Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts and New York

October 10, 2023

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**
2 Arbor Crossing, East Lyme, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains a wireless telecommunications facility at the above-referenced address (the "Property"). Cellco's facility consists of antennas and remote radio heads installed inside a faux silo structure. Equipment associated with the facility is located inside an adjacent barn. The silo and associated equipment barn were approved by the Siting Council ("Council") in December of 2016 (Docket No. 463A). Cellco's shared use of the silo was approved by the Council in January of 2022 (TS-VER-045-220106. 455). A copy of the Council's Docket No. 463A Decision and Order and tower share approval are included in Attachment 1.

Cellco's proposed modification involves the installation of two (2) interference mitigation filters ("Filters") on its existing antenna platform and antenna mounting assembly inside the silo. The specification sheet for the Filter is included in Attachment 2.

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 East Lyme's Chief Elected Official and Land Use Officer. A copy of this letter is being sent to the owner of the Property.

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. The Filters will be installed on Cellco's existing antenna platform and antenna

mounting assembly inside the silo.

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 installation of the Filters will not result in a change to radio frequency (RF) emissions from the facility. Therefore, no new RF emissions information is included in this filing.

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

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing silo, foundation, antenna platform and mounting assembly can support Cellco's proposed modifications. A copy of the SA and MA are included in Attachment 3.

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Kevin Seery, First Selectman
Gary Goeschel II, Director of Planning
Orchards at East Lyme, Inc., Property Owner
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 463A – American Towers, LLC and New Cingular Wireless PCS, LLC amended application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 351A Boston Post Road, East Lyme, Connecticut or for the construction, maintenance and operation of a telecommunications facility at an alternative site located at 2 Arbor Crossing, East Lyme, Connecticut pursuant to Connecticut General Statutes §4-181a(a).	}	Connecticut
	}	Siting
	}	Council
		December 22, 2016

Decision and Order

Pursuant to Connecticut General Statutes §16-50p, §22a-19 and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to New Cingular Wireless PCS, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 2 Arbor Crossing, East Lyme, Connecticut. The Council denies Certification of the proposed site located at 351A Boston Post Road, East Lyme, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a faux silo at a height of 105 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of East Lyme for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) final site plan(s) for development of the facility to include specifications for the faux silo tower that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code, tower foundation, antennas, equipment compound including, but not limited to, fencing, radio equipment, access road, utility line, emergency backup generator, and landscaping ;
    b) construction plans for site clearing, grading, landscaping, water drainage and stormwater control, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
    c) provisions for tree clearing restrictions as recommended by the Department of Energy and Environmental Protection and/or the United States Fish and Wildlife Service to protect listed bat species; and
    d) hours of construction.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the base of the facility, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of East Lyme.

8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the faux silo tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated September 29, 2016, and notice of issuance published in The Day.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

January 28, 2022

Kenneth C. Baldwin, Esq.
Robinson + Cole
280 Trumbull Street
Hartford, CT 06103-3597
kbaldwin@rc.com

RE: **TS-VER-045-220106** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 2 Arbor Crossing, East Lyme, Connecticut

Dear Attorney Baldwin:

At a public meeting held on January 27, 2022, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

1. Approval of any changes be delegated to Council staff;

2. Verizon's antennas and associated equipment shall be located within the silo and the structure's appearance shall be maintained as a faux silo consistent with Condition No. 1 of the Council's Decision and Order in Docket No. 463A;

3. Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;

4. Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65;

5. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;

6. Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation has been completed;

7. Deployment of any 5G services must comply with FCC and FAA guidance relative to air navigation, as applicable;

8. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Verizon Wireless shall be removed within 60 days of the date the antenna ceased to function;

9. The validity of this action shall expire one year from the date of this letter; and

10. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

This decision is under the exclusive jurisdiction of the Council and applies only to this request for tower sharing dated January 4, 2022. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from the approved tower sharing request is enforceable under the provisions of Connecticut General Statutes § 16-50u.

The proposed shared use is to be implemented as specified in your letter dated January 4, 2022, including the placement of all necessary equipment and shelters within the tower compound.

Please be advised that the validity of this action shall expire one year from the date of this letter.

Thank you for your attention and cooperation.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/laf

c: The Honorable Kevin Seery, First Selectman, Town of East Lyme (kseery@eltownhall.com)

ATTACHMENT 2

BSF0020F3V1-1

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The BSF0020 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the BSF0020 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the BSF0020 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available

TECHNICAL SPECIFICATIONS

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	

ELECTRICAL	
Impedance	50Ohms
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm

DC / AISG	
Passband	0 - 13MHz
Insertion loss	0.3dB maximum
Return loss	15dB minimum
Input voltage range	± 33V
DC current rating	2A continuous, 4A peak
Compliance	3GPP TS 25.461

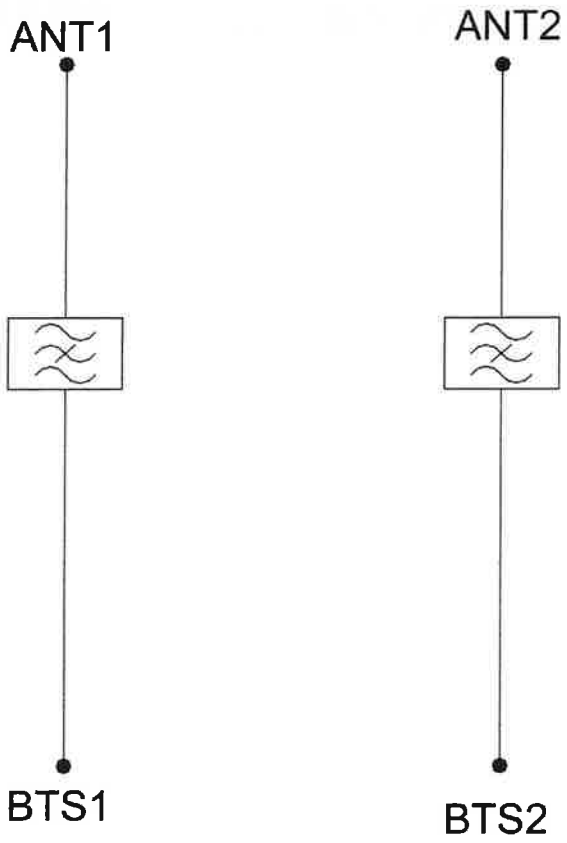
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20°C to +60°C | -4°F to +140°F
Ingress protection	IP67
Altitude	2600m | 8530ft
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE

MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

ORDERING INFORMATION

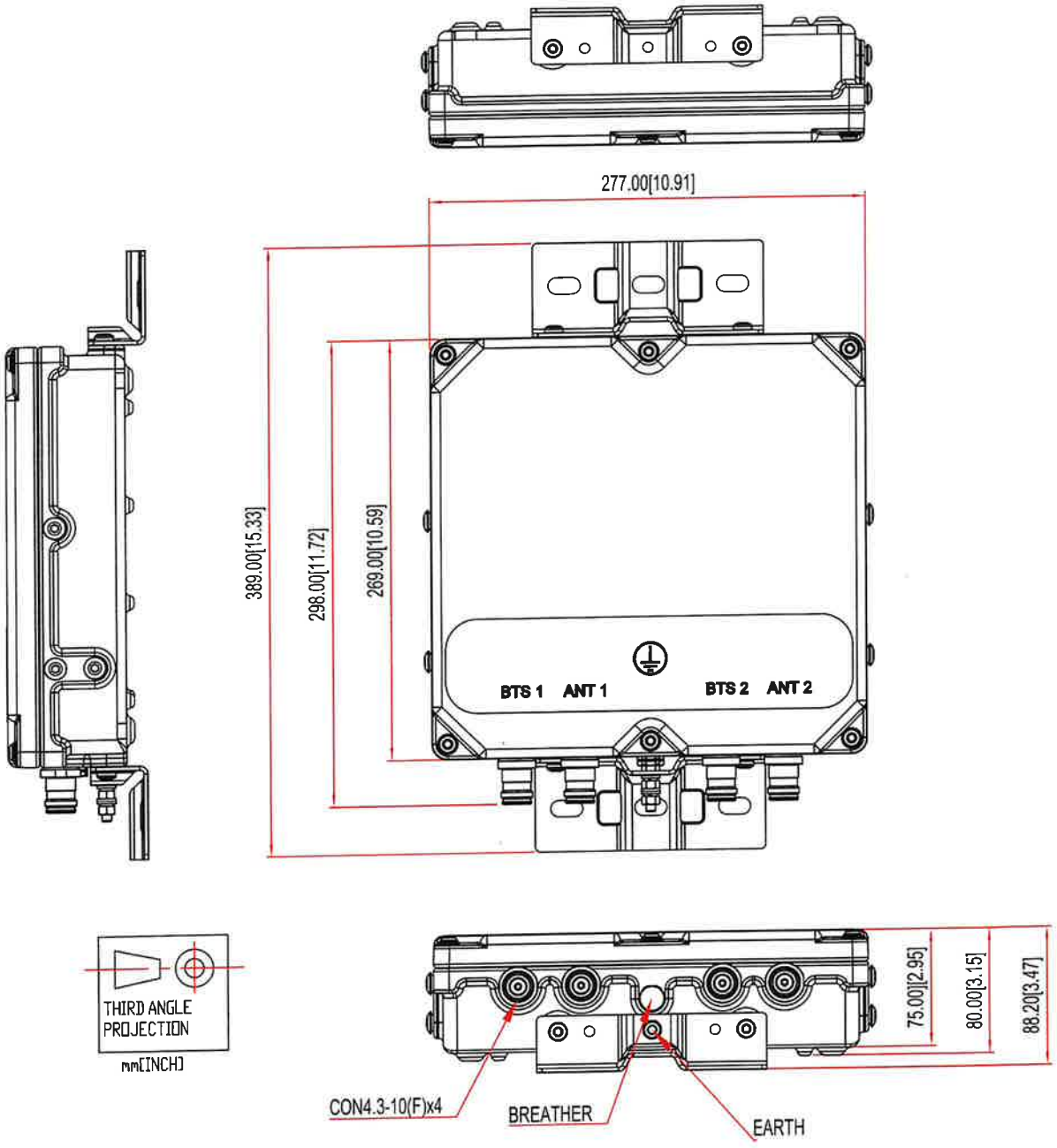
PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4.3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

ELECTRICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

MECHANICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ATTACHMENT 3

CENTERLINE

Structural Analysis Report

Location Code: 470457
Site Name: EAST LYME NORTH CT - D
FUZE Project ID: 17123923
Project Name: RF Filter Add
Address: 2 Arbor Crossing
East Lyme, CT 06633

Client:

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

Date: 10/02/2023

STATE OF CONNECTICUT
DEREK J CREASER
LICENSED
PROFESSIONAL ENGINEER

Centerline Engineering Services, PA
750 W Center St, Suite 301
West Bridgewater, MA 02379
781-713-4725

CENTERLINE

Scope of Work:

Centerline Communications was authorized by Verizon Wireless to perform an analysis of the existing 105 ft. Concealment Silo to determine its capacity to support the existing and proposed equipment listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
AT&T	95	95	9	CCI	HPA65R-BU6AA-k	(6) DC Cables (1) Fiber Trunk
		95	3	KMW	EPBQ654L8H6-L2	
		95	3	Ericsson	RRUS B14 4478	
		95	3	Ericsson	RRUS32	
		95	6	Ericsson	RRUS-12	
		95	6	Ericsson	RRUS-11	
		95	3	Ericsson	RRUS-E2	
		95	3	Raycap	DC12-48-60-0-25E	
		95	3	-	Fiber Management Boxes	
		95	1	-	Platform (Mount)	
Verizon	86	86	6	CommScope	NHH-65B-R2B	(1) 12x24 Hybrid
		86	3	Samsung	MT6407-77A	
		86	3	Samsung	RF4439d-25A	
		86	3	Samsung	RF4440d-13A	
		86	1	Raycap	RCMDC-6627-PF-48	
		86	**2**	**KAelus**	**KA-6030**	
		86	1	-	Platform (Mount)	
Dish Wireless	66	66	3	JMA	MX08FRO665-20_V0F	(1) 1.6" Hybrid
		66	3	Fujitsu	TA08025-B605	
		66	3	Fujitsu	A08025-B604	
		66	1	Raycap	RDIDC-9181-PF-48	
		66	1	-	Platform (Mount)	

*Note: Proposed equipment shown in **bold**.*

Centerline Engineering Services, PA
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West Bridgewater, MA 02379
781-713-4725

CENTERLINE

Design Criteria:

Design Codes:
2022 Connecticut State Building Code
2021 International Building Code
ASCE 7-16
TIA-222-H Standards

