00	3.85	75.0	0.4308	107.95	18739.00	0.006 [1]
T5	254 - 242	L2x2x3/16	4.00	3.85	75.0	0.4308	530.37	18739.00	0.028 [1]
T6	242 - 222	L2x2x3/16	4.00	3.85	75.0	0.4308	565.18	18739.00	0.030 [1]
T7	222 - 206	L2x2x3/16	4.00	3.83	74.6	0.4308	981.25	18739.00	0.052 [1]
T11	194 - 182	L2x2x3/16	4.00	3.83	74.6	0.4308	986.42	18739.00	0.053 [1]
T12	182 - 162	L2x2x3/16	4.00	3.83	74.6	0.4308	1077.12	18739.00	0.057 [1]
T13	162 - 142	L2x2x3/16	4.00	3.83	74.6	0.4308	1030.76	18739.00	0.055 [1]
T14	142 - 122	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	0.7519	9490.42	32706.60	0.290 [1]
T15	122 - 102	L2x2x3/16	4.00	3.83	74.6	0.4308	1058.26	18739.00	0.056 [1]
T16	102 - 82	L2x2x3/16	4.00	3.83	74.6	0.4308	1087.92	18739.00	0.058 [1]
T17	82 - 62	L2x2x3/16	4.00	3.83	74.6	0.4308	1127.68	18739.00	0.060 [1]
T18	62 - 42	L2x2x3/16	4.00	3.83	74.6	0.4308	1197.96	18739.00	0.064 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T19	42 - 38	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1217.12	38556.00	0.032 [1]
T20	38 - 34	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1238.48	38556.00	0.032 [1]
T21	34 - 30	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1252.25	38556.00	0.032 [1]
T22	30 - 26	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1267.35	38556.00	0.033 [1]
T23	26 - 22	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1275.22	38556.00	0.033 [1]
T24	22 - 18	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1284.20	38556.00	0.033 [1]
T25	18 - 14	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1286.36	38556.00	0.033 [1]
T26	14 - 10	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1289.13	38556.00	0.033 [1]
T27	10 - 6	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1287.73	38556.00	0.033 [1]
T28	6 - 2	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	1.1900	1279.92	38556.00	0.033 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	276 - 265.5	L2x2x3/16	4.00	3.85	75.0	0.4308	46.77	18739.00	0.002 [1]
T2	265.5 - 261.75	L2x2x3/16	4.00	3.85	75.0	0.4308	759.28	18739.00	0.041 [1]
T5	254 - 242	L2x2x3/16	4.00	3.85	75.0	0.4308	291.71	18739.00	0.016 [1]
T6	242 - 222	L2x2x3/16	4.00	3.85	75.0	0.4308	111.95	18739.00	0.006 [1]
T7	222 - 206	L2x2x3/16	4.00	3.85	75.0	0.4308	210.42	18739.00	0.011 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T8	206 - 202	L2x2x3/16	4.00	3.83	74.6	0.4308	890.70	18739.00	0.048 [1]
T10	198 - 194	L2x2x3/16	4.00	3.83	74.6	0.4308	1830.85	18739.00	0.098 [1]
T11	194 - 182	L2x2x3/16	4.00	3.83	74.6	0.4308	351.62	18739.00	0.019 [1]
T12	182 - 162	L2x2x3/16	4.00	3.83	74.6	0.4308	371.09	18739.00	0.020 [1]
T13	162 - 142	L2x2x3/16	4.00	3.83	74.6	0.4308	523.09	18739.00	0.028 [1]
T14	142 - 122	L2x2x3/16	4.00	3.83	74.6	0.4308	363.01	18739.00	0.019 [1]
T15	122 - 102	L2x2x3/16	4.00	3.83	74.6	0.4308	387.70	18739.00	0.021 [1]
T16	102 - 82	L2x2x3/16	4.00	3.83	74.6	0.4308	389.99	18739.00	0.021 [1]
T17	82 - 62	L2x2x3/16	4.00	3.83	74.6	0.4308	369.96	18739.00	0.020 [1]
T18	62 - 42	L2 1/2x2 1/2x1/4	4.00	3.83	59.8	0.7519	7177.21	32706.60	0.219 [1]
T19	42 - 38	L2x2x3/16	4.00	3.83	74.6	0.4308	349.97	18739.00	0.019 [1]
T20	38 - 34	L2x2x3/16	4.00	3.83	74.6	0.4308	346.54	18739.00	0.018 [1]
T21	34 - 30	L2x2x3/16	4.00	3.83	74.6	0.4308	342.22	18739.00	0.018 [1]
T22	30 - 26	L2x2x3/16	4.00	3.83	74.6	0.4308	339.70	18739.00	0.018 [1]
T23	26 - 22	L2x2x3/16	4.00	3.83	74.6	0.4308	339.00	18739.00	0.018 [1]
T24	22 - 18	L2x2x3/16	4.00	3.83	74.6	0.4308	339.46	18739.00	0.018 [1]
T25	18 - 14	L2x2x3/16	4.00	3.83	74.6	0.4308	339.13	18739.00	0.018 [1]
T26	14 - 10	L2x2x3/16	4.00	3.83	74.6	0.4308	335.68	18739.00	0.018 [1]
T27	10 - 6	L2x2x3/16	4.00	3.83	74.6	0.4308	334.65	18739.00	0.018 [1]
T28	6 - 2	L2x2x3/16	4.00	3.83	74.6	0.4308	252.72	18739.00	0.013 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T3	261.75 - 258	L2 1/2x2 1/2x3/8	4.00	3.85	61.4	1.2975	7449.15	63253.10	0.118 [1]
T9	202 - 198	L2 1/2x2 1/2x3/8	4.00	3.83	61.1	1.2975	15972.10	63253.10	0.253 [1]

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T3	261.75 - 258 (537)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	14924.10	80352.00	0.186 [1]
T3	261.75 - 258 (538)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	15901.50	80352.00	0.198 [1]
T3	261.75 - 258 (543)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	15751.40	80352.00	0.196 [1]
T3	261.75 - 258 (544)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	15558.80	80352.00	0.194 [1]
T3	261.75 - 258 (549)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	15331.50	80352.00	0.191 [1]
T3	261.75 - 258 (550)	L3 1/2x3 1/2x3/8	6.11	6.04	67.7	2.4800	14898.80	80352.00	0.185 [1]
T9	202 - 198 (555)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	21182.60	80352.00	0.264 [1]
T9	202 - 198 (556)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	20144.80	80352.00	0.251 [1]
T9	202 - 198 (561)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	20439.90	80352.00	0.254 [1]
T9	202 - 198 (562)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	21748.50	80352.00	0.271 [1]
T9	202 - 198 (567)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	19615.20	80352.00	0.244 [1]
T9	202 - 198 (568)	L3 1/2x3 1/2x3/8	6.11	6.03	67.6	2.4800	21173.20	80352.00	0.264 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	276 - 265.5	Leg	1 3/4	1	-1065.63	55173.40	1.9	Pass
		Diagonal	L1 3/4x1 3/4x3/16	7	-599.20	6065.43	9.9	Pass
		Horizontal	L2x2x3/16	18	-122.27	13716.20	0.9	Pass
							1.4 (b)	

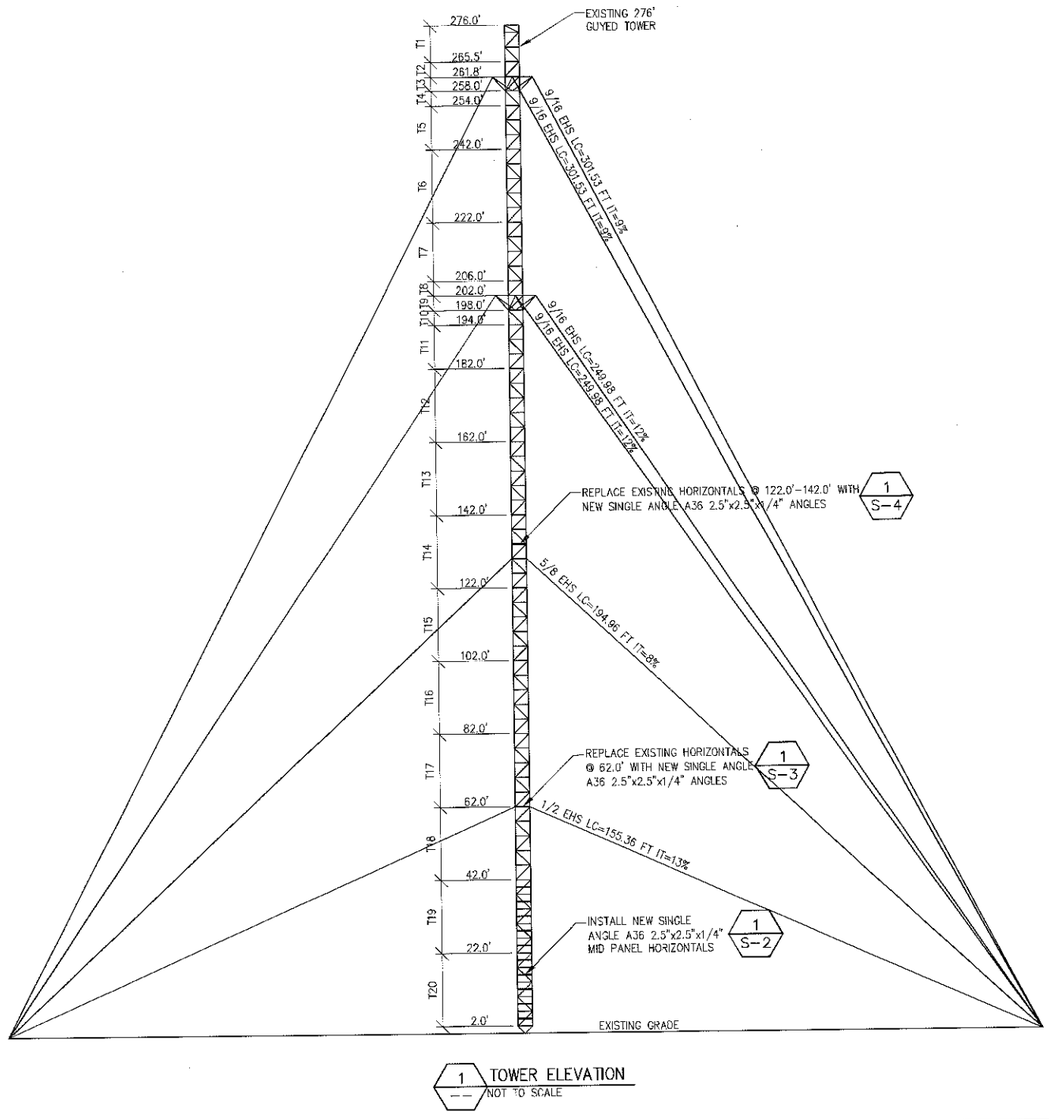
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Top Girt	L2x2x3/16	4	-51.60	13716.20	0.4	Pass
							0.6 (b)	
T2	265.5 - 261.75	Leg	1 3/4	23	-3643.63	49937.80	7.3	Pass
		Diagonal	L1 3/4x1 3/4x3/16	29	-2590.01	5699.73	45.4	Pass
		Top Girt	L2x2x3/16	26	-742.69	13716.20	5.4	Pass
							10.1 (b)	
T3	261.75 - 258	Leg	1 3/4	32	-2802.23	49937.80	5.6	Pass
		Diagonal	L1 3/4x1 3/4x3/16	39	-3595.30	14554.40	24.7	Pass
							50.9 (b)	
		Guy A@261.75	9/16	547	11841.10	21000.00	56.4	Pass
		Guy B@261.75	9/16	542	11963.70	21000.00	57.0	Pass
		Guy C@261.75	9/16	535	11623.90	21000.00	55.4	Pass
		Top Guy Pull-Off@261.75	L2 1/2x2 1/2x3/8	36	7449.15	63253.10	11.8	Pass
		Torque Arm Top@261.75	L3 1/2x3 1/2x3/8	538	15901.50	80352.00	19.8	Pass
		Torque Arm Bottom@261.75	L3 1/2x3 1/2x3/8	540	-17815.50	35890.70	49.6	Pass
T4	258 - 254	Leg	1 3/4	44	-25563.40	44889.40	56.9	Pass
		Diagonal	L1 3/4x1 3/4x3/16	51	-2963.19	5354.63	55.3	Pass
		Top Girt	L2x2x3/16	48	-2610.98	13716.20	19.0	Pass
							21.0 (b)	
T5	254 - 242	Leg	1 3/4	52	-30620.90	44889.40	68.2	Pass
		Diagonal	L1 3/4x1 3/4x3/16	72	-2165.58	5354.63	40.4	Pass
		Horizontal	L2x2x3/16	61	-530.37	13716.20	3.9	Pass
							7.1 (b)	
		Top Girt	L2x2x3/16	57	-257.21	13716.20	1.9	Pass
							3.9 (b)	
T6	242 - 222	Leg	1 3/4	73	-32631.00	44889.40	72.7	Pass
		Diagonal	L1 3/4x1 3/4x3/16	80	-2347.67	5354.63	43.8	Pass
		Horizontal	L2x2x3/16	82	-565.18	13716.20	4.1	Pass
							7.5 (b)	
		Top Girt	L2x2x3/16	76	111.95	18739.00	0.6	Pass
							1.5 (b)	
T7	222 - 206	Leg	2	106	-26121.50	72063.20	36.2	Pass
		Diagonal	L2 1/2x2 1/2x1/4	113	-5731.01	19775.10	29.0	Pass
							44.5 (b)	
		Horizontal	L2x2x3/16	116	-887.48	13793.90	6.4	Pass
							13.1 (b)	
		Top Girt	L2x2x3/16	110	210.42	18739.00	1.1	Pass
							2.8 (b)	
T8	206 - 202	Leg	2	135	-26120.20	72063.20	36.2	Pass
		Diagonal	L2 1/2x2 1/2x3/8	140	-7836.73	28433.80	27.6	Pass
							43.8 (b)	
		Top Girt	L2x2x3/16	138	-801.34	13793.90	5.8	Pass
							11.9 (b)	
T9	202 - 198	Leg	2	143	-21057.40	72063.20	29.2	Pass
		Diagonal	L2 1/2x2 1/2x3/8	148	-8545.16	47304.50	18.1	Pass
							47.8 (b)	
		Guy A@202	9/16	565	16827.20	21000.00	80.1	Pass
		Guy B@202	9/16	560	16969.00	21000.00	80.8	Pass
		Guy C@202	9/16	553	16969.90	21000.00	80.8	Pass
		Top Guy Pull-Off@202	L2 1/2x2 1/2x3/8	145	15972.10	63253.10	25.3	Pass
		Torque Arm Top@202	L3 1/2x3 1/2x3/8	562	21748.50	80352.00	27.1	Pass
		Torque Arm Bottom@202	L3 1/2x3 1/2x3/8	557	-23218.70	34917.20	66.5	Pass
T10	198 - 194	Leg	2	154	-48432.00	72063.20	67.2	Pass
		Diagonal	L2 1/2x2 1/2x3/8	161	-5781.76	28433.80	20.3	Pass
							32.3 (b)	

