Robinson+Cole

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Also admitted in Massachusetts

June 2, 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**
349R Mountain Street, Willimantic, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the 185-foot level on the existing 196-foot tower at 349R Mountain Street in Willimantic, Connecticut (the "Property"). The tower and underlying property are owned by SBA Communications Corporation ("SBA"). The Council approved Cellco's use of the tower in 2000. As a part of this proposed modification, Cellco will remove the nine (9) existing antennas and replace them with one (1) model SBNHH-1D45B, 700 MHz antenna; two (2) model SBNHH-1D65B, 700 MHz antennas; one (1) model SBNHH-1D45B, 1900 MHz antenna; two (2) model SBNHH-1D65B, 1900 MHz antennas; one (1) model SBNHH-1D45B, 2100 MHz antenna; and two (2) model SBNHH-1D65B, 2100 MHz antennas. All of the replacement antennas will also be relocated from the 185-foot level to the 120-foot level. The three (3) remaining (850 MHz) antennas will remain at the 185-foot 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. The RRHs will be located behind Cellco's new antennas at the 120-foot level. 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 Ernie Eldridge, Mayor for the Town of Windham; James Finger, Windham's Town Planner; and SBA, the Property owner and 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. Following the proposed modifications, Cellco's antennas and RRHs will be located at the 185-foot and 120-foot levels on the 196-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 modified facility 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 behind 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 included in Attachment 3).

A copy of property owner information and a parcel map are 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:
Ernie Eldridge, Windham Mayor
James Finger, Windham Town Planner
SBA
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

SBNHH-1D45B

6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 45° HPBW, 3x RET

- 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	16.9	17.6	19.6	20.1	20.5	21.0
Beamwidth, Horizontal, degrees	47	43	45	42	42	39
Beamwidth, Vertical, degrees	12.4	11.4	5.8	5.3	5.1	4.5
Beam Tilt, degrees	0–14	0–14	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	16	16	18	17	17	16
Front-to-Back Ratio at 180°, dB	34	33	35	37	37	39
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
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	16.6	17.3	19.2	19.8	20.1	20.8
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3	±0.5	±0.4	±0.5	±0.4
Gain by Beam Tilt, average, dBi	0 ° | 16.6	0 ° | 17.3	0 ° | 19.3	0 ° | 19.9	0 ° | 20.1	0 ° | 20.7
	7 ° | 16.7	7 ° | 17.4	4 ° | 19.3	4 ° | 19.9	4 ° | 20.2	4 ° | 20.9
	14 ° | 16.4	14 ° | 17.1	8 ° | 19.0	8 ° | 19.6	8 ° | 20.0	8 ° | 20.4
Beamwidth, Horizontal Tolerance, degrees	±1.5	±2.8	±2.1	±1.7	±1	±1.7
Beamwidth, Vertical Tolerance, degrees	±0.8	±0.6	±0.3	±0.2	±0.4	±0.1
USLS, beampeak to 20° above beampeak, dB	19	23	16	15	16	16
Front-to-Back Total Power at 180° ± 30°, dB	24	24	28	30	31	30
CPR at Boresight, dB	28	29	23	24	20	19
CPR at 10 dB Horizontal Beamwidth, dB	13	17	13	13	13	13

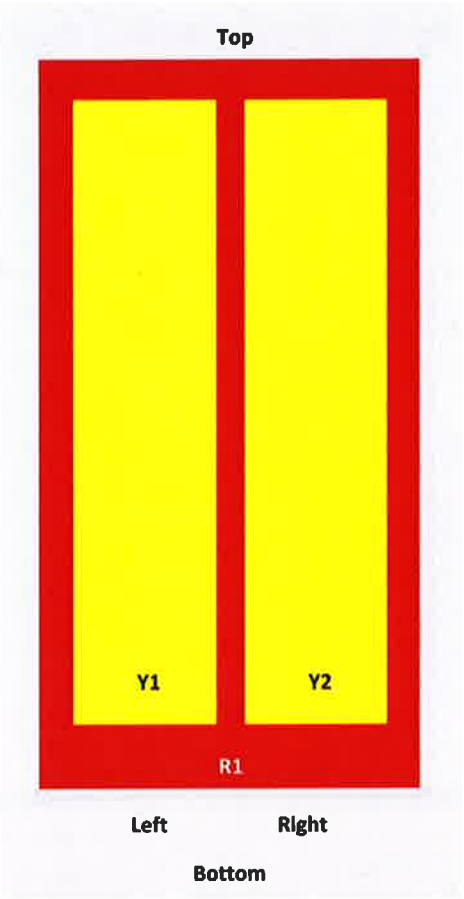
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

Array Layout

Product Specifications

SBNHH-1D45B

SBNHH 45 85



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxxx.1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxxx.2
Y2	1695-2360	5-6	3	ANxxxxxxxxxxxxxxxx.3

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

Product Specifications

SBNHH-1D45B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	1038.0 N @ 150 km/h 233.4 lbf @ 150 km/h
Wind Loading, lateral	234.0 N @ 150 km/h 52.6 lbf @ 150 km/h
Wind Loading, rear	1091.0 N @ 150 km/h 245.3 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Length	1829.0 mm | 72.0 in
Width	457.0 mm | 18.0 in
Depth	178.0 mm | 7.0 in
Net Weight, without mounting kit	29.2 kg | 64.4 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

Length	1950.0 mm | 76.8 in
Width	567.0 mm | 22.3 in
Depth	311.0 mm | 12.2 in
Shipping Weight	42.5 kg | 93.7 lb

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

Product Specifications

SBNHH-1D45B

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

Product Specifications

COMMSCOPE®

SBNHH-1D65B

Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
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	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
	0 ° | 14.6	0 ° | 14.5	0 ° | 17.4	0 ° | 17.8	0 ° | 18.1	0 ° | 18.2
Gain by Beam Tilt, average, dBi	7 ° | 14.6	7 ° | 14.4	3 ° | 17.5	3 ° | 17.9	3 ° | 18.3	3 ° | 18.4
	14 ° | 14.2	14 ° | 13.6	7 ° | 17.4	7 ° | 17.9	7 ° | 18.2	7 ° | 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

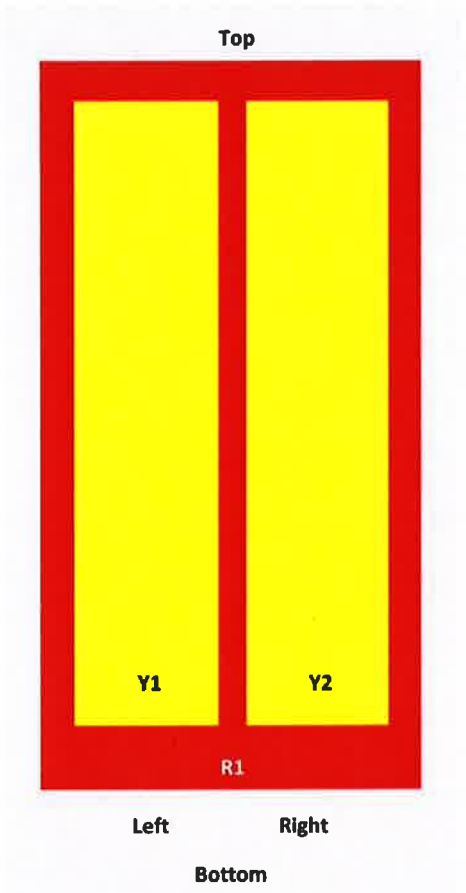
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

Array Layout

Product Specifications

SBNHH-1D65B

SBNHH 65



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxxx.1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxxx.2
Y2	1695-2360	5-6		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

General Specifications

Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female

Product Specifications

SBNHH-1D65B

Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
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

Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Depth	180.0 mm | 7.1 in
Net Weight, without mounting kit	18.4 kg | 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (1) | 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

Length	2025.0 mm | 79.7 in
Width	390.0 mm | 15.4 in
Depth	296.0 mm | 11.7 in
Shipping Weight	31.0 kg | 68.3 lb

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

Product Specifications

SBNHH-1D65B

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 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.

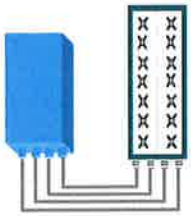
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

Alcatel·Lucent

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.) **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

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new 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 B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 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, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

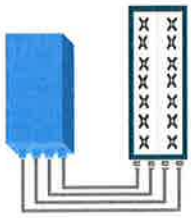
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx 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

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
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 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 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

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.

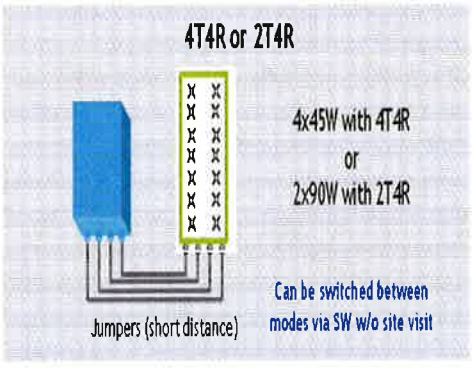
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

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

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.) **Volume in Liters** **Weight in kg (lb) (w/o mounting HW)**	655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) 35.5 (with solar shield) 29.7 (without solar shield) 25.8kg (56.8lb) (with solar shield)
DC voltage range **DC power consumption**	Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) UL50E Type 4 Enclosure 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

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)			UL34-V0, UL1666 RoHS Compliant
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (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)

