Robinson+Cole

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Also admitted in Massachusetts

October 26, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
62 North Main Street, Sprague, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the 165-foot level of the existing 175-foot tower at 62 North Main Street in Sprague, Connecticut (the "Property"). The Property is owned by the Town of Sprague. The tower is owned by Wireless Solutions, LLC. The Council approved Cellco's use of this tower in 2007. Cellco now intends to replace six (6) of its existing antennas with three (3) model LNX-6514DS-VTM, 700 MHz antennas; three (3) model LNX-9014DS-VTM, 1900 MHz antennas; and add three (3) model HBXX-6517DS-VTM, 2100 MHz antennas, for a total of fifteen (15) antennas, all at the same 165-foot level on the tower. Cellco also intends to install nine (9) remote radio heads ("RRHs") behind its antennas and two (2) HYBRIFLEX™ fiber optic antenna cables. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cables.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Catherine A. Osten, First Selectwoman of the Town of Sprague; Colette Hoffman, Sprague's Land Use Coordinator; and Wireless Solutions, LLC, the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be installed at the 165-foot level on the 175-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Analysis Report included in Attachment 3).

A copy of the parcel map and owner information for the Property is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Catherine A. Osten, Sprague First Selectwoman
Colette Hoffman, Sprague Land Use Coordinator
Wireless Solutions, LLC
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

LNX-6514DS-VTM

Andrew® Antenna, 698–896 MHz, 65° horizontal beamwidth, RET compatible

POWERED BY ANDREW.

Electrical Specifications

Frequency Band, MHz	698–806	806–896
Gain, dBi	15.7	16.3
Beamwidth, Horizontal, degrees	65	65
Beamwidth, Horizontal Tolerance, degrees	±3	±3
Beamwidth, Vertical, degrees	12.5	11.2
Beam Tilt, degrees	0–10	0–10
USLS, typical, dB	17	18
Front-to-Back Ratio at 180°, dB	32	30
CPR at Boresight, dB	20	20
CPR at Sector, dB	10	10
Isolation, dB	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153
Input Power per Port, maximum, watts	400	400
Polarization	±45°	±45°

Mechanical Specifications

Color | Radome Material	Light gray | Fiberglass, UV resistant
Connector Interface | Location | Quantity	7-16 DIN Female | Bottom | 2
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph
Antenna Dimensions, L x W x D	1847.0 mm x 301.0 mm x 181.0 mm | 72.7 in x 11.9 in x 7.1 in
Net Weight	17.6 kg | 38.8 lb
Model with factory installed AISG 2.0 RET	LNX-6514DS-A1M

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Product Specifications

COMMSCOPE®

on the go

HBXX-9014DS-VTM

DualPol® Quad Teletilt® Antenna, 1710–2180 MHz, 90° horizontal beamwidth, RET compatible

- 2x2 MIMO ready
- Two DualPol® antennas under one radome
- High front-to-back ratio aids in minimizing co-channel interference
- Fully compatible with Andrew remote electrical tilt system for greater OpEx savings
- Enhanced control of out-of-sector power improves co-channel interference, reduces softer hand-offs, improves capacity
- Fully supports PCS 1900, GSM 1800, UMTS 2100, and AWS spectrum

Electrical Specifications

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain, dBi	16.0	16.0	16.2
Beamwidth, Horizontal, degrees	90	90	90
Beamwidth, Vertical, degrees	7.4	7.0	6.6
Beam Tilt, degrees	0–10	0–10	0–10
USLS, typical, dB	17	17	18
Front-to-Back Ratio at 180°, dB	30	30	30
Isolation, dB	30	30	30
VSWR | Return Loss, dB	1.4:1 | 15.6	1.4:1 | 15.6	1.4:1 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm
Lightning Protection	dc Ground	dc Ground	dc Ground

Mechanical Specifications

Color | Radome Material	Light gray | PVC, UV resistant
Connector Interface | Location | Quantity	7-16 DIN Female | Bottom | 4
Wind Loading, maximum	419.5 N @ 150 km/h 94.3 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph

Dimensions

Depth	166.0 mm | 6.5 in
Length	1294.00 mm | 50.94 in
Width	305.00 mm | 12.01 in
Net Weight	13.50 kg | 29.76 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 1.1 Actuator	HBXX-9014DS-R2M
Model with Factory Installed AISG 2.0 Actuator	HBXX-9014DS-A2M

Regulatory Compliance/Certifications

Agency	**Classification**
RoHS 2002/95/EC	Compliant by Exemption

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Product Specifications

COMMSCOPE®

on the go

HBXX-9014DS-VTM

China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members

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All specifications are subject to change without notice. See www.commscope.com for the most current information. Revised: April 23, 2012

Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

HBXX-6517DS-VTM

Andrew® Quad Port Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Superior azimuth tracking and pattern symmetry with excellent passive intermodulation suppression

Electrical Specifications

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain, dBi	19.0	19.1	19.2
Beamwidth, Horizontal, degrees	67	66	65
Beamwidth, Vertical, degrees	5.0	4.7	4.4
Beam Tilt, degrees	0–6	0–6	0–6
USLS, dB	18	18	18
Front-to-Back Ratio at 180°, dB	30	30	30
CPR at Boresight, dB	21	22	21
CPR at Sector, dB	10	11	9
Isolation, dB	30	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain by all Beam Tilts, average, dBi	18.5	18.6	18.8
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3	±0.4
Gain by Beam Tilt, average, dBi	0 ° | 18.4	0 ° | 18.4	0 ° | 18.7
	3 ° | 18.7	3 ° | 18.7	3 ° | 18.9
	6 ° | 18.4	6 ° | 18.5	6 ° | 18.6
Beamwidth, Horizontal Tolerance, degrees	±2.4	±1.7	±2.9
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.3	±0.3
USLS, dB	18	19	19
Front-to-Back Total Power at 180° ± 30°, dB	25	26	26
CPR at Boresight, dB	22	23	22
CPR at Sector, dB	10	10	9

* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

General Specifications

Antenna Brand	Andrew®
Antenna Type	DualPol® quad
Band	Single band
Brand	DualPol® | Teletilt®
Operating Frequency Band	1710 – 2180 MHz

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Product Specifications

HBXX-6517DS-VTM

Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Low loss circuit board
Radome Material	PVC, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	4
Wind Loading, maximum	668.0 N @ 150 km/h 150.2 lbf @ 150 km/h
Wind Speed, maximum	241.0 km/h | 149.8 mph

Dimensions

Depth	166.0 mm | 6.5 in
Length	1903.0 mm | 74.9 in
Width	305.0 mm | 12.0 in
Net Weight	19.5 kg | 43.0 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	HBXX-6517DS-A2M
RET System	Teletilt®

Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

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ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

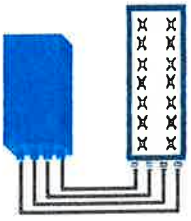
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity scheme	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) Volume in L Weight in kg (lb) (w/o mounting HW)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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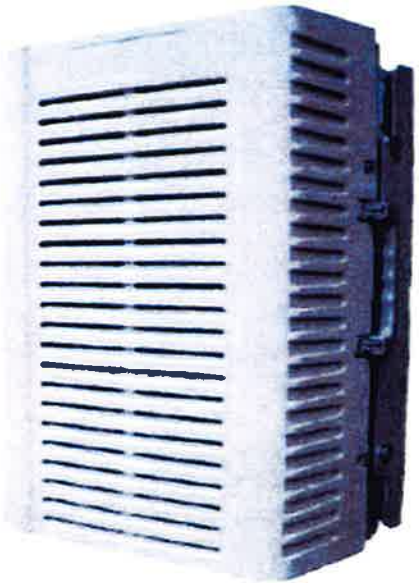
PCS RF MODULES

RRH1900 2X60 - HW CHARACTERISTICS

LA6.0.1/13.3

	RRH2x60
RF Output Power	2x60W
Instantaneous Bandwidth	20MHz
Transmitter	2 TX
Receiver 1900 HW version 1900A HW version	2 Branch RX – LA6.0.1 4 Branch RX – LR13.3
Features	AISG 2.0 for RET/TMA
	Internal Smart Bias-T
Power	-48VDC
CPRI Ports	2 CPRI Rate 3 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (top mounted)



** Not a Verizon Wireless deployed product

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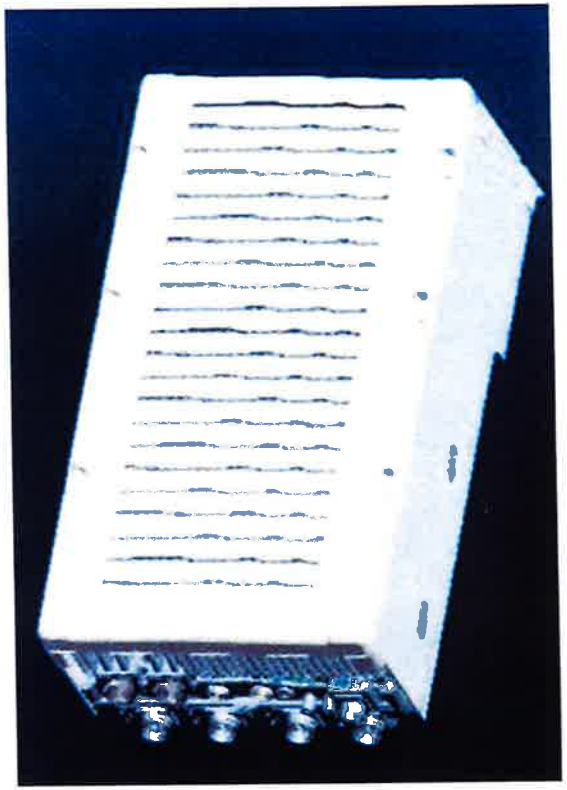
NEW PCS RF MODULES FOR VZW

RRH2X60 - HW CHARACTERISTICS

LR14.3

	RRH2x60
RF Output Power	2x60W (4x30W HW Ready)
Instantaneous Bandwidth	60MHz
Target Reliability (Annual Return Rate)	<2%
Receiver	4 Branch Rx
Features	AISG 2.0 for RET/TMA
Power	-48VDC
	Internal Smart Bias-T
CPRI Ports	2 CPRI Rate 5 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX, RX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (downward facing)
Dimensions	22"(h) x 12"(w)x 9.4" (d)**
Weight	55lb**



**- Includes solar shield but not mounting brackets (8 lbs.)

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The Alcatel-Lucent RRH2x60-AWS is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.

A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

The Alcatel-Lucent RRH2x60-AWS is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

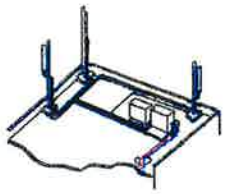
The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

The RRH2x60-AWS includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

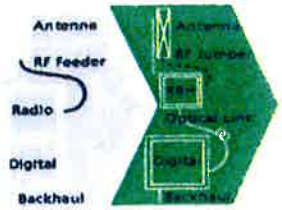
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-AWS is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

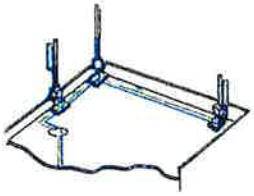
Installation can easily be done by a single person as the Alcatel–Lucent RRH2x60-AWS is compact and weighs about 20 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

- RRH2x60-AWS integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- RRH2x60-AWS is optimized for LTE operation
- RRH2x60-AWS is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control
- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 20km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

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Alcatel·Lucent

AT THE SPEED OF IDEAS™

Product Data Sheet HB158-1-08U8-S8J18

HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

Figure 1: HYBRIFLEX Series

Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics – minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding – Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design – Decreases tower loading
- Robust cabling – Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH – Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable – Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket – Ensures long-lasting cable protection

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	.068 (0.205)
DC-Resistance Power Cable, 8.4mm² (8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
Size (Power)		[mm (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

* This data is provisional and subject to change

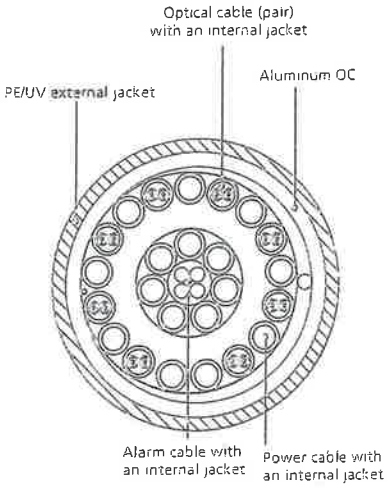


Figure 2: Construction Detail

All information contained in the present datasheet is subject to confirmation at time of ordering

ATTACHMENT 2

	General	Power	Density					
Site Name: Baltic (Sprague)								
Tower Height: 175Ft.								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T	2	565	175	880	0.0142	0.5867	0.24%	
*AT&T	2	875	175	1900	0.0220	1.0000	0.22%	
*AT&T	1	283	175	880	0.0036	0.5867	0.06%	
*AT&T	4	525	175	1900	0.0264	1.0000	0.26%	
*AT&T	1	1615	175	734	0.0203	0.4893	0.42%	
Verizon PCS	**11**	**245**	**165**	**0.0356**	**1970**	**1.0000**	**3.56%**	
Verizon Cellular	**9**	**253**	**165**	**0.0301**	**869**	**0.5793**	**5.19%**	
Verizon AWS	**1**	**2674**	**165**	**0.0353**	**2145**	**1.0000**	**3.53%**	
Verizon 700	**1**	**1037**	**165**	**0.0137**	**746**	**0.4973**	**2.75%**	
								16.24%
* Source: Siting Council								

ATTACHMENT 3

STRUCTURAL ANALYSIS REPORT

For

BALTIC CT

62 North Main Street
Sprague, CT 06330

Antennas Mounted to the Tower

Prepared for:

verizon

99 East River Road, 9th Floor
East Hartford, CT 06108

Dated: October 3, 2017

Prepared by:

HUDSON Design Group LLC

45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

10/3/2017

HUDSON
Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by VERIZON to conduct a structural evaluation of the 175' self supporting tower supporting the proposed VERIZON's antennas located at elevation 165' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of VERIZON's existing and proposed antennas listed below.