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Top Girt	L2x2x3/16	158	-2508.72	13793.90	18.2	Pass
							24.4 (b)	
T11	194 - 182	Leg	2	163	-56950.70	72063.20	79.0	Pass
		Diagonal	L2 1/2x2 1/2x1/4	182	-5337.03	19775.10	27.0	Pass
							39.2 (b)	
		Horizontal	L2x2x3/16	172	-986.42	13793.90	7.2	Pass
							13.2 (b)	
		Top Girt	L2x2x3/16	167	351.62	18739.00	1.9	Pass
							4.7 (b)	
T12	182 - 162	Leg	2	184	-62187.80	72063.20	86.3	Pass
		Diagonal	L2x2x1/4	215	-3105.07	10595.30	29.3	Pass
							30.3 (b)	
		Horizontal	L2x2x3/16	193	-1077.12	13793.90	7.8	Pass
							14.4 (b)	
		Top Girt	L2x2x3/16	189	371.09	18739.00	2.0	Pass
							5.0 (b)	
T13	162 - 142	Leg	2	217	-59510.90	72063.20	82.6	Pass
		Diagonal	L2x2x1/4	223	-6740.73	10595.30	63.6	Pass
							63.9 (b)	
		Horizontal	L2x2x3/16	226	-1030.76	13793.90	7.5	Pass
							13.8 (b)	
		Top Girt	L2x2x3/16	220	523.09	18739.00	2.8	Pass
							7.0 (b)	
T14	142 - 122	Leg	2	251	-57409.90	72063.20	79.7	Pass
		Diagonal	L2x2x1/4	268	-8389.19	10595.30	79.2	Pass
							81.2 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	266	9490.42	32706.60	29.0	Pass
							76.4 (b)	
		Top Girt	L2x2x3/16	255	363.01	18739.00	1.9	Pass
							4.8 (b)	
		Guy A@130	5/8	573	21870.70	25440.00	86.0	Pass
		Guy B@130	5/8	572	21979.40	25440.00	86.4	Pass
		Guy C@130	5/8	571	22742.70	25440.00	89.4	Pass
T15	122 - 102	Leg	2	284	-61098.90	72063.20	84.8	Pass
		Diagonal	L2x2x1/4	314	-3798.05	10595.30	35.8	Pass
							35.9 (b)	
		Horizontal	L2x2x3/16	292	-1058.26	13793.90	7.7	Pass
							14.1 (b)	
		Top Girt	L2x2x3/16	287	387.70	18739.00	2.1	Pass
							5.2 (b)	
T16	102 - 82	Leg	2	316	-62810.90	72063.20	87.2	Pass
		Diagonal	L2x2x3/16	322	-2908.69	8200.77	35.5	Pass
							35.7 (b)	
		Horizontal	L2x2x3/16	325	-1087.92	13793.90	7.9	Pass
							14.5 (b)	
		Top Girt	L2x2x3/16	321	389.99	18739.00	2.1	Pass
							5.2 (b)	
T17	82 - 62	Leg	2	351	-65106.40	72063.20	90.3	Pass
		Diagonal	L2x2x3/16	355	-5514.86	8200.77	67.2	Pass
		Horizontal	L2x2x3/16	359	-1127.68	13793.90	8.2	Pass
							15.0 (b)	
		Top Girt	L2x2x3/16	353	369.96	18739.00	2.0	Pass
							4.9 (b)	
T18	62 - 42	Leg	2	382	-69164.10	72063.20	96.0	Pass
		Diagonal	L2x2x3/16	413	-4532.78	8200.77	55.3	Pass
							55.6 (b)	
		Horizontal	L2x2x3/16	397	-1197.96	13793.90	8.7	Pass
							16.0 (b)	
		Top Girt	L2 1/2x2 1/2x1/4	386	7177.21	32706.60	21.9	Pass
							57.8 (b)	
		Guy A@62	1/2	576	12887.70	16140.00	79.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Guy B@62	1/2	575	13008.20	16140.00	80.6	Pass
		Guy C@62	1/2	574	13566.70	16140.00	84.1	Pass
T19	42 - 38	Leg	2	415	-70270.70	119454.00	58.8	Pass
		Diagonal	L2x2x3/16	423	-2047.23	8200.77	25.0	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	426	-1217.12	24289.50	5.0	Pass
		Top Girt	L2x2x3/16	419	349.97	18739.00	1.9	Pass
							4.7 (b)	
T20	38 - 34	Leg	2	427	-71503.90	119454.00	59.9	Pass
		Diagonal	L2x2x3/16	434	-1537.03	8200.77	18.7	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	438	-1238.48	24289.50	5.1	Pass
		Top Girt	L2x2x3/16	432	346.54	18739.00	1.8	Pass
							4.6 (b)	
T21	34 - 30	Leg	2	439	-72298.90	119454.00	60.5	Pass
		Diagonal	L2x2x3/16	447	-1094.17	8200.77	13.3	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	448	-1252.25	24289.50	5.2	Pass
		Top Girt	L2x2x3/16	443	342.22	18739.00	1.8	Pass
							4.6 (b)	
T22	30 - 26	Leg	2	451	-73170.60	119454.00	61.3	Pass
		Diagonal	L2x2x3/16	458	-644.94	8200.77	7.9	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	460	-1267.35	24289.50	5.2	Pass
		Top Girt	L2x2x3/16	456	339.70	18739.00	1.8	Pass
							4.5 (b)	
T23	26 - 22	Leg	2	463	-73624.80	119454.00	61.6	Pass
		Diagonal	L2x2x3/16	469	-790.23	8200.77	9.6	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	474	-1275.22	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	467	339.00	18739.00	1.8	Pass
							4.5 (b)	
T24	22 - 18	Leg	2	475	-74143.40	119454.00	62.1	Pass
		Diagonal	L2x2x1/4	481	-1154.54	10595.30	10.9	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	484	-1284.20	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	480	339.46	18739.00	1.8	Pass
							4.5 (b)	
T25	18 - 14	Leg	2	489	-74268.30	119454.00	62.2	Pass
		Diagonal	L2x2x1/4	493	-1640.03	10595.30	15.5	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	497	-1286.36	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	491	339.13	18739.00	1.8	Pass
							4.5 (b)	
T26	14 - 10	Leg	2	499	-74427.80	119454.00	62.3	Pass
		Diagonal	L2x2x1/4	505	-2014.81	10595.30	19.0	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	508	-1289.13	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	504	335.68	18739.00	1.8	Pass
							4.5 (b)	
T27	10 - 6	Leg	2	513	-74347.40	119454.00	62.2	Pass
		Diagonal	L2x2x1/4	517	-2512.32	10595.30	23.7	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	521	-1287.73	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	515	334.65	18739.00	1.8	Pass
							4.5 (b)	
T28	6 - 2	Leg	2	523	-73896.30	119454.00	61.9	Pass
		Diagonal	L2x2x1/4	530	-2763.02	10595.30	26.1	Pass
		Secondary Horizontal	L2 1/2x2 1/2x1/4	532	-1279.92	24289.50	5.3	Pass
		Top Girt	L2x2x3/16	528	252.72	18739.00	1.3	Pass
							3.4 (b)	
							Summary	
						Leg (T18)	96.0	Pass
						Diagonal (T14)	81.2	Pass
						Horizontal (T14)	76.4	Pass
						Secondary Horizontal (T26)	5.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Top Girt (T18)	57.8	Pass
						Guy A (T14)	86.0	Pass
						Guy B (T14)	86.4	Pass
						Guy C (T14)	89.4	Pass
						Top Guy Pull-Off (T9)	25.3	Pass
						Torque Arm Top (T9)	27.1	Pass
						Torque Arm Bottom (T9)	66.5	Pass
						Bolt Checks	81.2	Pass
						RATING =	**96.0**	**Pass**

NOTE:
REINFORCING SHOULD REMAIN CONTINUOUS THROUGH TORQUE ARM ASSEMBLY.



1 TOWER ELEVATION
NOT TO SCALE

NOTES:

GENERAL:
1. THE MODIFICATIONS OUTLINED IN THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE ANSI/TIA-222 REV G CODE.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
4. THE CONTRACTOR SHOULD NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER TIA-1019-A-2011, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
7. CONTRACTORS PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.
8. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
9. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION:
1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
3. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES.
4. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION
5. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.

PLUMB & TENSION:
1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS (EX. DO NOT EXCEED .6" FOR 20' OF VERTICAL DISTANCE)
4. THE TWIST BETWEEN ANY TWO ELEVATIONS SHALL NOT EXCEED .5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.
5. SEE "GUY WIRE RETENSIONING AND STANDARD SAFETY WIRE DETAILS" SHEET FOR ACCEPTABLE GUY WIRE TERMINATION EXTENSION, IF REQUIRED.

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	1/27/14	ISSUED FOR REVIEW	SKB	JRJ	JSS

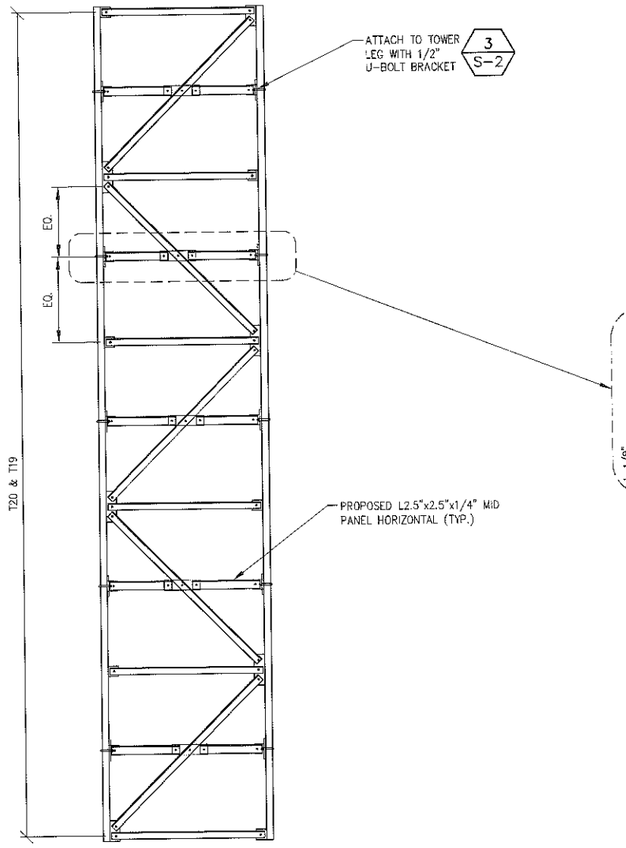
INFINIGY Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
XXX-XXX

CT03XC025

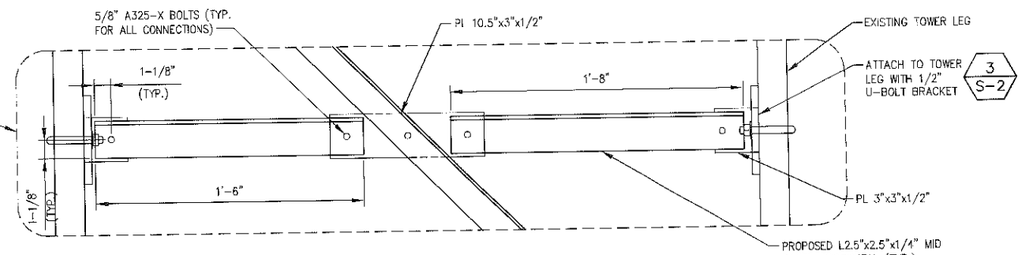
TOWER MODIFICATION DESIGN

S-1

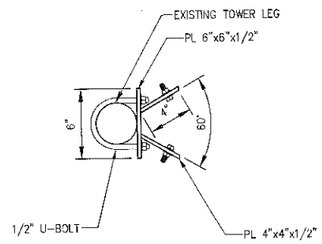
REV 0



1 DETAIL
SCALE: AS NOTED



2 SECTION A-A
N.T.S.



3 TYPICAL CONNECTION DETAIL
N.T.S.

GRAPHIC SCALE
3' 1'-6" 0 1'-6" 3'
SCALE (11x17): 1" = 3'-0"
SCALE (22x34): 1" = 1'-6"

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	1/27/14	ISSUED FOR REVIEW	SKB	JRJ	JSS

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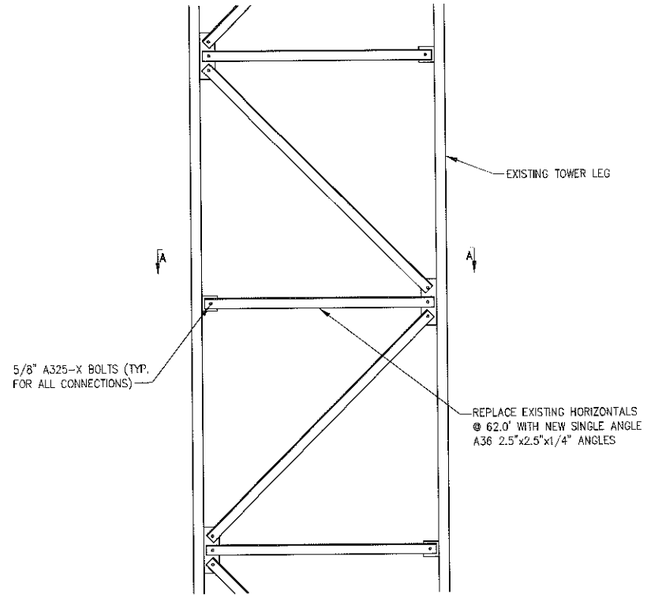
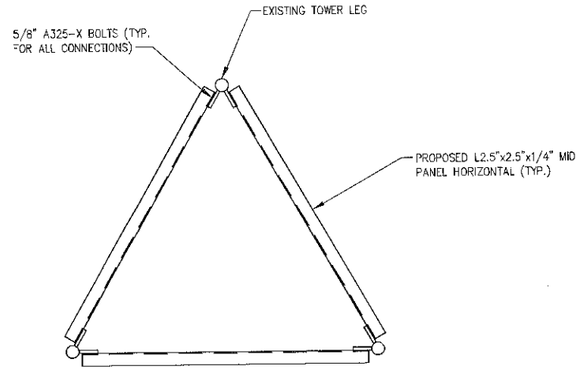
S-2

TOWER MODIFICATION DESIGN

REV 0



1 DETAIL
-- SCALE: AS NOTED



2 SECTION A-A
-- N.T.S.

GRAPHIC SCALE

2' 1' 0 1' 2'

SCALE (11x17): 1" = 2'-0"
SCALE (22x34): 1" = 1'-0"

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	1/27/14	ISSUED FOR REVIEW	SKB	JRJ	JSS

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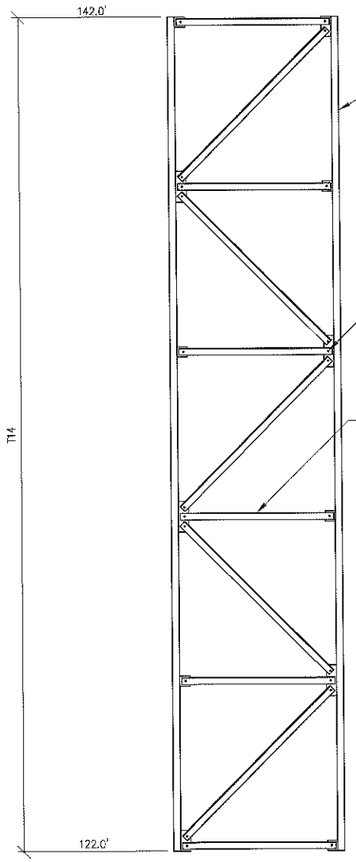
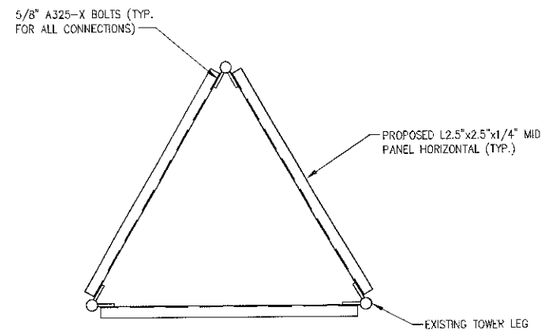
TOWER MODIFICATION DESIGN

S-3

REV 0



1 DETAIL
SCALE: AS NOTED



2 SECTION A-A
N.T.S.

GRAPHIC SCALE

1' 6" 0 6" 1'

SCALE (11x17): 1" = 1'-0"
SCALE (22x34): 1" = 0'-6"

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	1/27/14	ISSUED FOR REVIEW	SKB	JRJ	JSS

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CT03XC025

TOWER MODIFICATION DESIGN

S-4

REV 0

SHEET INDEX

NO.	DESCRIPTION
T1	TITLE SHEET
AAV1	OVERALL AND ENLARGED SITE PLANS
AAV2	NOTES AND DETAILS
C1	GENERAL NOTES
C2	COMPOUND SITE PLAN
C3	EQUIPMENT SITE PLANS
C4	SITE ELEVATION AND ANTENNA/RRH DETAILS
C5	ANTENNA PLANS
C6	ANTENNA CABLE RISER AND H-FRAME DETAILS
C7	RF AND CABLE DETAILS
C8	JUNCTION BOX DETAILS
C9	DETAILS
E1	UTILITY SITE PLAN
E2	ONE-LINE DIAGRAMS AND DETAILS
E3	GROUNDING PLAN AND DETAILS