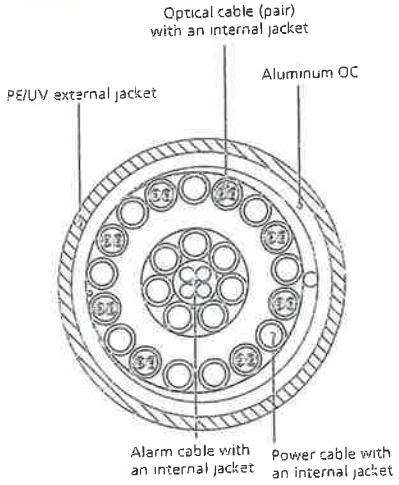


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Willimantic								
Tower Height: 196'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*T-Mobile	2	2334	168	2100	0.0640	1.0000	0.64%	
*T-Mobile	2	2334	168	1900	0.0640	1.0000	0.64%	
*T-Mobile	2	683	168	2100	0.0187	1.0000	0.19%	
*T-Mobile	2	1167	168	1950	0.0320	1.0000	0.32%	
*T-Mobile	2	1167	168	1950	0.0320	1.0000	0.32%	
*T-Mobile	1	865	168	700	0.0119	0.4667	0.25%	
*CL&P	1	100	167	37.62	0.0014	0.2000	0.07%	
*CL&P	1	250	167	451.675	0.0035	0.3011	0.12%	
*CL&P	1	1000	140	154.46375	0.0200	0.2000	1.00%	
*CL&P	1	380	140	173.25	0.0076	0.2000	0.38%	
*CL&P	1	100	137	37.48	0.0021	0.2000	0.10%	
*CL&P	5	20	133	217	0.0022	0.2000	0.11%	
Verizon	**1**	**4705**	**120**	**0.1175**	**1970**	**1.0000**	**11.75%**	
Verizon	**9**	**241**	**185**	**0.0228**	**869**	**0.5793**	**3.93%**	
Verizon	**1**	**11383**	**120**	**0.2842**	**2145**	**1.0000**	**28.42%**	
Verizon	**1**	**2668**	**120**	**0.0666**	**746**	**0.4973**	**13.40%**	
								61.6%
* Source: Siting Council								

ATTACHMENT 3

FDH VELOCITEL

ENGINEERING INNOVATION

Structural Analysis for SBA Network Services, Inc.

196.0' Self-Support Tower (196.0' AGL)

SBA Site Name: Mountain Street [Twr# 2]
SBA Site ID: CT06462-A-09
Verizon Site Name: Willimantic
Site Address: 349 Mountain Street, Windham, CT 06226

FDH Velocitel Project Number 17QEIQ1400

Analysis Results

Tower Components	72.5%	Sufficient
Foundation	75.3%	Sufficient

Prepared By:

Aditya Chingale, EI
Project Engineer I

Reviewed By:

Dennis D. Abel, PE
Director
CT License No. 23247

Velocitel, Inc., d.b.a. FDH Velocitel
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Raleigh, NC, 27616
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STATE OF CONNECTICUT
DENNIS D. ABEL
No. 23247
LICENSED
PROFESSIONAL ENGINEER

05-10-2017

May 10, 2017

Prepared pursuant to the ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code

TABLE OF CONTENTS

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Velocitel performed a structural analysis of the existing Self-Support Tower located in Windham, CT to determine whether the tower is structurally adequate to support the antenna configuration in place per **Table 1** pursuant to the *ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code*. Information pertaining to the antenna loading, current tower geometry, member sizes, and below grade parameters was obtained from:

Source	Document Type	Reference	Date
Rohn Industries, Inc.	Tower Drawings	Eng. File No. 49204TT	September 27, 2001
Rohn Industries, Inc.	Foundation Drawings	Eng. File No. 49204TT	August 31, 2001
BL Companies	Geotechnical Report	Project No. 00C672-C	December 01, 2000
FDH Engineering, Inc.	TIA Inspection	Job No. 1301611800	May 03, 2013
SBA Network Analysis, Inc.	-	-	-

This analysis has been performed in accordance with the *2016 Connecticut State Building Code* based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 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 with a topographic factor of 1 and spectral response accelerations of S_S=0.174 and S_1=0.062.

Note: Per *Section 2.7.3* of the *ANSI/TIA-222-G* Standard, the seismic/earthquake loading effects can be ignored if the spectral response acceleration at short periods (S_S) is less than or equal to 1.00. The tower's location mandates a design S_S of less than 1.00, thus seismic loading was not considered as part of the analysis of this structure.

Conclusions

With the antenna configuration in place per **Table 1** we have determined the tower stress level to be sufficient and the foundation(s) to be sufficient pursuant to the requirements stipulated by *ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas and the 2016 Connecticut State Building Code* provided the **Recommendations** listed below are satisfied. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Velocitel is accurate (i.e., the structure member information, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the current analysis standards are met with the antenna configuration in place per **Table 1**, we have the following recommendations:

1. Feed lines to be installed as shown in **Figure 1** in the **Appendix.**
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement as determined by the client.

APPURTENANCE LISTING

The antennas and equipment, with their corresponding feed lines, considered for this analysis are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Velocitel should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft.)	Description	Feed Lines	Carrier	Mount Elevation (ft.)	Mount Type
180	(3) Antel BXA-70063-6CF-2 (3) Antel BXA-80080/4CF (3) Antel BXA-171085-8BF (3) Antel BXA-171063-8CF (6) RFS Celwave FD9R6004/2C-3L (3) Alcatel Lucent RRH2X40-AWS (1) RFS Celwave DB-T1-6Z-8AB-0Z	(12) 1-5/8" (1) 1-5/8" Fiber	Verizon	180	(3) 10' T-Frames
168	(3) Ericsson AIR21 B2/B4 (3) Ericsson AIR32 B66aa/B2a (3) Commscope LNX-6515DS-A1M (3) EMS RR90-17-02DP (3) Ericsson KRY 112 144 (3) Ericsson RRUS11 B12	(12) 1-5/8" (2) 1-5/8" Fiber	T-Mobile	168	(3) 10' T-Frames
162	(1) RFS PD1142-2B	(6) 7/8"	Connecticut Light and Power	158	(1) 1.5' Standoff
157	(1) RFS 458-2N			152	(1) 4' Standoff
	(1) Telwave ANT450D6-9			151	(1) 4' Standoff
140	(1) RFS 220-7N			130	(3) 8' Standoffs
134.5	(1) RFS PD1142-2B				
132.5	(1) Telwave ANT450D6-9				

Proposed Carrier Final Loading:

Antenna Elevation (ft.)	Description	Feed Lines	Carrier	Mount Elevation (ft.)	Mount Type
185	(3) Antel BXA-80080/4FC (6) RFS Celwave FD9R6004/2C-3L	(3) 1-5/8"	Verizon	185	Direct
120	(3) Commscope SBNHH-1D45B (6) Commscope SBNHH-1D65B (3) Alcatel Lucent RRH2X60-AWS (3) Alcatel Lucent RRH2x60-700 (3) Alcatel Lucent RRH2X60-PCS (2) RFS Celwave DB-T1-6Z-8AB-0Z	(8) 1-5/8" (2) 1-5/8" Fiber		120	(3) 10' T-Frames

RESULTS

The following material grades for individual members were used for analysis:

Table 2 - Material Grade

Member Type	Material Grade
Anchor Rods	A354-BD
Legs	A572-50
Bracing	A36

Table 3 and **Table 4** display the summary of capacities for the analyzed structure and its additional components. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity.

If the assumptions outlined in this report differ from actual field conditions, FDH Velocitel should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information.

Table 3 - Structure Member Capacities

Section No.	Elevation (ft.)	Component Type	Size	% Capacity	Pass / Fail
T1	196 - 188	Leg	ROHN 3 STD	1.0	Pass
T2	188 - 168	Leg	ROHN 3 STD	8.9	Pass
T3	168 - 160	Leg	ROHN 3 STD	19.9	Pass
T4	160 - 140	Leg	ROHN 3 EH	37.9	Pass
T5	140 - 120	Leg	ROHN 4 EH	41.0	Pass
T6	120 - 100	Leg	ROHN 5 EH	41.7	Pass
T7	100 - 80	Leg	ROHN 6 EHS	47.5	Pass
T8	80 - 60	Leg	ROHN 6 EH	51.6	Pass
T9	60 - 40	Leg	ROHN 8 EHS	46.9	Pass
T10	40 - 20	Leg	ROHN 8 EHS	53.9	Pass
T11	20 - 0	Leg	ROHN 8 EH	47.2	Pass
T1	196 - 188	Diagonal	L1 3/4x1 3/4x3/16	2.4 3.5 (b)	Pass
T2	188 - 168	Diagonal	L2x2x1/4	8.7 13.4 (b)	Pass
T3	168 - 160	Diagonal	L2x2x1/4	18.6 31.1 (b)	Pass
T4	160 - 140	Diagonal	L2x2x3/16	43.2 48.3 (b)	Pass
T5	140 - 120	Diagonal	L2 1/2x2 1/2x1/4	35.7 41.1 (b)	Pass
T6	120 - 100	Diagonal	L2 1/2x2 1/2x1/4	64.0	Pass
T7	100 - 80	Diagonal	L3x3x1/4	51.4 54.0 (b)	Pass
T8	80 - 60	Diagonal	L3 1/2x3 1/2x1/4	53.1 59.7 (b)	Pass
T9	60 - 40	Diagonal	L3 1/2x3 1/2x1/4	68.7	Pass
T10	40 - 20	Diagonal	L4x4x1/4	57.4 69.5 (b)	Pass
T11	20 - 0	Diagonal	L4x4x1/4	70.6 72.5 (b)	Pass
T1	196 - 188	Top Girt	L1 3/4x1 3/4x3/16	2.0	Pass
T4	160 - 140	Top Girt	L1 3/4x1 3/4x3/16	3.8	Pass

Table 4 – Additional Structure Component Capacities

Elevation (ft.)	Component	% Capacity	Pass / Fail	Notes
0	Anchor Rods	41.1	Pass	-
0	Base Foundation (Soil Interaction)	75.3	Pass	-
0	Base Foundation (Structural)	10.7	Pass	-

GENERAL COMMENTS

This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Velocitel should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Velocitel.