Basic Design Wind Speed (V)	126 mph
Wind Speed with Ice	50 mph
Ice Thickness	1.00 in.
Exposure Category	C
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Default
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.2 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.053 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

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781-713-4725

CENTERLINE

Conclusion:

Tower Section Capacity (Summary)

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	91.25 - 81.25	Leg	HSS8x8x1/4	1	-16.42	266.60	6.2	Pass
T2	81.25 - 71.25	Leg	HSS8x8x1/4	13	-27.66	266.60	10.4	Pass
T3	71.25 - 61.25	Leg	HSS8x8x1/4	25	-46.40	266.60	17.4	Pass
T4	61.25 - 51.25	Leg	HSS8x8x1/4	37	-67.55	266.60	25.3	Pass
T5	51.25 - 41.25	Leg	HSS8x8x1/4	49	-92.52	266.60	34.7	Pass
T6	41.25 - 31.25	Leg	HSS8x8x3/8	61	-123.88	389.28	31.8	Pass
T7	31.25 - 21.25	Leg	HSS8x8x3/8	73	-158.53	389.28	40.7	Pass
T8	21.25 - 11.25	Leg	HSS8x8x3/8	85	-196.43	389.28	50.5	Pass
T9	11.25 - 0	Leg	HSS8x8x3/8	97	-269.93	430.13	62.8 79.8 (b)	Pass
T1	91.25 - 81.25	Diagonal	L4x4x1/4	7	-4.15	28.33	14.6	Pass
T2	81.25 - 71.25	Diagonal	L4x4x1/4	19	-7.47	28.33	26.4	Pass
T3	71.25 - 61.25	Diagonal	L4x4x1/4	31	-10.38	28.33	36.6	Pass
T4	61.25 - 51.25	Diagonal	L4x4x1/4	43	-13.10	28.33	46.3	Pass
T5	51.25 - 41.25	Diagonal	L5x5x5/16	56	-16.56	61.04	27.1 41.7 (b)	Pass
T6	41.25 - 31.25	Diagonal	L5x5x5/16	67	-18.32	61.04	30.0 46.1 (b)	Pass
T7	31.25 - 21.25	Diagonal	L5x5x5/16	79	-21.20	61.04	34.7 53.3 (b)	Pass
T8	21.25 - 11.25	Diagonal	L5x5x5/16	92	-22.66	61.04	37.1 57.0 (b)	Pass
T9	11.25 - 0	Diagonal	L5x5x5/16	107	-29.41	60.64	48.5 74.0 (b)	Pass
T1	91.25 - 81.25	Top Girt	HSS8x4x3/8	5	-1.13	102.60	1.1	Pass
T2	81.25 - 71.25	Top Girt	HSS8x4x3/8	16	1.85	313.81	0.6	Pass
T3	71.25 - 61.25	Top Girt	HSS8x4x3/8	30	-0.80	102.60	0.8	Pass
T4	61.25 - 51.25	Top Girt	HSS8x4x3/8	42	-1.17	102.60	1.1	Pass
T5	51.25 - 41.25	Top Girt	HSS6x4x1/4	54	-1.60	58.20	2.8	Pass
T6	41.25 - 31.25	Top Girt	HSS6x4x1/4	66	-2.15	58.20	3.7	Pass
T7	31.25 - 21.25	Top Girt	HSS6x4x1/4	78	-2.75	58.20	4.7	Pass
T8	21.25 - 11.25	Top Girt	HSS6x4x1/4	90	-3.40	58.20	5.8	Pass
T9	11.25 - 0	Top Girt	HSS6x4x1/4	102	-4.68	58.20	8.0	Pass
T9	11.25 - 0	Bottom Girt	HSS6x4x1/4	104	-9.52	58.20	16.4	Pass
							Summary	
						Leg (T9)	79.8	Pass
						Diagonal (T9)	74.0	Pass
						Top Girt (T9)	8.0	Pass
						Bottom Girt (T9)	16.4	Pass
						Bolt Checks	79.8	Pass
						RATING =	**79.8**	**Pass**

Structure Rating (Max From All Components) =	**79.8%**

Centerline Engineering Services, PA
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West Bridgewater, MA 02379
781-713-4725

CENTERLINE

Foundation Capacity (Summary)

Component	% Capacity	Pass Fail
Anchor Rods	75.5	Pass
Foundation Soil Rating	89.8	Pass
Foundation Structural Rating	40.3	Pass

Foundation Rating (Max From All Components) =	**89.8%**

Recommendations:

The existing tower and its foundation have sufficient capacity to support the existing and proposed loading for the final loading configuration.

Reference Documents:

- Structural Analysis Report by Delta Oaks Group, dated June 15, 2023
- Lease Exhibit by Centerline Engineering Services, PA, dated September 11, 2023
- Antenna Mount Analysis Report by Colliers Engineering & Design Ct. P.C., dated August 24, 2023

Assumptions and Limitations:

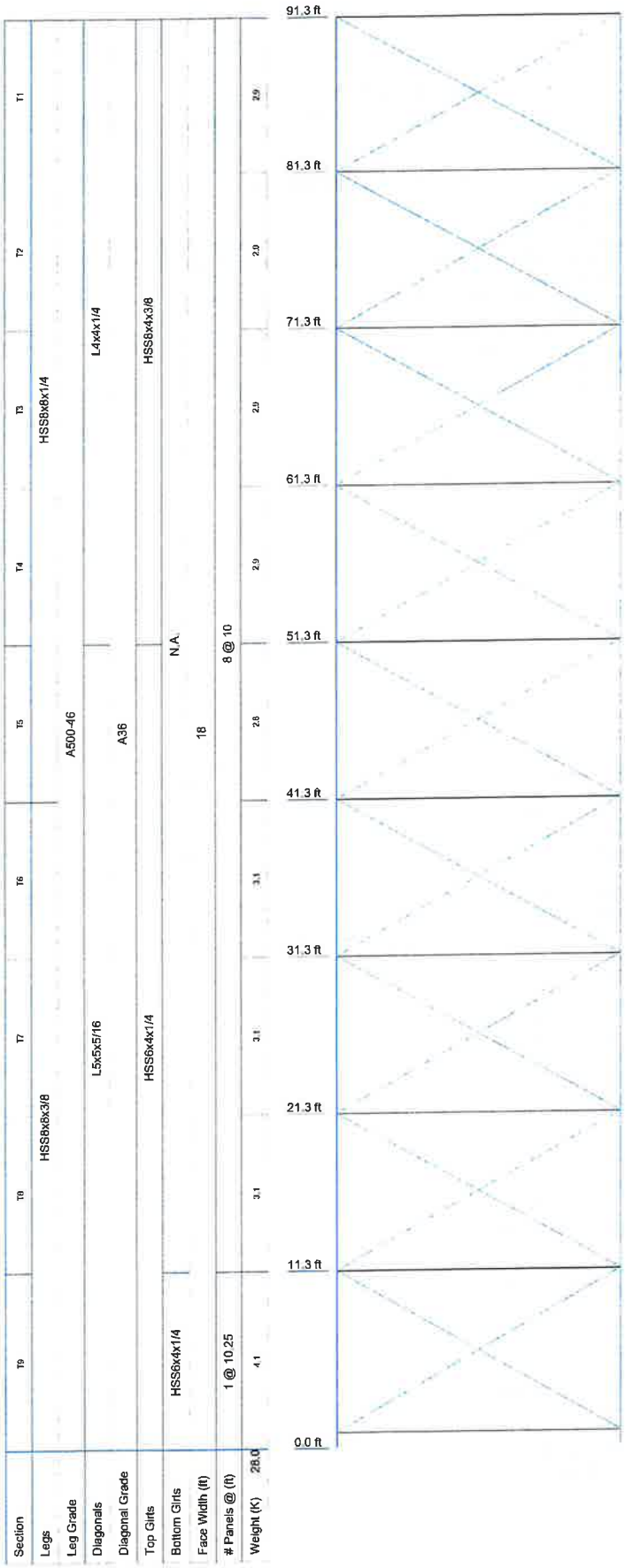
- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.
- Existing appurtenance information obtained from the Structural Analysis Report by Delta Oaks Group, LLC, dated June 15, 2023 and the Lease Exhibit by Centerline Engineering Services, PA, dated September 11, 2023.
- A572-50 is assumed for anchor rod grade.

Centerline Engineering Services, PA
750 W Center St, Suite 301
West Bridgewater, MA 02379
781-713-4725

CENTERLINE

Design Calculations

Centerline Engineering Services, PA
750 W Center St, Suite 301
West Bridgewater, MA 02379
781-713-4725



DESIGNED APPURTENANCE LOADING

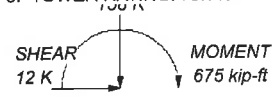
TYPE	ELEVATION	TYPE	ELEVATION
Cannister Section (Tower)	99	Samsung RF4439d-25A B2/66 (Verizon)	86
(3) CCI HPA65R-BU6AA-K (ATI)	95	Samsung RF4440d-13A B5/B13 (Verizon)	86
(3) CCI HPA65R-BU6AA-K (ATI)	95	Samsung RF4440d-13A B5/B13 (Verizon)	86
KMW EPBQ654L8H6-L2 (ATI)	95	Samsung RF4440d-13A B5/B13 (Verizon)	86
KMW EPBQ654L8H6-L2 (ATI)	95	(2) KAelus KA-6030	86
KMW EPBQ654L8H6-L2 (ATI)	95	Platform (Tower)	81.25
Ericsson RRUS 4478 B14 (ATI)	95	Cannister Section (Tower)	76
Ericsson RRUS 4478 B14 (ATI)	95	Platform (Tower)	71.25
Ericsson RRUS 4478 B14 (ATI)	95	JMA MX08FRO665-20_V0F (Dish Wireless)	66
Ericsson RRUS32 (ATI)	95	JMA MX08FRO665-20_V0F (Dish Wireless)	66
Ericsson RRUS32 (ATI)	95	Cannister Section (Tower)	66
Ericsson RRUS32 (ATI)	95	Fujitsu TA08025-B605 (Dish Wireless)	66
(2) Ericsson RRUS-12 (ATI)	95	Fujitsu TA08025-B605 (Dish Wireless)	66
(2) Ericsson RRUS-12 (ATI)	95	Fujitsu TA08025-B605 (Dish Wireless)	66
(2) Ericsson RRUS-12 (ATI)	95	Fujitsu A08025-B604 (Dish Wireless)	66
(2) Ericsson RRUS-11 (ATI)	95	Fujitsu A08025-B604 (Dish Wireless)	66
(2) Ericsson RRUS-11 (ATI)	95	Fujitsu A08025-B604 (Dish Wireless)	66
(2) Ericsson RRUS-11 (ATI)	95	Raycap RDIDC-9181-PF-48 (Dish Wireless)	66
Ericsson RRUS-E2 (ATI)	95	JMA MX08FRO665-20_V0F (Dish Wireless)	66
Ericsson RRUS-E2 (ATI)	95	Platform (Tower)	61.25
Ericsson RRUS-E2 (ATI)	95	Cannister Section (Tower)	56
Raycap DC12-48-60-0-25E (ATI)	95	Platform (Tower)	51.25
Raycap DC12-48-60-0-25E (ATI)	95	Cannister Section (Tower)	46
Raycap DC12-48-60-0-25E (ATI)	95	Platform (Tower)	41.25
(3) CCI HPA65R-BU6AA-K (ATI)	95	Cannister Section (Tower)	36
Platform (Tower)	91.25	Platform (Tower)	31.25
Cannister Section (Tower)	87	Cannister Section (Tower)	26
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	86	Platform (Tower)	21.25
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	86	Cannister Section (Tower)	16
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	86	Platform (Tower)	11.25
Samsung MT6407-77A (Verizon)	86	Cannister Section (Tower)	5.5
Samsung MT6407-77A (Verizon)	86		
Samsung MT6407-77A (Verizon)	86		
Raycap RCMDC-6627-PF-48 (Verizon)	86		
Samsung RF4439d-25A B2/66 (Verizon)	86		
Samsung RF4439d-25A B2/66 (Verizon)	86		

MATERIAL STRENGTH

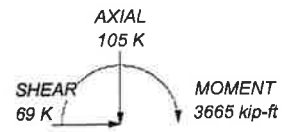
GRADE	Fy	Fu	GRADE	Fy	Fu
A500-46	46 ksi	62 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 126 mph basic wind in accordance with the TIA-222-H 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 Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 79.8%



TORQUE 15 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 33 kip-ft
REACTIONS - 126 mph WIND

