

October 31, 2016

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

Re: **Notice of Exempt Modification – Facility Modification
281 Wood House Road, Fairfield, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains fifteen (15) antennas at the 158-foot level of the existing 171-foot tower at 281 Wood House Road in Fairfield, Connecticut (the “Property”). The tower is owned by Crown Castle (“Crown”). The Council approved Cellco’s use of this tower in 1988 (Docket No. 86). Cellco now intends to modify its facility by replacing six (6) of its antennas with three (3) model SBNHH-1D85B, 700/1900 MHz antennas and three (3) model SBNHH-1D85B, 2100 MHz antennas, all at the same level on the tower. Cellco also intends to replace three (3) remote radio heads (“RRHs”) and install six (6) new RRHs 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 notice is being sent to Fairfield’s First Selectman, Michael C. Tetreau. A copy of this letter is also being sent to Ranjan and Moitrayee Ghosh, the owners of the Property and Crown, 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).

Melanie A. Bachman

October 31, 2016

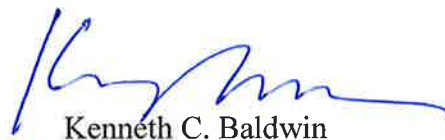
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1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco's new antennas and RRHs will be installed at a centerline height of 158 feet on the 171-foot tower.
2. The proposed modifications will not 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 Town Assessor's Parcel Map and property owner information is included in Attachment 4.

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:

Michael C. Tetreau, First Selectman
Ranjan and Moitrayee Ghosh
Crown
Tim Parks

ATTACHMENT 1

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.

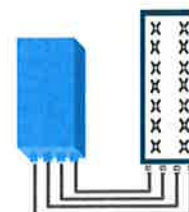


FEATURES

- 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

TECHNICAL SPECIFICATIONS

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.)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)
Volume in L	38 (with solar shield)
Weight in kg (lb) (w/o mounting HW)	26 (57.2) (with solar shield)
DC voltage range	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) IP65
Wind load (@150km/h or 93mph)	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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SBNHH-1D85B

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 85° horizontal beamwidth, internal RETs.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Three internal RETs for independent tilt on all three bands

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	14.4	17.0	17.6	17.9	17.9
Beamwidth, Horizontal, degrees	83	86	81	79	79	79
Beamwidth, Vertical, degrees	12.3	11.1	5.7	5.3	5.0	4.6
Beam Tilt, degrees	0–12	0–12	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	19	18	15	16	17	18
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	25	25	25	25
VSWR Return Loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.2	16.8	17.4	17.7	17.8
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.5	±0.3	±0.4	±0.3
Gain by Beam Tilt, average, dBi	0° 14.2	0° 14.1	0° 16.8	0° 17.5	0° 17.7	0° 17.6
	6° 14.3	6° 14.3	4° 16.8	4° 17.5	4° 17.8	4° 18.0
	12° 14.1	12° 13.9	8° 16.7	8° 17.2	8° 17.5	8° 17.6
Beamwidth, Horizontal Tolerance, degrees	±2.4	±1.7	±4.8	±3.2	±3.8	±1.9
Beamwidth, Vertical Tolerance, degrees	±0.6	±0.9	±0.2	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	15	16	17	18
Front-to-Back Total Power at 180° ± 30°, dB	23	23	27	26	25	27
CPR at Boresight, dB	20	20	23	22	18	22
CPR at Sector, dB	15	16	12	13	10	6

* 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 Type	Sector with internal RET
Band	Multiband
Brand	DualPol®
Operating Frequency Band	1695 – 2360 MHz 698 – 896 MHz
Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

SBNHH-1D85B

Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h 150 mph

Dimensions

Depth	180.0 mm 7.1 in
Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 in
Net Weight, without mounting kit	19.1 kg 42.1 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (2) Low band (1)
Power Consumption, idle state, maximum	2.0 W
Power Consumption, normal conditions, maximum	13.0 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	1 female 1 male

Packed Dimensions

Depth	299.0 mm 11.8 in
Length	1970.0 mm 77.6 in
Width	409.0 mm 16.1 in
Shipping Weight	31.2 kg 68.8 lb

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



SBNHH-1D85B

Included Products

BSAMNT-1 — Wide Profile Antenna 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

ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET RRH2X60-1900A-4R FOR BAND 2/25 APPLICATIONS

The Alcatel-Lucent RRH2x60-1900A-4R is a high power, small form factor Remote Radio Head operating in the PCS 1900MHz frequency band for WCDMA and LTE technologies. 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 RRH2x60-1900A-4R 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.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-1900A-4R integrates all the latest technologies. This allows operators 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.

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

OPTIMIZED TCO

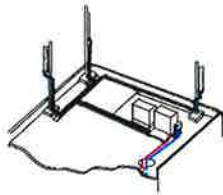
The Alcatel-Lucent RRH2x60-1900A-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent RRH2x60-1900A-4R is a very cost-effective solution to deploy LTE MIMO.

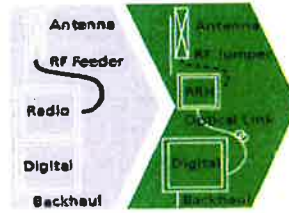
EASY INSTALLATION

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 RRH2x60-1900A-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs. The Alcatel-Lucent RRH2x60-1900A-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

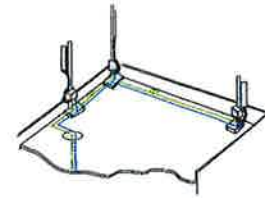
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-190A-4R is compact and weighs about 21 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-1900A-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- RRH2x60-1900A-4R can operate WCDMA only, LTE only or a mix of WCDMA and LTE
- RRH2x60-1900A-4R offers the possibility for WCDMA (non MIMO) to operate the two radio chains independently (2 blocks of 20 MHz anywhere in the band)

- RRH2x60-1900A-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO deployment and/or WCDMA and LTE simultaneous 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.

TECHNICAL SPECIFICATIONS

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

Dimensions and weights

- HxWxD : 500x285x208 mm (30l with solar shield)
- Weight : 21 kg (46 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption: 460W typ. @2x60W (100%RF)

RF Characteristics

- Supported spectrum: DL 1930-1990 / UL 1850-1910
- Frequency band: 3GPP band 2/25
- Output power: 2x60W at antenna connectors
- Technology supported: W-CDMA and LTE
- Instantaneous bandwidth: 20 MHz (MIMO) or 2x20 MHz (non MIMO)
- Rx diversity: 2-way and 4-way uplink reception

- Typical sensitivity without Rx diversity: -124.8dBm for WCDMA and -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisy chaining 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 15km 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: ETS300-019-1-4 class4.1E
- 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
- Safety : IEC60950-1, EN 60825-1
- Regulatory: 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 B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 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. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

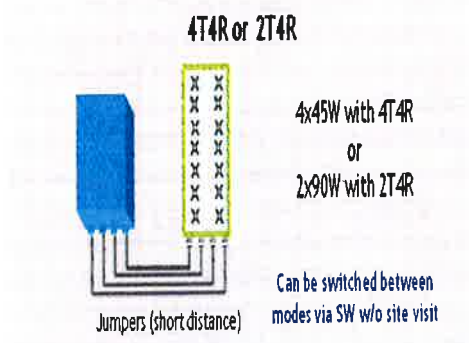
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz 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 AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



TECHNICAL SPECIFICATIONS

Features & Performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R selectable by SW)
Frequency band	AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz
Instantaneous bandwidth - #carriers	70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)
LTE carrier bandwidth	5, 10, 15, 20 MHz
RF output power	2x90W or 4x45W (selectable by SW)
Noise figure – RX Diversity scheme Receiver Sensivity (FRC A1-3)	2 dB typical (<2.5 dB max) – 2 or 4-way Rx diversity -104.5 dBm maximum
Sizes (HxWxD) in mm (In.)	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield)
Volume in Liters	35.5 (with solar shield) 29.7 (without solar shield)
Weight in kg (lb) (w/o mounting HW)	25.8kg (56.8lb) (with solar shield)
DC voltage range	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption
DC power consumption	750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions	-40°C (-40°F) / +55°C (+131°F) UL50E Type 4 Enclosure
Wind load (@150km/h or 93mph)	250N (56lb) Frontal/150N (34lb) Lateral
Antenna ports	4 ports 4.3-10 female (50 ohms) VSWR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF)
AISG interfaces	1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE

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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.