APPENDIX

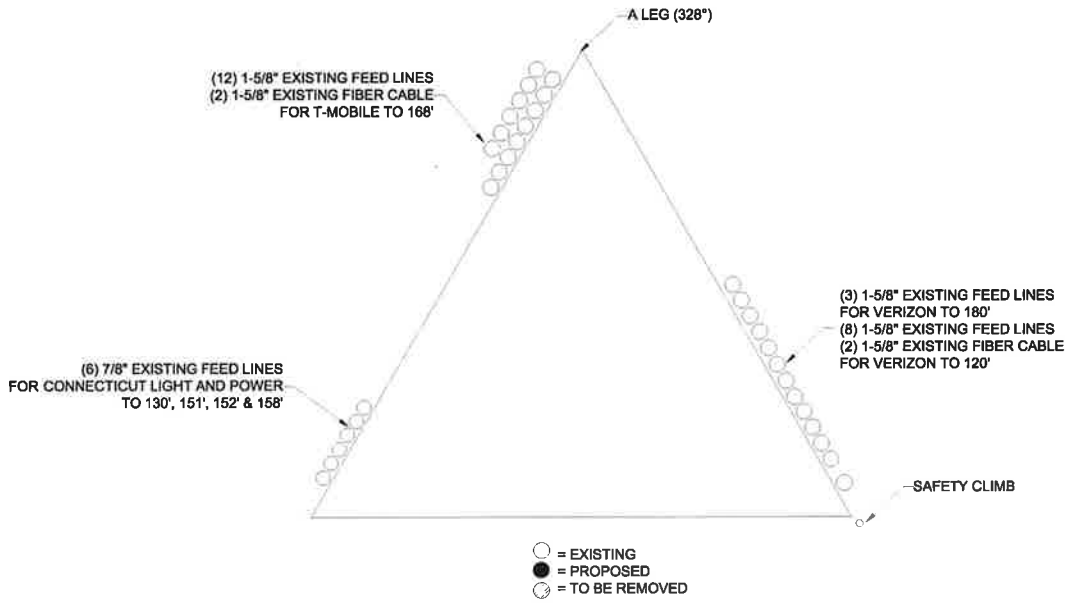
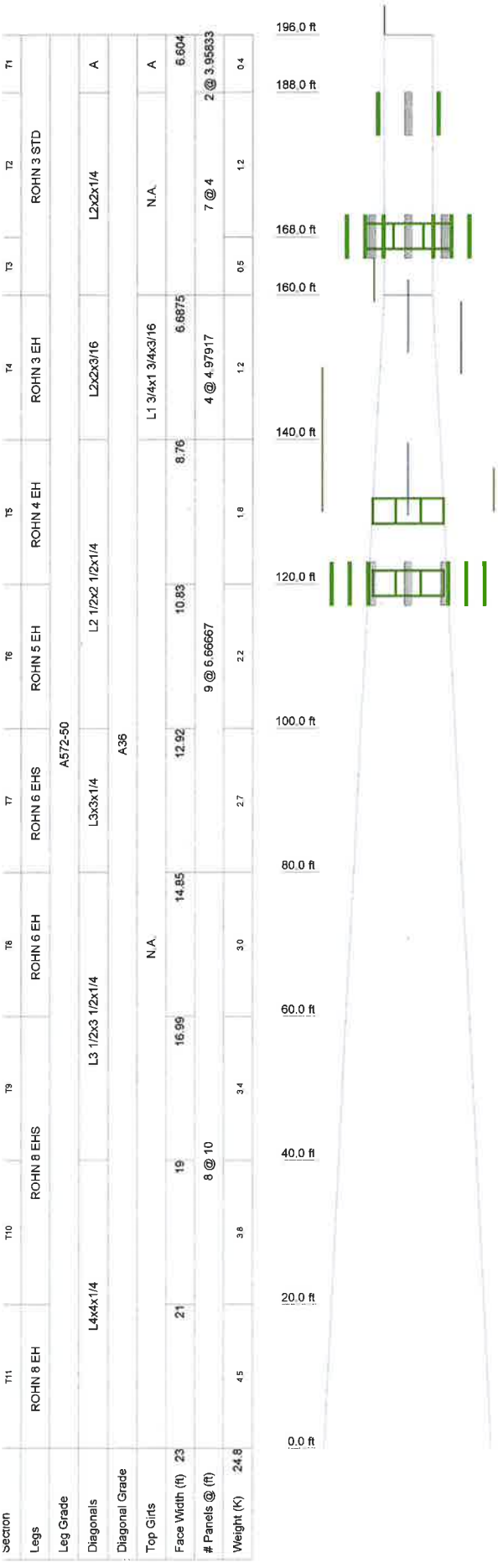


Figure 1 – Feed Line Layout



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	196	RFS PD1142-2B	158
BXA-80080/4CF w/ Mount Pipe	185	(1) 1.5' Standoff	158
BXA-80080/4CF w/ Mount Pipe	185	RFS 458-2N	152
BXA-80080/4CF w/ Mount Pipe	185	(1) 4' Standoff	152
(2) FD9R6004/2C-3L	185	Telwave ANT450D6-9	151
(2) FD9R6004/2C-3L	185	(1) 4' Standoff	151
(2) FD9R6004/2C-3L	185	RFS 220-7N	130
AIR 21 B2/B4 w/Mount Pipe	168	RFS PD1142-2B	130
AIR 21 B2/B4 w/Mount Pipe	168	Telwave ANT450D6-9	130
AIR 21 B2/B4 w/Mount Pipe	168	(3) 8' Standoffs	130
AIR32 B66aa/B2a w/ Mount Pipe	168	(3) 10- T-Frames	120
AIR32 B66aa/B2a w/ Mount Pipe	168	(3) SBNHH-1D45B w/ Mount Pipe	120
AIR32 B66aa/B2a w/ Mount Pipe	168	(3) SBNHH-1D65B w/ Mount Pipe	120
LNX-6515DS-A1M w/ Mount Pipe	168	(3) SBNHH-1D65B w/ Mount Pipe	120
LNX-6515DS-A1M w/ Mount Pipe	168	RRH2X60-AWS	120
LNX-6515DS-A1M w/ Mount Pipe	168	RRH2X60-AWS	120
RR90-17-02DP w/Mount Pipe	168	RRH2X60-AWS	120
RR90-17-02DP w/Mount Pipe	168	RRH2x60-700	120
RR90-17-02DP w/Mount Pipe	168	RRH2x60-700	120
KRY 112 144	168	RRH2x60-700	120
KRY 112 144	168	RRH2X60-PCS	120
KRY 112 144	168	RRH2X60-PCS	120
RRUS11 B12	168	RRH2X60-PCS	120
RRUS11 B12	168	DB-T1-6Z-8AB-0Z	120
RRUS11 B12	168	DB-T1-6Z-8AB-0Z	120
(3) 10' T-Frames	168		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x3/16		

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 Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 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
8. TOWER RATING: 72.5%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 245 K
SHEAR: 27 K

UPLIFT: -203 K
SHEAR: 23 K

AXIAL 146 K
SHEAR 12 K
MOMENT 1456 kip-ft
TORQUE 4 kip-ft
50 mph WIND - 1.0000 in ICE
AXIAL 46 K
SHEAR 44 K
MOMENT 4578 kip-ft
TORQUE 18 kip-ft
REACTIONS - 101 mph WIND

FDH VELOCITEL ENGINEERING INNOVATION
Tower Analysis
FDH Velocitel
6521 Meridien Drive
Raleigh, NC 27616
Phone: 919.755.1012
FAX: 919.755.1031

Job: Mountain Street [Twr #2], CT06462-A-09
Project: 17QEIQ1400
Client: SBA Network Services, Inc. Drawn by: Aditya Chingale App'd:
Code: TIA-222-G Date: 05/10/17 Scale: N
Path: Dwg No.

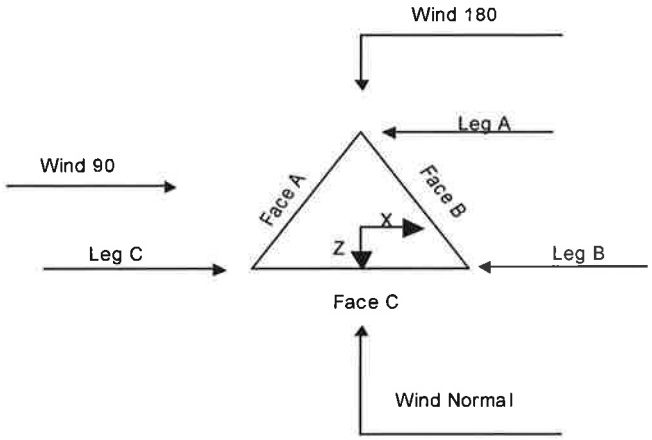
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 196.00 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 6.60 ft at the top and 23.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Windham County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 101 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 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.
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.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	196.00-188.00			6.60	1	8.00
T2	188.00-168.00			6.60	1	20.00
T3	168.00-160.00			6.60	1	8.00
T4	160.00-140.00			6.69	1	20.00
T5	140.00-120.00			8.76	1	20.00
T6	120.00-100.00			10.83	1	20.00
T7	100.00-80.00			12.92	1	20.00
T8	80.00-60.00			14.85	1	20.00
T9	60.00-40.00			16.99	1	20.00
T10	40.00-20.00			19.00	1	20.00
T11	20.00-0.00			21.00	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	196.00-188.00	3.96	X Brace	No	No	1.0000	0.0000
T2	188.00-168.00	4.00	X Brace	No	No	0.0000	0.0000
T3	168.00-160.00	4.00	X Brace	No	No	0.0000	0.0000
T4	160.00-140.00	4.98	X Brace	No	No	1.0000	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
T5	140.00-120.00	6.67	X Brace	No	No	0.0000	0.0000
T6	120.00-100.00	6.67	X Brace	No	No	0.0000	0.0000
T7	100.00-80.00	6.67	X Brace	No	No	0.0000	0.0000
T8	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T9	60.00-40.00	10.00	X Brace	No	No	0.0000	0.0000
T10	40.00-20.00	10.00	X Brace	No	No	0.0000	0.0000
T11	20.00-0.00	10.00	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 196.00-188.00	Pipe	ROHN 3 STD	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 188.00-168.00	Pipe	ROHN 3 STD	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T3 168.00-160.00	Pipe	ROHN 3 STD	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T4 160.00-140.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T5 140.00-120.00	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T6 120.00-100.00	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T7 100.00-80.00	Pipe	ROHN 6 EHS	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A36 (36 ksi)
T8 80.00-60.00	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T9 60.00-40.00	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A36 (36 ksi)
T10 40.00-20.00	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T11 20.00-0.00	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 196.00-188.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T4 160.00-140.00	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	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
T1 196.00-188.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 188.00-168.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 168.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 196.00-188.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 188.00-168.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 168.00-160.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 160.00-140.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 140.00-120.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 120.00-100.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 100.00-80.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 80.00-60.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T9 60.00-40.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T10 40.00-20.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T11 20.00-0.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 196.00-188.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 188.00-168.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 168.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 196.00-188.00	Flange	0.7500 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 188.00-168.00	Flange	0.8750 A325N	4	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 168.00-160.00	Flange	0.8750 A325N	4	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 160.00-140.00	Flange	0.8750 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 140.00-120.00	Flange	1.0000 A325N	4	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 120.00-100.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 100.00-80.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 80.00-60.00	Flange	1.0000 A325N	8	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 60.00-40.00	Flange	1.0000 A325N	8	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T10 40.00-20.00	Flange	1.0000 A325N	8	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 20.00-0.00	Flange	1.0000 A354-BC	0	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