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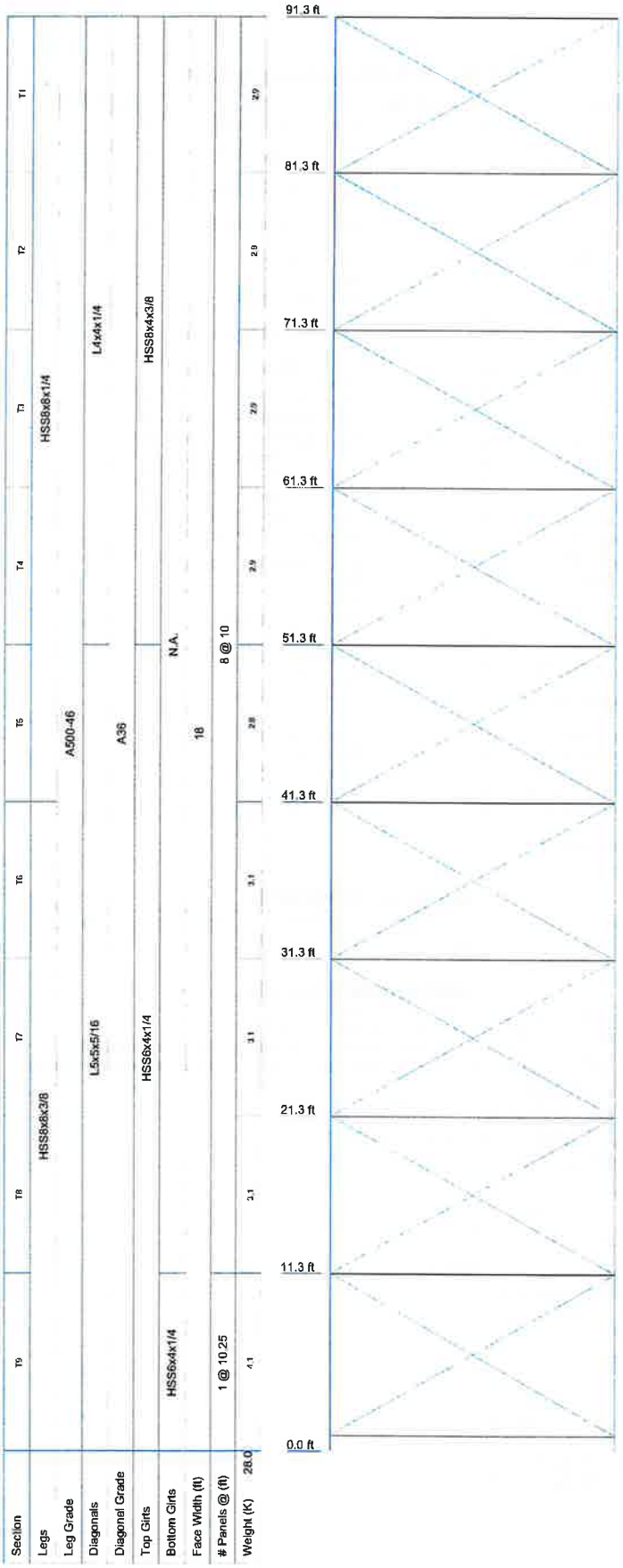
West Bridgewater, MA 02379
Phone: (781) 713-4725
FAX: (781) 713-4725

Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-1	



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-46	46 ksi	62 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 126 mph basic wind in accordance with the TIA-222-H 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 Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Seismic calculations are in accordance with TIA-222-H
9. Seismic loads do not control this analysis
10. TOWER RATING: 79.8%

△

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 270 K
SHEAR: 28 K

UPLIFT: -192 K
SHEAR: 27 K

AXIAL 109 K
SHEAR 6 K
MOMENT 480 kip-ft

TORQUE 0 kip-ft
SEISMIC

AXIAL 158 K
SHEAR 12 K
MOMENT 675 kip-ft

TORQUE 15 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 105 K
SHEAR 69 K
MOMENT 3665 kip-ft

TORQUE 33 kip-ft
REACTIONS - 126 mph WIND

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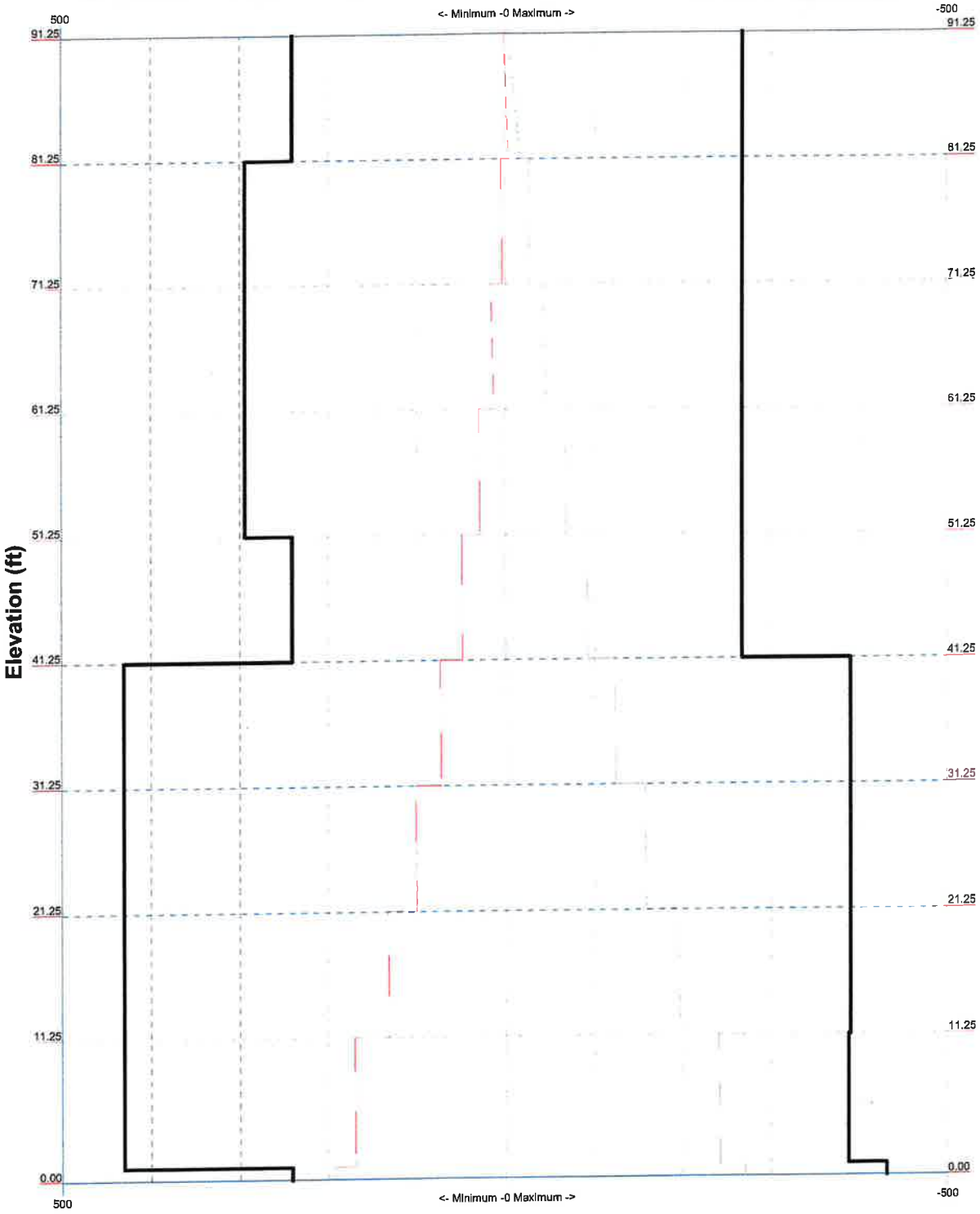
Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci		App'd:
Code: TIA-222-H	Date: 10/02/23		Scale: NTS
Path:			Dwg No. E-1

TIA-222-H - 126 mph/50 mph 1.0000 in Ice Exposure C

Leg Capacity ——— **Leg Compression (K)**



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FAX: (781) 713-4725

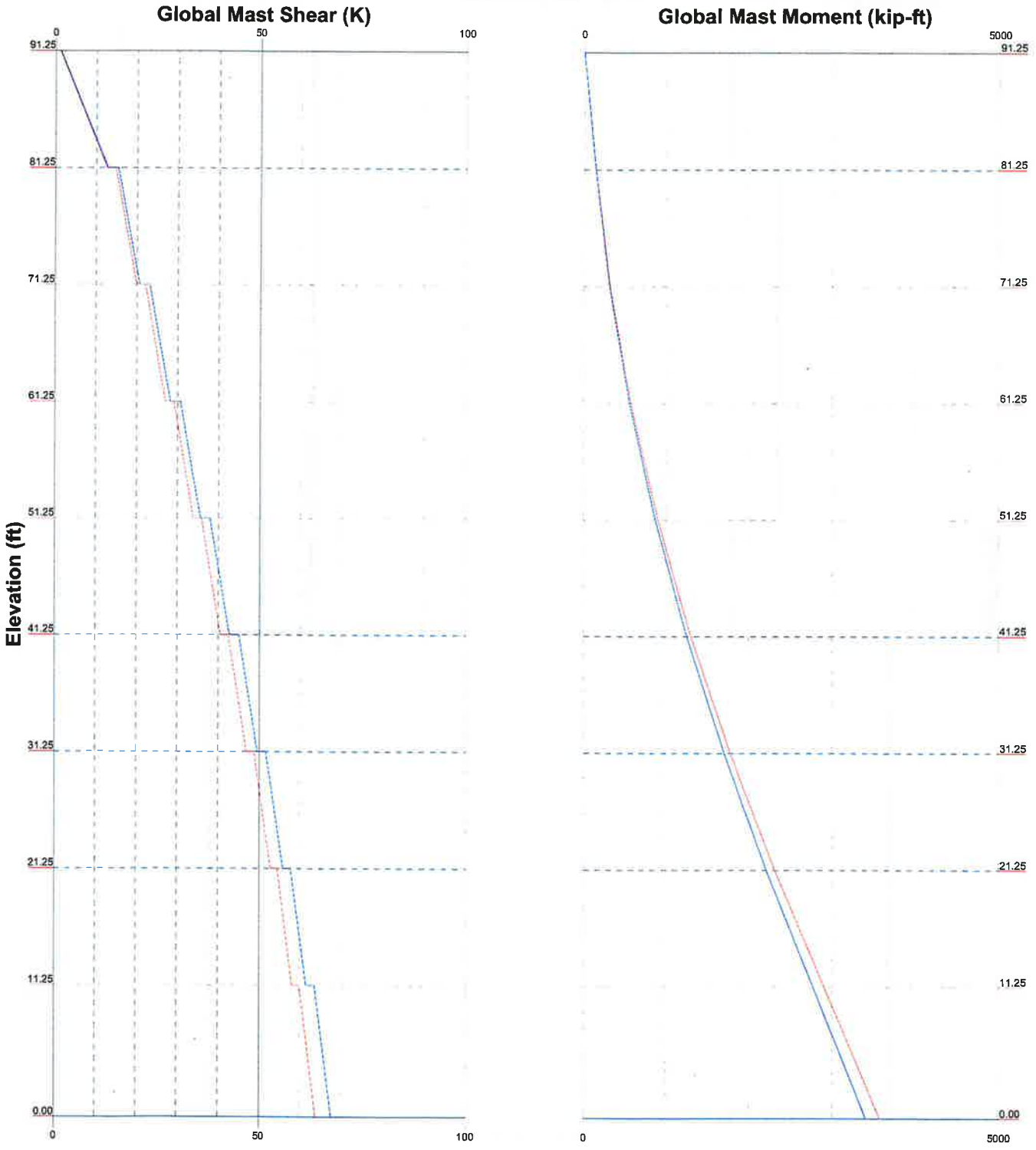
Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-3	