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



Figure 1: HYBRIFLEX Series

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))	0.68 (0.205)
DC-Resistance Power Cable, 8 4mm ² (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 to 149)
Operation Temperature		(°C (°F))	-40 to +65 (-40 to 149)

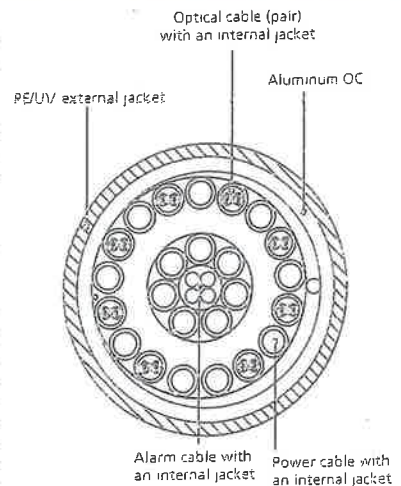


Figure 2: Construction Detail

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

* This data is provisional and subject to change

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HB158-1-08U8-S8J18

Rev: 21

Print Date: 27.6.2012

ATTACHMENT 2

ATTACHMENT 3

Date: **October 06, 2016**

Charles McGuirt
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

JACOBS

Jacobs Engineering Group, Inc.
5449 Bells Ferry Road
Acworth, GA 30102
(770) 701-2500

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Carrier Site Name: Fairfield, CT

Crown Castle Designation: **Crown Castle BU Number:** 806355
Crown Castle Site Name: BRG 126 943086
Crown Castle JDE Job Number: 393614
Crown Castle Work Order Number: 1309091
Crown Castle Application Number: 359428 Rev. 5

Engineering Firm Designation: **Jacobs Engineering Group, Inc. Project Number:** 1309091

Site Data: **281 WOODHOUSE ROAD, FAIRFIELD, Fairfield County, CT**
Latitude 41° 11' 45.3", Longitude -73° 16' 52.9"
170.5 Foot - Monopole Tower

Dear Charles McGuirt,

Jacobs Engineering Group, Inc. is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 954757, in accordance with application 359428, revision 5.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at Jacobs Engineering Group, Inc. appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by:



Andrew T. Stutts, E.I.
Structural Engineer



Reviewed by:

Matthew E. Watkins, P.E., LEED^{AP}
Project Engineer

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1) INTRODUCTION

This tower is a 170.5 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC. in May of 1998. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 97 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
155.0	158.0	3	alcatel lucent	B66A RRH4X45	2	1-5/8	-
		3	alcatel lucent	RRH2X60-PCS			
		3	alcatel lucent	RRH2x60-700			
		6	commscope	SBNHH-1D85B w/ Mount Pipe			
		2	rfs celwave	DB-T1-6Z-8AB-0Z			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
166.0	167.0	3	ems wireless	DR90-14-00DPL2 w/ Mount Pipe	6	1-5/8	4
	166.0	1	tower mounts (crown)	Sidearm Mount [SO 102-3]			
155.0	160.0	1	gps	GPS_A	-	-	1
	158.0	3	andrew	LNX-6514DS-T4M w/ Mount Pipe	1	1-5/8	3
		3	antel	BXA 171063/12 CF			
		6	decibel	DB844G65ZAXY w/ Mount Pipe	11	1-5/8	1
		3	rymsa wireless	MG D3-800TV w/ Mount Pipe			
	155.0	6	rfs celwave	FD9R6004/2C-3L	1	1/2	
		1	tower mounts (crown)	Platform Mount [LP 713-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note	
146.0	148.0	3	ericsson	RRUS 32	2 1	3/4 3/8	2	
		3	ericsson	RRUS 32 B2				
		3	kathrein	782 10254				
		3	quintel technology	QS66512-2 w/ Mount Pipe				
		1	raycap	DC6-48-60-18-8F				
	146.0	146.0	12	powerwave technologies	7020.00	12 2 1	1-5/8 5/8 3/8	1
			3	powerwave technologies	7770.00 w/ Mount Pipe			
			3	powerwave technologies	P65-16-XLH-RR w/ Mount Pipe			
			1	raycap	DC6-48-60-18-8F			
			3	ericsson	RRUS-11			
138.0	140.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	13	1-5/8	1	
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe				
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe				
		3	ericsson	RRUS 11 B12				
	138.0	138.0	3	ericsson				KRY 112 144/1
			1	tower mounts (crown)				Platform Mount [LP 713-1]
128.0	128.0	1	andrew	VHLP800-11	3	5/16	1	
		3	kathrein	840 10054 w/ Mount Pipe	3	1/4		
		1	tower mounts (crown)	Side Arm Mount [SO 101-3]	1	1/2		

- Notes:
 1) Existing Equipment
 2) Reserved Equipment
 3) Existing Equipment to be removed; Not considered in this analysis
 4) Abandoned Equipment; Considered in this Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
160.0	160.0	12	Allgon	ALP 9212	-	-
148.0	148.0	12	Allgon	ALP 11011	-	-
138.0	138.0	6	Celwave	APN 199015	-	-
128.0	128.0	12	Allgon	ALP 9212	-	-
118.0	118.0	12	Allgon	ALP 9212	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	653293	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	21760	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	1098364	CCISITES
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc., Inc.	1099974	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Jacobs Engineering Group, Inc. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	170.5 - 156	Pole	TP10.75x10.75x0.365	1	-0.88	375.11	9.6	Pass
L2	156 - 155.5	Pole	TP19.5x10.75x0.365	2	-0.90	375.11	9.6	Pass
L3	155.5 - 132.17	Pole	TP24.79x19.5x0.1875	3	-11.43	980.62	52.2	Pass
L4	132.17 - 86.5867	Pole	TP34.63x23.5836x0.375	4	-21.58	2933.29	58.5	Pass
L5	86.5867 - 42.5	Pole	TP43.75x32.7959x0.4375	5	-35.04	4329.85	58.9	Pass
L6	42.5 - 0	Pole	TP52.5x41.5315x0.5	6	-40.99	5176.79	54.2	Pass
							Summary	
						Pole (L5)	58.9	Pass
						RATING =	58.9	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	54.1	Pass
1	Base Plate	0	61.7	Pass
1	Base Foundation Structural	0	57.2	Pass
1	Base Foundation Soil Interaction	0	51.9	Pass
1	Flange Bolts	156	2.1	Pass
1	Flange Plate	156	13.8	Pass

Structure Rating (max from all components) =	61.7%
---	--------------

Notes:

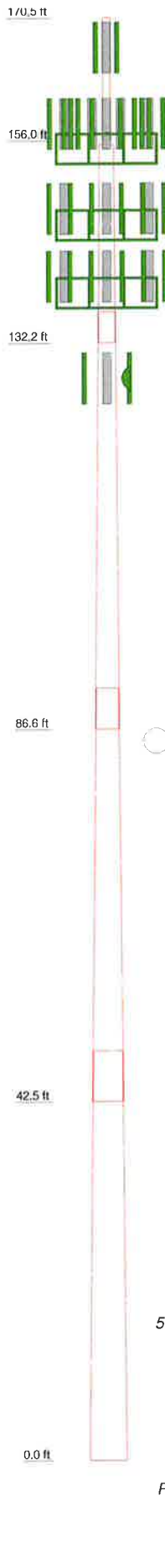
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, reserved and proposed loading. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	14.50	1	0.3650	0.50	23.33	18	1	0.6
2	0.50	1	0.3650	0.50	23.33	18	1	0.6
3	23.33	18	0.1875	0.3650	49.25	18	1	1.0
4	49.25	18	0.3750	4.83	19.5000	24.7900	19.5000	5.7
5	48.92	18	0.4375	6.00	23.5836	34.6300	23.5836	8.7
6	48.50	18	0.5000	41.5315	52.5000		48.50	12.2
7	28.3						A53-B-35	