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
LDF7-50A(1-5/8")	A	No	Ar (CaAa)	168.00 - 10.00	0.0000	0.35	14	8	0.5000	1.9800		0.82
Feedline Ladder (Af) 1.5" ***	A	No	Af (CaAa)	168.00 - 10.00	0.0000	0.35	1	1	1.5000	1.5000		4.20
LDF7-50A(1-5/8")	B	No	Ar (CaAa)	120.00 - 10.00	0.0000	0.35	13	13	0.5000	1.9800		0.82
Feedline Ladder (Af) 1.5" ***	B	No	Af (CaAa)	180.00 - 10.00	0.0000	0.35	1	1	1.5000	1.5000		4.20
LDF5-50A(7/8")	A	No	Ar (CaAa)	130.00 - 10.00	0.0000	0.4	6	6	0.5000	1.0900		0.33
LDF5-50A(7/8")	A	No	Ar (CaAa)	151.00 - 130.00	0.0000	0.4	3	3	0.5000	1.0900		0.33
LDF5-50A(7/8")	A	No	Ar (CaAa)	152.00 - 151.00	0.0000	0.4	2	2	0.5000	1.0900		0.33
LDF5-50A(7/8")	A	No	Ar (CaAa)	158.00 - 152.00	0.0000	0.4	1	1	0.5000	1.0900		0.33
Feedline Ladder (Af) 1.5" ***	A	No	Af (CaAa)	160.00 - 10.00	0.0000	0.4	1	1	1.5000	1.5000		4.20
Safety Line 3/8 ***	B	No	Ar (CaAa)	196.00 - 10.00	0.0000	0.5	1	1	0.3750	0.3750		0.22
LDF7-50A(1-5/8")	B	No	Ar (CaAa)	185.00 - 120.00	0.0000	0.35	3	3	0.5000	1.9800		0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	196.00-188.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.300	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	188.00-168.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	13.848	0.000	0.10

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.000	0.000	0.00
T3	168.00-160.00	A	0.000	0.000	24.176	0.000	0.13
		B	0.000	0.000	7.052	0.000	0.06
		C	0.000	0.000	0.000	0.000	0.00
T4	160.00-140.00	A	0.000	0.000	69.853	0.000	0.41
		B	0.000	0.000	17.630	0.000	0.14
		C	0.000	0.000	0.000	0.000	0.00
T5	140.00-120.00	A	0.000	0.000	75.250	0.000	0.43
		B	0.000	0.000	17.630	0.000	0.14
		C	0.000	0.000	0.000	0.000	0.00
T6	120.00-100.00	A	0.000	0.000	78.520	0.000	0.44
		B	0.000	0.000	57.230	0.000	0.30
		C	0.000	0.000	0.000	0.000	0.00
T7	100.00-80.00	A	0.000	0.000	78.520	0.000	0.44
		B	0.000	0.000	57.230	0.000	0.30
		C	0.000	0.000	0.000	0.000	0.00
T8	80.00-60.00	A	0.000	0.000	78.520	0.000	0.44
		B	0.000	0.000	57.230	0.000	0.30
		C	0.000	0.000	0.000	0.000	0.00
T9	60.00-40.00	A	0.000	0.000	78.520	0.000	0.44
		B	0.000	0.000	57.230	0.000	0.30
		C	0.000	0.000	0.000	0.000	0.00
T10	40.00-20.00	A	0.000	0.000	78.520	0.000	0.44
		B	0.000	0.000	57.230	0.000	0.30
		C	0.000	0.000	0.000	0.000	0.00
T11	20.00-0.00	A	0.000	0.000	39.260	0.000	0.22
		B	0.000	0.000	28.615	0.000	0.15
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	196.00-188.00	A	2.385	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	4.116	0.000	0.07
		C		0.000	0.000	0.000	0.000	0.00
T2	188.00-168.00	A	2.367	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	47.518	0.000	0.81
		C		0.000	0.000	0.000	0.000	0.00
T3	168.00-160.00	A	2.348	0.000	0.000	31.477	0.000	0.71
		B		0.000	0.000	23.228	0.000	0.41
		C		0.000	0.000	0.000	0.000	0.00
T4	160.00-140.00	A	2.327	0.000	0.000	111.241	0.000	2.37
		B		0.000	0.000	57.760	0.000	1.01
		C		0.000	0.000	0.000	0.000	0.00
T5	140.00-120.00	A	2.294	0.000	0.000	123.910	0.000	2.52
		B		0.000	0.000	57.270	0.000	0.99
		C		0.000	0.000	0.000	0.000	0.00
T6	120.00-100.00	A	2.256	0.000	0.000	128.415	0.000	2.59
		B		0.000	0.000	115.868	0.000	2.15
		C		0.000	0.000	0.000	0.000	0.00
T7	100.00-80.00	A	2.211	0.000	0.000	127.476	0.000	2.54
		B		0.000	0.000	115.250	0.000	2.11
		C		0.000	0.000	0.000	0.000	0.00
T8	80.00-60.00	A	2.156	0.000	0.000	126.326	0.000	2.48
		B		0.000	0.000	114.493	0.000	2.06
		C		0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T9	60.00-40.00	A	2.085	0.000	0.000	124.833	0.000	2.41
		B		0.000	0.000	113.510	0.000	2.00
		C		0.000	0.000	0.000	0.000	0.00
T10	40.00-20.00	A	1.981	0.000	0.000	122.664	0.000	2.30
		B		0.000	0.000	112.081	0.000	1.90
		C		0.000	0.000	0.000	0.000	0.00
T11	20.00-0.00	A	1.775	0.000	0.000	59.185	0.000	1.05
		B		0.000	0.000	54.625	0.000	0.86
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	196.00-188.00	0.2359	0.1351	0.7890	0.4518
T2	188.00-168.00	2.7484	1.0031	2.3579	0.9907
T3	168.00-160.00	0.4839	-4.3185	1.3814	-2.0772
T4	160.00-140.00	0.4313	-5.5345	1.2146	-3.5840
T5	140.00-120.00	0.4747	-6.9624	1.4250	-4.6571
T6	120.00-100.00	3.9220	-5.0267	4.1285	-3.5828
T7	100.00-80.00	4.3084	-5.4841	4.6194	-3.9865
T8	80.00-60.00	4.9863	-6.3141	5.4544	-4.6852
T9	60.00-40.00	5.3194	-6.7084	5.9438	-5.0838
T10	40.00-20.00	5.7142	-7.1835	6.4621	-5.5032
T11	20.00-0.00	4.4409	-5.5718	5.0959	-4.3145

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	13	Safety Line 3/8	188.00 - 196.00	0.6000	0.4781
T2	5	Feedline Ladder (Af) 1.5"	168.00 - 180.00	0.6000	0.5277
T2	13	Safety Line 3/8	168.00 - 188.00	0.6000	0.5277
T2	15	LDF7-50A(1-5/8")	168.00 - 185.00	0.6000	0.5277
T3	1	LDF7-50A(1-5/8")	160.00 - 168.00	0.6000	0.5313
T3	2	Feedline Ladder (Af) 1.5"	160.00 - 168.00	0.6000	0.5313
T3	5	Feedline Ladder (Af) 1.5"	160.00 - 168.00	0.6000	0.5313
T3	13	Safety Line 3/8	160.00 - 168.00	0.6000	0.5313
T3	15	LDF7-50A(1-5/8")	160.00 - 168.00	0.6000	0.5313
T4	1	LDF7-50A(1-5/8")	140.00 - 160.00	0.6000	0.5841