Record drawings of the existing tower were not available for our use. The previous structural analysis report prepared by Centek Engineering, dated June 15, 2015, was provided to this office.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing tower and foundation **are in conformance** with the ANSI/TIA-222-G Standard for the loading considered under the criteria listed in this report. The tower structure is rated at **64.1%** - (Diagonals at Tower Section T2 from EL.150' to EL.165' Controlling).

HUDSON Design Group LLC

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	8' Omni	182'	Tower Leg
	5' Pipe	178'	Tower Leg
	(6) Powerwave 7770 Antennas	175'	T - Frame
	(6) LGP 21400 TMA	175'	T - Frame
	(6) LGP 21900	175'	T - Frame
	P65-17-XLH-RR Antenna	175'	T - Frame
	(2) SBNH-1D6565C Antennas	175'	T - Frame
	(6) RRUS-11	175'	T - Frame
	Surge Arrestor DC6-48-60-18-8F	175'	T - Frame
VERIZON	(6) LPA-80080 Antennas	165'	T - Frame
	(3) HBXX-6517DS Antennas	165'	T - Frame
	(3) LNX-6514DS Antennas	165'	T - Frame
	(3) HBXX-9014DS Antennas	165'	T - Frame
	(3) RRH2X60 AWS	165'	T - Frame
	(3) RRH2X60 PCS	165'	T - Frame
	(3) RRH2X60 LTE	165'	T - Frame
	(2) DB-T1-6Z-8AB-0Z	165'	T - Frame

Proposed VERIZON Appurtenances shown in Bold.

VERIZON EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
VERIZON	(12) 1 5/8" Cables	165'	Tower Leg
VERIZON	***(2) Fiber Cables***	165'	Tower Leg

Proposed VERIZON Coax Cables shown in Bold.

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Legs	56.9 %	80 – 100	PASS	
Diagonals	**64.1 %**	150 – 165	PASS	**Controlling**
Top Girts	51.2 %	150 – 165	PASS	
Bottom Girts	40.2 %	165 – 175	PASS	

HUDSON
Design Group LLC

DESIGN CRITERIA:

1. Connecticut State Building Code

2. EIA/TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

   City/Town: Spraque
   County: New London
   Wind Load: 120 mph (3 second gust)
   Structural Class: II
   Exposure Category: B
   Topographic Category: 1
   Nominal Ice Thickness: 0.75 inch

3. Approximate height above grade to proposed antennas: 165'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The tower geometry and member sizes are as indicated in the previous structural analysis report prepared by Centek Engineering, dated June 15, 2015.

2. The appurtenances configuration is as stated in the previous structural analysis report prepared by Centek Engineering, dated June 15, 2015. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

3. The tower and foundation are properly constructed and maintained. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

4. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

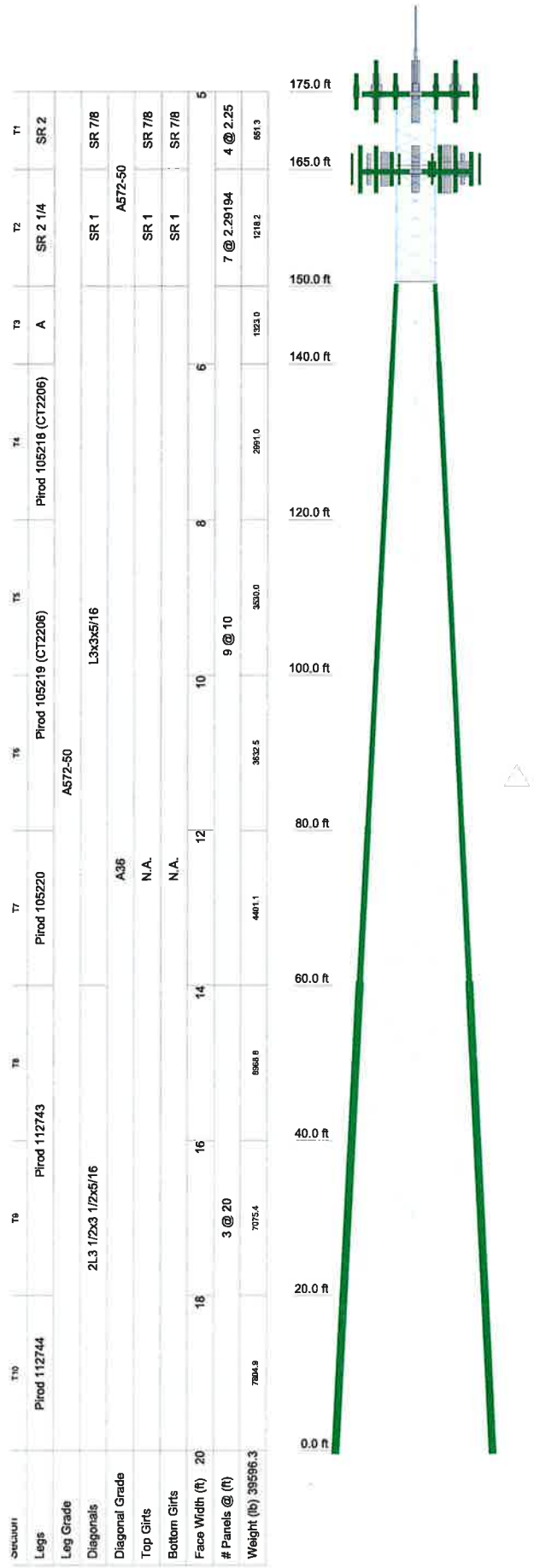
5. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas, RRHs and distribution boxes be mounted on the existing T-frame supported by the tower.