DESIGNED APPURTENANCE LOADING

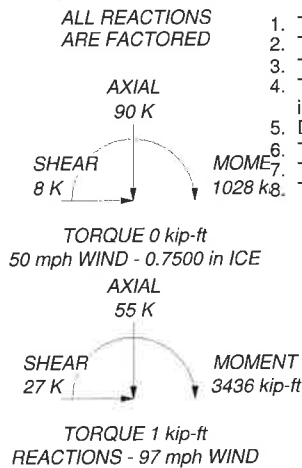
TYPE	ELEVATION	TYPE	ELEVATION
DR90-14-00DPL2 w/ Mount Pipe	166	RRUS 32 B2	146
DR90-14-00DPL2 w/ Mount Pipe	166	RRUS 32 B2	146
DR90-14-00DPL2 w/ Mount Pipe	166	RRUS 32 B2	146
Side Arm Mount [SO 102-3]	166	RRUS 32	146
(2) SBNHH-1D85B w/ Mount Pipe	155	RRUS 32	146
(2) SBNHH-1D85B w/ Mount Pipe	155	RRUS 32	146
(2) SBNHH-1D85B w/ Mount Pipe	155	782 10254	146
(2) DB844G65ZAXY w/ Mount Pipe	155	782 10254	146
(2) DB844G65ZAXY w/ Mount Pipe	155	782 10254	146
(2) DB844G65ZAXY w/ Mount Pipe	155	DC6-48-60-18-8F	146
MG D3-800TV w/ Mount Pipe	155	DC6-48-60-18-8F	146
MG D3-800TV w/ Mount Pipe	155	6' x 2" Mount Pipe	146
MG D3-800TV w/ Mount Pipe	155	6' x 2" Mount Pipe	146
GPS_A	155	6' x 2" Mount Pipe	146
(2) FD9R6004/2C-3L	155	Platform Mount [LP 713-1]	146
(2) FD9R6004/2C-3L	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
(2) FD9R6004/2C-3L	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
B66A RRH4X45	155	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2x60-700	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
RRH2X60-PCS	155	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	138
(2) DB-T1-6Z-8AB-0Z	155	LNx-6515DS-VTM w/ Mount Pipe	138
Platform Mount [LP 713-1]	155	LNx-6515DS-VTM w/ Mount Pipe	138
P65-16-XLH-RR w/ Mount Pipe	146	LNx-6515DS-VTM w/ Mount Pipe	138
P65-16-XLH-RR w/ Mount Pipe	146	KRY 112 144/1	138
P65-16-XLH-RR w/ Mount Pipe	146	KRY 112 144/1	138
7770.00 w/ Mount Pipe	146	KRY 112 144/1	138
7770.00 w/ Mount Pipe	146	RRUS 11 B12	138
7770.00 w/ Mount Pipe	146	RRUS 11 B12	138
OS66512-2 w/ Mount Pipe	146	RRUS 11 B12	138
OS66512-2 w/ Mount Pipe	146	6' x 2" Mount Pipe	138
OS66512-2 w/ Mount Pipe	146	6' x 2" Mount Pipe	138
RRUS-11	146	6' x 2" Mount Pipe	138
RRUS-11	146	Platform Mount [LP 713-1]	138
RRUS-11	146	840 10054 w/ Mount Pipe	128
(4) 7020.00	146	840 10054 w/ Mount Pipe	128
(4) 7020.00	146	840 10054 w/ Mount Pipe	128
(4) 7020.00	146	6' x 2" Mount Pipe	128
(4) LGP2140X	146	Side Arm Mount [SO 101-3]	128
(4) LGP2140X	146	VHLP800-11	128
(4) LGP2140X	146		128

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	60 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
 2. Tower designed for Exposure B to the TIA-222-G Standard.
 3. Tower designed for a 97 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
- TOWER RATING: 58.9%



Jacobs Engineering Group, Inc.

5449 Bells Ferry Road
Acworth, GA 30102
Phone: (770) 701-2500
FAX: (770) 701-2501

Job: BRG 126 943086

Project: BU#806355 WO#1309091

Client: Crown Castle

Drawn by: ATS

App'd:

Code: TIA-222-G

Date: 10/06/16

Scale: N

Path:

T:\806355\BRG 126 943086\WO 1309091\Analysis\Mod\17\BR806355_WO1309091.dwg

Dwg No.

tnxTower Jacobs Engineering Group, Inc. 5449 Bells Ferry Road Acworth, GA 30102 Phone: (770) 701-2500 FAX: (770) 701-2501	Job BRG 126 943086	Page 1 of 14
	Project BU#806355 WO#1309091	Date 16:08:03 10/06/16
	Client Crown Castle	Designed by ATS

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Basic wind speed of 97 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 pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets |
|--|--|---|

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	170.50-156.00	14.50	0.00	Round	10.7500	10.7500	0.3650		A53-B-35 (35 ksi)
L2	156.00-155.50	0.50	0.00	Round	10.7500	19.5000	0.3650		A53-B-35 (35 ksi)

tnxTower Jacobs Engineering Group, Inc. 5449 Bells Ferry Road Acworth, GA 30102 Phone: (770) 701-2500 FAX: (770) 701-2501	Job BRG 126 943086	Page 2 of 14
	Project BU#806355 WO#1309091	Date 16:08:03 10/06/16
	Client Crown Castle	Designed by ATS

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	155.50-132.17	23.33	3.67	18	19.5000	24.7900	0.1875	0.7500	A572-65 (65 ksi)
L4	132.17-86.59	49.25	4.83	18	23.5836	34.6300	0.3750	1.5000	A572-65 (65 ksi)
L5	86.59-42.50	48.92	6.00	18	32.7959	43.7500	0.4375	1.7500	A572-65 (65 ksi)
L6	42.50-0.00	48.50		18	41.5315	52.5000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
L2	10.7500	11.9083	160.7342	3.6739	5.3750	29.9040	321.4685	5.9506	0.0000	0
	19.5000	21.9417	1004.6069	6.7665	9.7500	103.0366	2009.2137	10.9643	0.0000	0
L3	19.8008	11.4934	541.5782	6.8559	9.9060	54.6717	1083.8689	5.7478	3.1020	16.544
	25.1724	14.6416	1119.6528	8.7339	12.5933	88.9085	2240.7788	7.3222	4.0330	21.51
L4	24.7825	27.6240	1879.8456	8.2391	11.9805	156.9092	3762.1648	13.8146	3.4907	9.309
	35.1642	40.7720	6044.3215	12.1605	17.5920	343.5828	12096.5963	20.3899	5.4349	14.493
L5	34.4008	44.9337	5944.0760	11.4872	16.6603	356.7803	11895.9734	22.4711	5.0021	11.433
	44.4249	60.1448	14254.8347	15.3759	22.2250	641.3874	28528.4263	30.0781	6.9300	15.84
L6	43.5500	65.1170	13850.5262	14.5662	21.0980	656.4853	27719.2773	32.5647	6.4295	12.859
	53.3099	82.5240	28191.9040	18.4600	26.6700	1057.0643	56420.9036	41.2698	8.3600	16.72

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 170.50-156.00				1	1	1			
L2 156.00-155.50				1	1	1			
L3 155.50-132.17				1	1	1			
L4 132.17-86.59				1	1	1			
L5 86.59-42.50				1	1	1			
L6 42.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LCF158-50JA-A0(1 5/8")	C	Surface Ar (CaAa)	138.00 - 6.00	6	6	0.400 0.400	1.9800		0.72

HB158-1-08U8-S8J18(1-5/8")	A	Surface Ar (CaAa)	155.00 - 6.00	2	2	0.300 0.300	1.9800		1.30

tnxTower Jacobs Engineering Group, Inc. 5449 Bells Ferry Road Acworth, GA 30102 Phone: (770) 701-2500 FAX: (770) 701-2501	Job BRG 126 943086	Page 3 of 14
	Project BU#806355 WO#1309091	Date 16:08:03 10/06/16
	Client Crown Castle	Designed by ATS

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
** 166 **								
LDF7-50A(1-5/8")	B	No	Inside Pole	166.00 - 6.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
** 155 **								
561(1-5/8")	A	No	Inside Pole	155.00 - 6.00	11	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.35 1.35 1.35
LDF4-50A(1/2")	A	No	Inside Pole	155.00 - 6.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
** 146 **								
CR 50 1873(1-5/8")	A	No	Inside Pole	146.00 - 6.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.83 0.83 0.83
FB-L98B-002-75000(3/8")	A	No	Inside Pole	146.00 - 6.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
WR-VG82ST-BRDA(5/8")	A	No	Inside Pole	146.00 - 6.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.31 0.31 0.31
2" Rigid Conduit	A	No	Inside Pole	146.00 - 6.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80
FB-L98B-034-XXX(3/8")	A	No	Inside Pole	146.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
WR-VG86ST-BRD(3/4")	A	No	Inside Pole	146.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.58 0.58 0.58
2" Rigid Conduit	A	No	Inside Pole	146.00 - 6.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80
** 138 **								
LCF158-50JA-A0(1 5/8")	C	No	Inside Pole	138.00 - 6.00	7	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.72 0.72 0.72
** 128 **								
7983A(1/2")	B	No	Inside Pole	128.00 - 6.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.08 0.08 0.08
9207(5/16")	B	No	Inside Pole	128.00 - 6.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.60 0.60 0.60
9258(1/4)	B	No	Inside Pole	128.00 - 6.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.04 0.04 0.04
2" Rigid Conduit	B	No	Inside Pole	128.00 - 6.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _{AA} ft ² /ft	Weight plf