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	2	Feedline Ladder (Af) 1.5"	140.00 - 160.00	0.6000	0.5841
T4	5	Feedline Ladder (Af) 1.5"	140.00 - 160.00	0.6000	0.5841
T4	8	LDF5-50A(7/8")	140.00 - 151.00	0.6000	0.5841
T4	9	LDF5-50A(7/8")	151.00 - 152.00	0.6000	0.5841
T4	10	LDF5-50A(7/8")	152.00 - 158.00	0.6000	0.5841
T4	11	Feedline Ladder (Af) 1.5"	140.00 - 160.00	0.6000	0.5841
T4	13	Safety Line 3/8	140.00 - 160.00	0.6000	0.5841
T4	15	LDF7-50A(1-5/8")	140.00 - 160.00	0.6000	0.5841
T5	1	LDF7-50A(1-5/8")	120.00 - 140.00	0.6000	0.6000
T5	2	Feedline Ladder (Af) 1.5"	120.00 - 140.00	0.6000	0.6000
T5	5	Feedline Ladder (Af) 1.5"	120.00 - 140.00	0.6000	0.6000
T5	7	LDF5-50A(7/8")	120.00 - 130.00	0.6000	0.6000
T5	8	LDF5-50A(7/8")	130.00 - 140.00	0.6000	0.6000
T5	11	Feedline Ladder (Af) 1.5"	120.00 - 140.00	0.6000	0.6000
T5	13	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T5	15	LDF7-50A(1-5/8")	120.00 - 140.00	0.6000	0.6000
T6	1	LDF7-50A(1-5/8")	100.00 - 120.00	0.6000	0.6000
T6	2	Feedline Ladder (Af) 1.5"	100.00 - 120.00	0.6000	0.6000
T6	4	LDF7-50A(1-5/8")	100.00 - 120.00	0.6000	0.6000
T6	5	Feedline Ladder (Af) 1.5"	100.00 - 120.00	0.6000	0.6000
T6	7	LDF5-50A(7/8")	100.00 - 120.00	0.6000	0.6000
T6	11	Feedline Ladder (Af) 1.5"	100.00 - 120.00	0.6000	0.6000
T6	13	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T7	1	LDF7-50A(1-5/8")	80.00 - 100.00	0.6000	0.6000
T7	2	Feedline Ladder (Af) 1.5"	80.00 - 100.00	0.6000	0.6000
T7	4	LDF7-50A(1-5/8")	80.00 - 100.00	0.6000	0.6000
T7	5	Feedline Ladder (Af) 1.5"	80.00 - 100.00	0.6000	0.6000
T7	7	LDF5-50A(7/8")	80.00 - 100.00	0.6000	0.6000
T7	11	Feedline Ladder (Af) 1.5"	80.00 - 100.00	0.6000	0.6000
T7	13	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T8	1	LDF7-50A(1-5/8")	60.00 - 80.00	0.6000	0.6000
T8	2	Feedline Ladder (Af) 1.5"	60.00 - 80.00	0.6000	0.6000
T8	4	LDF7-50A(1-5/8")	60.00 - 80.00	0.6000	0.6000
T8	5	Feedline Ladder (Af) 1.5"	60.00 - 80.00	0.6000	0.6000
T8	7	LDF5-50A(7/8")	60.00 - 80.00	0.6000	0.6000
T8	11	Feedline Ladder (Af) 1.5"	60.00 - 80.00	0.6000	0.6000
T8	13	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T9	1	LDF7-50A(1-5/8")	40.00 - 60.00	0.6000	0.6000
T9	2	Feedline Ladder (Af) 1.5"	40.00 - 60.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	4	LDF7-50A(1-5/8")	40.00 - 60.00	0.6000	0.6000
T9	5	Feedline Ladder (Af) 1.5"	40.00 - 60.00	0.6000	0.6000
T9	7	LDF5-50A(7/8")	40.00 - 60.00	0.6000	0.6000
T9	11	Feedline Ladder (Af) 1.5"	40.00 - 60.00	0.6000	0.6000
T9	13	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T10	1	LDF7-50A(1-5/8")	20.00 - 40.00	0.6000	0.6000
T10	2	Feedline Ladder (Af) 1.5"	20.00 - 40.00	0.6000	0.6000
T10	4	LDF7-50A(1-5/8")	20.00 - 40.00	0.6000	0.6000
T10	5	Feedline Ladder (Af) 1.5"	20.00 - 40.00	0.6000	0.6000
T10	7	LDF5-50A(7/8")	20.00 - 40.00	0.6000	0.6000
T10	11	Feedline Ladder (Af) 1.5"	20.00 - 40.00	0.6000	0.6000
T10	13	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T11	1	LDF7-50A(1-5/8")	10.00 - 20.00	0.6000	0.6000
T11	2	Feedline Ladder (Af) 1.5"	10.00 - 20.00	0.6000	0.6000
T11	4	LDF7-50A(1-5/8")	10.00 - 20.00	0.6000	0.6000
T11	5	Feedline Ladder (Af) 1.5"	10.00 - 20.00	0.6000	0.6000
T11	7	LDF5-50A(7/8")	10.00 - 20.00	0.6000	0.6000
T11	11	Feedline Ladder (Af) 1.5"	10.00 - 20.00	0.6000	0.6000
T11	13	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod	C	From Leg	0.00 0.00 2.00	0.0000	196.00	No Ice 1/2" Ice 1" Ice	0.25 0.66 0.97	0.25 0.66 0.97	0.03 0.03 0.04
****									
BXA-80080/4CF w/ Mount Pipe	A	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	5.04 5.42 5.81	4.03 4.65 5.28	0.03 0.08 0.13
BXA-80080/4CF w/ Mount Pipe	B	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	5.04 5.42 5.81	4.03 4.65 5.28	0.03 0.08 0.13
BXA-80080/4CF w/ Mount Pipe	C	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	5.04 5.42 5.81	4.03 4.65 5.28	0.03 0.08 0.13
(2) FD9R6004/2C-3L	A	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	0.00 0.01 0.01
(2) FD9R6004/2C-3L	B	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	0.00 0.01 0.01
(2) FD9R6004/2C-3L	C	From Leg	1.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice 1" Ice	0.31 0.39 0.47	0.08 0.12 0.17	0.00 0.01 0.01
***									
(3) SBNHH-1D45B w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	11.40 11.89 12.38	6.47 7.23 8.00	0.64 0.71 0.80

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(3) SBNHH-1D65B w/ Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	8.29 8.85 9.37	7.00 8.19 9.08	0.08 0.14 0.22
(3) SBNHH-1D65B w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	8.29 8.85 9.37	7.00 8.19 9.08	0.08 0.14 0.22
RRH2X60-AWS	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2X60-AWS	B	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2X60-AWS	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2x60-700	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2x60-700	B	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2x60-700	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
RRH2X60-PCS	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.65 1.83 2.01	0.05 0.07 0.09
RRH2X60-PCS	B	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.65 1.83 2.01	0.05 0.07 0.09
RRH2X60-PCS	C	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	2.20 2.39 2.59	1.65 1.83 2.01	0.05 0.07 0.09
DB-T1-6Z-8AB-0Z	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	4.80 5.07 5.35	2.00 2.19 2.39	0.04 0.08 0.12
DB-T1-6Z-8AB-0Z	A	From Leg	3.00 0.00 0.00	0.0000	120.00	No Ice 1/2" Ice 1" Ice	4.80 5.07 5.35	2.00 2.19 2.39	0.04 0.08 0.12
(3) 10- T-Frames	C	None		0.0000	120.00	No Ice 1/2" Ice 1" Ice	33.02 47.36 61.70	33.02 47.36 61.70	1.67 2.22 2.77
****									
AIR 21 B2/B4 w/Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.09 7.78 8.37	6.02 7.17 8.03	0.12 0.18 0.25
AIR 21 B2/B4 w/Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.09 7.78 8.37	6.02 7.17 8.03	0.12 0.18 0.25
AIR 21 B2/B4 w/Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.09 7.78 8.37	6.02 7.17 8.03	0.12 0.18 0.25
AIR32 B66aa/B2a w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.34 7.87 8.39	6.15 7.01 7.80	0.15 0.21 0.28
AIR32 B66aa/B2a w/ Mount Pipe	B	From Leg	3.00 0.00	0.0000	168.00	No Ice 1/2" Ice	7.34 7.87	6.15 7.01	0.15 0.21

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	8.39	7.80	0.28
AIR32 B66aa/B2a w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	7.34 7.87 8.39	6.15 7.01 7.80	0.15 0.21 0.28
LNX-6515DS-A1M w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.78 12.50 13.18	10.85 12.32 13.46	0.12 0.22 0.33
LNX-6515DS-A1M w/ Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.78 12.50 13.18	10.85 12.32 13.46	0.12 0.22 0.33
LNX-6515DS-A1M w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.78 12.50 13.18	10.85 12.32 13.46	0.12 0.22 0.33
RR90-17-02DP w/Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	4.91 5.50 6.00	3.64 4.70 5.48	0.04 0.08 0.13
RR90-17-02DP w/Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	4.91 5.50 6.00	3.64 4.70 5.48	0.04 0.08 0.13
RR90-17-02DP w/Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	4.91 5.50 6.00	3.64 4.70 5.48	0.04 0.08 0.13
KRY 112 144	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.60	0.19 0.26 0.33	0.01 0.01 0.02
KRY 112 144	B	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.60	0.19 0.26 0.33	0.01 0.01 0.02
KRY 112 144	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.60	0.19 0.26 0.33	0.01 0.01 0.02
RRUS11 B12	A	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS11 B12	B	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
RRUS11 B12	C	From Leg	3.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.31 3.55 3.80	1.36 1.54 1.73	0.05 0.07 0.10
(3) 10' T-Frames	A	None		0.0000	168.00	No Ice 1/2" Ice 1" Ice	18.73 27.19 35.65	18.73 27.19 35.65	0.86 1.26 1.66
***									
RFS PD1142-2B	C	From Leg	1.50 0.00 4.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.32 3.75 5.18	2.32 3.75 5.18	0.01 0.03 0.06
(1) 1.5' Standoff	C	None		0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	0.15 0.22 0.30
***									
RFS 458-2N	A	From Leg	4.00 0.00 5.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	3.00 4.03 5.03	3.00 4.03 5.03	0.02 0.04 0.07
(1) 4' Standoff	A	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	0.15 0.22 0.30

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
****									
Telwave ANT450D6-9	B	From Leg	4.00 0.00 3.00	0.0000	151.00	No Ice 1/2" Ice 1" Ice	0.50 0.90 1.30	0.50 0.90 1.30	0.02 0.02 0.03
(1) 4' Standoff	B	None		0.0000	151.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	0.15 0.22 0.30
***									
RFS 220-7N	C	From Leg	8.00 0.00 10.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	4.28 6.20 8.15	4.28 6.20 8.15	0.02 0.05 0.10
RFS PD1142-2B	A	From Leg	8.00 0.00 4.50	0.0000	130.00	No Ice 1/2" Ice 1" Ice	2.32 3.75 5.18	2.32 3.75 5.18	0.01 0.03 0.06
Telwave ANT450D6-9	B	From Leg	8.00 0.00 3.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	0.50 0.90 1.30	0.50 0.90 1.30	0.02 0.02 0.03
(3) 8' Standoffs	C	None		0.0000	130.00	No Ice 1/2" Ice 1" Ice	17.61 24.67 31.73	17.61 24.67 31.73	0.44 0.67 0.90
****									