TIA-222-H - 126 mph/50 mph 1.0000 in Ice Exposure C

Vx Vz

Maximum Values

Mx Mz



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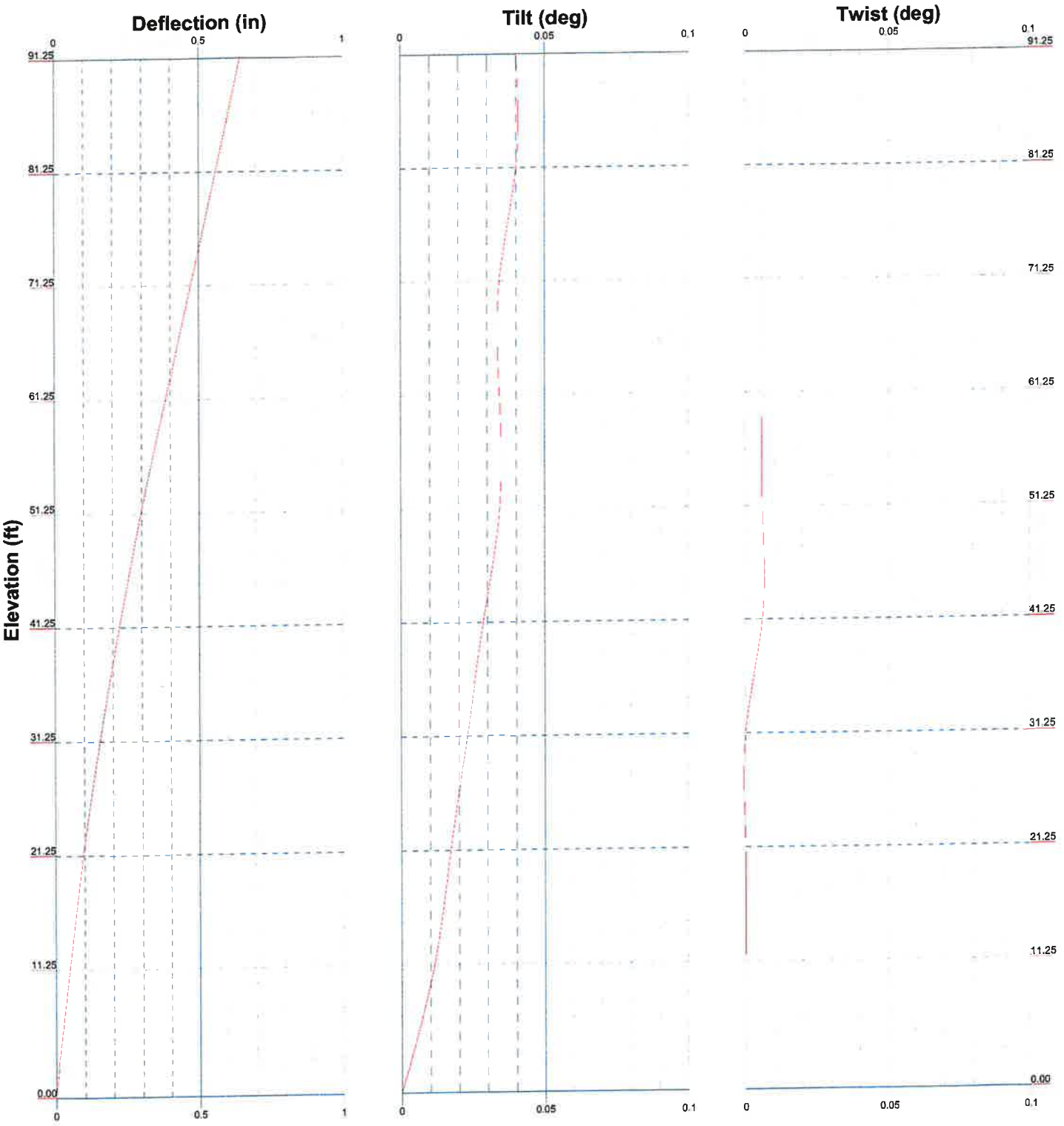
Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-H - Service - 60 mph

Maximum Values



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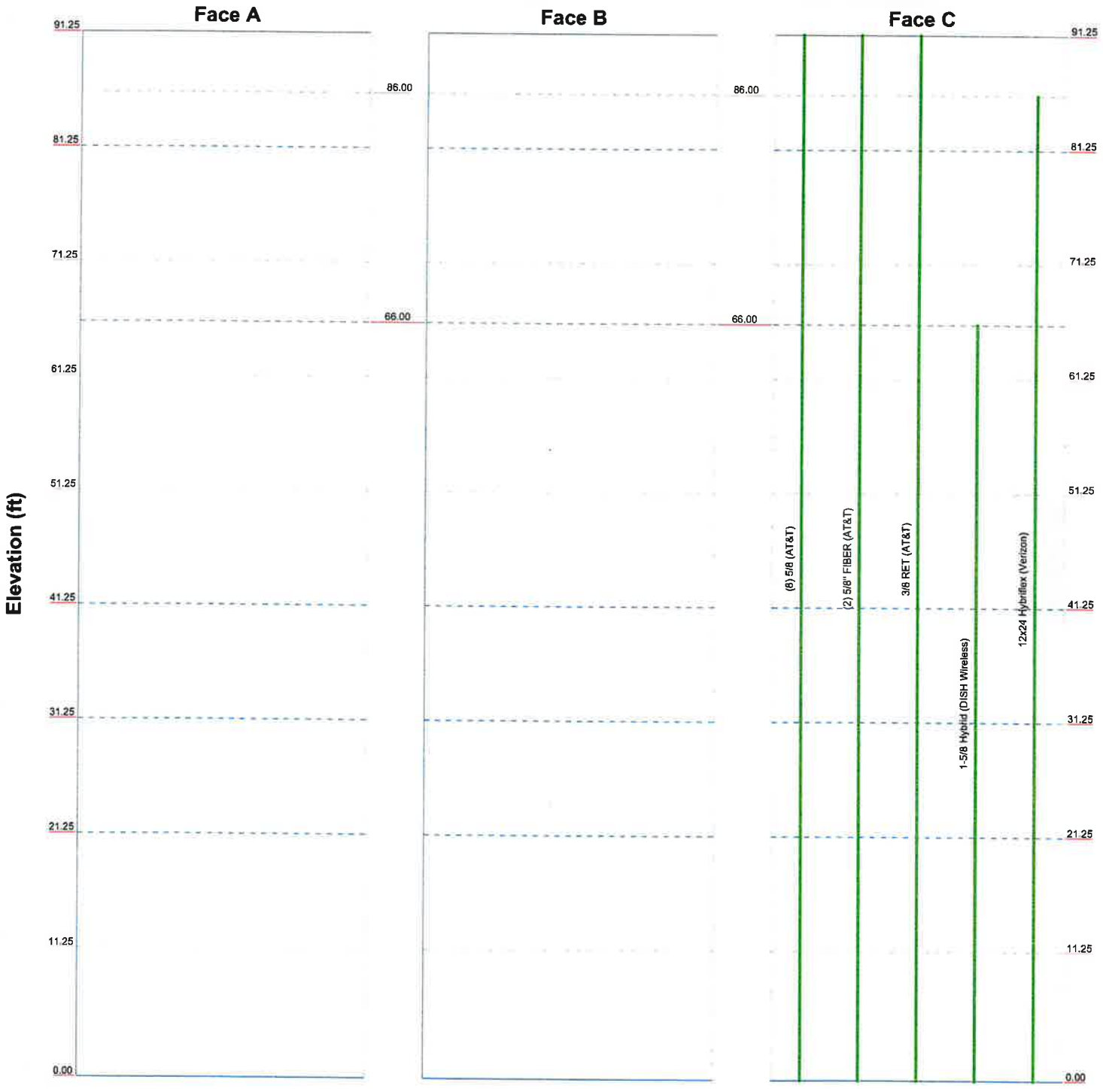
Job: *23CLVZ-0013*			
Project: *17123923*			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 91'3"

Round | Flat | App In Face | App Out Face | Truss Leg



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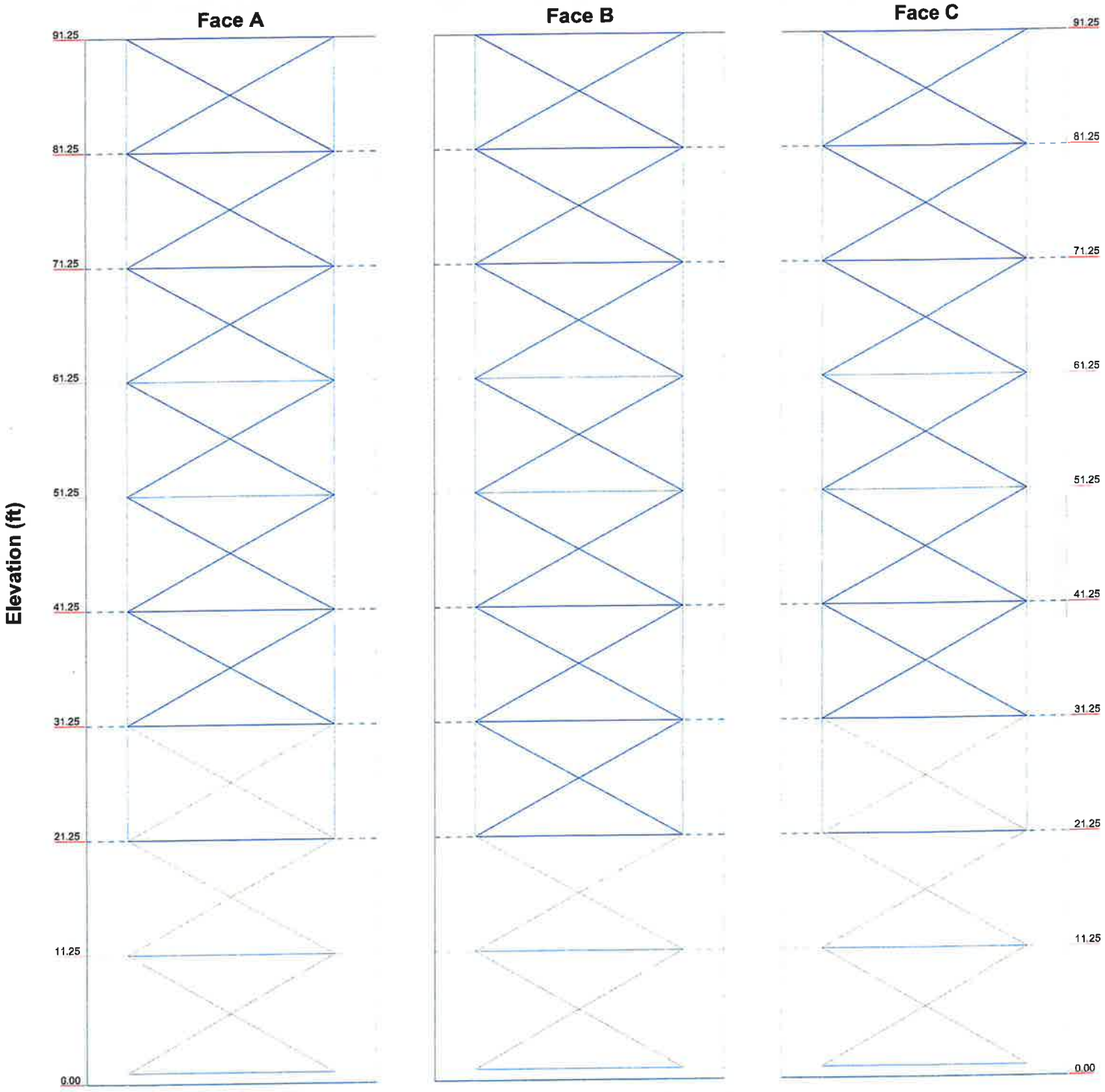
Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci		App'd:
Code: TIA-222-H	Date: 10/02/23		Scale: NTS
Path:			Dwg No. E-7

Stress Distribution Chart
0' - 91'3"