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	170.50-156.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
L2	156.00-155.50	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	0.000	0.000	0.00
L3	155.50-132.17	A	0.000	0.000	9.041	0.000	0.64
		B	0.000	0.000	0.000	0.000	0.11
		C	0.000	0.000	6.926	0.000	0.05
L4	132.17-86.59	A	0.000	0.000	18.051	0.000	1.60
		B	0.000	0.000	0.000	0.000	0.54
		C	0.000	0.000	54.153	0.000	0.43
L5	86.59-42.50	A	0.000	0.000	17.458	0.000	1.55
		B	0.000	0.000	0.000	0.000	0.55
		C	0.000	0.000	52.375	0.000	0.41
L6	42.50-0.00	A	0.000	0.000	14.454	0.000	1.29
		B	0.000	0.000	0.000	0.000	0.46
		C	0.000	0.000	43.362	0.000	0.34

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} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	170.50-156.00	A	1.760	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.00
L2	156.00-155.50	A	1.752	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	0.000	0.000	0.00
L3	155.50-132.17	A	1.737	0.000	0.000	21.217	0.000	0.89
		B		0.000	0.000	0.000	0.000	0.11
		C		0.000	0.000	11.190	0.000	0.19
L4	132.17-86.59	A	1.689	0.000	0.000	42.362	0.000	2.09
		B		0.000	0.000	0.000	0.000	0.54
		C		0.000	0.000	87.490	0.000	1.47
L5	86.59-42.50	A	1.603	0.000	0.000	40.443	0.000	2.01
		B		0.000	0.000	0.000	0.000	0.55
		C		0.000	0.000	84.089	0.000	1.39
L6	42.50-0.00	A	1.431	0.000	0.000	32.696	0.000	1.65
		B		0.000	0.000	0.000	0.000	0.46
		C		0.000	0.000	68.831	0.000	1.11

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Feed Line Center of Pressure

Section	Elevation ft	CP _x	CP _z	CP _x Ice	CP _z Ice
		in	in	in	in
L1	170.50-156.00	0.0000	0.0000	0.0000	0.0000
L2	156.00-155.50	0.0000	0.0000	0.0000	0.0000
L3	155.50-132.17	-0.4677	-0.1649	-0.5197	-0.3334
L4	132.17-86.59	-1.0070	0.4178	-1.0149	0.2448
L5	86.59-42.50	-1.0934	0.4537	-1.1811	0.2891
L6	42.50-0.00	-1.0175	0.4222	-1.1899	0.2989

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	18	LCF158-50JA-A0(1 5/8")	132.17 - 138.00	1.0000	1.0000
L3	25	HB158-1-08U8-S8J18(1-5/8")	132.17 - 155.00	1.0000	1.0000
L4	18	LCF158-50JA-A0(1 5/8")	86.59 - 132.17	1.0000	1.0000
L4	25	HB158-1-08U8-S8J18(1-5/8")	86.59 - 132.17	1.0000	1.0000
L5	18	LCF158-50JA-A0(1 5/8")	42.50 - 86.59	1.0000	1.0000
L5	25	HB158-1-08U8-S8J18(1-5/8")	42.50 - 86.59	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft	Azimuth Adjustment °	Placement ft	C _A A _{Front} ft ²	C _A A _{Side} ft ²	Weight K
** 166 **								
DR90-14-00DPL2 w/ Mount Pipe	A	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice 4.59 1/2" Ice 5.09 1" Ice 5.58	3.32 4.09 4.78	0.04 0.08 0.12
DR90-14-00DPL2 w/ Mount Pipe	B	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice 4.59 1/2" Ice 5.09 1" Ice 5.58	3.32 4.09 4.78	0.04 0.08 0.12
DR90-14-00DPL2 w/ Mount Pipe	C	From Leg	1.00 0.00 1.00	0.0000	166.00	No Ice 4.59 1/2" Ice 5.09 1" Ice 5.58	3.32 4.09 4.78	0.04 0.08 0.12
Side Arm Mount [SO 102-3]	C	None	1.00	0.0000	166.00	No Ice 3.00 1/2" Ice 3.48 1" Ice 3.96	3.00 3.48 3.96	0.08 0.11 0.14

** 155 **

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	Client	Crown Castle	Designed by	ATS

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
(2) SBNHH-1D85B w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2" Ice	8.88	8.19	0.14
			3.00			1" Ice	9.40	9.08	0.21
(2) SBNHH-1D85B w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2" Ice	8.88	8.19	0.14
			3.00			1" Ice	9.40	9.08	0.21
(2) SBNHH-1D85B w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	8.32	7.00	0.07
			0.00			1/2" Ice	8.88	8.19	0.14
			3.00			1" Ice	9.40	9.08	0.21
(2) DB844G65ZAXY w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2" Ice	4.96	5.42	0.08
			3.00			1" Ice	5.34	6.04	0.13
(2) DB844G65ZAXY w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2" Ice	4.96	5.42	0.08
			3.00			1" Ice	5.34	6.04	0.13
(2) DB844G65ZAXY w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	4.58	4.80	0.03
			0.00			1/2" Ice	4.96	5.42	0.08
			3.00			1" Ice	5.34	6.04	0.13
MG D3-800TV w/ Mount Pipe	A	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2" Ice	3.98	4.12	0.07
			3.00			1" Ice	4.39	4.78	0.11
MG D3-800TV w/ Mount Pipe	B	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2" Ice	3.98	4.12	0.07
			3.00			1" Ice	4.39	4.78	0.11
MG D3-800TV w/ Mount Pipe	C	From Leg	4.00	0.0000	155.00	No Ice	3.57	3.42	0.04
			0.00			1/2" Ice	3.98	4.12	0.07
			3.00			1" Ice	4.39	4.78	0.11
GPS_A	A	From Leg	4.00	0.0000	155.00	No Ice	0.26	0.26	0.00
			0.00			1/2" Ice	0.32	0.32	0.00
			5.00			1" Ice	0.39	0.39	0.01
(2) FD9R6004/2C-3L	A	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			0.00			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	B	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			0.00			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	C	From Leg	4.00	0.0000	155.00	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			0.00			1" Ice	0.47	0.17	0.01
B66A RRH4X45	A	From Leg	4.00	0.0000	155.00	No Ice	2.58	1.63	0.07
			0.00			1/2" Ice	2.79	1.81	0.09
			3.00			1" Ice	3.01	2.00	0.11
B66A RRH4X45	C	From Leg	4.00	0.0000	155.00	No Ice	2.58	1.63	0.07
			0.00			1/2" Ice	2.79	1.81	0.09
			3.00			1" Ice	3.01	2.00	0.11
B66A RRH4X45	B	From Leg	4.00	0.0000	155.00	No Ice	2.58	1.63	0.07
			0.00			1/2" Ice	2.79	1.81	0.09
			3.00			1" Ice	3.01	2.00	0.11
RRH2x60-700	A	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2" Ice	3.76	2.05	0.08
			3.00			1" Ice	4.03	2.29	0.11
RRH2x60-700	B	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2" Ice	3.76	2.05	0.08
			3.00			1" Ice	4.03	2.29	0.11
RRH2x60-700	C	From Leg	4.00	0.0000	155.00	No Ice	3.50	1.82	0.06
			0.00			1/2" Ice	3.76	2.05	0.08
			3.00			1" Ice	4.03	2.29	0.11