HUDSON
Design Group LLC

CALCULATIONS



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Omni 2 1/2"x8'	175	RRH2X60 LTE	165
3"x5' pipe	175	RRH2X60 LTE	165
PIROD 15' T-Frame (ATT)	175	RRH2X60 LTE	165
PIROD 15' T-Frame	175	RFS DB-T1-6Z-8AB-0Z	165
PIROD 15' T-Frame	175	RFS DB-T1-6Z-8AB-0Z	165
(2) Powerwave 7770 w/mount pipe	175	PIROD 15' T-Frame (Verizon - Existing)	165
(2) Powerwave 7770 w/mount pipe	175	PIROD 15' T-Frame	165
(2) Powerwave 7770 w/mount pipe	175	PIROD 15' T-Frame	165
(2) Powerwave LGP21900	175	LPA-80080-4CF w/mount pipe	165
(2) Powerwave LGP21900	175	LPA-80080-4CF w/mount pipe	165
(2) Powerwave LGP21900	175	LPA-80080-4CF w/mount pipe	165
(2) Powerwave TMA LGP21400	175	LPA-80080-4CF w/mount pipe	165
(2) Powerwave TMA LGP21400	175	LPA-80080-4CF w/mount pipe	165
(2) Powerwave TMA LGP21400	175	LPA-80080-4CF w/mount pipe	165
Powerwave P65-17-XLH-RR w/mount pipe	175	HBXX-6517DS-VTM w/ Mount Pipe (Verizon - Proposed)	165
SBNH-1D6565C w/mount pipe	175	LNX 6514DS-VTM w/mount pipe	165
SBNH-1D6565C w/mount pipe	175	HBXX-9014DS-VTM w/ Mount Pipe	165
(2) Ericsson RRUS-11	175	HBXX-6517DS-VTM w/ Mount Pipe	165
(2) Ericsson RRUS-11	175	LNX 6514DS-VTM w/mount pipe	165
(2) Ericsson RRUS-11	175	HBXX-9014DS-VTM w/ Mount Pipe	165
DC6-48-60-18-8F	175	HBXX-6517DS-VTM w/ Mount Pipe	165
RRH2X60 AWS	165	LNX 6514DS-VTM w/mount pipe	165
RRH2X60 AWS	165	HBXX-9014DS-VTM w/ Mount Pipe	165
RRH2x60 PCS	165	RRH2X60 AWS	165
RRH2x60 PCS	165		
RRH2x60 PCS	165		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	Pirod 105245 (CT2206)		

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 London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 120 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 1 with Crest Height of 0.00 ft

Hudson Design Group LLC
45 Beechwood Drive
North Andover, MA 01845
Phone: (978) 557-5553
FAX: (978) 336-5586

Job: **BALTIC CT**			
Project: ***175 ft Self Supporting Tower***			
Client: VERIZON	Drawn by: kw	App'd:	
Code: TIA-222-G	Date: 10/03/17	Scale: N	
Path:		Dwg No.	

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 175.00 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 5.00 ft at the top and 20.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in New London County, Connecticut.
Basic wind speed of 120 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 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.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
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.

Tower Section Geometry

Tower Section	*Tower Elevation* *ft*	*Assembly Database*	*Description*	*Section Width* *ft*	*Number of Sections*	*Section Length* *ft*
T1	175.00-165.00			5.00	1	10.00
T2	165.00-150.00			5.00	1	15.00
T3	150.00-140.00			5.00	1	10.00
T4	140.00-120.00			6.00	1	20.00
T5	120.00-100.00			8.00	1	20.00
T6	100.00-80.00			10.00	1	20.00
T7	80.00-60.00			12.00	1	20.00
T8	60.00-40.00			14.00	1	20.00
T9	40.00-20.00			16.00	1	20.00
T10	20.00-0.00			18.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	*Tower Elevation* *ft*	*Diagonal Spacing* *ft*	*Bracing Type*	*Has K Brace End Panels*	*Has Horizontals*	*Top Girt Offset* *in*	*Bottom Girt Offset* *in*
T1	175.00-165.00	2.25	X Brace	No	No	6.0000	6.0000
T2	165.00-150.00	2.29	X Brace	No	No	7.4900	7.4900
T3	150.00-140.00	10.00	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T4	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T5	120.00-100.00	10.00	X Brace	No	No	0.0000	0.0000
T6	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T7	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T8	60.00-40.00	20.00	X Brace	No	No	0.0000	0.0000
T9	40.00-20.00	20.00	X Brace	No	No	0.0000	0.0000
T10	20.00-0.00	20.00	X Brace	No	No	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 175.00-165.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 165.00-150.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 150.00-140.00	Truss Leg	Pirod 105245 (CT2206)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T4 140.00-120.00	Truss Leg	Pirod 105218 (CT2206)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T5 120.00-100.00	Truss Leg	Pirod 105219 (CT2206)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T6 100.00-80.00	Truss Leg	Pirod 105219 (CT2206)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T7 80.00-60.00	Truss Leg	Pirod 105220	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T8 60.00-40.00	Truss Leg	Pirod 112743	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	A36 (36 ksi)
T9 40.00-20.00	Truss Leg	Pirod 112743	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	A36 (36 ksi)
T10 20.00-0.00	Truss Leg	Pirod 112744	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	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 175.00-165.00	Solid Round	7/8	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 165.00-150.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)

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 5/8	A	No	Ar (CaAa)	175.00 - 3.00	-3.0000	0.46	12	6	0.0000	1.9800		1.04

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
(AT&T)												
1 5/8	A	No	Ar (CaAa)	175.00 - 3.00	-3.0000	0.42	1	1	0.0000	1.9800		1.04
FB-L98B-002	A	No	Ar (CaAa)	175.00 - 3.00	-3.0000	0.41	1	1	0.0000	0.4000		0.25
WR-VG122S T-BRDA	A	No	Ar (CaAa)	175.00 - 3.00	-3.0000	0.4	2	2	0.0000	0.4000		0.25
**********												
1 5/8 (VERIZON - existing)	B	No	Ar (CaAa)	165.00 - 3.00	-3.0000	0.45	12	6	0.0000	1.9800		1.04
**********												
1 5/8 Fiber Cable (VERIZON - proposed)	B	No	Ar (CaAa)	165.00 - 3.00	-3.0000	0.4	2	2	0.0000	1.9800		1.04