DRIVING DIRECTIONS

DEPART FROM SPRINT:
1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

1. HEAD NORTH ON INTERNATIONAL BLVD. TOWARD QUEENSLAND RD 0.3 MI 2. TAKE THE 3RD RIGHT ONTO PARK LN 197 FT 3. CONTINUE STRAIGHT ONTO LEISURE LN 0.1 MI 4. SLIGHT RIGHT ONTO NJ-17 N 0.3 MI 5. MERGE ONTO I-287 N/NJ-17 N VIA THE RAMP ON THE LEFT TO I-87/N Y. THRUWAY ENTERING NEW YORK0.6 MI 6. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-87 S/I-287/TAPPAN ZEE BR/NEW YORK CITY/NEW YORK THRUWAY AND MERGE ONTO I-287 E/I-87 S CONTINUE TO FOLLOW I-87 S PARTIAL TOLL ROAD18.9 MI 7. TAKE EXIT 8A FOR NY-119SAW MILL PKWY N TOWARD ELMSFORD 0.9 MI 8. KEEP LEFT AT THE FORK AND MERGE ONTO SAW MILL PKWY N 17.9 MI 9. TAKE THE EXIT TOWARD I-684 N 0.7 MI 10. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-684/BREWSTER AND MERGE ONTO I-684 N 10.4 MI 11. TAKE EXIT 9E FOR INTERSTATE 84 E TOWARD DANBURY 0.4 MI 12. MERGE ONTO I-84 E ENTERING CONNECTICUT10.2 MI 13. SLIGHT RIGHT TO STAY ON I-84 E 25.6 MI 14. TAKE EXIT 23 FOR CT-69 S TOWARD PROSPECT 1.1 MI 15. TURN RIGHT ONTO CT-69 S/HAMILTON AVE CONTINUE TO FOLLOW CT-69 S0.5 MI 16. TURN RIGHT ONTO HAMILTON AVE 0.4 MI 17. TAKE THE 2ND RIGHT ONTO PEACH ORCHARD RD 0.4 MI 18. TURN LEFT TO STAY ON PEACH ORCHARD RD DESTINATION WILL BE ON THE RIGHT0.5 MI

Sprint

NETWORK VISION MMBTS LAUNCH
CONNECTICUT MARKET

SITE NAME

SMALLER WTXX TOWER

SITE NUMBER

CT03XC025

SITE ADDRESS

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

STRUCTURE TYPE

GUYED TOWER

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

PROJECT SUMMARY

SITE NAME:	SMALLER WTXX TOWER	
SITE NO.:	CT03XC025	
SITE ADDRESS:	37 PEACH ORCHARD RD. PROSPECT, CT 06712	
COUNTY:	NEW HAVEN	
SITE COORDINATES:		
LATITUDE:	N 41° 31' 04.6"	(NAD 83)
LONGITUDE:	W 73° 01' 06.4"	(NAD 83)
GROUND ELEV.:	±757.5'	(AMSL)
JURISDICTION:	BOROUGH OF NAUGATUCK	
APPLICANT:	SPRINT 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495	
TOWER OWNER:	CHANNEL 20, INC. C/O WTIC-TV ONE CORPORATE CENTER HARTFORD, CT 06103	
CONSTRUCTION MANAGER:	TODD AMANN 914-715-9363	
BUILDING CODE:	2003 INTERNATIONAL BUILDING CODE 2005 CONNECTICUT BUILDING CODE W/ 2009 AMENDMENT	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

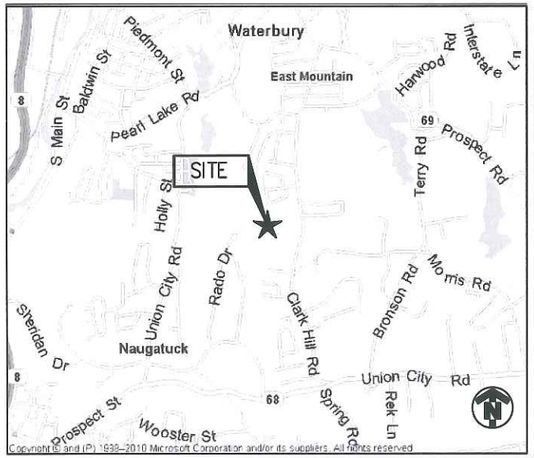
ENGINEER'S LICENSE

CERTIFICATION STATEMENT:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

LICENSED ENGINEER – STATE OF CONNECTICUT

VICINITY MAP



PROJECT TEAM

ALCATEL•LUCENT

808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27650

PROJECT MANAGER

INFINIGY Design. Build. Deliver.

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK:

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR
- INSTALL NEW ANTENNAS/RRH'S ON EXISTING STRUCTURE
- INSTALL NEW BTS OR RETROFIT EXISTING BTS IN EXISTING EQUIPMENT AREA
- REMOVE EXISTING CDMA ANTENNAS AND COAX CABLES
- SPRINT TO REPLACE EXISTING POWER CABINET WITH NEW SECOND BATTERY CABINET OR INSTALL NEW SECOND BATTERY CABINET IF THERE IS AVAILABLE SPACE IN EXISTING SPRINT LEASE AREA.

APPROVALS

ALU CONST.		DATE
ALU RF		DATE
ALU LEASING/SITE ACQ.		DATE
IN-MARKET CONSTRUCTION LEAD		DATE
SITE OWNER	NAME/COMPANY: TITLE:	DATE

A/E Consultant:

INFINIGY Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
5	FINAL CD'S	EKM	2/4/14
4	REVISED PER CLIENT	EKM	5/29/12
3	REVISED PER CLIENT	EKM	5/07/12
2	REVISED PER CLIENT	EKM	4/26/12
1	REVISED PER CLIENT	EKM	4/3/12
0	ISSUED FOR REVIEW	EKM	3/8/12

Drawn: EKM Date: 3/8/12
Designed: EKM Date: 3/8/12
Checked: CJW Date: 3/8/12

Project Number: 286-016

Project Title:
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

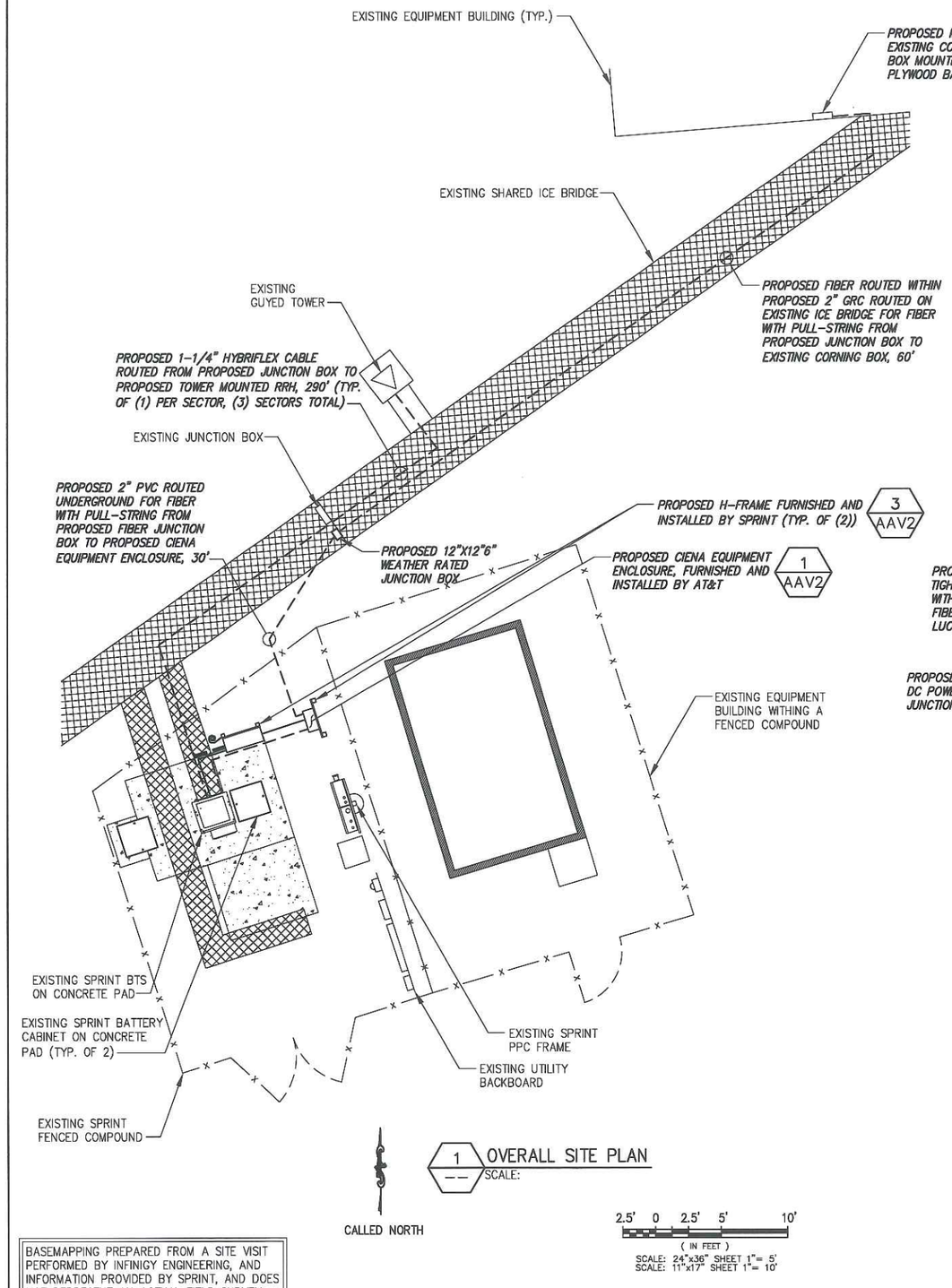
Client: Sprint — 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL•LUCENT — 808 AVIATION PARKWAY SUITE 700 MORRISVILLE, NC 27650

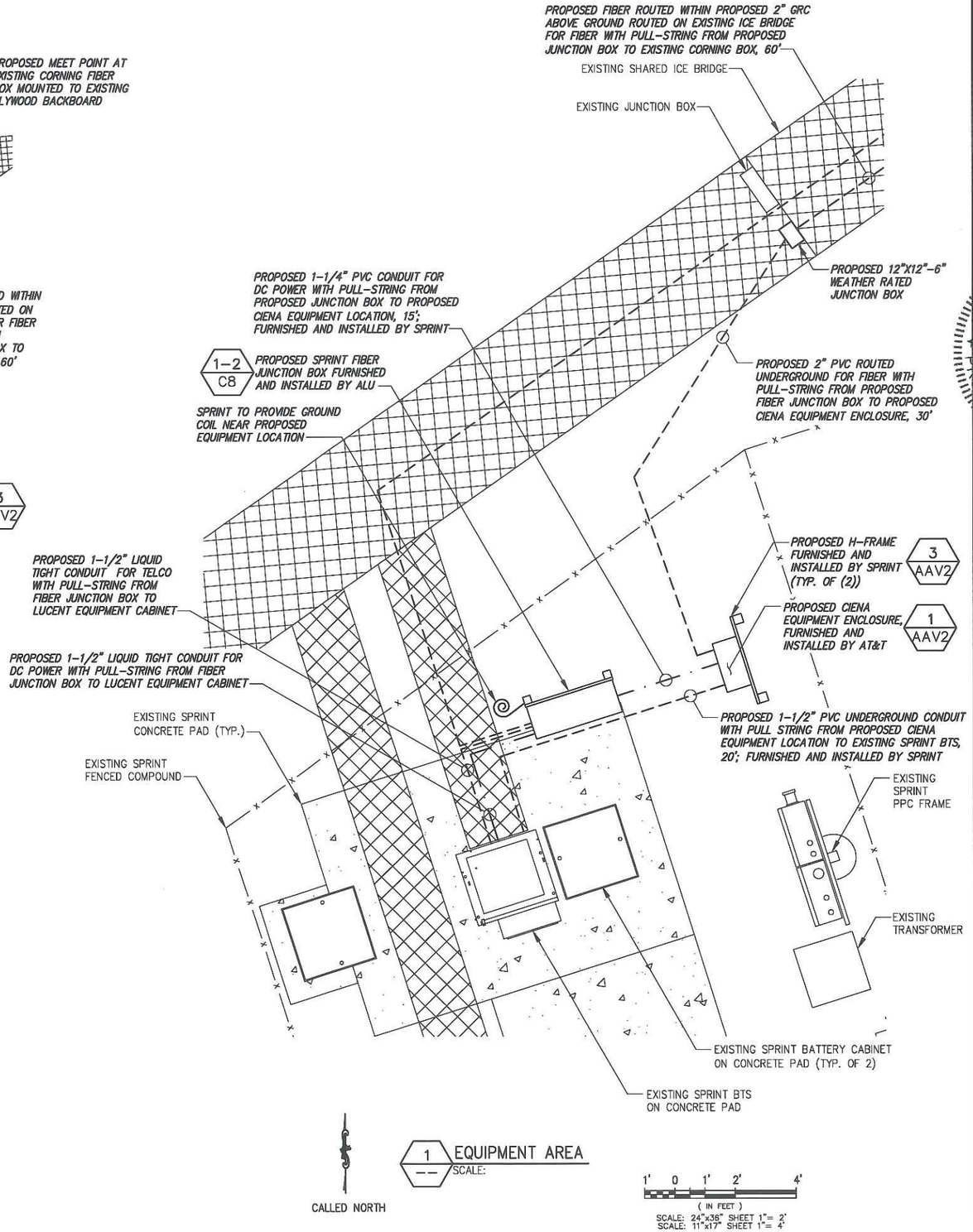
Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title:
TITLE SHEET

Drawing Number:
T1



BASEMAPPING PREPARED FROM A SITE VISIT PERFORMED BY INFINIGY ENGINEERING, AND INFORMATION PROVIDED BY SPRINT, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



A/E Consultant:
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STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED
PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
5	FINAL CD'S	EKM	2/4/14
4	REVISED PER CLIENT	EKM	5/29/12
3	REVISED PER CLIENT	EKM	5/07/12
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0	ISSUED FOR REVIEW	EKM	3/8/12

Drawn: EKM Date: 3/8/12
Designed: EKM Date: 3/8/12
Checked: CJW Date: 3/8/12

Project Number
286-016

Project Title
CT03XC025
SMALLER
WTXX TOWER
37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client: Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL•LUCENT
808 AVALON PARKWAY
SUITE 700
MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED
Date:
2/4/14

Drawing Title
OVERALL & ENLARGED SITE PLANS

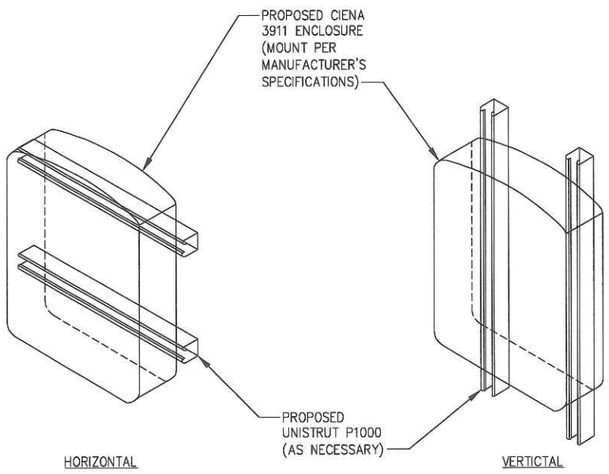
Drawing Number
AAV1

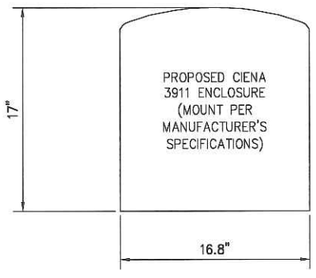
GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OF PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDORS SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
7. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
8. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
10. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
11. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
13. THE CONTRACTOR SHALL NOTIFY THE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE REPRESENTATIVE.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
15. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD OR VIA A REPRESENTATIVE. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. SEE UNDERGROUND UTILITY COMPANY SHEET T-1 (DIG SAFE, MISS UTILITY, ETC.)
16. IF ASSUMED EXISTING CONDITION DIFFERS, ENGINEER MUST BE INFORMED OF ACTUAL FIELD CONDITION.
17. REFER TO THE SITE PLAN FOR APPROXIMATE LENGTH OF ALL U/G WORK AND LOCATION. FINAL LOCATION TO BE DETERMINED BY CLIENT. ALL MATERIALS TO BE USED AS ACCORDING TO DETAIL INSTRUCTIONS. ALL MATERIALS NOT INCLUDED IN THE DETAILS SHALL BE USED ACCORDING TO CODE AND/OR LOCAL JURISDICTION REGULATIONS INCLUDING MATERIALS, PREPARATION, EXACERBATION, EQUIPMENT AND INSTALLATION FOR UNDERGROUND WORK.
18. CONTRACTOR TO COORDINATE WITH SPRINT & PROVIDE GROUND BOND PER NE-250 & SPRINT STANDARDS FOR CLIENT EQUIPMENT AS REQUIRED.
19. ALL ELECTRICAL SPECIFICATIONS SHALL BE IN STRICT ACCORDANCE TO SECTIONS 16010, 16075, 16110, 16120, 16410 AND 16450 OF THE N.E.C.