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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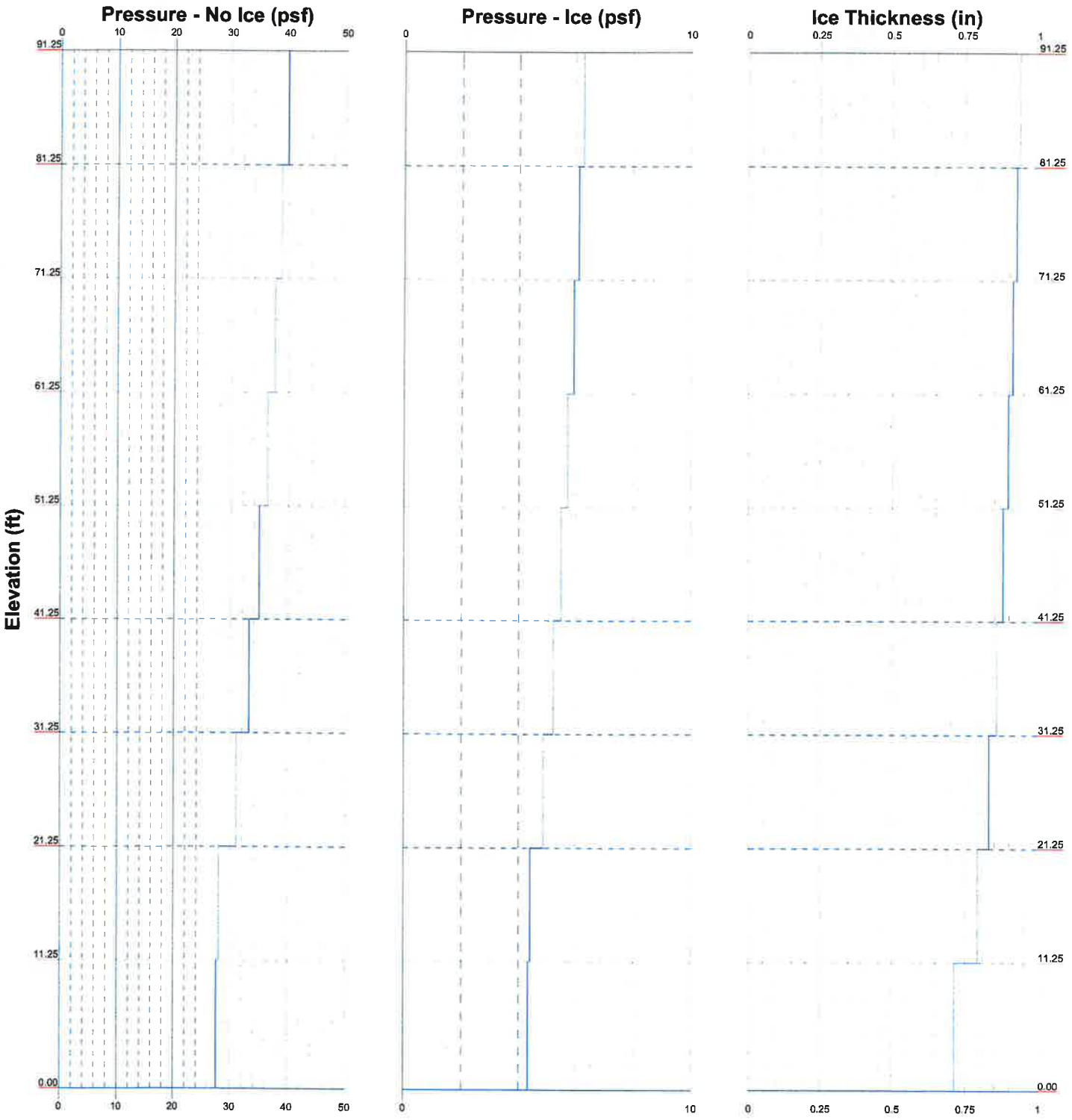
Phone: (781) 713-4725
FAX: (781) 713-4725

Job: 23CLVZ-0013			
Project: 17123923			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-8	

Wind Pressures and Ice Thickness

TIA-222-H - 126 mph/50 mph 1.0000 in Ice Exposure C



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West Bridgewater, MA 02379
Phone: (781) 713-4725
FAX: (781) 713-4725

Job: **23CLVZ-0013**			
Project: **17123923**			
Client: Verizon	Drawn by: kavci	App'd:	
Code: TIA-222-H	Date: 10/02/23	Scale: NTS	
Path:		Dwg No. E-9	

tnxTower	Job	Page
Centerline Engineering Services, PA 750 W. Center St., Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX: (781) 713-4725	23CLVZ-0013	1 of 27
	Project 17123923	Date 21:54:02 10/02/23
	Client Verizon	Designed by kavci

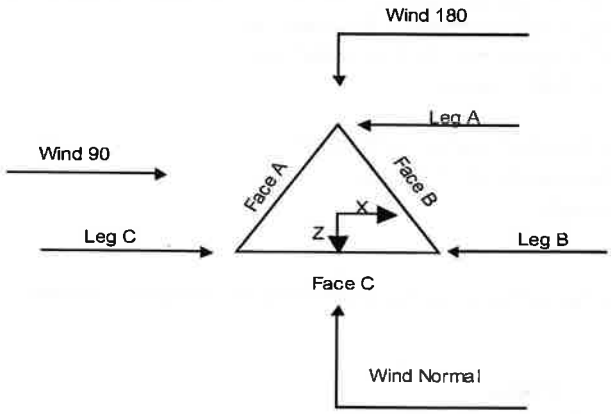
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 91.25 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 18.00 ft at the top and 18.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower is located in New London County, Connecticut.
- Tower base elevation above sea level: 332.75 ft.
- Basic wind speed of 126 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- 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.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio 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-H Bracing Resist. Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H 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	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	91.25-81.25			18.00	1	10.00
T2	81.25-71.25			18.00	1	10.00
T3	71.25-61.25			18.00	1	10.00
T4	61.25-51.25			18.00	1	10.00
T5	51.25-41.25			18.00	1	10.00
T6	41.25-31.25			18.00	1	10.00
T7	31.25-21.25			18.00	1	10.00
T8	21.25-11.25			18.00	1	10.00
T9	11.25-0.00			18.00	1	11.25

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	91.25-81.25	10.00	X Brace	No	No	0.0000	0.0000
T2	81.25-71.25	10.00	X Brace	No	No	0.0000	0.0000
T3	71.25-61.25	10.00	X Brace	No	No	0.0000	0.0000
T4	61.25-51.25	10.00	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T5	51.25-41.25	10.00	X Brace	No	No	0.0000	0.0000
T6	41.25-31.25	10.00	X Brace	No	No	0.0000	0.0000
T7	31.25-21.25	10.00	X Brace	No	No	0.0000	0.0000
T8	21.25-11.25	10.00	X Brace	No	No	0.0000	0.0000
T9	11.25-0.00	10.25	X Brace	No	No	0.0000	12.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 91.25-81.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T2 81.25-71.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T3 71.25-61.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T4 61.25-51.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T5 51.25-41.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T6 41.25-31.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T7 31.25-21.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T8 21.25-11.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T9 11.25-0.00	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 91.25-81.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T2 81.25-71.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T3 71.25-61.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T4 61.25-51.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T5 51.25-41.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T6 41.25-31.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T7 31.25-21.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T8 21.25-11.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T9 11.25-0.00	Tube	HSS6x4x1/4	A500-46	Tube	HSS6x4x1/4	A500-46

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
			(46 ksi)			(46 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 91.25-81.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 81.25-71.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 71.25-61.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 61.25-51.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 51.25-41.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 41.25-31.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 31.25-21.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 21.25-11.25	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 11.25-0.00	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	Yes	No	1	1	1	1	1	1	1	1
91.25-81.25				1	1	1	1	1	1	1
T2	Yes	No	1	1	1	1	1	1	1	1
81.25-71.25				1	1	1	1	1	1	1
T3	Yes	No	1	1	1	1	1	1	1	1
71.25-61.25				1	1	1	1	1	1	1
T4	Yes	No	1	1	1	1	1	1	1	1
61.25-51.25				1	1	1	1	1	1	1
T5	Yes	No	1	1	1	1	1	1	1	1
51.25-41.25				1	1	1	1	1	1	1
T6	Yes	No	1	1	1	1	1	1	1	1
41.25-31.25				1	1	1	1	1	1	1
T7	Yes	No	1	1	1	1	1	1	1	1
31.25-21.25				1	1	1	1	1	1	1
T8	Yes	No	1	1	1	1	1	1	1	1
21.25-11.25				1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T9 11.25-0.00	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 Net Width Deduct in	U	Diagonal Net Width Deduct in	U	Top Girt Net Width Deduct in	U	Bottom Girt Net Width Deduct in	U	Mid Girt Net Width Deduct in	U	Long Horizontal Net Width Deduct in	U	Short Horizontal Net Width Deduct in	U
T1 91.25-81.25	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 81.25-71.25	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 71.25-61.25	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 61.25-51.25	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 51.25-41.25	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 41.25-31.25	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 31.25-21.25	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 21.25-11.25	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 11.25-0.00	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 Elevation ft	Redundant Horizontal Net Width Deduct in	U	Redundant Diagonal Net Width Deduct in	U	Redundant Sub-Diagonal Net Width Deduct in	U	Redundant Sub-Horizontal Net Width Deduct in	U	Redundant Vertical Net Width Deduct in	U	Redundant Hip Net Width Deduct in	U	Redundant Hip Diagonal Net Width Deduct in	U
T1 91.25-81.25	0.0000	0.75	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 81.25-71.25	0.0000	0.75	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 71.25-61.25	0.0000	0.75	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 61.25-51.25	0.0000	0.75	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 51.25-41.25	0.0000	0.75	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 41.25-31.25	0.0000	0.75	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 31.25-21.25	0.0000	0.75	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 21.25-11.25	0.0000	0.75	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 11.25-0.00	0.0000	0.75	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 91.25-81.25	Flange	0.7500 A325N	8	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 81.25-71.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 71.25-61.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 61.25-51.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 51.25-41.25	Flange	0.7500 A325N	8	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 41.25-31.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 31.25-21.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 21.25-11.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 11.25-0.00	Flange	0.7500 A325N	8	0.7500 A325N	2	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 Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
5/8 (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	8	No Ice 1/2" Ice 1" Ice	0.09 0.19 0.29	0.27 1.11 2.55
5/8" FIBER (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	2	No Ice 1/2" Ice 1" Ice	0.06 0.16 0.26	0.08 0.77 2.07
3/8 RET (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	1	No Ice 1/2" Ice 1" Ice	0.04 0.14 0.24	0.08 0.65 1.84
1-5/8 Hybrid (DISH Wireless)	C	No	No	CaAa (Out Of Face)	66.00 - 0.00	-0.2500	0	1	No Ice 1/2" Ice 1" Ice	0.20 0.30 0.40	0.82 2.33 4.46
12x24 Hybriflex (Verizon)	C	No	No	CaAa (Out Of Face)	86.00 - 0.00	0.2500	0	1	No Ice 1/2" Ice 1" Ice	0.19 0.29 0.39	3.20 4.67 6.74

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	91.25-81.25	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	9.702	0.04
T2	81.25-71.25	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	10.700	0.06
T3	71.25-61.25	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	11.650	0.06
T4	61.25-51.25	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	12.700	0.06
T5	51.25-41.25	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	12.700	0.06
T6	41.25-31.25	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	12.700	0.06
T7	31.25-21.25	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	12.700	0.06
T8	21.25-11.25	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	12.700	0.06
T9	11.25-0.00	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	14.288	0.07

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	91.25-81.25	A	0.936	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	31.178	0.27
T2	81.25-71.25	A	0.924	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	32.882	0.30
T3	71.25-61.25	A	0.911	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	34.389	0.32
T4	61.25-51.25	A	0.897	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	36.011	0.34
T5	51.25-41.25	A	0.879	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	35.559	0.33
T6	41.25-31.25	A	0.858	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	35.009	0.32
T7	31.25-21.25	A	0.831	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	34.300	0.31
T8	21.25-11.25	A	0.792	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	33.289	0.29

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T9	11.25-0.00	A	0.712	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	35.118	0.30

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	91.25-81.25	-9.6932	6.4813	-24.1990	15.4921
T2	81.25-71.25	-10.5920	7.0721	-25.2339	16.1364
T3	71.25-61.25	-11.4329	7.6232	-26.1339	16.6963
T4	61.25-51.25	-12.3455	8.2197	-27.0857	17.2877
T5	51.25-41.25	-12.2583	8.1628	-26.7276	17.0751
T6	41.25-31.25	-12.2582	8.1627	-26.4537	16.9128
T7	31.25-21.25	-12.2582	8.1627	-26.0971	16.7012
T8	21.25-11.25	-12.2582	8.1627	-25.5796	16.3933
T9	11.25-0.00	-11.3340	7.5585	-22.9390	14.7750

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
(3) CCI HPA65R-BU6AA-K (AT&T)	A	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.42
			0.00				1/2" Ice	0.00	0.00	0.42
			0.00				1" Ice	0.00	0.00	0.42
(3) CCI HPA65R-BU6AA-K (AT&T)	B	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.42
			0.00				1/2" Ice	0.00	0.00	0.42
			0.00				1" Ice	0.00	0.00	0.42
(3) CCI HPA65R-BU6AA-K (AT&T)	C	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.42
			0.00				1/2" Ice	0.00	0.00	0.42
			0.00				1" Ice	0.00	0.00	0.42
KMW EPBQ654L8H6-L2 (AT&T)	A	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.73
			0.00				1/2" Ice	0.00	0.00	0.73
			0.00				1" Ice	0.00	0.00	0.73
KMW EPBQ654L8H6-L2 (AT&T)	B	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.73
			0.00				1/2" Ice	0.00	0.00	0.73
			0.00				1" Ice	0.00	0.00	0.73
KMW EPBQ654L8H6-L2 (AT&T)	C	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.73
			0.00				1/2" Ice	0.00	0.00	0.73
			0.00				1" Ice	0.00	0.00	0.73
Ericsson RRUS 4478 B14 (AT&T)	A	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.59
			0.00				1/2" Ice	0.00	0.00	0.59
			0.00				1" Ice	0.00	0.00	0.59
Ericsson RRUS 4478 B14 (AT&T)	B	From Face	1.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.59
			0.00				1/2" Ice	0.00	0.00	0.59
			0.00				1" Ice	0.00	0.00	0.59