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

Comb. No.	Description
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 °
T1	196 - 188	3.204	39	0.1391	0.0089
T2	188 - 168	2.970	39	0.1391	0.0089
T3	168 - 160	2.389	39	0.1353	0.0089
T4	160 - 140	2.162	39	0.1300	0.0088
T5	140 - 120	1.634	39	0.1115	0.0076
T6	120 - 100	1.192	39	0.0931	0.0065
T7	100 - 80	0.818	39	0.0752	0.0052
T8	80 - 60	0.521	39	0.0566	0.0040
T9	60 - 40	0.301	39	0.0406	0.0029
T10	40 - 20	0.142	39	0.0264	0.0019
T11	20 - 0	0.044	39	0.0116	0.0009

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
196.00	Lightning Rod	39	3.204	0.1391	0.0089	Inf
185.00	BXA-80080/4CF w/ Mount Pipe	39	2.883	0.1390	0.0090	Inf
168.00	AIR 21 B2/B4 w/Mount Pipe	39	2.389	0.1353	0.0089	230895
158.00	RFS PD1142-2B	39	2.106	0.1284	0.0087	83918
152.00	RFS 458-2N	39	1.942	0.1231	0.0085	66968
151.00	Telwave ANT450D6-9	39	1.915	0.1221	0.0084	64844
130.00	RFS 220-7N	39	1.403	0.1021	0.0070	60893

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.00	(3) SBNHH-1D45B w/ Mount Pipe	39	1.192	0.0931	0.0065	79325

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	196 - 188	14.010	2	0.6084	0.0405
T2	188 - 168	12.989	2	0.6080	0.0406
T3	168 - 160	10.450	2	0.5909	0.0405
T4	160 - 140	9.455	2	0.5667	0.0400
T5	140 - 120	7.157	2	0.4841	0.0346
T6	120 - 100	5.239	2	0.4019	0.0296
T7	100 - 80	3.611	2	0.3273	0.0236
T8	80 - 60	2.309	2	0.2476	0.0180
T9	60 - 40	1.339	2	0.1780	0.0133
T10	40 - 20	0.635	2	0.1160	0.0085
T11	20 - 0	0.199	2	0.0511	0.0043

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
196.00	Lightning Rod	2	14.010	0.6084	0.0405	Inf
185.00	BXA-80080/4CF w/ Mount Pipe	2	12.607	0.6077	0.0406	373257
168.00	AIR 21 B2/B4 w/Mount Pipe	2	10.450	0.5909	0.0405	52323
158.00	RFS PD1142-2B	2	9.211	0.5594	0.0397	18809
152.00	RFS 458-2N	2	8.496	0.5357	0.0383	14943
151.00	Telwave ANT450D6-9	2	8.379	0.5315	0.0381	14460
130.00	RFS 220-7N	2	6.155	0.4417	0.0319	13933
120.00	(3) SBNHH-1D45B w/ Mount Pipe	2	5.239	0.4019	0.0296	19048

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	196	Leg	A325N	0.7500	4	0.07	29.82	0.003 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	0.21	5.81	0.035 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.06	12.43	0.005 ✔	1	Bolt Shear
T2	188	Leg	A325N	0.8750	4	1.48	40.59	0.036 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	1.22	9.11	0.134 ✔	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T3	168	Leg	A325N	0.8750	4	3.30	40.59	0.081 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2.84	9.11	0.311 ✔	1	Member Block Shear
T4	160	Leg	A325N	0.8750	4	8.68	40.59	0.214 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3.30	6.83	0.483 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.10	5.81	0.018 ✔	1	Member Block Shear
T5	140	Leg	A325N	1.0000	4	13.83	53.01	0.261 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	1	4.29	10.44	0.411 ✔	1	Member Bearing
T6	120	Leg	A325N	1.0000	6	13.57	53.01	0.256 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	1	5.97	11.96	0.499 ✔	1	Member Block Shear
T7	100	Leg	A325N	1.0000	6	17.98	53.01	0.339 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	1	6.81	12.62	0.540 ✔	1	Member Bearing
T8	80	Leg	A325N	1.0000	8	16.26	53.01	0.307 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	1	7.53	12.62	0.597 ✔	1	Member Bearing
T9	60	Leg	A325N	1.0000	8	19.16	53.01	0.361 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	1	8.26	12.62	0.655 ✔	1	Member Bearing
T10	40	Leg	A325N	1.0000	8	21.99	53.01	0.415 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	1	8.77	12.62	0.695 ✔	1	Member Bearing
T11	20	Diagonal	A325N	0.7500	1	9.15	12.62	0.725 ✔	1	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	196 - 188	ROHN 3 STD	8.00	3.96	40.8 K=1.00	2.2285	-0.90	88.78	0.010 [1] ✔
T2	188 - 168	ROHN 3 STD	20.00	4.00	41.3 K=1.00	2.2285	-7.85	88.55	0.089 [1] ✔
T3	168 - 160	ROHN 3 STD	8.00	4.00	41.3 K=1.00	2.2285	-17.62	88.55	0.199 [1] ✔
T4	160 - 140	ROHN 3 EH	20.04	4.99	52.7 K=1.00	3.0159	-42.00	110.80	0.379 [1] ✔
T5	140 - 120	ROHN 4 EH	20.04	6.68	54.3 K=1.00	4.4074	-65.57	159.91	0.410 [1] ✔
T6	120 - 100	ROHN 5 EH	20.04	6.68	43.6 K=1.00	6.1120	-99.92	239.38	0.417 [1] ✔
T7	100 - 80	ROHN 6 EHS	20.03	6.68	36.0	6.7133	-130.58	274.78	0.475 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00				✔
T8	80 - 60	ROHN 6 EH	20.04	10.02	54.8 K=1.00	8.4049	-156.78	303.72	0.516 [1] ✔
T9	60 - 40	ROHN 8 EHS	20.03	10.02	40.6 K=1.00	9.8666	-184.54	393.69	0.469 [1] ✔
T10	40 - 20	ROHN 8 EHS	20.03	10.02	40.6 K=1.00	9.8666	-212.09	393.69	0.539 [1] ✔
T11	20 - 0	ROHN 8 EH	20.03	10.02	41.8 K=1.00	12.7627	-238.72	505.56	0.472 [1] ✔

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	196 - 188	L1 3/4x1 3/4x3/16	7.70	3.56	124.4 K=1.00	0.6211	-0.21	8.91	0.024 [1] ✔
T2	188 - 168	L2x2x1/4	7.72	3.57	112.2 K=1.02	0.9380	-1.36	15.67	0.087 [1] ✔
T3	168 - 160	L2x2x1/4	7.77	3.61	113.1 K=1.02	0.9380	-2.88	15.50	0.186 [1] ✔
T4	160 - 140	L2x2x3/16	9.85	4.79	145.8 K=1.00	0.7150	-3.28	7.60	0.432 [1] ✔
T5	140 - 120	L2 1/2x2 1/2x1/4	12.43	6.08	148.5 K=1.00	1.1900	-4.36	12.19	0.357 [1] ✔
T6	120 - 100	L2 1/2x2 1/2x1/4	14.23	6.92	169.0 K=1.00	1.1900	-6.02	9.41	0.640 [1] ✔
T7	100 - 80	L3x3x1/4	15.99	7.73	156.7 K=1.00	1.4400	-6.81	13.25	0.514 [1] ✔
T8	80 - 60	L3 1/2x3 1/2x1/4	19.26	9.48	164.0 K=1.00	1.6900	-7.54	14.20	0.531 [1] ✔
T9	60 - 40	L3 1/2x3 1/2x1/4	21.03	10.25	177.2 K=1.00	1.6900	-8.34	12.15	0.687 [1] ✔
T10	40 - 20	L4x4x1/4	22.81	11.14	168.2 K=1.00	1.9400	-8.89	15.49	0.574 [1] ✔
T11	20 - 0	L4x4x1/4	24.62	12.06	182.0 K=1.00	1.9400	-9.34	13.23	0.706 [1] ✔