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	K
RRH2X60-PCS	A	From Leg	4.00	0.0000	155.00	No Ice	2.20	1.72	0.06
			0.00			1/2" Ice	2.39	1.90	0.08
			3.00			1" Ice	2.59	2.09	0.10
RRH2X60-PCS	B	From Leg	4.00	0.0000	155.00	No Ice	2.20	1.72	0.06
			0.00			1/2" Ice	2.39	1.90	0.08
			3.00			1" Ice	2.59	2.09	0.10
RRH2X60-PCS	C	From Leg	4.00	0.0000	155.00	No Ice	2.20	1.72	0.06
			0.00			1/2" Ice	2.39	1.90	0.08
			3.00			1" Ice	2.59	2.09	0.10
(2) DB-T1-6Z-8AB-0Z	B	From Leg	4.00	0.0000	155.00	No Ice	4.80	2.00	0.04
			0.00			1/2" Ice	5.07	2.19	0.08
			3.00			1" Ice	5.35	2.39	0.12
Platform Mount [LP 713-1]	C	None		0.0000	155.00	No Ice	31.27	31.27	1.51
						1/2" Ice	39.68	39.68	1.93
						1" Ice	48.09	48.09	2.35
** 146 **									
P65-16-XLH-RR w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00	No Ice	8.37	6.36	0.08
			0.00			1/2" Ice	8.93	7.54	0.14
			2.00			1" Ice	9.46	8.43	0.22
P65-16-XLH-RR w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00	No Ice	8.37	6.36	0.08
			0.00			1/2" Ice	8.93	7.54	0.14
			2.00			1" Ice	9.46	8.43	0.22
P65-16-XLH-RR w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00	No Ice	8.37	6.36	0.08
			0.00			1/2" Ice	8.93	7.54	0.14
			2.00			1" Ice	9.46	8.43	0.22
7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00	No Ice	5.75	4.25	0.06
			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
QS66512-2 w/ Mount Pipe	A	From Leg	4.00	0.0000	146.00	No Ice	8.37	8.46	0.14
			0.00			1/2" Ice	8.93	9.66	0.21
			2.00			1" Ice	9.46	10.55	0.30
QS66512-2 w/ Mount Pipe	B	From Leg	4.00	0.0000	146.00	No Ice	8.37	8.46	0.14
			0.00			1/2" Ice	8.93	9.66	0.21
			2.00			1" Ice	9.46	10.55	0.30
QS66512-2 w/ Mount Pipe	C	From Leg	4.00	0.0000	146.00	No Ice	8.37	8.46	0.14
			0.00			1/2" Ice	8.93	9.66	0.21
			2.00			1" Ice	9.46	10.55	0.30
RRUS-11	A	From Leg	4.00	0.0000	146.00	No Ice	2.52	1.07	0.06
			0.00			1/2" Ice	2.72	1.21	0.07
			0.00			1" Ice	2.92	1.36	0.10
RRUS-11	B	From Leg	4.00	0.0000	146.00	No Ice	2.52	1.07	0.06
			0.00			1/2" Ice	2.72	1.21	0.07
			0.00			1" Ice	2.92	1.36	0.10
RRUS-11	C	From Leg	4.00	0.0000	146.00	No Ice	2.52	1.07	0.06
			0.00			1/2" Ice	2.72	1.21	0.07
			0.00			1" Ice	2.92	1.36	0.10
(4) 7020.00	A	From Leg	4.00	0.0000	146.00	No Ice	0.10	0.17	0.00
			0.00			1/2" Ice	0.15	0.24	0.01
			2.00			1" Ice	0.20	0.31	0.01
(4) 7020.00	B	From Leg	4.00	0.0000	146.00	No Ice	0.10	0.17	0.00
			0.00			1/2" Ice	0.15	0.24	0.01

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	Client	Crown Castle	Designed by	ATS

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			2.00						
(4) 7020.00	C	From Leg	4.00		0.0000	146.00	1" Ice 0.20	0.31	0.01
			0.00				No Ice 0.10	0.17	0.00
			0.00				1/2" Ice 0.15	0.24	0.01
			2.00				1" Ice 0.20	0.31	0.01
(4) LGP2140X	A	From Leg	4.00		0.0000	146.00	No Ice 1.08	0.36	0.01
			0.00				1/2" Ice 1.21	0.45	0.02
			0.00				1" Ice 1.35	0.56	0.03
(4) LGP2140X	B	From Leg	4.00		0.0000	146.00	No Ice 1.08	0.36	0.01
			0.00				1/2" Ice 1.21	0.45	0.02
			0.00				1" Ice 1.35	0.56	0.03
(4) LGP2140X	C	From Leg	4.00		0.0000	146.00	No Ice 1.08	0.36	0.01
			0.00				1/2" Ice 1.21	0.45	0.02
			0.00				1" Ice 1.35	0.56	0.03
RRUS 32 B2	A	From Leg	4.00		0.0000	146.00	No Ice 2.73	1.67	0.05
			0.00				1/2" Ice 2.95	1.86	0.07
			2.00				1" Ice 3.18	2.05	0.10
RRUS 32 B2	B	From Leg	4.00		0.0000	146.00	No Ice 2.73	1.67	0.05
			0.00				1/2" Ice 2.95	1.86	0.07
			2.00				1" Ice 3.18	2.05	0.10
RRUS 32 B2	C	From Leg	4.00		0.0000	146.00	No Ice 2.73	1.67	0.05
			0.00				1/2" Ice 2.95	1.86	0.07
			2.00				1" Ice 3.18	2.05	0.10
RRUS 32	A	From Leg	4.00		0.0000	146.00	No Ice 2.86	1.78	0.06
			0.00				1/2" Ice 3.08	1.97	0.08
			2.00				1" Ice 3.32	2.17	0.10
RRUS 32	B	From Leg	4.00		0.0000	146.00	No Ice 2.86	1.78	0.06
			0.00				1/2" Ice 3.08	1.97	0.08
			2.00				1" Ice 3.32	2.17	0.10
RRUS 32	C	From Leg	4.00		0.0000	146.00	No Ice 2.86	1.78	0.06
			0.00				1/2" Ice 3.08	1.97	0.08
			2.00				1" Ice 3.32	2.17	0.10
782 10254	A	From Leg	4.00		0.0000	146.00	No Ice 0.14	0.08	0.00
			0.00				1/2" Ice 0.19	0.12	0.00
			2.00				1" Ice 0.25	0.17	0.01
782 10254	B	From Leg	4.00		0.0000	146.00	No Ice 0.14	0.08	0.00
			0.00				1/2" Ice 0.19	0.12	0.00
			2.00				1" Ice 0.25	0.17	0.01
782 10254	C	From Leg	4.00		0.0000	146.00	No Ice 0.14	0.08	0.00
			0.00				1/2" Ice 0.19	0.12	0.00
			2.00				1" Ice 0.25	0.17	0.01
DC6-48-60-18-8F	A	From Leg	4.00		0.0000	146.00	No Ice 0.92	0.92	0.03
			0.00				1/2" Ice 1.46	1.46	0.05
			2.00				1" Ice 1.64	1.64	0.07
DC6-48-60-18-8F	C	From Leg	4.00		0.0000	146.00	No Ice 0.92	0.92	0.03
			0.00				1/2" Ice 1.46	1.46	0.05
			2.00				1" Ice 1.64	1.64	0.07
6' x 2" Mount Pipe	A	From Leg	4.00		0.0000	146.00	No Ice 1.43	1.43	0.02
			0.00				1/2" Ice 1.92	1.92	0.03
			0.00				1" Ice 2.29	2.29	0.05
6' x 2" Mount Pipe	B	From Leg	4.00		0.0000	146.00	No Ice 1.43	1.43	0.02
			0.00				1/2" Ice 1.92	1.92	0.03
			0.00				1" Ice 2.29	2.29	0.05
6' x 2" Mount Pipe	C	From Leg	4.00		0.0000	146.00	No Ice 1.43	1.43	0.02
			0.00				1/2" Ice 1.92	1.92	0.03
			0.00				1" Ice 2.29	2.29	0.05
Platform Mount [LP 713-1]	C	None			0.0000	146.00	No Ice 31.27	31.27	1.51
							1/2" Ice 39.68	39.68	1.93

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
						1/2" Ice	39.68	39.68	1.93
						1" Ice	48.09	48.09	2.35
** 128 **									
840 10054 w/ Mount Pipe	A	From Leg	2.00	0.0000	128.00	No Ice	4.81	2.39	0.05
			0.00			1/2" Ice	5.16	2.92	0.09
			0.00			1" Ice	5.53	3.47	0.13
840 10054 w/ Mount Pipe	B	From Leg	2.00	0.0000	128.00	No Ice	4.81	2.39	0.05
			0.00			1/2" Ice	5.16	2.92	0.09
			0.00			1" Ice	5.53	3.47	0.13
840 10054 w/ Mount Pipe	C	From Leg	2.00	0.0000	128.00	No Ice	4.81	2.39	0.05
			0.00			1/2" Ice	5.16	2.92	0.09
			0.00			1" Ice	5.53	3.47	0.13
6' x 2" Mount Pipe	B	From Leg	2.00	0.0000	128.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.92	1.92	0.03
			0.00			1" Ice	2.29	2.29	0.05
Side Arm Mount [SO 101-3]	C	None		0.0000	128.00	No Ice	7.50	7.50	0.25
						1/2" Ice	8.90	8.90	0.33
						1" Ice	10.30	10.30	0.41
** 118 **									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz	Lateral							ft
** 128 **												
VHLP800-11	B	Paraboloid w/o Radome	From Leg	1.00	-36.0000			128.00	2.92	No Ice	6.68	0.02
				0.00						1/2" Ice	7.07	0.06
				0.00						1" Ice	7.46	0.09

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

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Comb. No.	Description
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
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