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Ericsson RRUS 4478 B14 (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.59
								1/2" Ice	0.00	0.00	0.59
								1" Ice	0.00	0.00	0.59
Ericsson RRUS32 (AT&T)	A	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.06
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
Ericsson RRUS32 (AT&T)	B	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.06
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
Ericsson RRUS32 (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.60
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
(2) Ericsson RRUS-12 (AT&T)	A	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.80
								1/2" Ice	0.00	0.00	0.80
								1" Ice	0.00	0.00	0.80
(2) Ericsson RRUS-12 (AT&T)	B	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.80
								1/2" Ice	0.00	0.00	0.80
								1" Ice	0.00	0.00	0.80
(2) Ericsson RRUS-12 (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.80
								1/2" Ice	0.00	0.00	0.80
								1" Ice	0.00	0.00	0.80
(2) Ericsson RRUS-11 (AT&T)	A	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.55
								1/2" Ice	0.00	0.00	0.55
								1" Ice	0.00	0.00	0.55
(2) Ericsson RRUS-11 (AT&T)	B	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.55
								1/2" Ice	0.00	0.00	0.55
								1" Ice	0.00	0.00	0.55
(2) Ericsson RRUS-11 (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.55
								1/2" Ice	0.00	0.00	0.55
								1" Ice	0.00	0.00	0.55
Ericsson RRUS-E2 (AT&T)	A	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.60
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
Ericsson RRUS-E2 (AT&T)	B	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.60
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
Ericsson RRUS-E2 (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.60
								1/2" Ice	0.00	0.00	0.60
								1" Ice	0.00	0.00	0.60
Raycap DC12-48-60-0-25E (AT&T)	A	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.19
								1/2" Ice	0.00	0.00	0.19
								1" Ice	0.00	0.00	0.19
Raycap DC12-48-60-0-25E (AT&T)	B	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.19
								1/2" Ice	0.00	0.00	0.19
								1" Ice	0.00	0.00	0.19
Raycap DC12-48-60-0-25E (AT&T)	C	From Face	1.00	0.00	0.00	0.0000	95.00	No Ice	0.00	0.00	0.19
								1/2" Ice	0.00	0.00	0.19
								1" Ice	0.00	0.00	0.19
JMA MX08FRO665-20_V0F (Dish Wireless)	A	From Face	1.00	0.00	0.00	0.0000	66.00	No Ice	0.00	0.00	0.54
								1/2" Ice	0.00	0.00	0.54
								1" Ice	0.00	0.00	0.54
JMA MX08FRO665-20_V0F (Dish Wireless)	B	From Face	1.00	0.00	0.00	0.0000	66.00	No Ice	0.00	0.00	0.54
								1/2" Ice	0.00	0.00	0.54
								1" Ice	0.00	0.00	0.54
JMA MX08FRO665-20_V0F (Dish Wireless)	C	From Face	1.00	0.00	0.00	0.0000	66.00	No Ice	0.00	0.00	0.54
								1/2" Ice	0.00	0.00	0.54
								1" Ice	0.00	0.00	0.54

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
Fujitsu TA08025-B605 (Dish Wireless)	A	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.75 0.75 0.75
Fujitsu TA08025-B605 (Dish Wireless)	B	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.75 0.75 0.75
Fujitsu TA08025-B605 (Dish Wireless)	C	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.75 0.75 0.75
Fujitsu A08025-B604 (Dish Wireless)	A	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.64 0.64 0.64
Fujitsu A08025-B604 (Dish Wireless)	B	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.64 0.64 0.64
Fujitsu A08025-B604 (Dish Wireless)	C	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.64 0.64 0.64
Raycap RDIDC-9181-PF-48 (Dish Wireless)	A	From Face	1.00 0.00 0.00	0.0000	66.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.22 0.22 0.22
Platform (Tower)	C	None		0.0000	11.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	21.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	31.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	41.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	51.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	61.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	71.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	81.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Platform (Tower)	C	None		0.0000	91.25	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	1.80 1.80 1.80
Cannister Section (Tower)	C	None		0.0000	99.00	No Ice 1/2" Ice 1" Ice	189.15 189.78 190.41	189.15 189.78 190.41	1.88 4.09 6.29
Cannister Section (Tower)	C	None		0.0000	87.00	No Ice 1/2" Ice 1" Ice	189.15 189.78 190.41	189.15 189.78 190.41	1.88 4.09 6.29
Cannister Section (Tower)	C	None		0.0000	76.00	No Ice 1/2" Ice 1" Ice	157.63 158.15 158.67	157.63 158.15 158.67	1.57 3.41 5.24

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Cannister Section (Tower)	C	None				0.0000	66.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	56.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	46.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	36.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	26.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	16.00	No Ice	157.63	157.63	1.57
								1/2" Ice	158.15	158.15	3.41
								1" Ice	158.67	158.67	5.24
Cannister Section (Tower)	C	None				0.0000	5.50	No Ice	173.39	173.39	1.73
								1/2" Ice	173.97	173.97	3.75
								1" Ice	174.55	174.55	5.77
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	A	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.07
								1/2" Ice	0.00	0.00	0.07
								1" Ice	0.00	0.00	0.07
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	B	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.07
								1/2" Ice	0.00	0.00	0.07
								1" Ice	0.00	0.00	0.07
(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	C	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.07
								1/2" Ice	0.00	0.00	0.07
								1" Ice	0.00	0.00	0.07
Samsung MT6407-77A (Verizon)	A	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.10
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.10
Samsung MT6407-77A (Verizon)	B	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.10
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.10
Samsung MT6407-77A (Verizon)	C	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.10
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.10
Raycap RCMDC-6627-PF-48 (Verizon)	A	From Face	1.00	1.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.03
								1/2" Ice	0.00	0.00	0.07
								1" Ice	0.00	0.00	0.11
Samsung RF4439d-25A B2/66 (Verizon)	A	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.08
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.12
Samsung RF4439d-25A B2/66 (Verizon)	B	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.08
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.12
Samsung RF4439d-25A B2/66 (Verizon)	C	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.08
								1/2" Ice	0.00	0.00	0.10
								1" Ice	0.00	0.00	0.12
Samsung RF4440d-13A B5/B13 (Verizon)	A	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.07
								1/2" Ice	0.00	0.00	0.09
								1" Ice	0.00	0.00	0.11
Samsung RF4440d-13A B5/B13 (Verizon)	B	From Face	1.00	0.00	0.00	0.0000	86.00	No Ice	0.00	0.00	0.07
								1/2" Ice	0.00	0.00	0.09
								1" Ice	0.00	0.00	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Samsung RF4440d-13A	C	From Face	1.00	0.0000	86.00	No Ice	0.00	0.00	0.07
B5/B13 (Verizon)			0.00			1/2" Ice	0.00	0.00	0.09
			0.00			1" Ice	0.00	0.00	0.11
(2) KAelus KA-6030	A	From Face	1.00	0.0000	86.00	No Ice	0.00	0.00	0.04
			0.00			1/2" Ice	0.00	0.00	0.09
			0.00			1" Ice	0.00	0.00	0.13

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 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

Comb. No.	Description
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 Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	91.25 - 81.25	Leg	Max Tension	7	2.54	0.00	0.00
			Max. Compression	18	-16.42	2.57	-0.00
			Max. Mx	2	-16.00	-3.57	0.08
			Max. My	24	-11.00	-0.00	-3.61
			Max. Vy	18	2.71	-0.00	0.00
			Max. Vx	24	2.72	0.00	-0.00
		Diagonal	Max Tension	5	3.20	0.00	0.00
			Max. Compression	20	-4.15	0.00	0.00
			Max. Mx	36	0.09	0.18	0.00
			Max. My	10	-0.08	0.09	-0.00
			Max. Vy	36	-0.09	0.18	0.00
			Max. Vx	10	0.00	0.00	0.00
		Top Girt	Max Tension	2	1.82	0.00	0.00
			Max. Compression	7	-1.13	0.00	0.00
			Max. Mx	26	0.40	1.67	0.00
			Max. My	12	0.37	0.00	-0.00
			Max. Vy	26	-0.37	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T2	81.25 - 71.25	Leg	Max Tension	15	5.11	-2.52	-0.08
			Max. Compression	18	-27.66	1.84	-0.00
			Max. Mx	19	-23.00	2.58	-0.00
			Max. My	12	-11.81	-0.00	-2.62
			Max. Vy	18	0.92	2.57	-0.00
			Max. Vx	12	-0.95	-0.00	-2.62
		Diagonal	Max Tension	17	6.36	0.00	0.00
			Max. Compression	20	-7.47	0.00	0.00
			Max. Mx	35	0.30	0.18	0.00
			Max. My	12	-3.58	0.09	-0.00
			Max. Vy	35	-0.09	0.18	0.00
			Max. Vx	12	0.00	0.00	0.00
		Top Girt	Max Tension	2	1.85	0.00	0.00
			Max. Compression	7	-0.03	0.00	0.00
			Max. Mx	26	1.30	1.66	0.00
			Max. My	12	0.98	0.00	-0.00
			Max. Vy	26	-0.37	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T3	71.25 - 61.25	Leg	Max Tension	15	16.37	-1.80	-0.07
			Max. Compression	18	-46.40	1.95	-0.00
			Max. Mx	18	-46.40	1.95	-0.00
			Max. My	24	-18.36	0.02	-2.00
			Max. Vy	18	-0.91	1.95	-0.00
			Max. Vx	24	-0.93	0.02	1.93
		Diagonal	Max Tension	17	8.94	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	20	-10.38	0.00	0.00
			Max. Mx	35	0.45	0.19	0.00
			Max. My	12	-4.96	0.09	-0.00
			Max. Vy	35	-0.09	0.19	0.00
			Max. Vx	12	-0.00	0.00	0.00
		Top Girt	Max Tension	31	1.75	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	26	1.67	1.66	0.00
			Max. My	12	1.21	0.00	-0.00
			Max. Vy	26	-0.37	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T4	61.25 - 51.25	Leg	Max Tension	15	30.04	-1.87	-0.07
			Max. Compression	18	-67.55	2.64	-0.00
			Max. Mx	19	-62.25	2.64	-0.00
			Max. My	12	-20.90	-0.02	-2.71
			Max. Vy	19	-0.93	2.64	-0.00
			Max. Vx	24	-0.98	-0.02	2.71
		Diagonal	Max Tension	17	11.57	0.00	0.00
			Max. Compression	20	-13.10	0.00	0.00
			Max. Mx	35	0.77	0.19	0.00
			Max. My	14	-10.74	0.08	-0.01
			Max. Vy	35	-0.09	0.19	0.00
			Max. Vx	14	-0.00	0.00	0.00
		Top Girt	Max Tension	37	2.09	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	26	1.98	1.65	0.00
			Max. My	12	1.42	0.00	-0.00
			Max. Vy	26	-0.37	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T5	51.25 - 41.25	Leg	Max Tension	15	49.87	-2.56	-0.12
			Max. Compression	18	-92.52	1.95	-0.00
			Max. Mx	19	-85.42	2.64	-0.00
			Max. My	12	-21.27	-0.02	-2.71
			Max. Vy	18	0.83	2.64	-0.00
			Max. Vx	12	-0.86	-0.02	-2.71
		Diagonal	Max Tension	17	14.11	0.00	0.00
			Max. Compression	10	-16.56	0.00	0.00
			Max. Mx	35	0.55	0.29	0.00
			Max. My	12	-7.36	0.12	-0.01
			Max. Vy	35	-0.12	0.29	0.00
			Max. Vx	12	-0.00	0.00	0.00
		Top Girt	Max Tension	14	3.37	0.00	0.00
			Max. Compression	19	-0.32	0.00	0.00
			Max. Mx	26	2.49	1.01	0.00
			Max. My	12	1.75	0.00	-0.00
			Max. Vy	26	-0.22	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T6	41.25 - 31.25	Leg	Max Tension	15	73.89	-1.90	-0.07
			Max. Compression	18	-123.88	2.91	-0.00
			Max. Mx	18	-123.88	2.91	-0.00
			Max. My	12	-26.07	0.02	-2.53
			Max. Vy	18	-0.88	2.91	-0.00
			Max. Vx	24	-0.86	0.02	2.53
		Diagonal	Max Tension	17	16.82	0.00	0.00
			Max. Compression	20	-18.32	0.00	0.00
			Max. Mx	35	1.55	0.28	0.00
			Max. My	24	-8.55	0.12	0.01
			Max. Vy	35	-0.12	0.28	0.00
			Max. Vx	12	-0.00	0.00	0.00
		Top Girt	Max Tension	14	4.19	0.00	0.00
			Max. Compression	19	-1.17	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	26	2.61	1.00	0.00
			Max. My	12	1.78	0.00	-0.00
			Max. Vy	26	-0.22	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T7	31.25 - 21.25	Leg	Max Tension	15	101.85	-2.73	-0.09
			Max. Compression	18	-158.53	0.14	-0.00
			Max. Mx	18	-156.71	2.91	-0.00
			Max. My	12	-26.75	0.02	-2.53
			Max. Vy	18	0.95	2.91	-0.00
			Max. Vx	12	-0.84	0.02	-2.53
		Diagonal	Max Tension	17	19.36	0.00	0.00
			Max. Compression	20	-21.20	0.00	0.00
			Max. Mx	35	1.78	0.28	0.00
			Max. My	22	-17.31	0.07	0.01
			Max. Vy	35	-0.12	0.28	0.00
			Max. Vx	22	0.00	0.00	0.00
		Top Girt	Max Tension	14	4.10	0.00	0.00
			Max. Compression	19	-1.49	0.00	0.00
			Max. Mx	26	2.13	0.99	0.00
			Max. My	12	1.56	0.00	-0.00
			Max. Vy	26	-0.22	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T8	21.25 - 11.25	Leg	Max Tension	15	132.53	-0.30	-0.01
			Max. Compression	18	-196.43	11.07	-0.00
			Max. Mx	18	-196.43	11.07	-0.00
			Max. My	12	-31.23	0.06	-7.39
			Max. Vy	18	-1.75	11.07	-0.00
			Max. Vx	12	1.30	0.06	-7.39
		Diagonal	Max Tension	5	20.37	0.00	0.00
			Max. Compression	10	-22.66	0.00	0.00
			Max. Mx	18	16.20	0.29	-0.00
			Max. My	24	-20.45	0.05	0.02
			Max. Vy	35	-0.12	0.29	0.00
			Max. Vx	24	-0.00	0.05	0.02
		Top Girt	Max Tension	14	5.86	0.00	0.00
			Max. Compression	19	-3.06	0.00	0.00
			Max. Mx	26	3.15	0.98	0.00
			Max. My	12	1.70	0.00	-0.00
			Max. Vy	26	-0.22	0.00	0.00
			Max. Vx	12	0.00	0.00	0.00
T9	11.25 - 0	Leg	Max Tension	15	192.11	25.81	0.88
			Max. Compression	18	-269.93	0.00	0.00
			Max. Mx	18	-269.88	-29.65	-0.00
			Max. My	24	-35.49	-0.34	-17.51
			Max. Vy	18	-29.67	0.00	0.00
			Max. Vx	24	-17.52	0.00	0.00
		Diagonal	Max Tension	17	26.88	0.00	0.00
			Max. Compression	10	-29.41	0.00	0.00
			Max. Mx	18	21.80	0.32	0.00
			Max. My	10	-29.34	-0.05	-0.03
			Max. Vy	35	-0.11	0.26	-0.00
			Max. Vx	10	-0.00	-0.05	-0.03
		Top Girt	Max Tension	14	5.82	0.00	0.00
			Max. Compression	19	-2.24	0.00	0.00
			Max. Mx	26	0.86	0.95	0.00
			Max. My	12	2.07	0.00	-0.00
			Max. Vy	26	0.21	0.00	0.00
		Bottom Girt	Max Tension	37	11.91	0.00	0.00
			Max. Compression	19	-9.52	0.00	0.00
			Max. Mx	26	10.20	0.95	0.00
			Max. Vy	26	0.21	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	270.10	24.25	-14.00
	Max. H_x	18	270.10	24.25	-14.00
	Max. H_z	3	-90.43	-4.22	21.25
	Min. Vert	7	-191.16	-23.26	13.43
	Min. H_x	9	-165.52	-24.99	4.00
	Min. H_z	14	144.65	4.34	-19.16
Leg B	Max. Vert	10	269.21	-24.69	-13.22
	Max. H_x	21	-166.19	25.00	4.01
	Max. H_z	3	-91.10	5.11	19.64
	Min. Vert	23	-191.83	23.73	12.63
	Min. H_x	10	269.21	-24.69	-13.22
	Min. H_z	14	143.75	-5.27	-17.61
Leg A	Max. Vert	2	269.06	-0.89	28.00
	Max. H_x	20	34.56	15.79	0.36
	Max. H_z	2	269.06	-0.89	28.00
	Min. Vert	15	-191.94	0.93	-26.87
	Min. H_x	8	34.56	-15.80	0.36
	Min. H_z	15	-191.94	0.93	-26.87