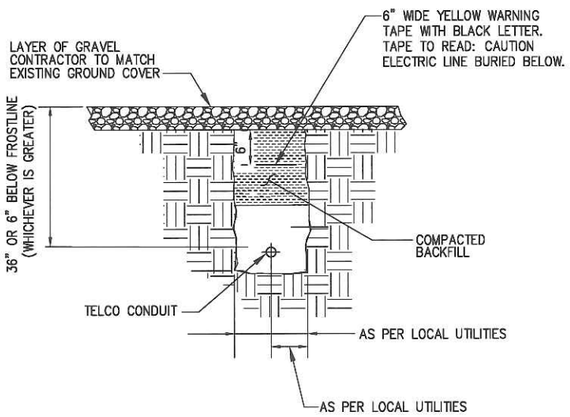
ELECTRICAL AND GROUNDING NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AN PROCURED PER SPECIFICATION REQUIREMENTS. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
3. 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 REQUIREMENT IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS
4. PROVISION OF AC/DC POWER IS UNDER SEPARATE SCOPE OF WORK
5. GROUNDING SHALL COMPLY WITH NEC ART. 250. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION FITTINGS. TEST COMPLETED GROUND SYSTEM AND ENSURE ADEQUACY.
6. CONTRACTOR TO PROVIDE GALV. P1000 UNISTRUT FRAMING AND 3/8" GALV. U-BOLTS/BOLTS AS NECESSARY FOR EXISTING CONDITIONS AND TO VERIFY SPACE IS APPROVED BY ALL NECESSARY PARTIES.



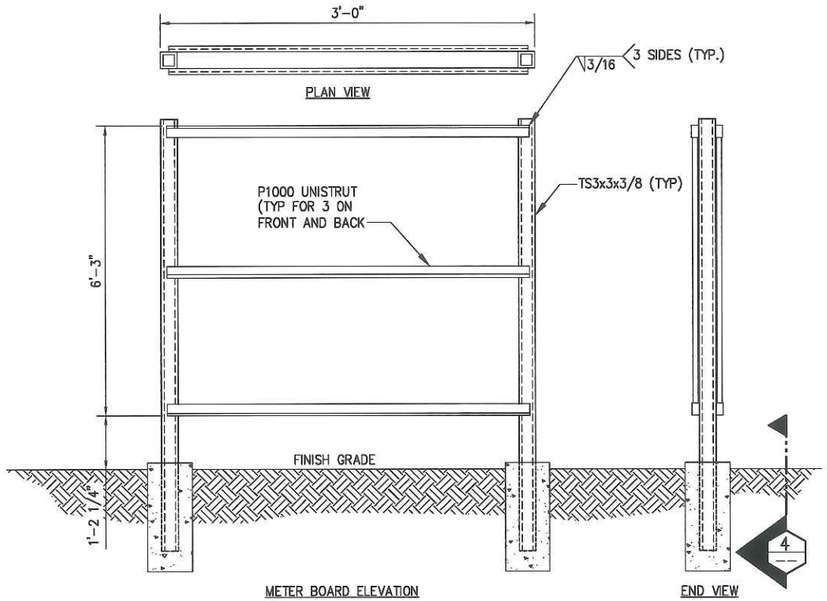


1 -- TYPICAL CIENA 3911 MOUNTING DETAIL
SCALE: NOT TO SCALE

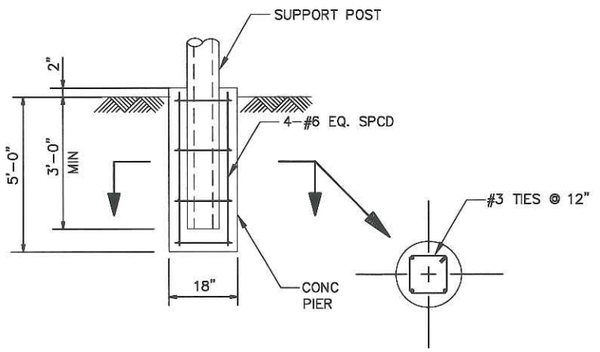


NOTE:
NUMBER AND SIZE OF CONDUITS MAY VARY. SEE DWG FOR CONDUIT SIZE AND LOCATION. CONFIRM CONDUIT SEPARATION AND DIMENSIONS SHOWN WITH LOCAL UTILITY COMPANY.

2 -- CONDUIT TRENCH DETAIL
NO SCALE



3 -- 3'-0" WIDE H-FRAME FABRICATION DETAIL
NOT TO SCALE



4 -- SUPPORT PIER
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STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

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CT03XC025
SMALLER
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37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client: Sprint
1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL-LUCENT
608 AVIATION PARKWAY SUITE 700
MORRISVILLE, NC 27650

Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title
NOTES & DETAILS

Drawing Number
AAV2

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

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

A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
D. AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: SPRINT NEXTEL 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.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 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.

1.5 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 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.

1.6 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.

1.7 NOTICE TO PROCEED:

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT NEXTEL WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 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.

2.2 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.

2.3 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.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY SPRINT NEXTEL TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

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

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE 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.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
CONTRACTOR IS RESPONSIBLE FOR SPRINT NEXTEL PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT NEXTEL OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 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.

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

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

A. 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.
B. 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.

4.4 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

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
C. 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.
D. 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.
E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS. HYBERFLEX TESTING NOT LIMITED TO COAX SWEEPS.
G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

PROJECT INFORMATION

THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS COMMUNICATIONS SERVICE.

NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.

NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.

NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

SPRINT MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

LEGEND

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
#	DENOTES REFERENCE NOTE
•	EXOTHERMIC WELD CONNECTION
■	MECHANICAL CONNECTION
OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	PIN AND SLEEVE RECEPTACLE
	120AC DUPLEX RECEPTACLE
G OR	GROUND CONDUCTOR
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL
PVC	POLYVINYL CHLORIDE

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STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
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Drawn: EKM Date: 3/8/12
Designed: EKM Date: 3/8/12
Checked: CJW Date: 3/8/12

Project Number: 286-016

Project Title:
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

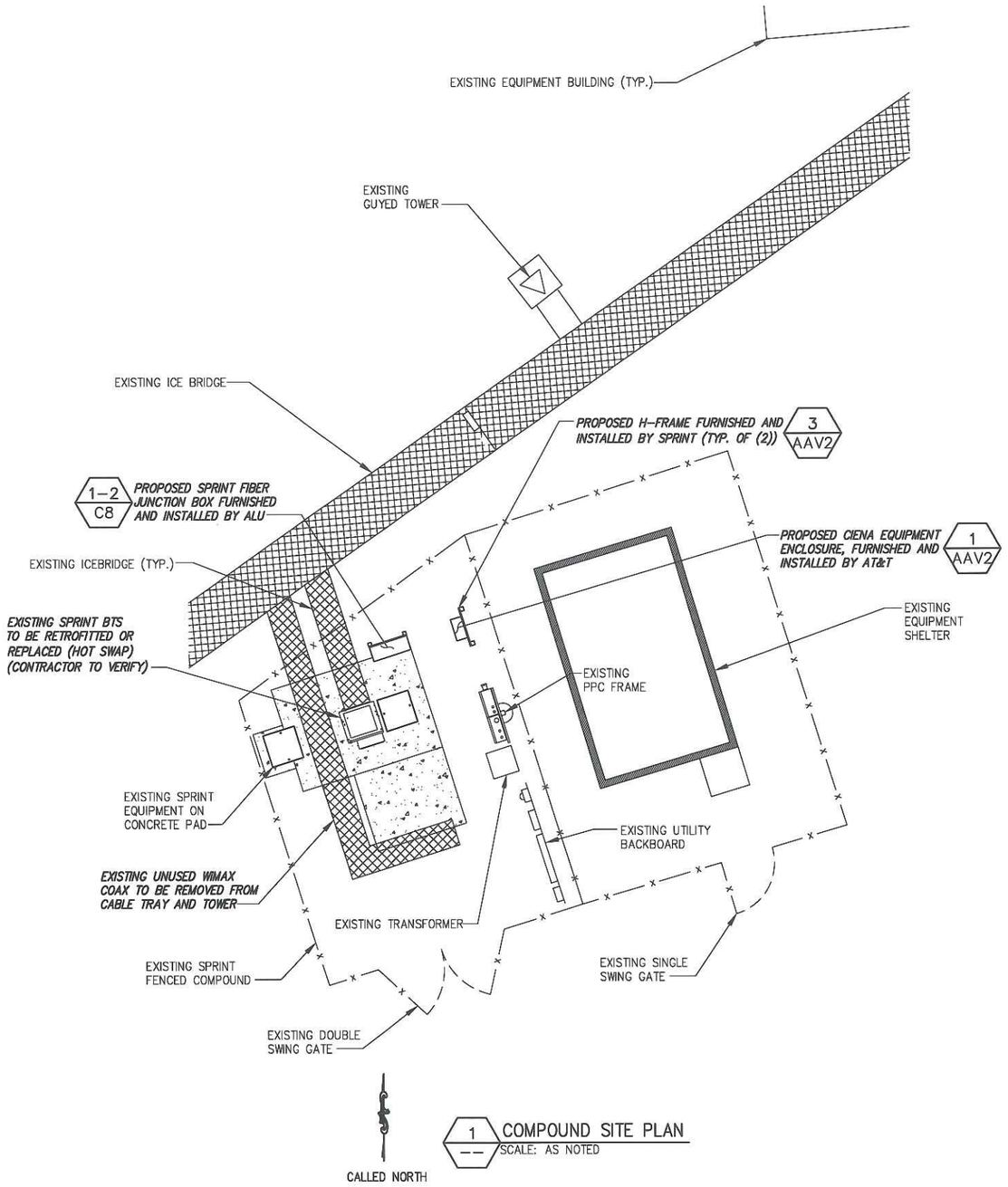
Client: Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

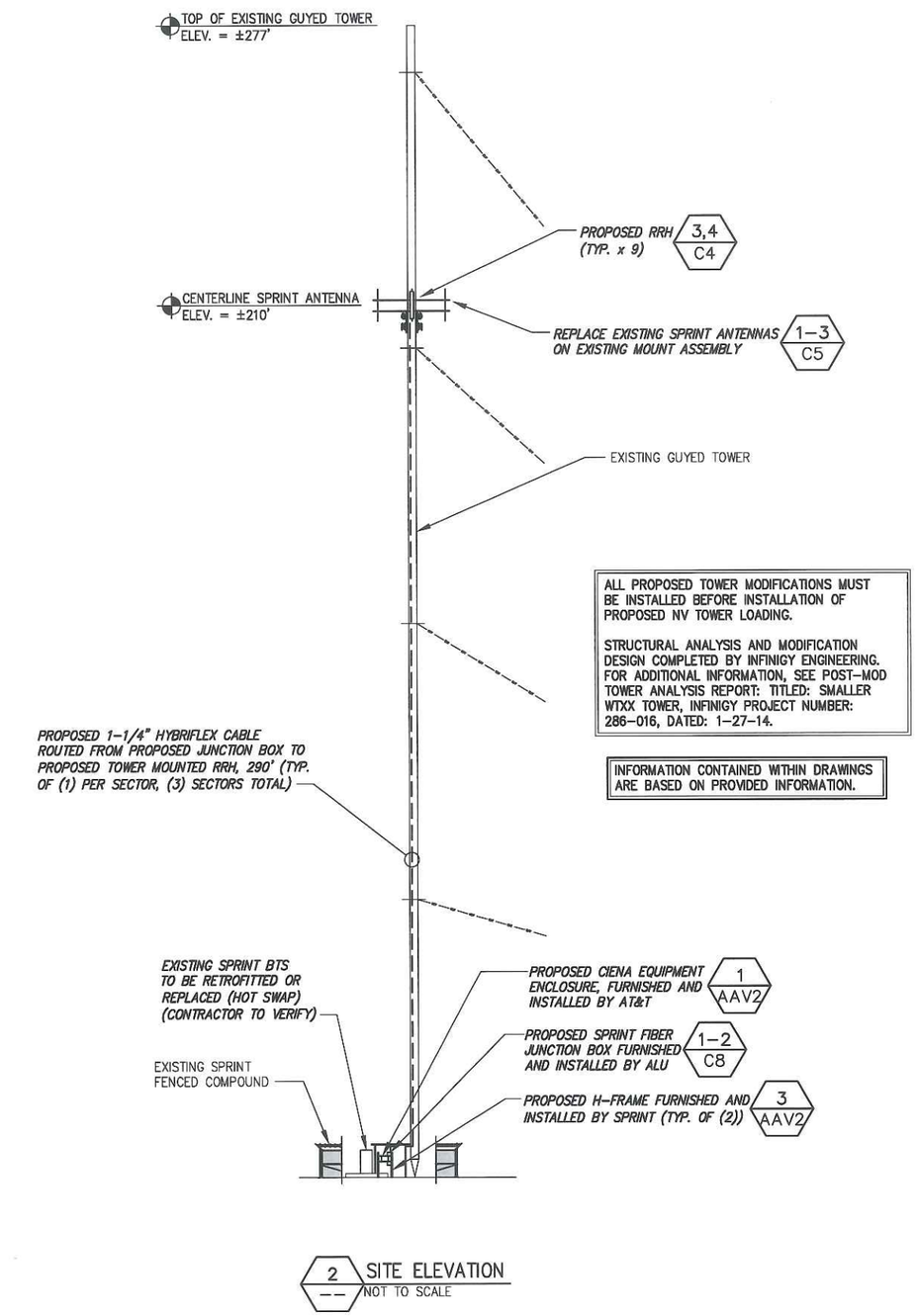
Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title:
GENERAL NOTES

Drawing Number:
C1





ALL PROPOSED TOWER MODIFICATIONS MUST BE INSTALLED BEFORE INSTALLATION OF PROPOSED NV TOWER LOADING.

STRUCTURAL ANALYSIS AND MODIFICATION DESIGN COMPLETED BY INFINIGY ENGINEERING. FOR ADDITIONAL INFORMATION, SEE POST-MOD TOWER ANALYSIS REPORT: TITLED: SMALLER WTXX TOWER, INFINIGY PROJECT NUMBER: 286-016, DATED: 1-27-14.

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION.