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Omni 2 1/2"x8'	A	From Leg	1.00	0.0000	175.00	No Ice	2.00	2.00	20.00
			0.00			1/2" Ice	2.83	2.83	34.97
			7.00			1" Ice	3.46	3.46	55.24
3"x5' pipe	A	From Leg	0.00	0.0000	175.00	No Ice	1.31	1.31	40.00
			0.00			1/2" Ice	1.80	1.80	52.73
			3.00			1" Ice	2.12	2.12	69.03
**********									
PiROD 15' T-Frame (Verizon - Existing)	A	From Leg	1.50	0.0000	165.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
PiROD 15' T-Frame	B	From Leg	1.50	0.0000	165.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
PiROD 15' T-Frame	C	From Leg	1.50	0.0000	165.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
LPA-80080-4CF w/mount pipe	A	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			-6.00			1/2" Ice	3.24	7.22	76.66
			0.00			1" Ice	3.62	7.87	129.00
LPA-80080-4CF w/mount pipe	A	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			6.00			1/2" Ice	3.24	7.22	76.66
			0.00			1" Ice	3.62	7.87	129.00
LPA-80080-4CF w/mount pipe	B	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			-6.00			1/2" Ice	3.24	7.22	76.66
			0.00			1" Ice	3.62	7.87	129.00
LPA-80080-4CF w/mount pipe	B	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			6.00			1/2" Ice	3.24	7.22	76.66
			0.00			1" Ice	3.62	7.87	129.00
LPA-80080-4CF w/mount pipe	C	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			-6.00			1/2" Ice	3.24	7.22	76.66
			0.00			1" Ice	3.62	7.87	129.00
LPA-80080-4CF w/mount pipe	C	From Leg	3.00	0.0000	165.00	No Ice	2.87	6.59	30.25
			6.00			1/2" Ice	3.24	7.22	76.66

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	3.62	7.87	129.00
**********									
HBXX-6517DS-VTM w/ Mount Pipe	A	From Leg	3.00	0.0000	165.00	No Ice	8.71	6.91	68.55
			4.00			1/2" Ice	9.26	8.10	137.54
(Verizon - Proposed)			0.00			1" Ice	9.79	9.01	214.65
LNX 6514DS-VTM w/mount pipe	A	From Leg	3.00	0.0000	165.00	No Ice	8.40	7.07	64.55
			0.00			1/2" Ice	8.95	8.25	133.55
			0.00			1" Ice	9.48	9.15	210.57
HBXX-9014DS-VTM w/ Mount Pipe	A	From Leg	3.00	0.0000	165.00	No Ice	5.86	4.72	51.90
			-4.00			1/2" Ice	6.34	5.55	103.24
			0.00			1" Ice	6.80	6.25	160.96
HBXX-6517DS-VTM w/ Mount Pipe	B	From Leg	3.00	0.0000	165.00	No Ice	8.71	6.91	68.55
			4.00			1/2" Ice	9.26	8.10	137.54
			0.00			1" Ice	9.79	9.01	214.65
LNX 6514DS-VTM w/mount pipe	B	From Leg	3.00	0.0000	165.00	No Ice	8.40	7.07	64.55
			0.00			1/2" Ice	8.95	8.25	133.55
			0.00			1" Ice	9.48	9.15	210.57
HBXX-9014DS-VTM w/ Mount Pipe	B	From Leg	3.00	0.0000	165.00	No Ice	5.86	4.72	51.90
			-4.00			1/2" Ice	6.34	5.55	103.24
			0.00			1" Ice	6.80	6.25	160.96
HBXX-6517DS-VTM w/ Mount Pipe	C	From Leg	3.00	0.0000	165.00	No Ice	8.71	6.91	68.55
			4.00			1/2" Ice	9.26	8.10	137.54
			0.00			1" Ice	9.79	9.01	214.65
LNX 6514DS-VTM w/mount pipe	C	From Leg	3.00	0.0000	165.00	No Ice	8.40	7.07	64.55
			0.00			1/2" Ice	8.95	8.25	133.55
			0.00			1" Ice	9.48	9.15	210.57
HBXX-9014DS-VTM w/ Mount Pipe	C	From Leg	3.00	0.0000	165.00	No Ice	5.86	4.72	51.90
			-4.00			1/2" Ice	6.34	5.55	103.24
			0.00			1" Ice	6.80	6.25	160.96
RRH2X60 AWS	A	From Leg	3.00	0.0000	165.00	No Ice	3.50	2.10	55.00
			-4.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2X60 AWS	B	From Leg	3.00	0.0000	165.00	No Ice	3.50	2.10	55.00
			-4.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2X60 AWS	C	From Leg	3.00	0.0000	165.00	No Ice	3.50	2.10	55.00
			-4.00			1/2" Ice	3.76	2.34	79.31
			0.00			1" Ice	4.03	2.58	107.31
RRH2x60 PCS	A	From Leg	3.00	0.0000	165.00	No Ice	2.15	1.35	55.00
			4.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RRH2x60 PCS	B	From Leg	3.00	0.0000	165.00	No Ice	2.15	1.35	55.00
			4.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RRH2x60 PCS	C	From Leg	3.00	0.0000	165.00	No Ice	2.15	1.35	55.00
			4.00			1/2" Ice	2.34	1.50	72.75
			0.00			1" Ice	2.54	1.67	93.35
RRH2X60 LTE	A	From Leg	3.00	0.0000	165.00	No Ice	2.16	1.62	57.20
			0.00			1/2" Ice	2.35	1.79	76.81
			0.00			1" Ice	2.55	1.97	99.38
RRH2X60 LTE	B	From Leg	3.00	0.0000	165.00	No Ice	2.16	1.62	57.20
			0.00			1/2" Ice	2.35	1.79	76.81
			0.00			1" Ice	2.55	1.97	99.38
RRH2X60 LTE	C	From Leg	3.00	0.0000	165.00	No Ice	2.16	1.62	57.20
			0.00			1/2" Ice	2.35	1.79	76.81
			0.00			1" Ice	2.55	1.97	99.38
RFS DB-T1-6Z-8AB-0Z	A	From Leg	3.00	0.0000	165.00	No Ice	4.80	2.00	44.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			6.00			1/2" Ice	5.07	2.19	80.13
			0.00			1" Ice	5.35	2.39	120.22
RFS DB-T1-6Z-8AB-0Z	B	From Leg	3.00	0.0000	165.00	No Ice	4.80	2.00	44.00
			6.00			1/2" Ice	5.07	2.19	80.13
			0.00			1" Ice	5.35	2.39	120.22
**********									
PiROD 15' T-Frame (AT&T)	A	From Leg	1.50	0.0000	175.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
PiROD 15' T-Frame	B	From Leg	1.50	0.0000	175.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
PiROD 15' T-Frame	C	From Leg	1.50	0.0000	175.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
(2) Powerwave 7770 w/mount pipe	A	From Leg	3.00	0.0000	175.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
			0.00			1" Ice	6.42	5.42	155.38
(2) Powerwave 7770 w/mount pipe	B	From Leg	3.00	0.0000	175.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
			0.00			1" Ice	6.42	5.42	155.38
(2) Powerwave 7770 w/mount pipe	C	From Leg	3.00	0.0000	175.00	No Ice	5.65	4.10	57.25
			0.00			1/2" Ice	6.03	4.75	103.17
			0.00			1" Ice	6.42	5.42	155.38
(2) Powerwave LGP21900	A	From Leg	3.00	0.0000	175.00	No Ice	0.20	0.10	5.50
			0.00			1/2" Ice	0.26	0.14	7.70
			0.00			1" Ice	0.33	0.19	10.94
(2) Powerwave LGP21900	B	From Leg	3.00	0.0000	175.00	No Ice	0.20	0.10	5.50
			0.00			1/2" Ice	0.26	0.14	7.70
			0.00			1" Ice	0.33	0.19	10.94
(2) Powerwave LGP21900	C	From Leg	3.00	0.0000	175.00	No Ice	0.20	0.10	5.50
			0.00			1/2" Ice	0.26	0.14	7.70
			0.00			1" Ice	0.33	0.19	10.94
(2) Powerwave TMA LGP21400	A	From Leg	3.00	0.0000	175.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
			0.00			1" Ice	1.32	0.57	30.37
(2) Powerwave TMA LGP21400	B	From Leg	3.00	0.0000	175.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
			0.00			1" Ice	1.32	0.57	30.37
(2) Powerwave TMA LGP21400	C	From Leg	3.00	0.0000	175.00	No Ice	1.05	0.38	14.10
			0.00			1/2" Ice	1.18	0.47	21.29
			0.00			1" Ice	1.32	0.57	30.37
**********									
Powerwave P65-17-XLH-RR w/mount pipe	A	From Leg	3.00	0.0000	175.00	No Ice	11.75	9.39	122.11
			0.00			1/2" Ice	12.47	10.90	212.11
			0.00			1" Ice	13.18	12.24	313.12
SBNH-1D6565C w/mount pipe	B	From Leg	3.00	0.0000	175.00	No Ice	11.69	10.29	113.11
			0.00			1/2" Ice	12.40	11.81	206.76
			0.00			1" Ice	13.11	13.16	311.52
SBNH-1D6565C w/mount pipe	C	From Leg	3.00	0.0000	175.00	No Ice	11.69	10.29	113.11
			0.00			1/2" Ice	12.40	11.81	206.76
			0.00			1" Ice	13.11	13.16	311.52
(2) Ericsson RRUS-11	A	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.70
			0.00			1/2" Ice	3.00	1.34	71.57
			0.00			1" Ice	3.21	1.50	95.48
(2) Ericsson RRUS-11	B	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.70
			0.00			1/2" Ice	3.00	1.34	71.57