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	87.41	0.00	0.00	5.15	6.68	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	104.89	-0.00	-68.78	-3649.19	8.06	-28.37
0.9 Dead+1.0 Wind 0 deg - No Ice	78.67	-0.00	-68.78	-3647.27	6.04	-28.36
1.2 Dead+1.0 Wind 30 deg - No Ice	104.89	32.41	-56.14	-2993.22	-1723.64	-16.39
0.9 Dead+1.0 Wind 30 deg - No Ice	78.67	32.41	-56.14	-2991.92	-1724.01	-16.38
1.2 Dead+1.0 Wind 60 deg - No Ice	104.89	55.00	-31.76	-1693.50	-2935.94	0.00
0.9 Dead+1.0 Wind 60 deg - No Ice	78.67	55.00	-31.76	-1693.44	-2935.15	0.00
1.2 Dead+1.0 Wind 90 deg - No Ice	104.89	64.83	0.00	6.23	-3455.38	16.39
0.9 Dead+1.0 Wind 90 deg - No Ice	78.67	64.83	0.00	4.67	-3454.09	16.39
1.2 Dead+1.0 Wind 120 deg - No Ice	104.89	59.56	34.39	1833.92	-3157.61	28.37
0.9 Dead+1.0 Wind 120 deg - No Ice	78.67	59.56	34.39	1830.62	-3156.62	28.36
1.2 Dead+1.0 Wind 150 deg - No Ice	104.89	32.41	56.14	3005.62	-1723.66	32.77

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
0.9 Dead+1.0 Wind 150 deg - No Ice	78.67	32.41	56.14	3001.21	-1724.03	32.76
1.2 Dead+1.0 Wind 180 deg - No Ice	104.89	-0.00	63.51	3405.64	8.06	28.39
0.9 Dead+1.0 Wind 180 deg - No Ice	78.67	-0.00	63.51	3400.84	6.04	28.39
1.2 Dead+1.0 Wind 210 deg - No Ice	104.89	-32.41	56.14	3005.61	1739.78	16.39
0.9 Dead+1.0 Wind 210 deg - No Ice	78.67	-32.41	56.14	3001.20	1736.11	16.38
1.2 Dead+1.0 Wind 240 deg - No Ice	104.89	-59.56	34.39	1833.91	3173.72	-0.00
0.9 Dead+1.0 Wind 240 deg - No Ice	78.67	-59.56	34.39	1830.61	3168.69	-0.00
1.2 Dead+1.0 Wind 270 deg - No Ice	104.89	-64.83	0.00	6.23	3471.48	-16.39
0.9 Dead+1.0 Wind 270 deg - No Ice	78.67	-64.83	0.00	4.67	3466.16	-16.39
1.2 Dead+1.0 Wind 300 deg - No Ice	104.89	-55.00	-31.76	-1693.50	2952.05	-28.40
0.9 Dead+1.0 Wind 300 deg - No Ice	78.67	-55.00	-31.76	-1693.43	2947.22	-28.39
1.2 Dead+1.0 Wind 330 deg - No Ice	104.89	-32.41	-56.14	-2993.20	1739.77	-32.77
0.9 Dead+1.0 Wind 330 deg - No Ice	78.67	-32.41	-56.14	-2991.90	1736.10	-32.76
1.2 Dead+1.0 Ice+1.0 Temp	157.56	-0.00	0.00	13.64	29.41	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	157.56	0.00	-12.14	-629.01	29.56	-12.65
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	157.56	5.78	-10.01	-518.57	-277.75	-7.30
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	157.56	9.85	-5.69	-288.92	-494.60	-0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	157.56	11.56	-0.00	13.71	-585.06	7.30
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	157.56	10.51	6.07	335.07	-527.05	12.65
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	157.56	5.78	10.01	545.98	-277.75	14.60
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	157.56	0.00	11.37	618.96	29.56	12.65
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	157.56	-5.78	10.01	545.98	336.86	7.30
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	157.56	-10.51	6.07	335.06	586.17	0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	157.56	-11.56	0.00	13.71	644.18	-7.30
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	157.56	-9.85	-5.69	-288.92	553.72	-12.65
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	157.56	-5.78	-10.01	-518.57	336.86	-14.60
Dead+Wind 0 deg - Service	87.41	-0.00	-16.42	-866.79	6.71	-6.78
Dead+Wind 30 deg - Service	87.41	7.74	-13.40	-710.32	-406.38	-3.91
Dead+Wind 60 deg - Service	87.41	13.13	-7.58	-400.28	-695.56	0.00
Dead+Wind 90 deg - Service	87.41	15.47	-0.00	5.17	-819.47	3.91
Dead+Wind 120 deg - Service	87.41	14.22	8.21	441.15	-748.44	6.78
Dead+Wind 150 deg - Service	87.41	7.74	13.40	720.66	-406.39	7.82
Dead+Wind 180 deg - Service	87.41	-0.00	15.16	816.07	6.71	6.78
Dead+Wind 210 deg - Service	87.41	-7.74	13.40	720.65	419.79	3.91
Dead+Wind 240 deg - Service	87.41	-14.22	8.21	441.15	761.84	-0.00
Dead+Wind 270 deg - Service	87.41	-15.47	-0.00	5.17	832.87	-3.91

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 300 deg - Service	87.41	-13.13	-7.58	-400.28	708.97	-6.79
Dead+Wind 330 deg - Service	87.41	-7.74	-13.40	-710.32	419.79	-7.82

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-87.41	0.00	0.00	87.41	0.00	0.000%
2	0.00	-104.89	-68.78	0.00	104.89	68.78	0.000%
3	0.00	-78.67	-68.78	0.00	78.67	68.78	0.000%
4	32.41	-104.89	-56.14	-32.41	104.89	56.14	0.000%
5	32.41	-78.67	-56.14	-32.41	78.67	56.14	0.000%
6	55.00	-104.89	-31.76	-55.00	104.89	31.76	0.000%
7	55.00	-78.67	-31.76	-55.00	78.67	31.76	0.000%
8	64.83	-104.89	-0.00	-64.83	104.89	-0.00	0.000%
9	64.83	-78.67	-0.00	-64.83	78.67	-0.00	0.000%
10	59.56	-104.89	34.39	-59.56	104.89	-34.39	0.000%
11	59.56	-78.67	34.39	-59.56	78.67	-34.39	0.000%
12	32.41	-104.89	56.14	-32.41	104.89	-56.14	0.000%
13	32.41	-78.67	56.14	-32.41	78.67	-56.14	0.000%
14	0.00	-104.89	63.51	0.00	104.89	-63.51	0.000%
15	0.00	-78.67	63.51	0.00	78.67	-63.51	0.000%
16	-32.41	-104.89	56.14	32.41	104.89	-56.14	0.000%
17	-32.41	-78.67	56.14	32.41	78.67	-56.14	0.000%
18	-59.56	-104.89	34.39	59.56	104.89	-34.39	0.000%
19	-59.56	-78.67	34.39	59.56	78.67	-34.39	0.000%
20	-64.83	-104.89	-0.00	64.83	104.89	-0.00	0.000%
21	-64.83	-78.67	-0.00	64.83	78.67	-0.00	0.000%
22	-55.00	-104.89	-31.76	55.00	104.89	31.76	0.000%
23	-55.00	-78.67	-31.76	55.00	78.67	31.76	0.000%
24	-32.41	-104.89	-56.14	32.41	104.89	56.14	0.000%
25	-32.41	-78.67	-56.14	32.41	78.67	56.14	0.000%
26	0.00	-157.56	0.00	0.00	157.56	-0.00	0.000%
27	0.00	-157.56	-12.14	-0.00	157.56	12.14	0.000%
28	5.78	-157.56	-10.01	-5.78	157.56	10.01	0.000%
29	9.85	-157.56	-5.69	-9.85	157.56	5.69	0.000%
30	11.56	-157.56	0.00	-11.56	157.56	0.00	0.000%
31	10.51	-157.56	6.07	-10.51	157.56	-6.07	0.000%
32	5.78	-157.56	10.01	-5.78	157.56	-10.01	0.000%
33	0.00	-157.56	11.37	-0.00	157.56	-11.37	0.000%
34	-5.78	-157.56	10.01	5.78	157.56	-10.01	0.000%
35	-10.51	-157.56	6.07	10.51	157.56	-6.07	0.000%
36	-11.56	-157.56	0.00	11.56	157.56	-0.00	0.000%
37	-9.85	-157.56	-5.69	9.85	157.56	5.69	0.000%
38	-5.78	-157.56	-10.01	5.78	157.56	10.01	0.000%
39	0.00	-87.41	-16.42	0.00	87.41	16.42	0.000%
40	7.74	-87.41	-13.40	-7.74	87.41	13.40	0.000%
41	13.13	-87.41	-7.58	-13.13	87.41	7.58	0.000%
42	15.47	-87.41	0.00	-15.47	87.41	0.00	0.000%
43	14.22	-87.41	8.21	-14.22	87.41	-8.21	0.000%
44	7.74	-87.41	13.40	-7.74	87.41	-13.40	0.000%
45	0.00	-87.41	15.16	0.00	87.41	-15.16	0.000%
46	-7.74	-87.41	13.40	7.74	87.41	-13.40	0.000%
47	-14.22	-87.41	8.21	14.22	87.41	-8.21	0.000%
48	-15.47	-87.41	0.00	15.47	87.41	0.00	0.000%
49	-13.13	-87.41	-7.58	13.13	87.41	7.58	0.000%
50	-7.74	-87.41	-13.40	7.74	87.41	13.40	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001