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MAHWAH, NJ 07495

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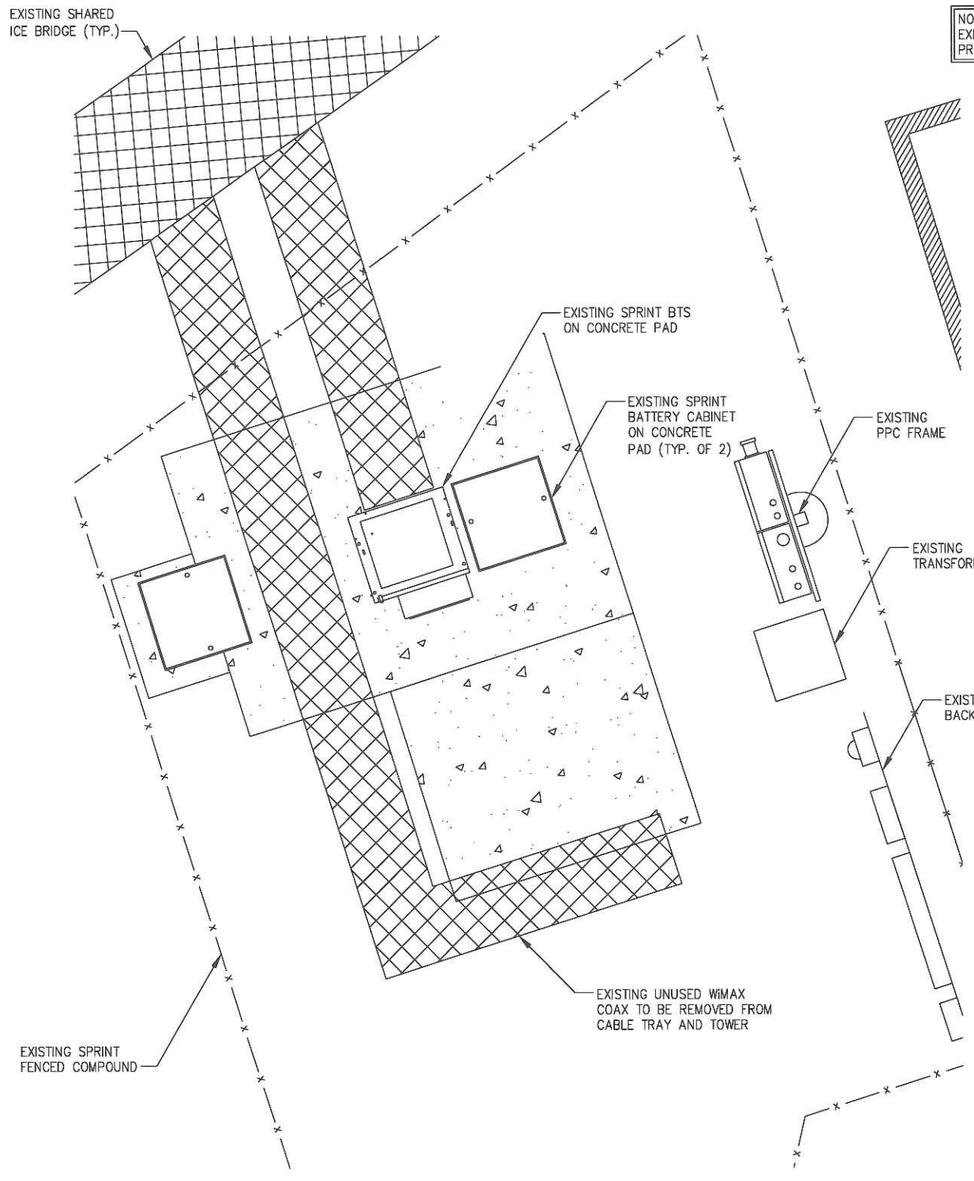
SUITE 1400
MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED

Date:
2/4/14

Drawing Title
COMPOUND SITE PLAN

Drawing Number
C2

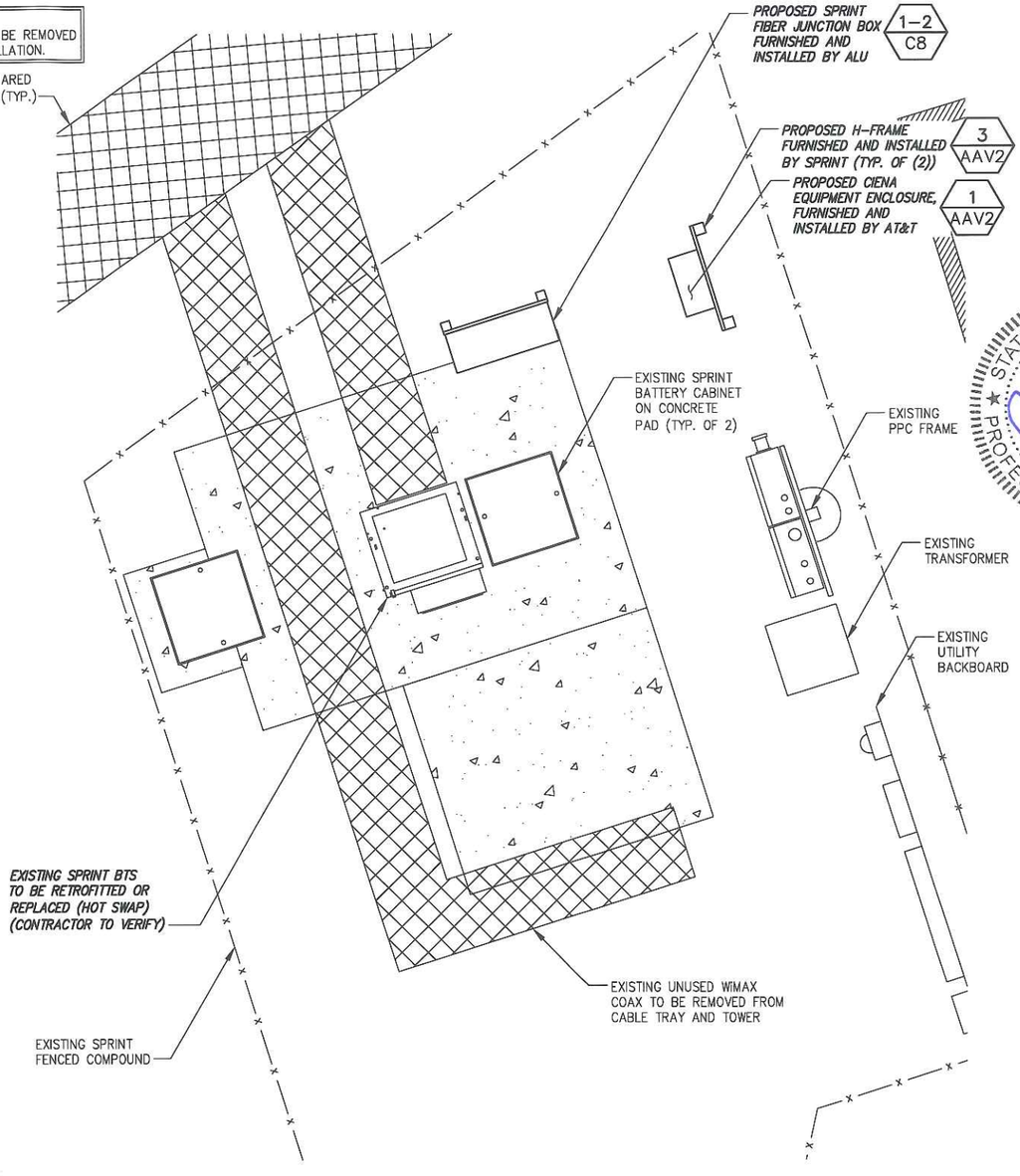


NOTE:
EXISTING UNUSED COAX TO BE REMOVED PRIOR TO PROPOSED INSTALLATION.

1 — EQUIPMENT SITE PLAN (EXISTING)
SCALE: AS NOTED

CALLED NORTH

1' 0 1' 2' 4'
(IN FEET)
SCALE: 24"x36" SHEET 1"= 2'
SCALE: 11"x17" SHEET 1"= 4'



2 — EQUIPMENT SITE PLAN (FINAL/PERMANENT)
SCALE: AS NOTED

CALLED NORTH

1.5' 0 1.5' 3' 6'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 3'
SCALE: 11"X 17" SHEET 1"= 6'

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Client:
Sprint
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MAHWAH, NJ 07495

Implementation Team:
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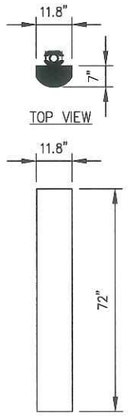
SUITE 1700
MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED

Date:
2/4/14

Drawing Title
EQUIPMENT SITE PLANS

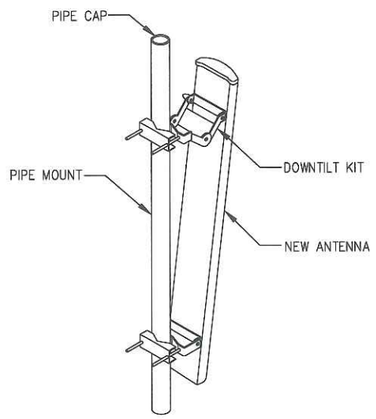
Drawing Number
C3



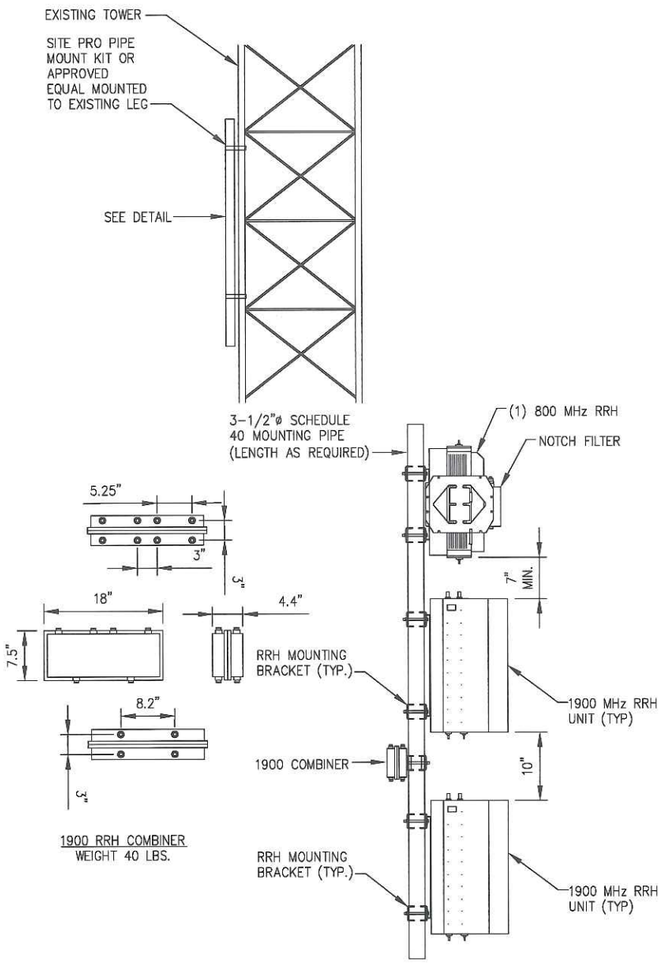
FRONT VIEW
800/1900
MULTI-MODE

RFS ANTENNA
P/N: APXVSPP18-C-A20

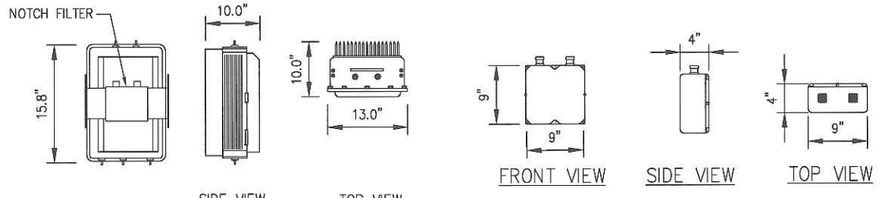
1 ANTENNA DETAILS
NOT TO SCALE



2 PANEL ANTENNA MOUNT DETAIL
NOT TO SCALE

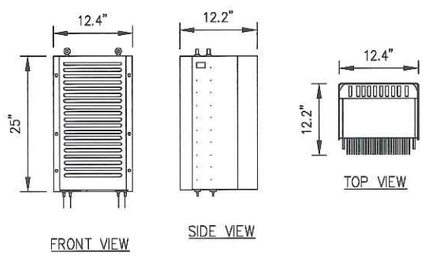


4 RRH MOUNTING DETAIL
NOT TO SCALE



800 MHz RRH
(ALU)
WEIGHT = 53 LBS.

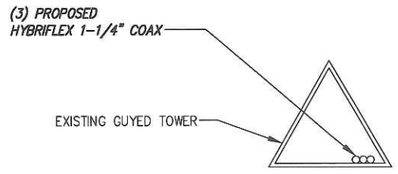
850 MHZ NOTCH FILTERS
WEIGHT = 11 LBS.



1900 MHz RRH
(ALU)
WEIGHT = 60 LBS.
(INCLUDING OPTIONAL SOLAR SHIELD)

NOTE:
REFER TO R.F. SYSTEM SCHEDULE FOR EXACT RRH SPECIFICATIONS AND QUANTITIES.

3 RRH EQUIPMENT DETAILS
NOT TO SCALE



5 COAX ROUTING DETAIL
NOT TO SCALE

NOTE:
1. SUBCONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

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SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 1700
MORRISVILLE, NC 27650

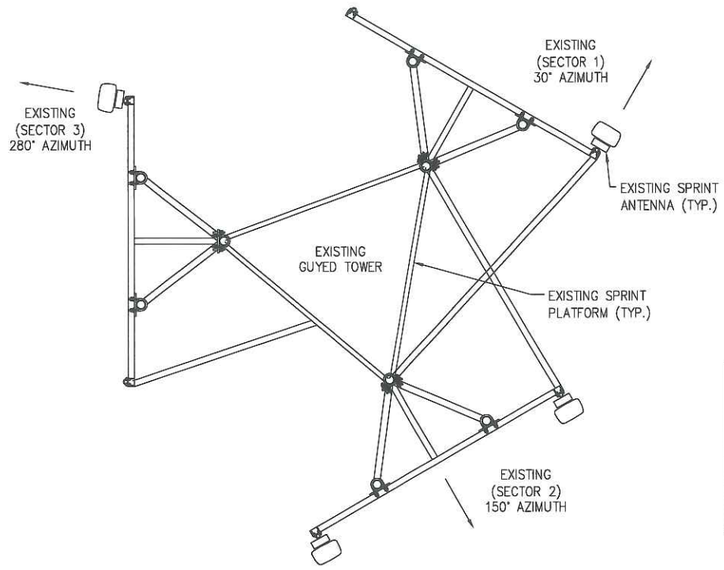
Drawing Scale:
AS NOTED

Date:
2/4/14

Drawing Title
SITE ELEVATION & ANTENNA/RRH DETAILS

Drawing Number
C4

NOTE:
ORIENTATION AS SEEN FROM ABOVE.



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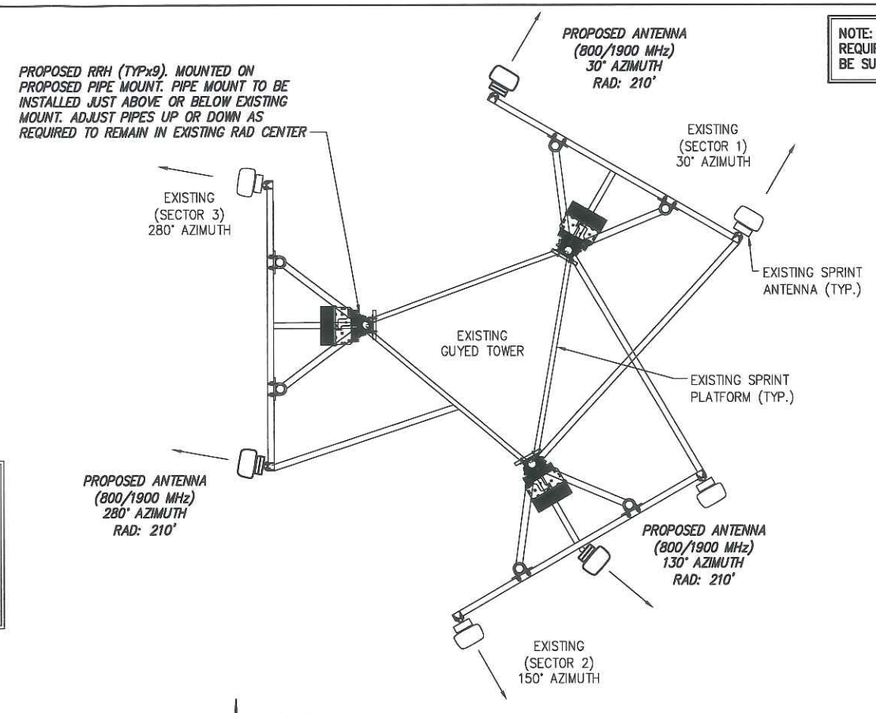
1 ANTENNA CONFIGURATION (EXISTING)
NOT TO SCALE

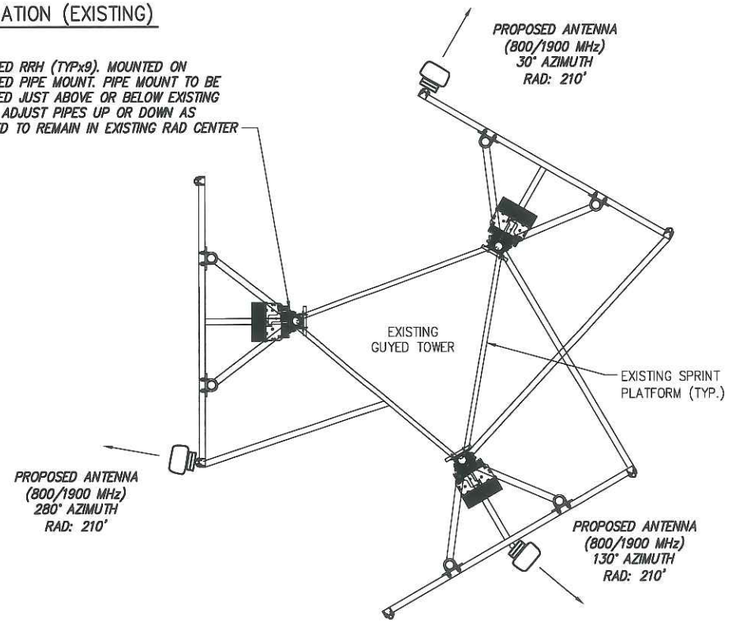
CALLED NORTH

NOTE:
REQUIRED PIPE MOUNTS TO BE SUPPLIED BY CONTRACTOR.