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1" Ice	3.21	1.50	95.48
(2) Ericsson RRUS-11	C	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.70
			0.00			1/2" Ice	3.00	1.34	71.57
			0.00			1" Ice	3.21	1.50	95.48
DC6-48-60-18-8F	A	From Leg	0.50	0.0000	175.00	No Ice	0.79	0.79	20.00
			0.00			1/2" Ice	1.27	1.27	35.12
			0.00			1" Ice	1.45	1.45	52.57

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service

Comb. No.	Description
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	49929.17	-0.00	0.00	-7893.83	-12708.68	-0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	59915.00	-0.00	-56794.04	-6212271.71	-15351.38	16881.44
0.9 Dead+1.6 Wind 0 deg - No Ice	44936.25	0.00	-56794.04	-6204096.19	-11517.46	16859.30
1.2 Dead+1.6 Wind 30 deg - No Ice	59915.00	28279.56	-48981.63	-5376687.52	-3114111.48	10069.37
0.9 Dead+1.6 Wind 30 deg - No Ice	44936.25	28279.56	-48981.63	-5369284.73	-3107372.33	10057.38
1.2 Dead+1.6 Wind 60 deg - No Ice	59915.00	47475.33	-27409.89	-3036406.86	-5258054.18	456.00
0.9 Dead+1.6 Wind 60 deg - No Ice	44936.25	47475.32	-27409.89	-3031170.15	-5249276.60	457.66
1.2 Dead+1.6 Wind 90 deg - No Ice	59915.00	56559.12	-0.01	-9560.93	-6212822.04	-10245.45
0.9 Dead+1.6 Wind 90 deg - No Ice	44936.25	56559.12	-0.00	-7172.63	-6203187.59	-10230.51
1.2 Dead+1.6 Wind 120 deg - No Ice	59915.00	49185.08	28397.02	3091831.31	-5387080.86	-18071.66
0.9 Dead+1.6 Wind 120 deg - No Ice	44936.25	49185.08	28397.02	3091317.15	-5378229.61	-18047.79
1.2 Dead+1.6 Wind 150 deg - No Ice	59915.00	28279.55	48981.63	5357696.89	-3114099.85	-18963.23
0.9 Dead+1.6 Wind 150 deg - No Ice	44936.25	28279.55	48981.63	5355052.42	-3107368.33	-18936.91
1.2 Dead+1.6 Wind 180 deg - No Ice	59915.00	-0.00	54819.79	6044312.83	-15365.54	-16015.99
0.9 Dead+1.6 Wind 180 deg - No Ice	44936.25	-0.00	54819.78	6040986.47	-11527.38	-15994.28
1.2 Dead+1.6 Wind 210 deg - No Ice	59915.00	-28279.55	48981.63	5357739.40	3083393.25	-10069.10
0.9 Dead+1.6 Wind 210 deg - No Ice	44936.25	-28279.55	48981.63	5355096.57	3084337.43	-10057.18
1.2 Dead+1.6 Wind 240 deg - No Ice	59915.00	-49185.08	28397.02	3091872.54	5356435.50	-455.84
0.9 Dead+1.6 Wind 240 deg - No Ice	44936.25	-49185.08	28397.02	3091361.54	5355258.13	-457.55
1.2 Dead+1.6 Wind 270 deg - No Ice	59915.00	-56559.12	-0.01	-9576.79	6182217.23	10245.19
0.9 Dead+1.6 Wind 270 deg - No Ice	44936.25	-56559.12	-0.00	-7184.53	6180254.30	10230.32
1.2 Dead+1.6 Wind 300 deg - No Ice	59915.00	-47475.33	-27409.89	-3036472.67	5227427.70	17207.78