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	170.5 - 156	28.171	49	1.5033	0.0028
L2	156 - 155.5	23.621	48	1.4840	0.0028
L3	155.5 - 132.17	23.466	48	1.4837	0.0028
L4	135.837 - 86.5867	17.604	48	1.3242	0.0017
L5	91.42 - 42.5	7.420	48	0.8234	0.0006
L6	48.5 - 0	1.961	48	0.3790	0.0002

Critical Deflections and Radius of Curvature - Service Wind

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
166.00	DR90-14-00DPL2 w/ Mount Pipe	49	26.753	1.4957	0.0028	57603
155.00	(2) SBNHH-1D85B w/ Mount Pipe	48	23.311	1.4832	0.0028	15178
146.00	P65-16-XLH-RR w/ Mount Pipe	48	20.561	1.4336	0.0024	7859
138.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	48	18.216	1.3494	0.0018	5619
128.00	VHLP800-11	48	15.474	1.2335	0.0013	5171

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	170.5 - 156	132.276	20	7.0711	0.0131
L2	156 - 155.5	110.946	20	6.9825	0.0131
L3	155.5 - 132.17	110.218	20	6.9811	0.0131
L4	135.837 - 86.5867	82.710	20	6.2295	0.0077
L5	91.42 - 42.5	34.876	20	3.8727	0.0028
L6	48.5 - 0	9.216	20	1.7818	0.0009

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
166.00	DR90-14-00DPL2 w/ Mount Pipe	20	125.629	7.0363	0.0131	12941
155.00	(2) SBNHH-1D85B w/ Mount Pipe	20	109.490	6.9786	0.0131	3472
146.00	P65-16-XLH-RR w/ Mount Pipe	20	96.590	6.7454	0.0113	1755
138.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20	85.585	6.3481	0.0085	1238
128.00	VHLP800-11	20	72.714	5.8022	0.0056	1131

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _n ft	Kl/r	A in ²	P _n K	φP _n K	Ratio P _n / φP _n
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	14.50	0.00	0.0	11.9083	-0.88	375.11	0.002
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	0.50	0.00	0.0	11.9083	-0.90	375.11	0.002
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	23.33	0.00	0.0	14.1468	-11.43	980.62	0.012
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	49.25	0.00	0.0	39.4817	-21.58	2933.29	0.007
L5	86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	48.92	0.00	0.0	58.2792	-35.04	4329.85	0.008

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	48.50	0.00	0.0	69.6789	-40.99	5176.79	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	9.69	103.38	0.094	0.00	103.38	0.000
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	9.69	103.38	0.094	0.00	103.38	0.000
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	244.13	479.32	0.509	0.00	479.32	0.000
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	1151.09	1993.99	0.577	0.00	1993.99	0.000
L5	86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	2162.88	3727.27	0.580	0.00	3727.27	0.000
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	2485.04	4657.57	0.534	0.00	4657.57	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio V _u / φV _n	Actual T _u kip-ft	φT _n kip-ft	Ratio T _u / φT _n
L1	170.5 - 156 (1)	TP10.75x10.75x0.365	1.05	187.56	0.006	0.00	157.00	0.000
L2	156 - 155.5 (2)	TP19.5x10.75x0.365	1.07	345.58	0.003	0.00	157.00	0.000
L3	155.5 - 132.17 (3)	TP24.79x19.5x0.1875	17.96	490.31	0.037	0.04	959.83	0.000
L4	132.17 - 86.5867 (4)	TP34.63x23.5836x0.375	22.12	1466.65	0.015	0.55	3992.86	0.000
L5	86.5867 - 42.5 (5)	TP43.75x32.7959x0.4375	24.91	2164.93	0.012	0.85	7463.65	0.000
L6	42.5 - 0 (6)	TP52.5x41.5315x0.5	25.83	2618.22	0.010	0.85	9326.50	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P _u / φP _n	Ratio M _{ux} / φM _{ux}	Ratio M _{uy} / φM _{uy}	Ratio V _u / φV _n	Ratio T _u / φT _n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	170.5 - 156 (1)	0.002	0.094	0.000	0.006	0.000	0.096	1.000	4.8.2 ✓
L2	156 - 155.5 (2)	0.002	0.094	0.000	0.003	0.000	0.096	1.000	4.8.2 ✓
L3	155.5 - 132.17 (3)	0.012	0.509	0.000	0.037	0.000	0.522	1.000	4.8.2 ✓
L4	132.17 - 86.5867 (4)	0.007	0.577	0.000	0.015	0.000	0.585	1.000	4.8.2 ✓

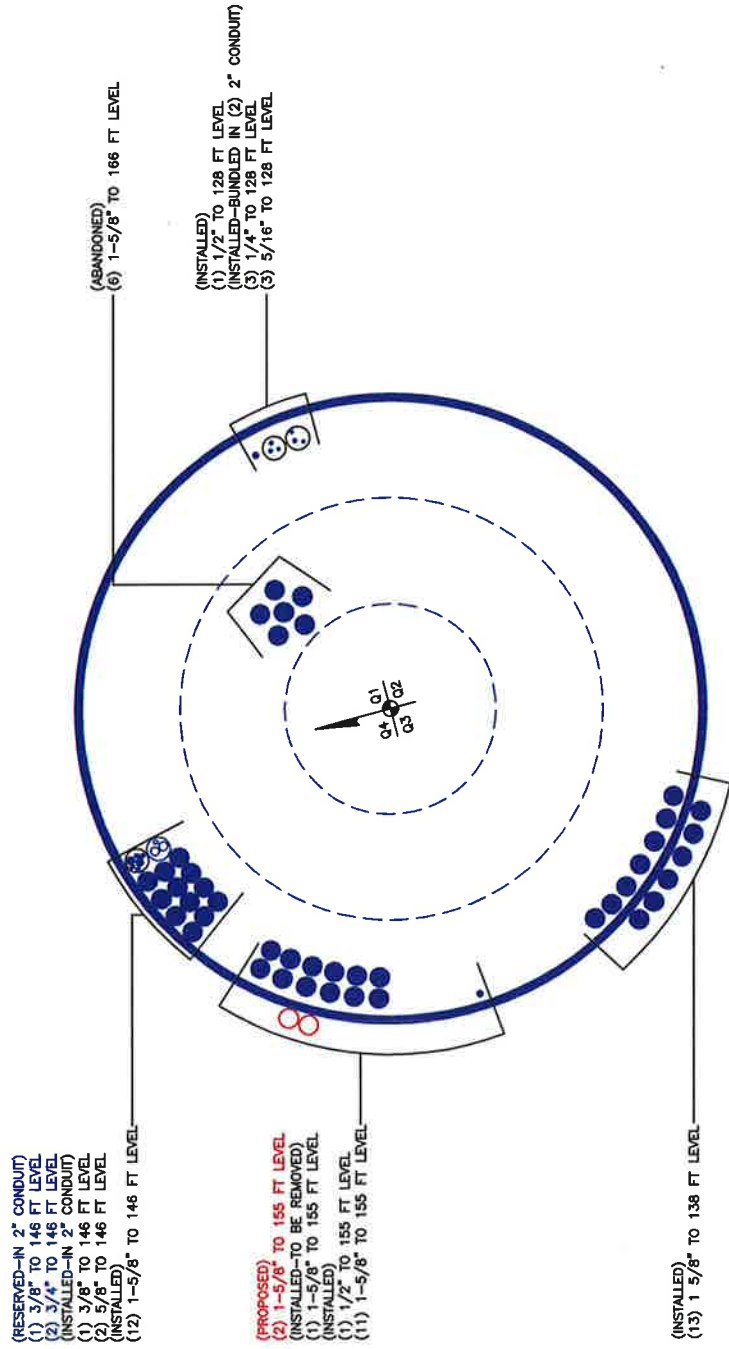
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Section No.	Elevation ft	Ratio P_n	Ratio M_{nx}	Ratio M_{ny}	Ratio V_n	Ratio T_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L5	86.5867 - 42.5 (5)	0.008	0.580	0.000	0.012	0.000	0.589	1.000	4.8.2 ✓
L6	42.5 - 0 (6)	0.008	0.534	0.000	0.010	0.000	0.542	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	170.5 - 156	Pole	TP10.75x10.75x0.365	1	-0.88	375.11	9.6	Pass	
L2	156 - 155.5	Pole	TP19.5x10.75x0.365	2	-0.90	375.11	9.6	Pass	
L3	155.5 - 132.17	Pole	TP24.79x19.5x0.1875	3	-11.43	980.62	52.2	Pass	
L4	132.17 - 86.5867	Pole	TP34.63x23.5836x0.375	4	-21.58	2933.29	58.5	Pass	
L5	86.5867 - 42.5	Pole	TP43.75x32.7959x0.4375	5	-35.04	4329.85	58.9	Pass	
L6	42.5 - 0	Pole	TP52.5x41.5315x0.5	6	-40.99	5176.79	54.2	Pass	
							Summary		
							Pole (L5)	58.9	Pass
							RATING =	58.9	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: 806355
 Site Name: BRG 126 943086
 App #: 359428 Rev.5