2 ANTENNA CONFIGURATION (INTERIM/TEMPORARY)
NOT TO SCALE

CALLED NORTH



3 ANTENNA CONFIGURATION (FINAL/PERMANENT)
NOT TO SCALE

CALLED NORTH

NOTES:
EXISTING RF DATA PROVIDED BY SPRINT SIOP RF DATA SHEET, DATED MAY 2012.

RRH NOTES:
- SEE PAGE C4 FOR RRH MOUNTING INFORMATION (TYP. ALL SECTORS).
- REFER TO RF SCHEDULE ON SHEET C7 FOR RRH UNIT SPECS AND QUANTITIES.

GENERAL NOTES:
1. NEW SPRINT PANEL ANTENNAS TO MEET RF DESIGN REQUIREMENTS PER EBTS, PER APPROVED STRUCTURAL ANALYSIS.
2. CONTRACTOR TO PROVIDE EXISTING ANTENNA VERIFICATION AND TO INCLUDE MOUNTING HEIGHT, RAD CENTER, TOP AND BOTTOM OF ANTENNA AND AZIMUTHS FOR ALL ANTENNAS.
3. CONTRACTOR SHALL VERIFY NEW PARTS BEFORE ORDERING.
4. REFER TO SHEET C7 FOR ANTENNAS SPECS.
5. CONTRACTOR TO USE PROPER TORQUE WHEN INSTALLING AND TIGHTENING CONNECTORS TO INSURE PROPER FIT.
6. ALL HYBRID CABLES SHALL BE MARKED WITHIN 24" OF THE END OF EACH CABLE WITH 2" WIDE VINYL TAPE. THIS INCLUDES ALL JUMPERS AND MAIN LINE HYBRID CABLE.
7. CDMA ANTENNAS SHALL NOT BE REMOVED UNTIL ALL NEW MULTI-MODE ANTENNAS ARE INSTALLED AND ON-AIR.

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Project Number
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Project Title
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

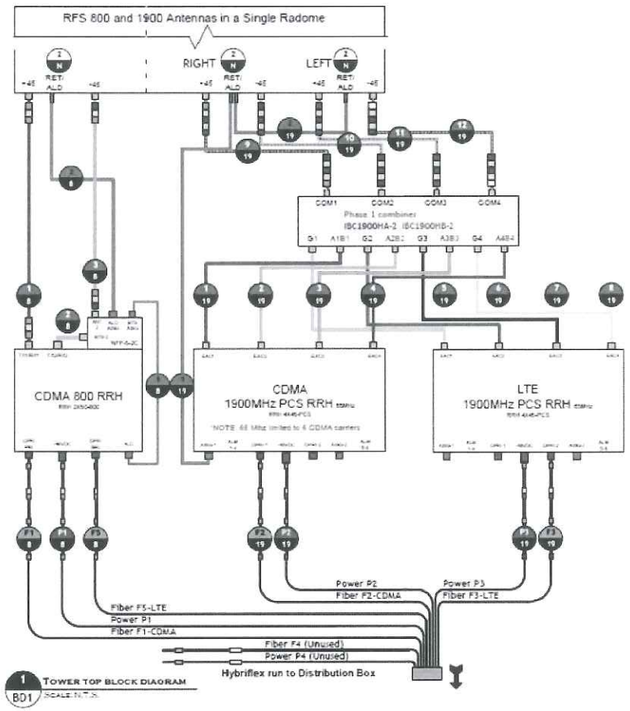
Implementation Team:
ALCATEL•LUCENT
808 AVIATION PARKWAY
SUITE 1700
MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED

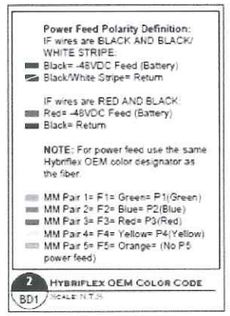
Date:
2/4/14

Drawing Title
ANTENNA PLANS

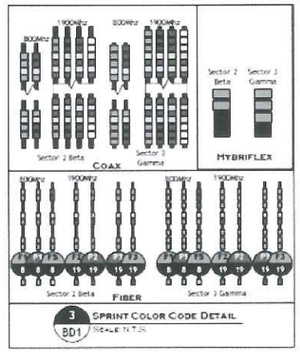
Drawing Number
C5



1 TOWER TOP BLOCK DIAGRAM
BD1 SCALE: N.T.S.



2 HYBRIFLEX OEM COLOR CODE
BD1 SCALE: N.T.S.



3 SPRINT COLOR CODE DETAIL
BD1 SCALE: N.T.S.

NOTES:
CONTRACTOR TO FIELD VERIFY GPS LOCATION.

INSTALLER VERIFY LATEST PLUMBING/WIRING DIAGRAMS, PRIOR TO INSTALLATION.

SCENARIO 122 v2.5

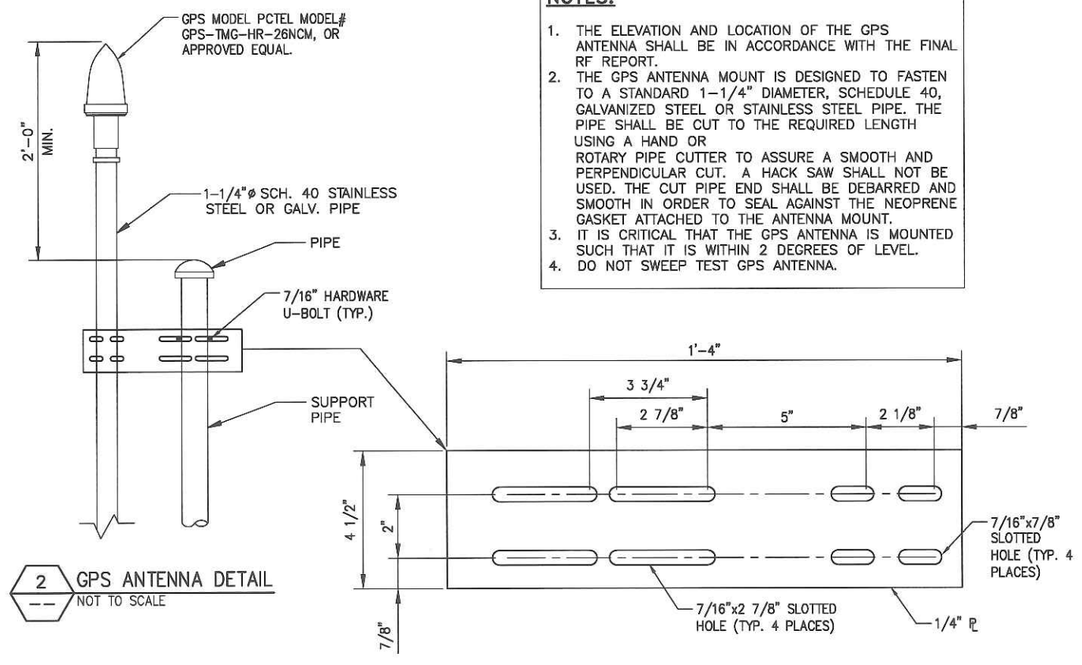
PLUMING DIAGRAM VERSION 2.5

1 ANTENNA CABLE RISER DIAGRAM
NOT TO SCALE

GPS MINIMUM SKY VIEW REQUIREMENTS

NOTES:

1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBARRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
3. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF LEVEL.
4. DO NOT SWEEP TEST GPS ANTENNA.



2 GPS ANTENNA DETAIL
NOT TO SCALE

WEATHERPROOFING CONNECTORS AND GROUND KITS NOTE:

A. ALL CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED USING BUTYL RUBBER WEATHERPROOFING AND TAPE, THIS INSTALLATION MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION OR PER THE FOLLOWING INSTRUCTIONS (WHICHEVER IS GREATER):

1. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE ENCOMPASSED INTO COLD SHRINK AND COMPLETELY WRAPPED WITH 2 IN. WIDE ELECTRICAL TAPE OVERLAPPING EACH ROW BY APPROXIMATELY 1/2" AND EXTENDING PAST THE CONNECTION BY TWO INCHES AS DISCUSSED BELOW; OR
2. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH LAYERS OR ELECTRICAL/BUTYL RUBBER/ELECTRICAL TAPE AS DISCUSSED BELOW; OR
3. THE COAXIAL CABLE CONNECTION OR GROUND KIT CAN BE WRAPPED WITH TWO LAYERS OF 1.5 INCH WIDE SELF-AMALGAMATING TAPE COVERED WITH TWO LAYERS OF ELECTRICAL TAPE.

RRH JUMPERS NOTES:

1. FOR DISTANCES BETWEEN RRH'S AND ANTENNAS LESS THAN 10'-0" USE A 1/2" JUMPER.
2. FOR DISTANCES BETWEEN RRH'S AND ANTENNAS GREATER THAN 10'-0" USE A 7/8" JUMPER.

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808 AVIATION PARKWAY
SUITE 1700
MORRISVILLE, NC 27560

Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title
ANTENNA CABLE RISER AND H-FRAME DETAILS

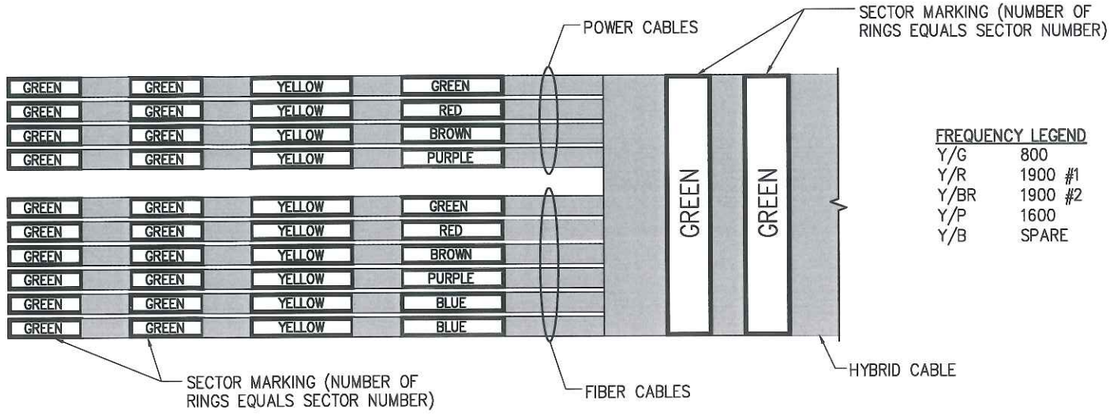
Drawing Number
C6

	Market	Southern Connecticut		
	Cascade ID	CT03XC025		
		SECTOR 1	SECTOR 2	SECTOR 3
1900	Split sector present	No	No	No
	1900MHz_Azimuth	30	130	280
	1900MHz_No_of_Antennas	1	1	1
	1900MHz_RADCenter(ft)	210.6	210.6	210.6
	1900MHz_Antenna Make	RFS	RFS	RFS
	1900MHz_Antenna Model	APXVSPP18-C-A20	APXVSPP18-C-A20	APXVSPP18-C-A20
	1900MHz_Horizontal_Beamwidth	65	65	65
	1900MHz_Vertical_Beamwidth	5.5	5.5	5.5
	1900MHz_AntennaHeight (ft)	6	6	6
	1900MHz_AntennaGain(dBd)	15.9	15.9	15.9
	1900MHz_E_Tilt	-3	-1	-2
	1900MHz _M_Tilt	0	0	0
	1900MHz_Carrier_Forecast_Year_2013	6	6	6
	1900MHz_RRH Manufacturer	ALU	ALU	ALU
	1900MHz_RRH Model	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz
	1900MHz_RRH Count	2	2	2
	1900MHz_RRH Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
	1900MHz Combiner Model	IBC1900HB-2	IBC1900HB-2	IBC1900HB-2
	Antenna for Ground Mount, ft)	10	10	10
	Coax to Antenna for Ground Mount)	LCF12-50J	LCF12-50J	LCF12-50J
	1900MHz_Top_Jumper #2_Length (RRH to Combiner for TT if applicable, ft)	6	6	6
	1900MHz_Top_Jumper #2_Cable_Model (RRH to Combiner for TT if applicable)	LCF12-50J	LCF12-50J	LCF12-50J
	1900MHz_Main_Coax_Cable_Length (ft)	N/A	N/A	N/A
	1900MHz_Main_Coax_Cable_Model	N/A	N/A	N/A
	ft)	N/A	N/A	N/A
	Coax)	N/A	N/A	N/A
	1900MHz_Bottom_Jumper #2_Length (Ground based-Combiner to Main Coax, ft)	N/A	N/A	N/A
	1900MHz_Bottom_Jumper #2_Cable_Model (Ground based-Combiner to Main Coax)	N/A	N/A	N/A
800	800MHz_Azimuth	30	130	280
	800MHz_No_of_Antennas	0	0	0
	800MHz_RADCenter(ft)	210.6	210.6	210.6
	800MHz_AntennaMake	RFS	RFS	RFS
	800MHz_AntennaModel	APXVSPP18-C-A20 (Shared w/1900)	APXVSPP18-C-A20 (Shared w/1900)	APXVSPP18-C-A20 (Shared w/1900)
	800MHz_Horizontal_Beamwidth	65	65	65
	800MHz_Vertical_Beamwidth	11.5	11.5	11.5
	800MHz_AntennaHeight (ft)	6	6	6
	800MHz_AntennaGain (dBd)	13.4	13.4	13.4
	800MHz_E_Tilt	-8	-4	-2
	800MHz_M_Tilt	0	0	0
	800MHz_RRH Manufacturer	ALU	ALU	ALU
	800MHz_RRH Model	RRH 800 MHz 2x50W	RRH 800 MHz 2x50W	RRH 800 MHz 2x50W
	800MHz_RRH Count	1	1	1
	800MHz_RRH Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
	800_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)	10	10	10
	GM)	LCF12-50J	LCF12-50J	LCF12-50J
	800MHz_Main_Coax_Cable_Length (ft)	N/A	N/A	N/A
	800MHz_Main_Coax_Cable_Model	N/A	N/A	N/A
	800_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)	N/A	N/A	N/A
	800_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)	N/A	N/A	N/A
	Plumbing Scenario *	122	122	122
Comment:	* If plumbing scenario does not match the material received, please contact your Construction Manager			
	11/9/2012			

NOTE:
RFDS SHOWN PROVIDED BY SPRINT DATED 12/07/11.

1 SPRINT RFDS
NOT TO SCALE

NOTE:
COORDINATE RF ANTENNA INSTALLATION WITH FINAL SPRINT RFDS. COORDINATE RF MW DISH (IF APPLICABLE) INSTALLATION WITH FINAL SPRINT RFDS.



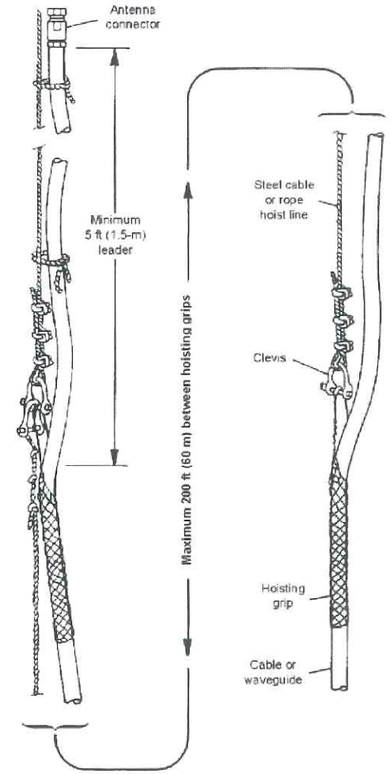
FREQUENCY LEGEND

Y/G	800
Y/R	1900 #1
Y/BR	1900 #2
Y/P	1600
Y/B	SPARE

HYBRID CABLE WILL BE MARKED IN A SIMILAR MANNER AS COAX CABLES. THE MAIN TRUNK OF THE HYBRID CABLE IS TO BE MARKED WITH THE SECTOR MARKINGS ONLY. THE INDIVIDUAL POWER PAIRS AND FIBER CABLES WILL BE LABELED WITH BOTH THE SECTOR CABLE MARKINGS AND FREQUENCY (EXAMPLE ABOVE IS FOR SECTOR 2)

2 COLOR CODING
NOT TO SCALE

1. DO NOT USE ONE HOISTING GRIP FOR HOISTING TWO OR MORE CABLES OR ICE BRIDGES. THIS CAN CAUSE THE HOISTING GRIP TO BREAK OR THE CABLES OR WAVE-GUIDES TO FALL.
2. DO NOT USE THE HOISTING GRIP FOR LOWERING CABLE OR ICE BRIDGE. SNAGGING OF THE CABLE OR ICE BRIDGE MAY LOOSEN THE GRIP AND POSSIBLY CAUSE THE CABLE TO ICE BRIDGE TO SWAY OR FALL.
3. DO NOT REUSE HOISTING GRIPS. USED GRIPS MAY HAVE LOST ELASTICITY, STRETCHED, OR BECOME WEAK-ENED. REUSING A GRIP CAN CAUSE THE CABLE OR ICE BRIDGE TO SLIP, BREAK, OR FALL.
4. USE HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200 FT (60 M).
5. MAKE SURE THAT THE PROPER HOISTING GRIP IS USED FOR THE CABLE OR ICE BRIDGE BEING INSTALLED. SLIPPAGE OR INSUFFICIENT GRIPPING STRENGTH WILL RESULT IF YOU ARE USING THE WRONG HOISTING GRIP.