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
0.9 Dead+1.6 Wind 300 deg - No Ice	44936.25	-47475.32	-27409.89	-3031232.35	5226319.63	17184.38
1.2 Dead+1.6 Wind 330 deg - No Ice	59915.00	-28279.56	-48981.63	-5376745.33	3083434.75	18963.17
0.9 Dead+1.6 Wind 330 deg - No Ice	44936.25	-28279.56	-48981.63	-5369340.37	3084363.84	18936.87
1.2 Dead+1.0 Ice+1.0 Temp	163944.67	-0.00	0.00	-33855.15	-45200.82	0.14
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	163944.67	-0.00	-11171.09	-1261659.06	-45389.23	1558.40
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	163944.67	5576.79	-9659.28	-1096967.68	-658928.77	553.66
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	163944.67	9533.27	-5504.04	-641727.59	-1097989.76	-624.62
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	163944.67	11153.57	-0.00	-33872.55	-1272712.10	-1681.69
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	163944.67	9674.45	5585.55	579815.75	-1108569.11	-2265.98
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	163944.67	5576.79	9659.28	1028816.29	-659171.50	-2148.33
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	163944.67	-0.00	11008.07	1181443.31	-45391.45	-1528.61
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	163944.67	-5576.79	9659.28	1028826.68	568390.64	-552.59
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	163944.67	-9674.45	5585.55	579819.99	1017797.97	638.76
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	163944.67	-11153.57	-0.00	-33880.59	1181944.56	1680.47
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	163944.67	-9533.27	-5504.04	-641736.40	1007221.54	2222.18
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	163944.67	-5576.79	-9659.28	-1096970.25	568152.40	2148.38
Dead+Wind 0 deg - Service	49929.17	-0.00	-8874.07	-976557.94	-12748.63	2636.05
Dead+Wind 30 deg - Service	49929.17	4418.68	-7653.38	-846080.35	-496669.89	1568.41
Dead+Wind 60 deg - Service	49929.17	7418.02	-4282.80	-480587.68	-831433.33	71.49
Dead+Wind 90 deg - Service	49929.17	8837.36	0.00	-7927.76	-980577.46	-1595.61
Dead+Wind 120 deg - Service	49929.17	7685.17	4437.04	476398.89	-851613.89	-2821.86
Dead+Wind 150 deg - Service	49929.17	4418.68	7653.38	830254.27	-496658.81	-2964.15
Dead+Wind 180 deg - Service	49929.17	0.00	8565.59	937422.59	-12748.10	-2500.49
Dead+Wind 210 deg - Service	49929.17	-4418.68	7653.38	830251.06	471159.41	-1568.40
Dead+Wind 240 deg - Service	49929.17	-7685.17	4437.04	476399.44	826116.85	-71.80
Dead+Wind 270 deg - Service	49929.17	-8837.36	0.00	-7928.60	955082.85	1595.60
Dead+Wind 300 deg - Service	49929.17	-7418.02	-4282.80	-480590.71	805942.37	2686.54
Dead+Wind 330 deg - Service	49929.17	-4418.68	-7653.38	-846085.54	471176.66	2964.15

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	175 - 165	2.750	40	0.1648	0.0145
T2	165 - 150	2.381	40	0.1615	0.0130
T3	150 - 140	1.860	40	0.1410	0.0088
T4	140 - 120	1.573	40	0.1247	0.0071
T5	120 - 100	1.097	40	0.0973	0.0050
T6	100 - 80	0.725	40	0.0757	0.0036
T7	80 - 60	0.443	40	0.0541	0.0025
T8	60 - 40	0.239	40	0.0373	0.0015

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T9	40 - 20	0.103	40	0.0239	0.0009
T10	20 - 0	0.024	39	0.0105	0.0004

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.00	Omni 2 1/2"x8'	40	2.750	0.1648	0.0145	413744
165.00	PiROD 15' T-Frame	40	2.381	0.1615	0.0130	140029

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	$øP_{allow}$ lb	% Capacity	Pass Fail
T1	175 - 165	Leg	2	3	-16942.10	114226.00	14.8	Pass
T2	165 - 150	Leg	2 1/4	36	-78440.60	150228.00	52.2	Pass
T3	150 - 140	Leg	Pirod 105245 (CT2206)	81	-92068.40	214859.00	54.6	Pass
T4	140 - 120	Leg	Pirod 105218 (CT2206)	90	-146129.00	300681.00	48.6	Pass
T5	120 - 100	Leg	Pirod 105219 (CT2206)	105	-188979.00	399868.00	47.3	Pass
T6	100 - 80	Leg	Pirod 105219 (CT2206)	120	-227523.00	399868.00	56.9	Pass
T7	80 - 60	Leg	Pirod 105220	135	-265461.00	512375.00	51.8	Pass
T8	60 - 40	Leg	Pirod 112743	150	-286373.00	613145.00	46.7	Pass
T9	40 - 20	Leg	Pirod 112743	159	-328044.00	613145.00	53.5	Pass
T10	20 - 0	Leg	Pirod 112744	168	-357192.00	741993.00	48.1	Pass
T1	175 - 165	Diagonal	7/8	13	-4231.42	7935.53	53.3	Pass
T2	165 - 150	Diagonal	1	76	-8696.34	13569.10	64.1	Pass
T3	150 - 140	Diagonal	L3x3x5/16	85	-11162.30	30743.90	36.3	Pass
T4	140 - 120	Diagonal	L3x3x5/16	99	-9223.83	28596.90	32.3	Pass
T5	120 - 100	Diagonal	L3x3x5/16	108	-8386.00	22679.70	37.0	Pass
T6	100 - 80	Diagonal	L3x3x5/16	123	-8560.80	18229.00	47.0	Pass
T7	80 - 60	Diagonal	L3x3x5/16	144	-9062.28	16326.10	55.5	Pass
T8	60 - 40	Diagonal	2L3 1/2x3 1/2x5/16	153	-14022.50	52351.60	26.8	Pass
T9	40 - 20	Diagonal	2L3 1/2x3 1/2x5/16	162	-12929.30	47110.40	27.4	Pass
T10	20 - 0	Diagonal	2L3 1/2x3 1/2x5/16	171	-15823.20	42385.50	37.3	Pass
T1	175 - 165	Top Girt	7/8	5	-1616.67	3943.57	41.0	Pass
T2	165 - 150	Top Girt	1	37	-3473.16	6785.94	51.2	Pass
T1	175 - 165	Bottom Girt	7/8	7	-1584.32	3943.57	40.2	Pass
T2	165 - 150	Bottom Girt	1	40	-1989.78	6785.94	29.3	Pass
							Summary	
						Leg (T6)	56.9	Pass
						Diagonal (T2)	64.1	Pass
						Top Girt (T2)	51.2	Pass
						Bottom Girt (T1)	40.2	Pass
						RATING =	**64.1**	**Pass**

Unit Base Foundation

Checks capacity of square mat foundation with raised piers for a self-supporting tower

BU#:
Site Name: BALTIC CT
App Number:
TIA-222 Revision: G

Design Reactions		
Shear, **S**:	56.8	kips
Moment, **M**:	6213.0	ft-kips
Compression/leg, **Ca**:	379.0	kips
Uplift/leg, **Ua**:	335.0	kips
Tower Weight, **Wt**:	60.0	kips
Tower Height, **H**:	175	ft
Base Face Width, **w'**:	20.0	ft