Pole Manufacturer: **Other**

Bolt Data

Qty:	15	
Diameter (in.):	1	Bolt Fu: 120
Bolt Material:	A325	Bolt Fy: 92
N/A:	100	<-- Disregard
N/A:	75	<-- Disregard
Circle (in.):	25.75	

Plate Data

Diam:	28.5	in
Thick, t:	1	in
Grade (Fy):	60	ksi
Strength, Fu:	75	ksi
Single-Rod B-eff:	2.25	in

Stiffener Data (Welding at Both Sides)

Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	10.75	in
Thick:	0.365	in
Grade:	35	ksi
# of Sides:	0	"0" IF Round
Fu	63	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions		
Mu	9.69	ft-kips
Axial, Pu:	0.88	kips
Shear, Vu:	1.05	kips
Elevation:	156	feet

Bolt Threads:
X-Excluded
$\phi V_n = \phi(0.55 A_b F_u)$
$\phi = 0.75, \phi V_n$ (kips):
38.88

If No stiffeners, Criteria: **TIA G** <-Only Applicable to Unstiffened Cases

Flange Bolt Results

Bolt Tension Capacity, $\phi^*T_n, B1$: 54.54 kips
 Adjusted ϕ^*T_n (due to $V_u = V_u/Qty$), **B**: 54.54 kips
 Max Bolt directly applied T_u : 1.14 Kips
 Min. PL "tc" for B cap. w/o Pry: 3.168 in
 Min PL "treq" for actual T w/ Pry: 0.371 in
 Min PL "t1" for actual T w/o Pry: 0.459 in
 T allowable with Prying: 8.30 kips
 Prying Force, q: 0.00 kips
 Total Bolt Tension= T_u+q : 1.14 kips
 Prying Bolt Stress Ratio= $(T_u+q)/(B)$: 2.1% **Pass**

Non-Rigid
ϕ^*T_n
$\phi T_n [(1 - (V_u/\phi V_n)^2)^{0.5}]$

$\alpha > 1$ case

Exterior Flange Plate Results

Flexural Check
 Compression Side Plate Stress: 5.1 ksi
 Allowable Plate Stress: 54.0 ksi
 Compression Plate Stress Ratio: 9.5% **Pass**
No Prying
 Tension Side Stress Ratio, $(treq/t)^2$: 13.8% **Pass**

Non-Rigid
TIA G
ϕ^*F_y
Comp. Y.L. Length: 23.40

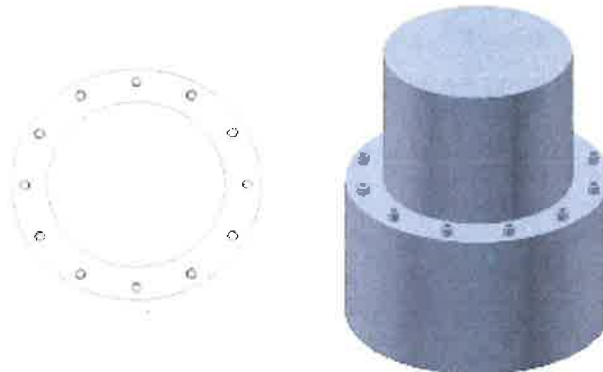
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $f_b/F_b + (f_v/F_v)^2$: n/a
 Plate Tension+Shear, $f_t/F_t + (f_v/F_v)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: 806355
 Site Name: BRG 126 943086
 App #: 359428 Rev.5

Reactions		
Mu	9.69	ft-kips
Axial, Pu	0.88	kips
Shear, Vu	1.05	kips
Elevation:	156	feet

Bolt Threads:
X-Excluded
$\phi V_n = \phi(0.55 A_b F_u)$
$\phi = 0.75, \phi V_n$ (kips):
38.88

Pole Manufacturer: Other

If No stiffeners, Criteria: TIA G <-Only Applicable to Unstiffened Cases

Bolt Data		
Qty:	15	
Diameter (in.):	1	Bolt Fu: 120
Bolt Material:	A325	Bolt Fy: 92
N/A:	100	<-- Disregard
N/A:	75	<-- Disregard
Circle (in.):	25.75	

Flange Bolt Results

Bolt Tension Capacity, $\phi T_n, B1$: 54.54 kips
 Adjusted ϕT_n (due to $V_u = V_u / Q_t$), B: 54.54 kips
 Max Bolt directly applied T_u : 1.14 Kips
Min. PL "tc" for B cap. w/o Pry: 3.168 in
Min PL "treq" for actual T w/ Pry: 0.371 in
Min PL "t1" for actual T w/o Pry: 0.459 in
 T allowable with Prying: 18.68 kips
 Prying Force, q: 0.00 kips
 Total Bolt Tension= $T_u + q$: 1.14 kips
 Prying Bolt Stress Ratio= $(T_u + q) / (B)$: 2.1% **Pass**

Non-Rigid
ϕT_n
$\phi T_n [(1 - (V_u / \phi V_n)^2)^{0.5}]$

$\alpha > 1$ case

Plate Data		
Diam:	28.5	in
Thick, t:	1.5	in
Grade (Fy):	60	ksi
Strength, Fu:	75	ksi
Single-Rod B-eff:	2.25	in

Exterior Flange Plate Results

Flexural Check
 Compression Side Plate Stress: 2.3 ksi
 Allowable Plate Stress: 54.0 ksi
 Compression Plate Stress Ratio: 4.2% **Pass**

No Prying
 Tension Side Stress Ratio, $(t_{req} / t)^2$: 6.1% **Pass**

Non-Rigid
TIA G
ϕF_y
Comp. Y.L. Length:
23.40

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

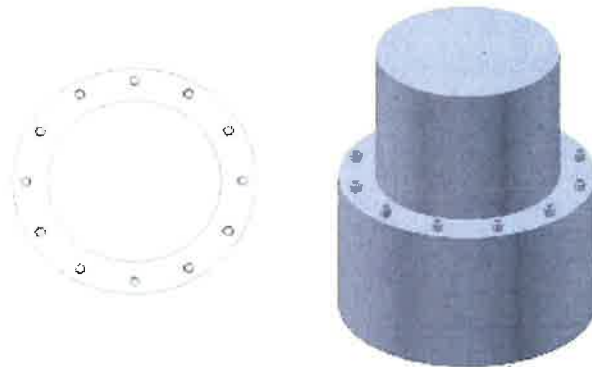
Stiffener Results

Horizontal Weld: n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $f_b / F_b + (f_v / F_v)^2$: n/a
 Plate Tension+Shear, $f_t / F_t + (f_v / F_v)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Diam:	10.75	in
Thick:	0.365	in
Grade:	35	ksi
# of Sides:	0	"0" IF Round
Fu	63	ksi
Reinf. Fillet Weld	0	"0" if None



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#:	806355
Site Name:	BRG 126 943086
App #:	359428 Rev.5
Pole Manufacturer:	Other

Anchor Rod Data

Qty:	20	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	61	in

Plate Data

Diam:	67	in
Thick:	2.25	in
Grade:	60	ksi
Single-Rod B-eff:	8.33	in

Stiffener Data (Welding at both sides)

Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	52.5	in
Thick:	0.5	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions

Mu:	3436	ft-kips
Axial, Pu:	55	kips
Shear, Vu:	27	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria: AISC LRFD <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/r): 140.7 Kips
 Allowable Axial, Φ^*Fu^*Anet : 260.0 Kips
 Anchor Rod Stress Ratio: 54.1% **Pass**

Rigid
AISC LRFD
ϕ^*Tn

Base Plate Results

Base Plate Stress: 33.3 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 61.7% **Pass**

Flexural Check

Rigid
AISC LRFD
ϕ^*Fy
Y.L. Length: 31.06

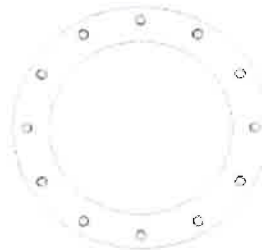
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $fb/Fb+(fv/Fv)^2$: n/a
 Plate Tension+Shear, $ft/Ft+(fv/Fv)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Project Name: BRG 126 943086
 Project Number: 806355
 Job Number: 1309091
 Date: 10/6/2016



Created On: 6/3/2014
 Checked By: DW
 Revised On: 3/4/2015
 Revision No.: 1.6

Monopole Pad & Pier Foundation

Foundation Parameters

Load	
Code	G
Axial	55 kips
Shear	27 kips
Moment	3436 k-ft
Soil Unit Weight	125 pcf
Friction Angle	36
Cohesion	0 psf