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	196 - 188	L1 3/4x1 3/4x3/16 KL/R > 200 (C) - 5	6.60	6.07	212.2 K=1.00	0.6211	-0.06	3.12	0.020 [1] ✔
T4	160 - 140	L1 3/4x1 3/4x3/16 KL/R > 200 (C) - 72	6.70	6.16	215.4 K=1.00	0.6211	-0.12	3.02	0.038 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	196 - 188	ROHN 3 STD	8.00	3.96	40.8	2.2285	0.19	100.28	0.002 [1] ✔
T2	188 - 168	ROHN 3 STD	20.00	4.00	41.3	2.2285	5.92	100.28	0.059 [1] ✔
T3	168 - 160	ROHN 3 STD	8.00	4.00	41.3	2.2285	13.19	100.28	0.131 [1] ✔
T4	160 - 140	ROHN 3 EH	20.04	4.99	52.7	3.0159	34.73	135.72	0.256 [1] ✔
T5	140 - 120	ROHN 4 EH	20.04	6.68	54.3	4.4074	55.30	198.34	0.279 [1] ✔
T6	120 - 100	ROHN 5 EH	20.04	6.68	43.6	6.1120	81.40	275.04	0.296 [1] ✔
T7	100 - 80	ROHN 6 EHS	20.03	6.68	36.0	6.7133	107.89	302.10	0.357 [1] ✔
T8	80 - 60	ROHN 6 EH	20.04	10.02	54.8	8.4049	130.05	378.22	0.344 [1] ✔
T9	60 - 40	ROHN 8 EHS	20.03	10.02	40.6	9.8666	153.24	444.00	0.345 [1] ✔
T10	40 - 20	ROHN 8 EHS	20.03	10.02	40.6	9.8666	175.88	444.00	0.396 [1] ✔
T11	20 - 0	ROHN 8 EH	20.03	10.02	41.8	12.7627	197.38	574.32	0.344 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	196 - 188	L1 3/4x1 3/4x3/16	7.70	3.56	82.2	0.3604	0.21	15.68	0.013 [1] ✔
T2	188 - 168	L2x2x1/4	7.72	3.57	72.7	0.5629	1.22	24.49	0.050 [1] ✔
T3	168 - 160	L2x2x1/4	7.77	3.61	73.5	0.5629	2.84	24.49	0.116 [1] ✔
T4	160 - 140	L2x2x3/16	9.85	4.79	95.4	0.4308	3.30	18.74	0.176 [1] ✔
T5	140 - 120	L2 1/2x2 1/2x1/4	12.43	6.08	96.7	0.7519	4.29	32.71	0.131 [1] ✔
T6	120 - 100	L2 1/2x2 1/2x1/4	14.23	6.92	110.0	0.7284	5.97	31.69	0.188 [1] ✔
T7	100 - 80	L3x3x1/4	15.99	7.73	101.5	0.9159	6.81	39.84	0.171 [1] ✔
T8	80 - 60	L3 1/2x3 1/2x1/4	19.26	9.48	105.9	1.1034	7.53	48.00	0.157 [1] ✔
T9	60 - 40	L3 1/2x3 1/2x1/4	21.03	10.25	114.3	1.1034	8.26	48.00	0.172 [1] ✔
T10	40 - 20	L4x4x1/4	22.81	11.14	108.3	1.2909	8.77	56.16	0.156 [1] ✔
T11	20 - 0	L4x4x1/4	24.62	12.06	117.0	1.2909	9.15	56.16	0.163 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	160 - 140	L1 3/4x1 3/4x3/16	6.70	6.16	143.1	0.3604	0.10	15.68	0.007 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	196 - 188	Leg	ROHN 3 STD	1	-0.90	88.78	1.0	Pass
T2	188 - 168	Leg	ROHN 3 STD	20	-7.85	88.55	8.9	Pass
T3	168 - 160	Leg	ROHN 3 STD	54	-17.62	88.55	19.9	Pass
T4	160 - 140	Leg	ROHN 3 EH	69	-42.00	110.80	37.9	Pass
T5	140 - 120	Leg	ROHN 4 EH	99	-65.57	159.91	41.0	Pass
T6	120 - 100	Leg	ROHN 5 EH	120	-99.92	239.38	41.7	Pass
T7	100 - 80	Leg	ROHN 6 EHS	141	-130.58	274.78	47.5	Pass
T8	80 - 60	Leg	ROHN 6 EH	162	-156.78	303.72	51.6	Pass
T9	60 - 40	Leg	ROHN 8 EHS	177	-184.54	393.69	46.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T10	40 - 20	Leg	ROHN 8 EHS	192	-212.09	393.69	53.9	Pass
T11	20 - 0	Leg	ROHN 8 EH	207	-238.72	505.56	47.2	Pass
T1	196 - 188	Diagonal	L1 3/4x1 3/4x3/16	8	-0.21	8.91	2.4	Pass
							3.5 (b)	
T2	188 - 168	Diagonal	L2x2x1/4	25	-1.36	15.67	8.7	Pass
							13.4 (b)	
T3	168 - 160	Diagonal	L2x2x1/4	57	-2.88	15.50	18.6	Pass
							31.1 (b)	
T4	160 - 140	Diagonal	L2x2x3/16	75	-3.28	7.60	43.2	Pass
							48.3 (b)	
T5	140 - 120	Diagonal	L2 1/2x2 1/2x1/4	105	-4.36	12.19	35.7	Pass
							41.1 (b)	
T6	120 - 100	Diagonal	L2 1/2x2 1/2x1/4	126	-6.02	9.41	64.0	Pass
T7	100 - 80	Diagonal	L3x3x1/4	144	-6.81	13.25	51.4	Pass
							54.0 (b)	
T8	80 - 60	Diagonal	L3 1/2x3 1/2x1/4	165	-7.54	14.20	53.1	Pass
							59.7 (b)	
T9	60 - 40	Diagonal	L3 1/2x3 1/2x1/4	180	-8.34	12.15	68.7	Pass
T10	40 - 20	Diagonal	L4x4x1/4	195	-8.89	15.49	57.4	Pass
							69.5 (b)	
T11	20 - 0	Diagonal	L4x4x1/4	210	-9.34	13.23	70.6	Pass
							72.5 (b)	
T1	196 - 188	Top Girt	L1 3/4x1 3/4x3/16	5	-0.06	3.12	2.0	Pass
T4	160 - 140	Top Girt	L1 3/4x1 3/4x3/16	72	-0.12	3.02	3.8	Pass
							Summary	
						Leg (T10)	53.9	Pass
						Diagonal (T11)	72.5	Pass
						Top Girt (T4)	3.8	Pass
						Bolt Checks	72.5	Pass
						RATING =	**72.5**	**Pass**

FDH VELOCITEL
ENGINEERING INNOVATION
FDH Velocitel., 6521 Meridien Dr. Raleigh, NC 27616, Ph. 919.755.1012, Fax 919.755.1031

SST - Anchor Rod Interaction Check per 4.9.9 TIA-222-G

Project No.	17QEIQ1400
Site Name	Mountain Street
Site ID	CT06462-A

RISA Reactions per Leg		
Pu	203	kips
Vu	23	kips

Anchor Rod Properties:			
F_{yb}, Anchor Rod Ult. Yield Stress	109	ksi	
F_{ub}, Anchor Rod Ult. Tensile Stress	125	ksi	
number of anchor rods per leg	10	-	
diameter of anchor rod	1	in	
A_{net}, anchor rods	0.606	in^2	*(use Table 7-18 AISC, Net Tensile Area)*
η, detail type factor	0.5	-	*(see Fig. 4-4 Anchor Rod Detail Type)*
L_{ar}, unbraced length	1.0	in	

Capacity:			
$øR_{nt}$, design tensile strength	60.60	kips	
$øR_{nv}$, design shear strength	33.13	kips	
$øR_{nm}$, design flexural strength	10.42	kip-in	
Interaction Equation	41.1%	OK	*(TIA-222-G section 4.9.9)*
Interaction Equation	N/A	OK	*(TIA-222-G section 4.9.9)*

Equations:

$øR_{nt} = 0.8*F_{ub}*A_{net}$

$øR_{nt} = 0.75*0.45*F_{ub}*A_{b}$

$øR_{nt} = 0.9*Fy_{b}*d^3/6$

Interaction Equation = [Pu/leg+(Vu/leg)/η]/øRnt

Interaction Equation = [(Vu/øRnv)^2+(Pu/øRnt+Mu/øRnm)^2]

FDH VELOCITEL
ENGINEERING INNOVATION

Self-Support Mat Foundation

Project Data		
Project Number:	*Project*	17QEIQ1400
Site Name:	*SiteName*	Mountain Street [Twr #2]
Site Number:	*SiteNumber*	CT06462-A

Legend	
Label/Units	Calc'd
Empty Input	Pass
Filled Input	Fail

Tower Reactions			
Moment:	*TwrM*	4578.0	ft-kip
Shear:	*TwrV*	44.0	kip
Axial:	*TwrP*	46.0	kip
Leg Compression:	*LegC*	245.0	kip

Code & Design Parameters			
Standard:	*Standard*	TIA-222-G	-
Maximum Soil Stress Ratio:	*MaxSoilRatio*	100.00%	-
Maximum Steel Stress Ratio:	*MaxSteelRatio*	100.00%	-

Site Details			
Frost Depth:	*Frost*	3.333	ft
Water Depth:	*Water*	100	ft
Seismic Design Category:	*SDC*	C	-

Soil Parameters			
Bearing Pressure Capacity:	*Bc*	2000	psf
Ultimate or Allowable:	*BcUltAll*	Ultimate	-
Bearing Pressure Type:	*BcType*	Net	-
Unit Weight:	*gamma*	120	pcf
Angle of Internal Friction:	*phi*	32	deg
Cohesion:	*cohesion*	0	psf
Sliding Friction Coefficient:	*mu*	0.5	-
Passive Pressure Coefficient:	*K_p*	3.60	-
Passive Pressure Coeff. Override	*KpOver*	3.6	-

Design Dimensions			
Tower Width:	*TwrWidth*	23	ft
Base Leg Diameter:	*LegDiameter*	8.625	in
Eccentric Loading:	*EccLoading*	FALSE	-
Bearing Depth:	*D*	3.5	ft
Mat Width:	*W*	36	ft
Mat Length:	*L*	36	ft
Mat Thickness:	*T*	4	ft

Material Specifications			
Concrete Strength:	*fc*	3000	psi
Concrete Weight:	*ConcUnitWt*	150	pcf
Reinf. Yield Strength:	*Fy*	60	ksi

Reinforcement			
Utilize Minimum Steel?:	*MinSteelCheck*	No	-
Clear Cover:	*cc*	3	in
Reinforcement Size:	*PadSize*	7	-
Reinforcement Qty (Along L):	*PadQtyL*	40	-
Reinforcement Qty (Along W):	*PadQtyW*	40	-
Distance to Center of Reinf.:	*Dist*	44.13	in