Block Properties		
Depth, **D**:	3.0	ft
Pad Width, **W**:	37.5	ft
Ext. Above Grade, **E**:	0.5	ft
Neglected Depth, **N**:	0.0	ft
Pad Rebar Size, **Sp**:		
Pad Rebar Quantity, **mp**:		#N/A

Base Plate Dimensions		
Base Plate Width, di:	2.0	in

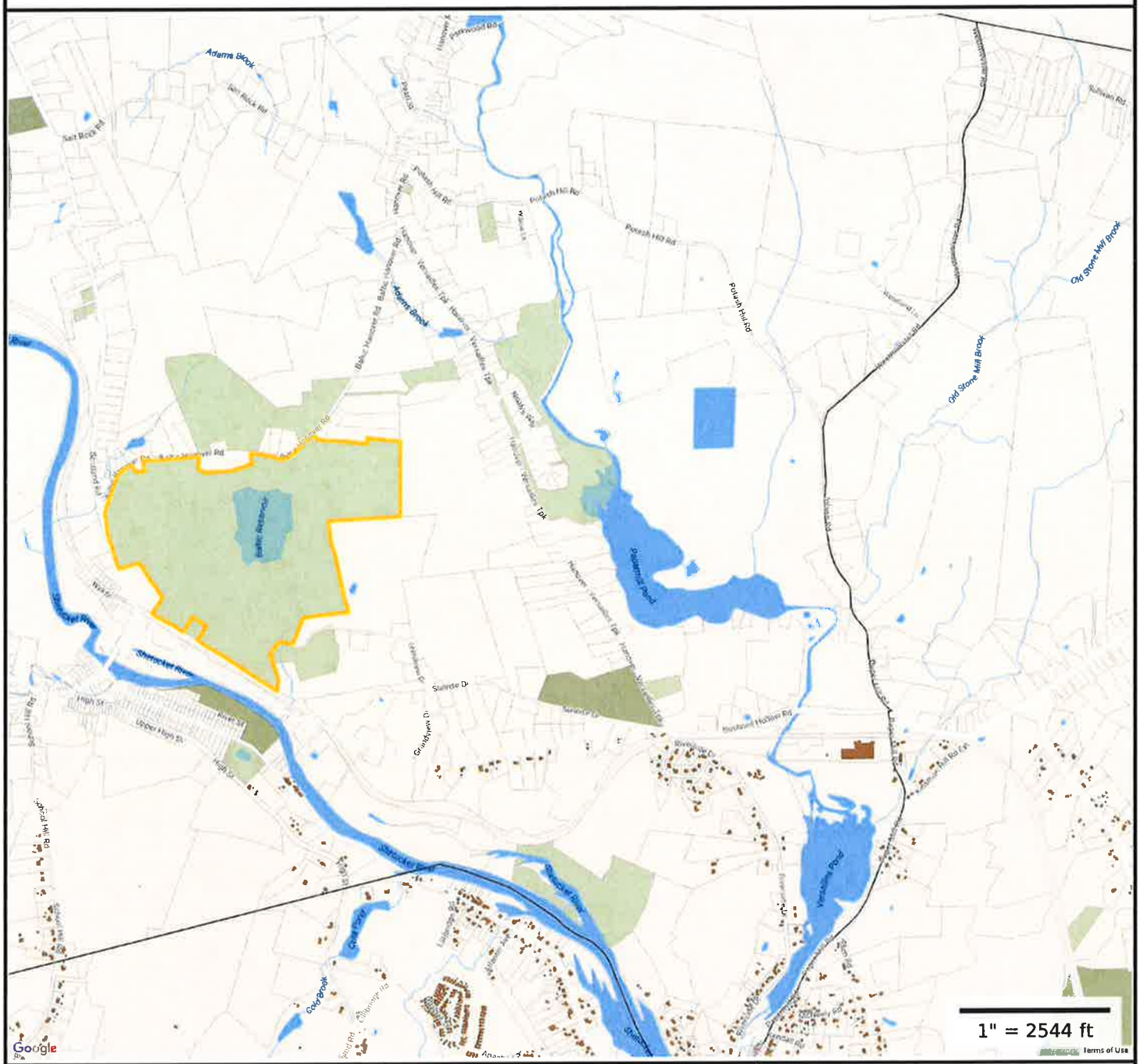
Material Properties		
Rebar Tensile, **Fy**:	60000	psi
Concrete Strength, **F'c**:	4000	psi
Concrete Density, δ**c**:	150	pcf
Clear Cover, **cc**:	3	in

Soil Properties		
Soil Unit Weight, γ:	120	pcf
Ultimate Bearing: **Bc**:	6.000	ksf
Cohesion, **Co**:	0.000	ksf
Friction Angle, φ:	30	degrees
Base Sliding, **μ**:	0.45	

Design Checks	*Capacity/ Availability*	*Demand/ Limits*	*Check*
Base Sliding (kips):	594.30	56.80	**9.6%**
Overturning (k-ft):	11674.13	6213.00	**53.2%**
Bearing (ksf):	4.50	1.21	**26.8%**
1-way Shear (kips):	#N/A	#N/A	**#N/A**
2-way Shear (kips):	#N/A	379.00	**#N/A**
Pad moment capacity(k-ft):	#N/A	1716.09	**#N/A**

☐ Tower centroid is offset from foundation

ATTACHMENT 4



Property Information

Property ID	133-09-04-03
Location	BALTIC-HANOVER RD
Owner	SPRAGUE TOWN OF

SCCOG

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

SCCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 05/31/2017
Properties updated 10/1/2013

BALTIC-HANOVER RD

Property

Address	BALTIC-HANOVER RD
ID	133-09-04-03
Account	232

Ownership

Name 1	SPRAGUE TOWN OF
Address	1 MAIN ST BALTIC, CT 6330
Last Sale	$0 on
Book / Page	22/13

Valuation

Total	$640,000
Building	$75,700
Land	$564,300

Land

Area	239.50
Zone	R-120
Land Use Code	910

ATTACHMENT 5

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	2	2	neopost 10/26/2017 US POSTAGE $002.38 ZIP 06103 041L12203380
	Postmaster, per *(name of receiving employee)* ANN STREET STATION 06103 OCT 26 2017 U.S.P.S.		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Catherine A. Osten, First Selectwoman Town of Sprague 1 Main Street Sprague, CT 06330				
2.	Colette Hoffman, First Selectman Town of Sprague 1 Main Street Sprague, CT 06330				
3.					
4.					
5.					
6.					