Material	
Concrete Strength (F _c)	4000 psi
Concrete Density	150 pcf
Rebar Tensile (F _y)	60 ksi
Clear Cover	3 in

Pad	
Thickness	3 ft
Bearing Depth	9 ft
Width	22 ft
Rebar Size	8
Rebar Quantity	36

Pier	
Pier type	Square
Width	7 ft
Height above Grade	1 ft
Rebar Size	8
Rebar Quantity	46
Tie Size	4
Tie C/C Spacing	13 in

Structural Checks

Pad Beam Shear Capacity	788.9	kips
Pad Beam Shear	349.2	kips
Pad Beam Shear Check	44.3%	Pass

Pad Bending Moment Capacity	3909.7	k-ft
Pad Bending Moment	1539.2	k-ft
Pad Bending Moment Check	39.4%	Pass

Punching Shear Capacity	2761.2	kips
Punching Shear	305.7	kips
Punching Shear Check	11.1%	Pass

Pad-Pier Bearing Capacity	31187.5	kips
Pad-Pier Bearing	769.6	kips
Pad-Pier Bearing Check	2.5%	Pass

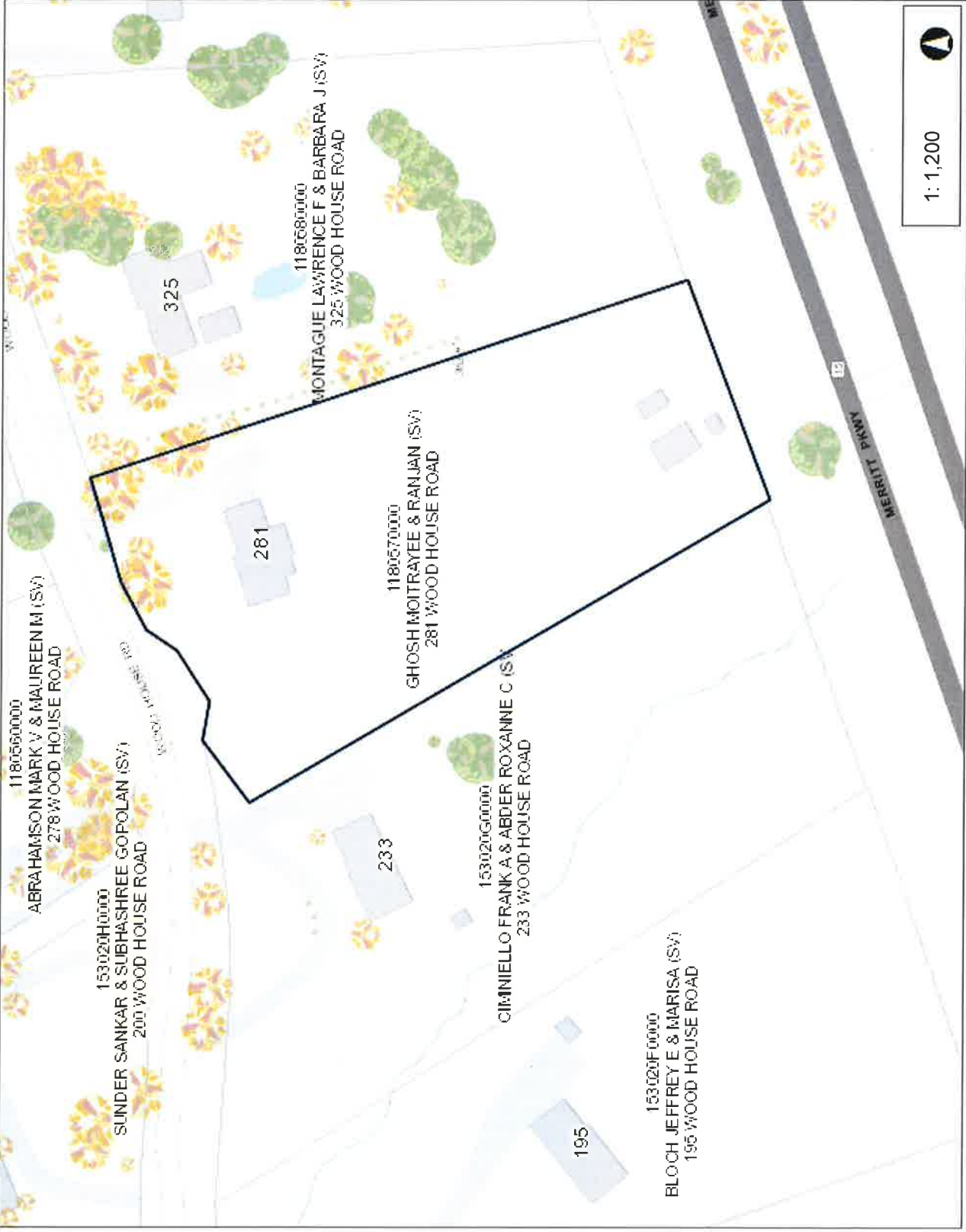
Pier Beam Shear Capacity	711.4	kips
Pier Beam Shear	27.0	kips
Pier Beam Shear Check	3.8%	Pass

Pier Bending Moment Capacity	6239.2	k-ft
Pier Bending Moment	3568.5	k-ft
Pier Bending Moment Check	57.2%	Pass

ATTACHMENT 4



Town of Fairfield



Legend

- House Number
- Parcels

1:1,200



This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council



281 WOOD HOUSE ROAD

Location 281 WOOD HOUSE ROAD

Mblu 118/ 57/ / /

Acct# 06700

Owner GHOSH MOITRAYEE &
RANJAN

Assessment \$529,200

Appraisal \$756,000

PID 8854

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$387,400	\$368,600	\$756,000
Assessment			
Valuation Year	Improvements	Land	Total
2015	\$271,180	\$258,020	\$529,200

Owner of Record

Owner GHOSH MOITRAYEE & RANJAN
Co-Owner (SV)
Address 11 PETERSON ROAD
 PALMER, MA 01069-09801

Sale Price \$172,000
Certificate
Book & Page 706/ 293
Sale Date 06/13/1983

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
GHOSH MOITRAYEE & RANJAN	\$172,000		706/ 293	06/13/1983

Building Information

Building 1 : Section 1

Year Built: 1968
Living Area: 2,426
Replacement Cost: \$444,461
Building Percent Good: 69

Building Photo

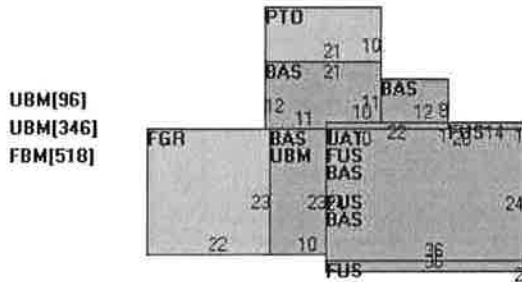
Replacement Cost
Less Depreciation: \$306,700

Building Attributes	
Field	Description
Style	Colonial
Stories:	2 Stories
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	8 Rooms
Bath Style:	Average
Kitchen Style:	Average
FCPZ	



(<http://images.vgsi.com/photos/FairfieldCTPhotos//\02\04\39\16.jpg>)

Building Layout



Building Sub-Areas (sq ft)			
Code	Description	Gross Area	Living Area
BAS	First Floor	1,454	1,454
FUS	Upper Story, Finished	972	972
FBM	Basement, Finished	518	0
FGR	Garage	506	0
PTO	Patio	210	0
UAT	Attic, Unfinished	864	0
UBM	Basement, Unfinished	672	0
		5,196	2,426

Extra Features

Extra Features				
Code	Description	Size	Value	Bldg #

FPL3	2.0 STORY FIREPLACE	1 UNITS	\$5,200	1
FPL1	1.0 STORY FIREPLACE	1 UNITS	\$3,500	1

Land

Land Use

Use Code 1010
Description Single Fam MDL-01
Zone AAA
Neighborhood 0057
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 2.00
Depth 0
Assessed Value \$258,020
Appraised Value \$368,600

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
	UTIL BLD			1	\$31,000	1
	UTIL BLD			1	\$31,000	1
	EQUIP SHED			1	\$10,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$387,400	\$368,600	\$756,000
2014	\$372,300	\$409,800	\$782,100
2013	\$372,300	\$409,800	\$782,100

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$271,180	\$258,020	\$529,200
2014	\$260,610	\$286,860	\$547,470
2013	\$260,610	\$286,860	\$547,470

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