3 HOIST GRIP DETAIL
NOT TO SCALE

A/E Consultant:
INFINIGY
Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

STATE OF CONNECTICUT · JOHN S. STEVENS · No. 24705 · LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
5	FINAL CD'S	EKM	2/4/14
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Project Number
286-016

Project Title
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

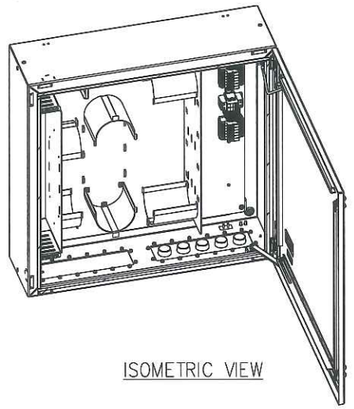
Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

Drawing Scale:
AS NOTED

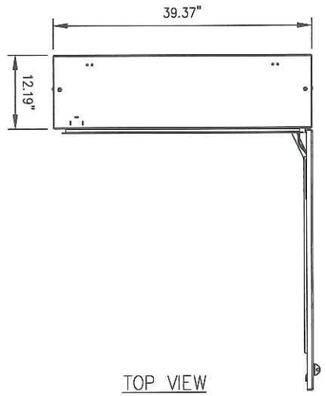
Date:
2/4/14

Drawing Title
RF AND CABLE DETAILS

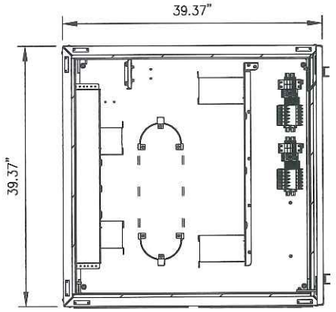
Drawing Number
C7



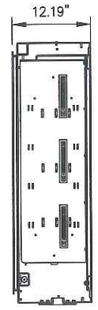
ISOMETRIC VIEW



TOP VIEW

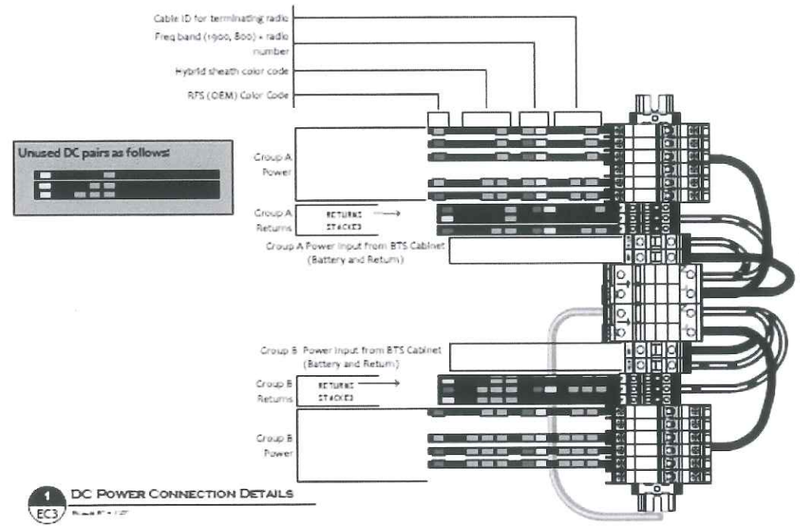


FRONT VIEW

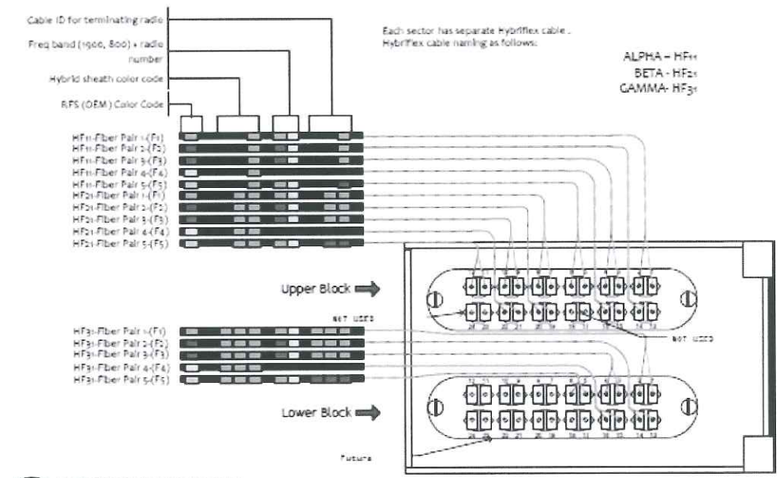


SIDE VIEW

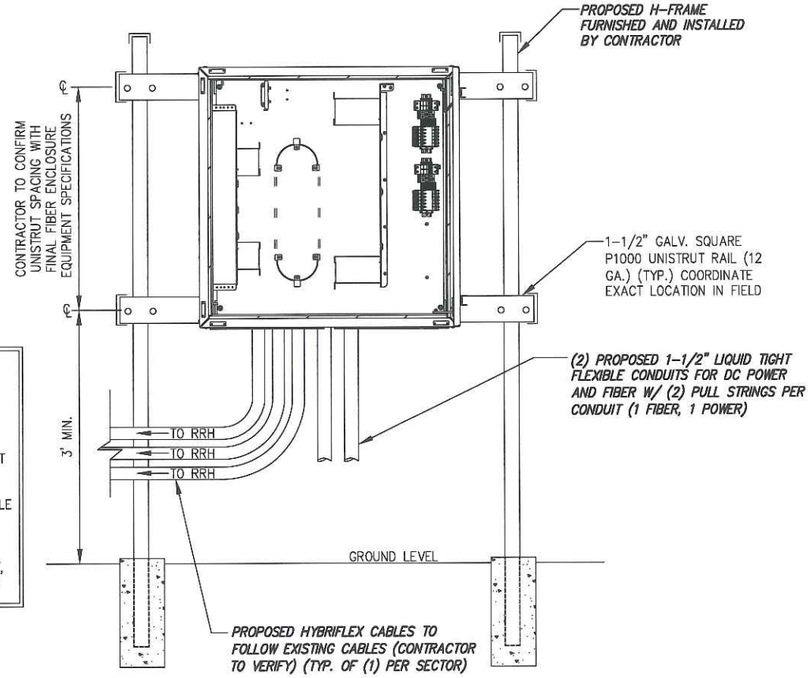
1 DISTRIBUTION BOX DETAIL
NOT TO SCALE



1 EC3 DC POWER CONNECTION DETAILS



2 EC3 FIBER CONNECTION DETAILS



NOTE:
- DISTRIBUTION BOX IS KITTED WITH 50' OF 1-1/2" LIQUID-TIGHT CONDUIT AND CONNECTORS. THIS SHOULD BE:
* SPLIT IN HALF,
* TERMINATED TO THE DISTRIBUTION BOX AS SHOWN,
* RAN TO AND COILED AS CLOSE TO WHERE THE CABINET IS GOING TO BE MOUNTED AS POSSIBLE.

- DISTRIBUTION BOX IS KITTED WITH 2 AWG, POWER CABLE 35' x 2EA. RUNS RED AND 2EA. RUNS BLACK. THIS SHOULD BE COILED AND LEFT INSIDE DISTRIBUTION BOX.

- BTS INSTALLATION TEAM WILL TERMINATE LIQUID-TIGHT, RUN THE FIBER JUMPERS AND POWER CABLES FROM BTS CABINET TO DISTRIBUTION BOX.

NOTE:
1. ANCHORS AND UNISTRUT CHANNEL SHALL HAVE HOT-DIPPED GALVANIZED FINISH.
2. MOUNT FIBER AND POWER DISTRIBUTION BOX WITH FOUR (4) 1/4"ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS.

2 TYPICAL DISTRIBUTION BOX ON H-FRAME DETAIL
NOT TO SCALE

SCENARIO 122 v2.5

3 FIBER & DC CONNECTION DETAILS
NOT TO SCALE

A/E Consultant:
INFINIGY
Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

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Project Number
286-016

Project Title
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

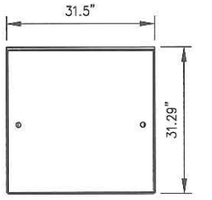
Client: Sprint
1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL-LUCENT
600 AVIATION PARKWAY
SUITE 700
MORRISVILLE, NC 27560

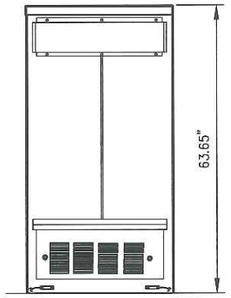
Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title
JUNCTION BOX DETAILS

Drawing Number
C8



TOP VIEW

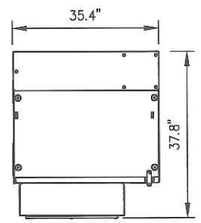


REAR VIEW

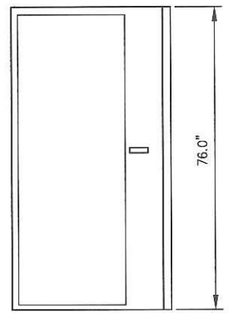
1 BATTERY CABINET PROFILE
NOT TO SCALE

DESIGN CRITERIA:

2009 INTERNATIONAL BUILDING CODE W/ STATE MODIFICATION	
WIND SPEED (ASCE-7-05)	90 MPH
EXPOSURE B	
IMPORTANCE FACTOR	1.0
SEISMIC SITE CLASS	D
Ss=0.152 S1=0.050	
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY	B
9928 MM BTS CABINET WEIGHT:	1074 LBS.
EMERSON BATTERY CABINET SPECIFICATIONS:	
(31.29"x31.5"x63.65")	
WEIGHTS:	
SHIPPING WEIGHT:	600 LBS.
LIFT WEIGHT:	540 LBS.
TOTAL WEIGHT:	2640 LBS (WITH BATTERIES)
INDIVIDUAL BATTERY WEIGHT:	105 LBS
(DO NOT LIFT WITH BATTERIES IN CABINET)	
MATERIAL SPECIFICATIONS	
C-, M-, AND ANGLE SHAPES:	ASTM A36
HIGH-STRENGTH BOLTS:	ASTM A325SC OR (A325N)
STRUCTURAL WF SHAPES:	ASTM A572-GR50
TUBE STEEL & PIPE COLUMNS:	ASTM A500, GRADE B
WELDING ELECTRODES:	E70XX
W - SHAPES:	ASTM A992, GRADE 50
U-BOLTS:	ASTM A36



TOP VIEW



FRONT VIEW

2 BTS CABINET PROFILE
NOT TO SCALE

A/E Consultant:
INFINIGY
Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

STATE OF CONNECTICUT
JOHN S. STEVENS
NO. 24705
LICENSED
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Project Number
286-016

Project Title

CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client: Sprint, 1 INTERNATIONAL BLVD. MAHWAH, NJ 07495

Implementation Team: ALCATEL•LUCENT, 808 AALTON PARKWAY, SUITE 700, MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED

Date:
2/4/14

Drawing Title

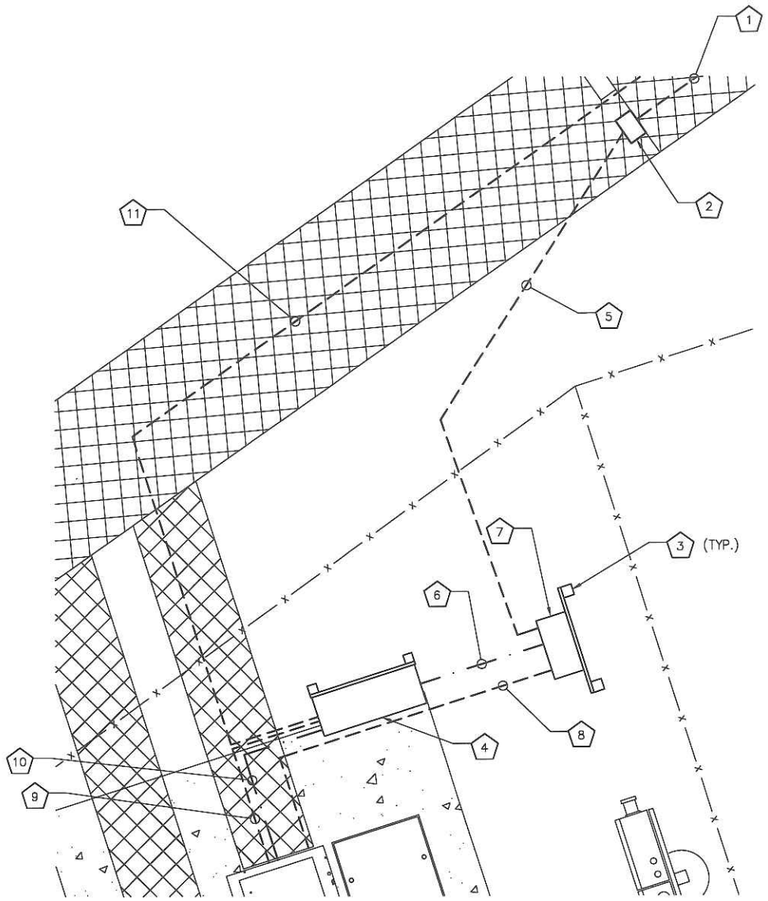
DETAILS

Drawing Number

C9

CODED NOTES:

1. PROPOSED FIBER ROUTED WITHIN PROPOSED 2" GRC ROUTED ON EXISTING ICE BRIDGE FROM PROPOSED JUNCTION BOX TO EXISTING CORNING BOX, 60'
2. PROPOSED 12"X12"6" WEATHER RATED JUNCTION BOX
3. PROPOSED H-FRAME FURNISHED AND INSTALLED BY SPRINT
4. PROPOSED SPRINT FIBER JUNCTION BOX FURNISHED AND INSTALLED BY ALU
5. PROPOSED 2" PVC ROUTED UNDERGROUND FOR FIBER WITH PULL-STRING FROM PROPOSED FIBER JUNCTION BOX TO PROPOSED CIENA EQUIPMENT ENCLOSURE, 30'
6. PROPOSED 1-1/4" LIQUID TIGHT CONDUIT FROM PROPOSED JUNCTION BOX TO PROPOSED CIENA EQUIPMENT LOCATION, 5'; FURNISHED AND INSTALLED BY SPRINT
7. PROPOSED CIENA EQUIPMENT ENCLOSURE, FURNISHED AND INSTALLED BY AT&T
8. PROPOSED 1-1/4" LIQUID TIGHT CONDUIT WITH PULL-STRING FROM PROPOSED CIENA EQUIPMENT TO BTS LOCATION, 15'; FURNISHED AND INSTALLED BY SPRINT
9. PROPOSED 1-1/2" LIQUID TIGHT CONDUIT FOR TELCO FROM WITH PULL-STRING FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
10. PROPOSED 1-1/2" LIQUID TIGHT FLEX CONDUIT FOR DC POWER FROM FIBER JUNCTION BOX TO LUCENT EQUIPMENT CABINET
11. PROPOSED 1-1/4" HYBRIFLEX CABLE ROUTED FROM PROPOSED JUNCTION BOX TO PROPOSED TOWER MOUNTED RRH, 290' (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL)



CALLED NORTH

1 UTILITY SITE PLAN
SCALE: AS NOTED

1' 0 1' 2' 4'
(IN FEET)
SCALE: 24"X 36" SHEET 1"= 2'
SCALE: 11"X 17" SHEET 1"= 4'

NOTES:
1. CONTRACTOR TO USE EXISTING SPARE CONDUITS, IF AVAILABLE. CONDUIT SIZES MUST BE EQUAL TO OR GREATER THAN THAT ALLOWED BY CODE.
2. EXISTING ALARMS NEED TO BE RE-ROUTED AND VERIFIED IN PROPER WORKING CONDITION WHEN NEW MMBTS EQUIPMENT IS INSTALLED.
3. REMAINING GROUND LEADS FROM REMOVED CABINETS TO BE COILED (NOT ON WALKING SURFACE).
4. REMAINING UNUSED CONDUITS FROM EXISTING CABINETS TO BE COVERED WITH WATERPROOF CAPS (NOT DUCT TAPE).

UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-922-4455
THREE WORKING DAYS BEFORE YOU DIG

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES
2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
4. ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
5. CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED OTHERWISE.
6. LABEL SPRINT SERVICE DISCONNECT SWITCH AND PPC CABINET WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
8. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 5 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY SPRINTS REPRESENTATIVE.
9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360°.
10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT REPRESENTATIVE.
11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO SPRINT REPRESENTATIVE.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY SPRINT REPRESENTATIVE.
16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
17. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.
21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO SPRINT'S REPRESENTATIVE.
22. ALL ABOVE GRADE CONDUIT TO BE RIGID METALLIC.

A/E Consultant:
INFINIGY
Design. build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (516) 690-0790
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37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client: Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 1000
MORRISVILLE, NC 27650

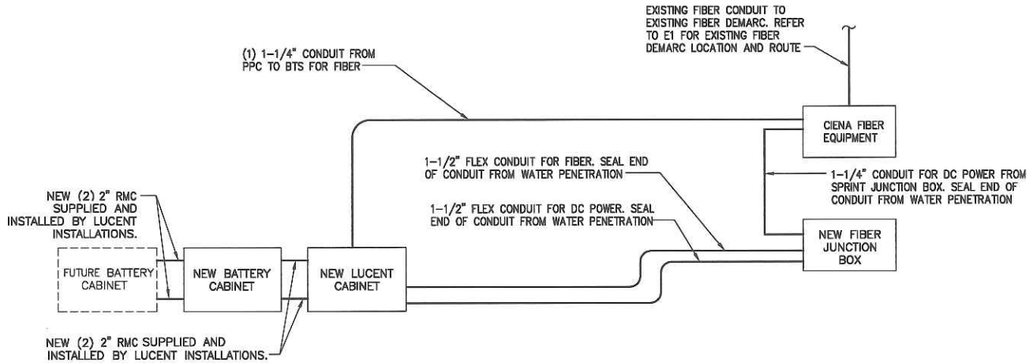
Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title:
UTILITY SITE PLAN

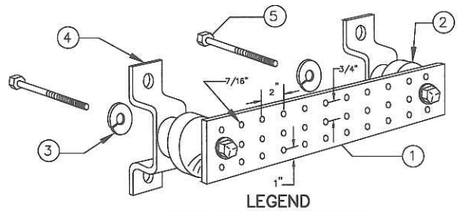
Drawing Number:
E1

GROUNDING NOTE:

IN ADDITION TO POWER SERVICE GROUNDING AS REQUIRED BY NEC. CONTRACTOR SHALL BE RESPONSIBLE TO COORD AND INSTALL ALL SURGE AND LIGHTING PROTECTION GROUNDING AS REQUIRED AND SPECIFIED BY SPRINT



1 ONE-LINE DIAGRAM
NOT TO SCALE

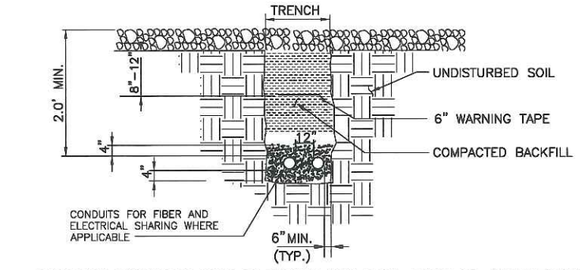


LEGEND

1. TINNED COPPER GROUND BAR, ¼" x 4" x 20", NEWTON INSTRUMENT Co., HARGER TGBI14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH
2. NEMA DOUBLE LUG CONFIGURATION.
3. INSULATORS, NEWTON INSTRUMENT Co. CAT. NO. 3061-4 OR HARGER
4. EQUIVALENT.
5. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-B OR EQUIVALENT.
   WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
   5/8-11 x 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

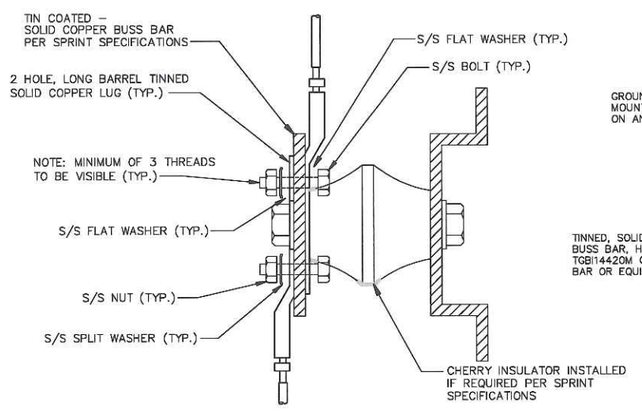
NOTE:
1) ALL MOUNTING HARDWARE CAN ALSO BE USED ON 6", 12", 18", ETC. GROUND BARS.
2) ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGBI14420M.

GROUND BAR



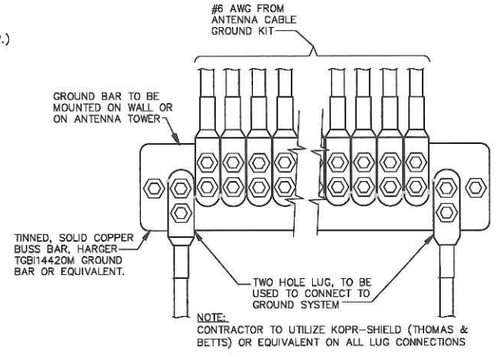
– SEPARATION DIMENSIONS MUST BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS.
*HAND DIG INSIDE COMPOUND

2 UTILITY TRENCH DETAIL
NOT TO SCALE



NOTES:
1) ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2) COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3) APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

GROUND LUG



ANTENNA GROUND BAR

3 GROUND BAR DETAILS
NOT TO SCALE

A/E Consultant:

INFINIGY
Design. Build. Deliver.
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
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STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

No.	Submittal / Revision	App'd	Date
5	FINAL CD'S	EKM	2/4/14
4	REVISED PER CLIENT	EKM	5/29/12
3	REVISED PER CLIENT	EKM	5/07/12
2	REVISED PER CLIENT	EKM	4/26/12
1	REVISED PER CLIENT	EKM	4/3/12
0	ISSUED FOR REVIEW	EKM	3/8/12

Drawn: EKM Date: 3/8/12
Designed: EKM Date: 3/8/12
Checked: CJW Date: 3/8/12

Project Number
286-016

Project Title
CT03XC025
SMALLER
WTXX TOWER

37 PEACH ORCHARD RD.
PROSPECT, CT 06712

Client:
Sprint
1 INTERNATIONAL BLVD.
MAHWAH, NJ 07495

Implementation Team:
ALCATEL-LUCENT
808 AVIATION PARKWAY
SUITE 1700
MORRISVILLE, NC 27650

Drawing Scale:
AS NOTED

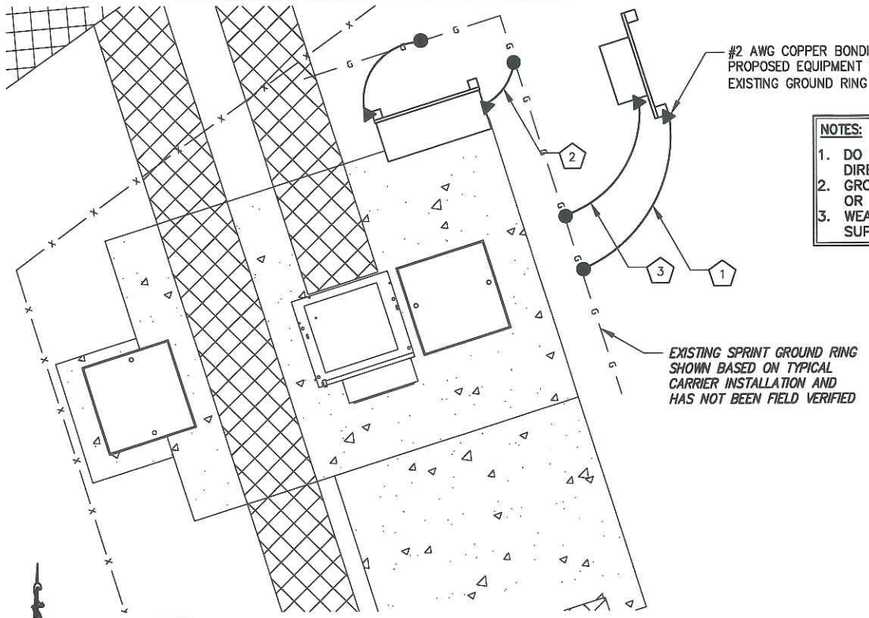
Date:
2/4/14

Drawing Title
ONE-LINE DIAGRAM AND DETAILS

Drawing Number
E2

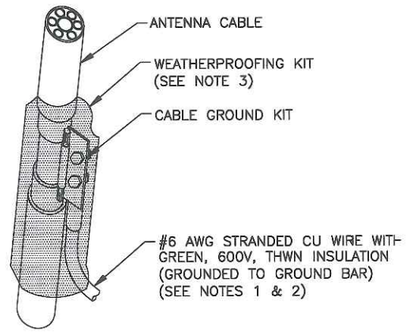
SYMBOL	
⊗	COPPER GROUND ROD
▶	CONNECT PER MANUFACTURER SPECS
●	CADWELD CONNECTION
▬	GROUND BAR

1. *PROPOSED H-FRAME FURNISHED AND INSTALLED BY SPRINT*
2. *PROPOSED SPRINT FIBER JUNCTION BOX FURNISHED AND INSTALLED BY ALU*
3. *PROPOSED CIENA EQUIPMENT ENCLOSURE, FURNISHED AND INSTALLED BY AT&T*



1 EQUIPMENT GROUNDING PLAN
NOT TO SCALE

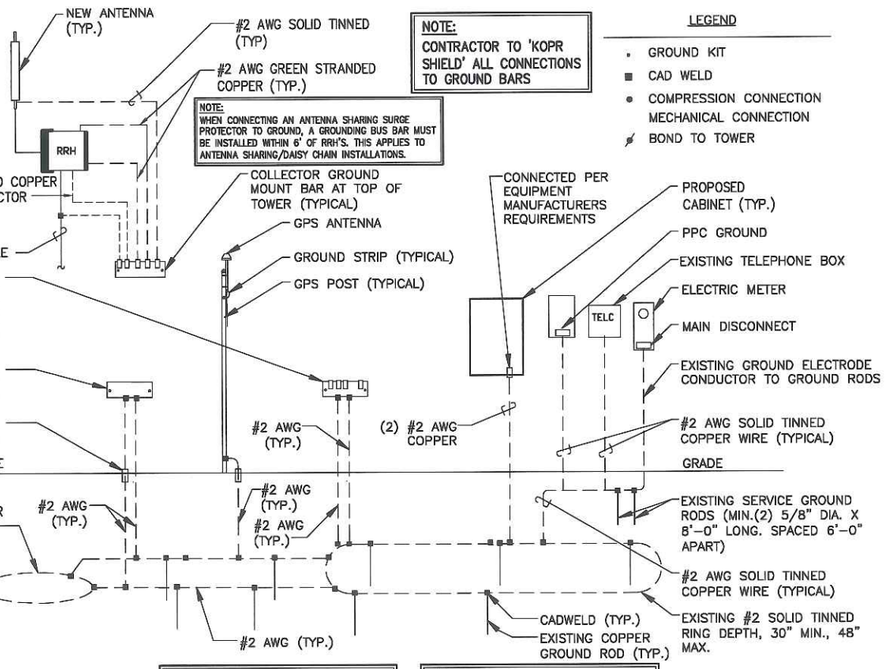
NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.



3 CONNECTION OF GROUND KIT TO ANTENNA CABLE
NOT TO SCALE

GROUNDING NOTES:

1. ALL DOWN CONDUCTORS AND GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNO. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE A MINIMUM DEPTH BELOW GRADE OF 30 INCHES OR TO THE LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNO.
2. WHERE MECHANICAL CONDUCTOR CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
3. GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND.
4. GROUND CONDUCTORS ON EXTERIOR WALL OF SHELTER SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED "C" CLAMPS. SEAL TOP ENDS.
5. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER.
6. ALL GROUNDING WORK SHALL COMPLY WITH CARRIER(S) STANDARDS.
7. GROUNDING REQUIREMENTS SHOWN ON THIS PLAN ARE FOR ITEMS THAT ARE LOCATED NEAR GRADE LEVEL AND THAT NEED TO BE TIED TO THE BELOW GRADE GROUND RING.
8. UNLESS NOTED OTHERWISE, ALL GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT'S SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES", AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING". ALL GROUNDING SHALL ALSO COMPLY WITH ALL STATE AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE (NEC).
9. UNLESS NOTED OTHERWISE, ALL GROUNDING CONNECTIONS SHALL BE MADE BY AN EXOTHERMIC WELD.
10. RESISTANCE TO EARTH TESTING IS REQUIRED PER SPRINT STANDARDS ON ALL NEW SITES.



NOTE: CONTRACTOR TO 'KOPR SHIELD' ALL CONNECTIONS TO GROUND BARS

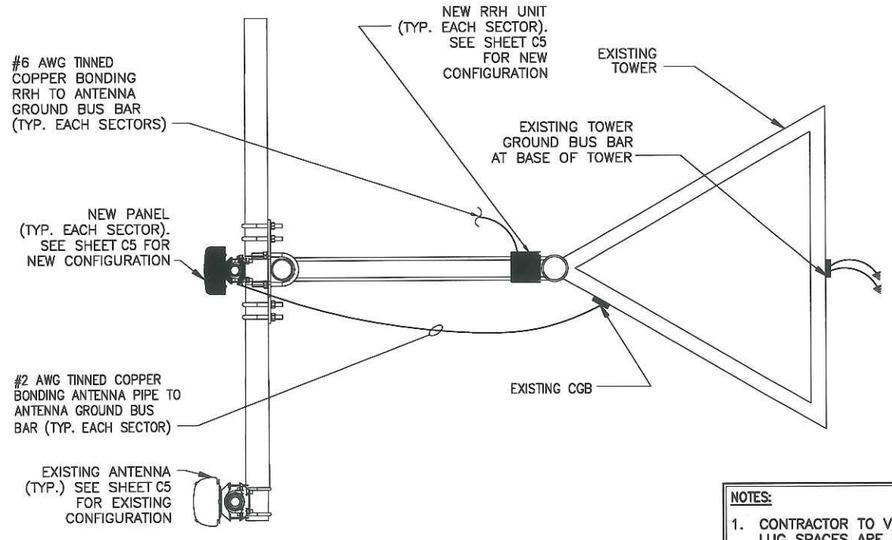
NOTE: WHEN CONNECTING AN ANTENNA SHARING SURGE PROTECTOR TO GROUND, A GROUNDING BUS BAR MUST BE INSTALLED WITHIN 6' OF RRH'S. THIS APPLIES TO ANTENNA SHARING/DAISY CHAIN INSTALLATIONS.

LEGEND
- GROUND KIT
- CAD WELD
- COMPRESSION CONNECTION MECHANICAL CONNECTION
- BOND TO TOWER

NOTE: DIAGRAM FOR GRAPHICAL PURPOSES ONLY. REFER ACTUAL SITE LAYOUT AND RF PAGES FOR ADDITIONAL INFORMATION

NOTE: ALL GROUND WIRES ENTERING GROUND SHALL BE IN PVC SLEEVE.

2 GROUNDING RISER DIAGRAM
NOT TO SCALE



4 TYPICAL ANTENNA GROUNDING PLAN
NOT TO SCALE

NOTES:
1. CONTRACTOR TO VERIFY EXISTING LUG SPACES ARE AVAILABLE ON GROUND BAR. ADD ADDITIONAL BUS BAR IF NO LUG SPACES ARE AVAILABLE.
2. ANTENNA GROUNDING CONNECTIONS SHOWN ARE NOT EXACT TO THIS SITE. FOR EXACT ANTENNA LAYOUT REFER TO SHEET C5.

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Drawing Scale: AS NOTED
Date: 2/4/14

Drawing Title:
GROUNDING PLAN AND DETAILS

Drawing Number:
E3