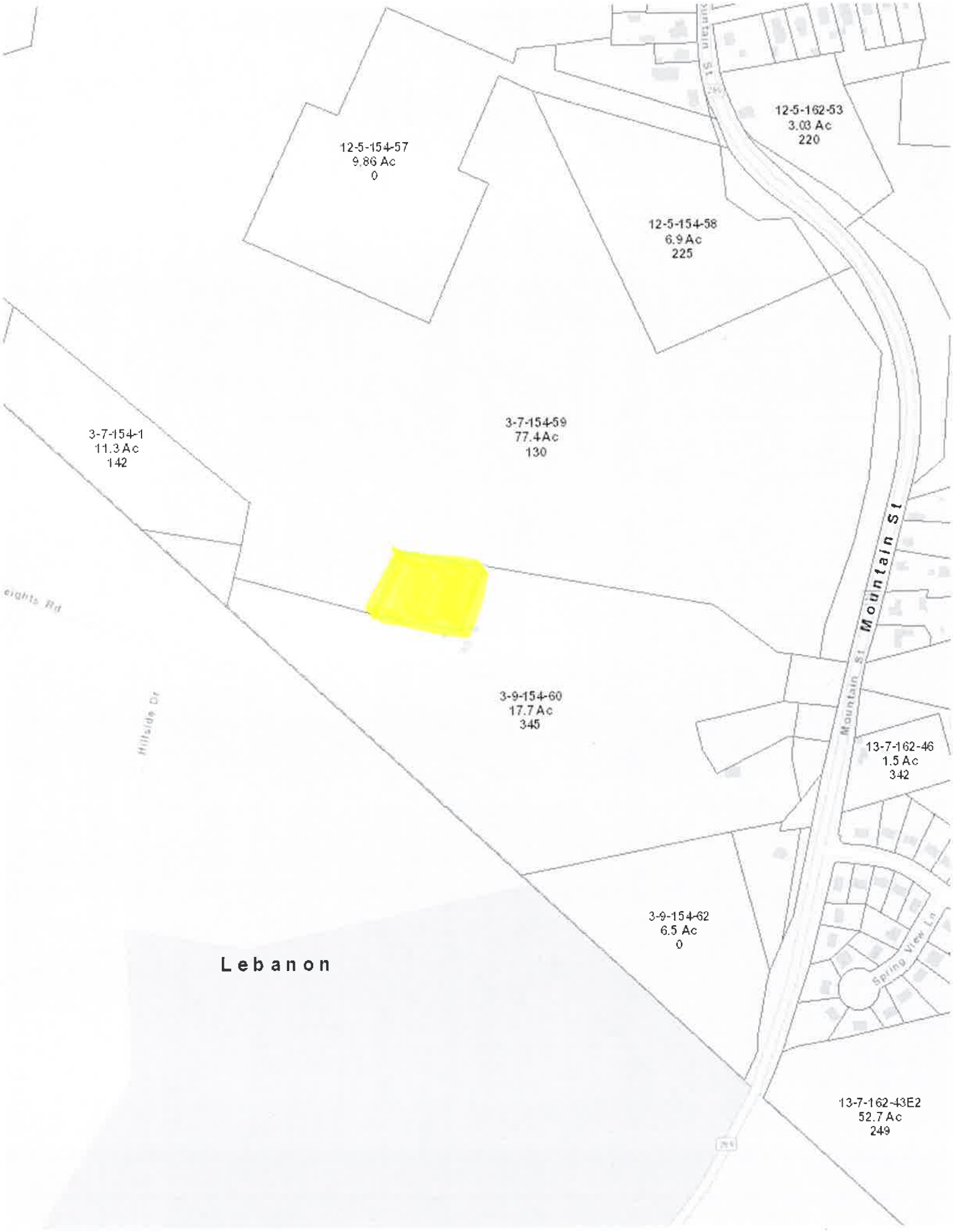
Soil & Steel Checks		
Lateral:	*LatRatio*	11.8%
Overturning:	*OTRatio*	34.5%
Bearing:	*Qratio*	75.3%
One-Way Shear:	*V1Ratio*	10.7%
Two-Way Shear:	*V2Ratio*	18.6%
Flexure:	*FlexRatio*	28.9%
Min. Reinforcement:	*MinPadCheck*	OK
Reinf. Development:	*DevPadCheck*	OK

Controlling Percentages	
Controlling Soil - Bearing:	75.3%
Controlling Steel - One-Way Shear:	10.7%

Analysis Notes:

1. Buoyant unit weights must be entered directly in the "*ConcUnitWt*" and "*gamma*" cells.
2. Checks both mat diretions for worst case steel and soil capacities.
3. Utilizes elastic analysis methods with either trapezoidal or triangular distribution, a Kern limit of L/6, and a stability limit of L/2.
4. The assumed minimum steel used is based off the parameters from temperature & shrinkage (0.0018).

ATTACHMENT 4


12-5-154-57
9.86 Ac
0
12-5-162-53
3.03 Ac
220
12-5-154-58
6.9 Ac
225
3-7-154-1
11.3 Ac
142
3-7-154-59
77.4 Ac
130
3-9-154-60
17.7 Ac
345
13-7-162-46
1.5 Ac
342
3-9-154-62
6.5 Ac
0
13-7-162-43E2
52.7 Ac
249
Mountain St
Hillside Dr
Spring View Ln
Lebanon

Property Location: 349R MOUNTAIN ST | **MAP ID:** 3/9 154/ 60/EX / | **Bldg Name:** | **State Use:** 304

Vision ID: 5568 | **Account #** 00004100 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 08/10/2016 08:59

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
SBA PROPERTIES INC	2 Above Street	5 Well	3 Unpaved	
8051 CONGRESS AVE	5 Steep	6 Septic		
BOCA RATON, FL 33487		0 None		
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	3- 9/154/ 60EX	LCI	C
Zoning	R4	ParcelStatus	
Neighborhood	250 - 0	Cost Flag	
Living Units	0	Lot Number	0
Census	08004	A_D	
District No	2		
GIS ID:		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
UTL LAND	4-1	124,400	
UTL BLDG	4-2	38,300	
UTL OUTBL	4-3	22,570	
	Total	162,700	113,890

6163
WINDHAM, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
SBA PROPERTIES INC	631/ 299	04/10/2001	U	I	108,650	22
NUTMEG BROADCASTING COMPANY	343/ 130	09/10/1990	U	I	0	0
NUTMEG BROADCASTING COMPANY	304/ 277	10/09/1987	Q	I	75,000	
SYNCOM CAPITAL CORPORATION	285/ 647	09/01/1985	U	I	0	
DELTA COMMUNICATIONS CORPORATION	263/ 635	06/01/1980	U	I	0	
DAWSON JEROME & HILDA	241/ 106	04/01/1975	U	I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	300	26,810	2005	300	27,510			
2016	300	87,080	2005	300	30,821			
	Total:	113,890		Total:	58,330		Total:	

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A			433	1

NOTES

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	38,300
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	22,570
Appraised Land Value (Bldg)	124,400
Special Land Value	0
Total Appraised Parcel Value	162,700
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	162,700

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
14063	07/01/2003	BP		6,000	07/10/2003	0	07/10/2003	06-26
13760	05/07/2003	BP		54,000	09/10/2003	0	09/10/2003	34-26
11453	03/13/2002	BP		30,000	09/09/2002	0	09/09/2002	34-26
10561	04/16/2001	BP		2,000	04/17/2001	0	04/17/2001	06-26
3086	03/01/1992	BP		0		0		16 26 #274

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
10/02/2002			BM	1	ENTRY + SIGN

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	304	Public Utility C	R4				1.00 AC	80,000.00	1.0000	0	0.0000	1.00	250	1.00	Topography;		.00		80,000
1	304	Public Utility C					0.05 AC	1,400.00	1.0000	0	0.0000	1.00		0.00	Topography;		.00		70
1	304	Public Utility C					1.00 AC	44,330.00	1.0000	0	0.0000	1.00		0.00			.00		44,330

Total Area: 2.05 AC — Total Land Value: 124,400

Property Location: 349R MOUNTAIN ST | **MAP ID:** 3/9 154/ 60/EX / | **Bldg Name:** | **State Use:** 304

Vision ID: 5568 | **Account #** 00004100 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 08/10/2016 08:59

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	48		Warehouse
Model	94		Commercial
Grade	03		Average
Stories	1.0		
Occupancy	0		
Exterior Wall 1	15		Concrete
Level From	01		01
Level To	01		01
Uncov Parking	0		
Perimeter	68		
Identical Units	1		
Efficiency	0		
1 Bedroom	0		
2 Bedroom	0		
3 Bedroom	0		
AC Type	03		Central
Structure Type	720		720
Bldg Use	304		Public Utility C
Percent Finish	100		
Heating	07		Electr Basebrd
Frame Type	02		Wood Frame
Plumbing	00		None
Local Modifier	2.75		
Partitions	00		None
Wall Height	10		
Size	280		

CONSTRUCTION DETAIL (CONTINUED)

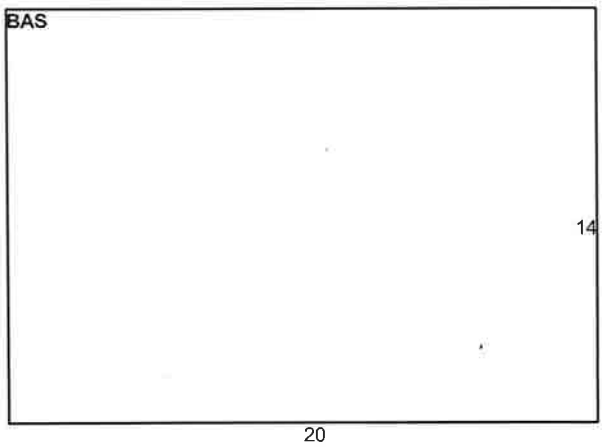
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
304	Public Utility C	100

COST/MARKET VALUATION

Adj. Base Rate:	43.82
AYB	1975
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	25
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Condition	
% Complete	
Overall % Cond	75
Apprais Val	38,300
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
AP1O	FENCE CHAIN			L	720	1.00	1975				Null	1,530
SH1O	SHED FRAME			L	288	1.00	1990				Null	3,440
AP1O	FENCE CHAIN			L	480	1.00	1990				Null	1,430
AP1O	FENCE CHAIN			L	2,560	1.00	2002				Null	7,970
PC3O	PAVING CONC			L	1,296	1.00	2002				Null	8,200

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Gross Area
BAS	First Floor	280