2	Yes	6	0.00000001	0.00001537
3	Yes	6	0.00000001	0.00001170
4	Yes	6	0.00000001	0.00001451
5	Yes	6	0.00000001	0.00001085
6	Yes	6	0.00000001	0.00001369
7	Yes	6	0.00000001	0.00001001
8	Yes	6	0.00000001	0.00001452
9	Yes	6	0.00000001	0.00001085
10	Yes	6	0.00000001	0.00001538
11	Yes	6	0.00000001	0.00001170
12	Yes	6	0.00000001	0.00001449
13	Yes	6	0.00000001	0.00001084
14	Yes	6	0.00000001	0.00001370
15	Yes	6	0.00000001	0.00001002
16	Yes	6	0.00000001	0.00001452
17	Yes	6	0.00000001	0.00001085
18	Yes	6	0.00000001	0.00001537
19	Yes	6	0.00000001	0.00001169
20	Yes	6	0.00000001	0.00001452
21	Yes	6	0.00000001	0.00001085
22	Yes	6	0.00000001	0.00001370
23	Yes	6	0.00000001	0.00001002
24	Yes	6	0.00000001	0.00001449
25	Yes	6	0.00000001	0.00001084
26	Yes	6	0.00000001	0.00000001
27	Yes	6	0.00000001	0.00000741
28	Yes	6	0.00000001	0.00000692
29	Yes	6	0.00000001	0.00000669
30	Yes	6	0.00000001	0.00000687
31	Yes	6	0.00000001	0.00000732
32	Yes	6	0.00000001	0.00000717
33	Yes	6	0.00000001	0.00000723
34	Yes	6	0.00000001	0.00000751
35	Yes	6	0.00000001	0.00000790
36	Yes	6	0.00000001	0.00000771
37	Yes	6	0.00000001	0.00000731
38	Yes	6	0.00000001	0.00000727
39	Yes	6	0.00000001	0.00000922
40	Yes	6	0.00000001	0.00000884
41	Yes	6	0.00000001	0.00000862
42	Yes	6	0.00000001	0.00000886
43	Yes	6	0.00000001	0.00000924
44	Yes	6	0.00000001	0.00000890
45	Yes	6	0.00000001	0.00000870
46	Yes	6	0.00000001	0.00000894
47	Yes	6	0.00000001	0.00000929
48	Yes	6	0.00000001	0.00000893
49	Yes	6	0.00000001	0.00000868
50	Yes	6	0.00000001	0.00000888

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	91.25 - 81.25	0.644	47	0.0386	0.0047
T2	81.25 - 71.25	0.559	47	0.0382	0.0047
T3	71.25 - 61.25	0.472	47	0.0372	0.0045
T4	61.25 - 51.25	0.384	47	0.0354	0.0041
T5	51.25 - 41.25	0.298	47	0.0323	0.0036

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	41.25 - 31.25	0.223	47	0.0278	0.0031
T7	31.25 - 21.25	0.155	47	0.0235	0.0026
T8	21.25 - 11.25	0.096	47	0.0177	0.0020
T9	11.25 - 0	0.050	47	0.0104	0.0013

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Cannister Section (Tower)	47	0.644	0.0386	0.0047	424194
95.00	(3) CCI HPA65R-BU6AA-K (AT&T)	47	0.644	0.0386	0.0047	424194
91.25	Platform (Tower)	47	0.644	0.0386	0.0047	424194
87.00	Cannister Section (Tower)	47	0.608	0.0384	0.0047	424194
86.00	(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	47	0.600	0.0384	0.0047	424194
81.25	Platform (Tower)	47	0.559	0.0382	0.0047	424194
76.00	Cannister Section (Tower)	47	0.513	0.0378	0.0046	660608
71.25	Platform (Tower)	47	0.472	0.0372	0.0045	Inf
66.00	JMA MX08FRO665-20_V0F (Dish Wireless)	47	0.426	0.0364	0.0043	Inf
61.25	Platform (Tower)	47	0.384	0.0354	0.0041	701666
56.00	Cannister Section (Tower)	47	0.338	0.0340	0.0038	166419
51.25	Platform (Tower)	47	0.298	0.0323	0.0036	107209
46.00	Cannister Section (Tower)	47	0.257	0.0300	0.0033	117118
41.25	Platform (Tower)	47	0.223	0.0278	0.0031	160578
36.00	Cannister Section (Tower)	47	0.187	0.0256	0.0029	185271
31.25	Platform (Tower)	47	0.155	0.0235	0.0026	145663
26.00	Cannister Section (Tower)	47	0.123	0.0207	0.0023	98642
21.25	Platform (Tower)	47	0.096	0.0177	0.0020	91723
16.00	Cannister Section (Tower)	47	0.071	0.0141	0.0016	157453
11.25	Platform (Tower)	47	0.050	0.0104	0.0013	760962
5.50	Cannister Section (Tower)	47	0.025	0.0053	0.0007	Inf

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	91.25 - 81.25	2.678	18	0.1598	0.0198
T2	81.25 - 71.25	2.327	18	0.1583	0.0196
T3	71.25 - 61.25	1.965	18	0.1545	0.0187
T4	61.25 - 51.25	1.600	18	0.1469	0.0172
T5	51.25 - 41.25	1.242	18	0.1343	0.0150
T6	41.25 - 31.25	0.930	18	0.1155	0.0131
T7	31.25 - 21.25	0.649	18	0.0976	0.0109
T8	21.25 - 11.25	0.403	18	0.0737	0.0082
T9	11.25 - 0	0.210	18	0.0434	0.0053

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Cannister Section (Tower)	18	2.678	0.1598	0.0198	104301
95.00	(3) CCI HPA65R-BU6AA-K (AT&T)	18	2.678	0.1598	0.0198	104301
91.25	Platform (Tower)	18	2.678	0.1598	0.0198	104301
87.00	Cannister Section (Tower)	18	2.530	0.1593	0.0198	104301
86.00	(2) NHH-65B-R2B w/ Mount Pipe (Verizon)	18	2.495	0.1592	0.0198	104301
81.25	Platform (Tower)	18	2.327	0.1583	0.0196	104301
76.00	Cannister Section (Tower)	18	2.138	0.1567	0.0192	165910
71.25	Platform (Tower)	18	1.965	0.1545	0.0187	470715
66.00	JMA MX08FRO665-20_V0F (Dish Wireless)	18	1.774	0.1510	0.0180	969183
61.25	Platform (Tower)	18	1.600	0.1469	0.0172	178269
56.00	Cannister Section (Tower)	18	1.408	0.1411	0.0160	40339
51.25	Platform (Tower)	18	1.242	0.1343	0.0150	25860
46.00	Cannister Section (Tower)	18	1.073	0.1247	0.0140	28275
41.25	Platform (Tower)	18	0.930	0.1155	0.0131	38909
36.00	Cannister Section (Tower)	18	0.780	0.1063	0.0120	44965
31.25	Platform (Tower)	18	0.649	0.0976	0.0109	35190
26.00	Cannister Section (Tower)	18	0.513	0.0859	0.0095	23716
21.25	Platform (Tower)	18	0.403	0.0737	0.0082	22073
16.00	Cannister Section (Tower)	18	0.298	0.0588	0.0068	38468
11.25	Platform (Tower)	18	0.210	0.0434	0.0053	190705
5.50	Cannister Section (Tower)	18	0.104	0.0221	0.0028	502738

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	91.25	Leg	A325N	0.7500	8	0.68	30.10	0.023 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	2	1.60	12.51	0.128 ✔	1	Member Block Shear
T2	81.25	Diagonal	A325N	0.7500	2	3.18	12.51	0.254 ✔	1	Member Block Shear
T3	71.25	Diagonal	A325N	0.7500	2	4.47	12.51	0.358 ✔	1	Member Block Shear
T4	61.25	Diagonal	A325N	0.7500	2	5.78	12.51	0.462 ✔	1	Member Block Shear
T5	51.25	Leg	A325N	0.7500	8	6.23	30.10	0.207 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	2	8.28	19.88	0.417 ✔	1	Bolt Shear
T6	41.25	Diagonal	A325N	0.7500	2	9.16	19.88	0.461 ✔	1	Bolt Shear
T7	31.25	Diagonal	A325N	0.7500	2	10.60	19.88	0.533 ✔	1	Bolt Shear
T8	21.25	Diagonal	A325N	0.7500	2	11.33	19.88	0.570 ✔	1	Bolt Shear
T9	11.25	Leg	A325N	0.7500	8	24.01	30.10	0.798 ✔	1	Bolt Tension
		Diagonal	A325N	0.7500	2	14.70	19.88	0.740 ✔	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	91.25 - 81.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-16.42	266.60	0.062 [1] ✔
T2	81.25 - 71.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-27.66	266.60	0.104 [1] ✔
T3	71.25 - 61.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-46.40	266.60	0.174 [1] ✔
T4	61.25 - 51.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-67.55	266.60	0.253 [1] ✔
T5	51.25 - 41.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-92.52	266.60	0.347 [1] ✔
T6	41.25 - 31.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-123.88	389.28	0.318 [1] ✔
T7	31.25 - 21.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-158.53	389.28	0.407 [1] ✔
T8	21.25 - 11.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-196.43	389.28	0.505 [1] ✔
T9	11.25 - 0	HSS8x8x3/8	11.25	1.00	3.9 K=1.00	10.4000	-269.93	430.13	0.628 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	91.25 - 81.25	L4x4x1/4	20.59	9.69	140.0 K=0.96	1.9400	-4.15	28.33	0.146 [1] ✔
T2	81.25 - 71.25	L4x4x1/4	20.59	9.69	140.0 K=0.96	1.9400	-7.47	28.33	0.264 [1] ✔
T3	71.25 - 61.25	L4x4x1/4	20.59	9.69	140.0 K=0.96	1.9400	-10.38	28.33	0.366 [1] ✔
T4	61.25 - 51.25	L4x4x1/4	20.59	9.69	140.0 K=0.96	1.9400	-13.10	28.33	0.463 [1] ✔
T5	51.25 - 41.25	L5x5x5/16	20.59	9.69	117.7 K=1.01	3.0300	-16.56	61.04	0.271 [1] ✔
T6	41.25 - 31.25	L5x5x5/16	20.59	9.69	117.7 K=1.01	3.0300	-18.32	61.04	0.300 [1] ✔
T7	31.25 - 21.25	L5x5x5/16	20.59	9.69	117.7 K=1.01	3.0300	-21.20	61.04	0.347 [1] ✔
T8	21.25 - 11.25	L5x5x5/16	20.59	9.69	117.7	3.0300	-22.66	61.04	0.371 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T9	11.25 - 0	L5x5x5/16	20.71	9.74	K=1.01 118.2 K=1.01	3.0300	-29.41	60.64	0.485 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	91.25 - 81.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-1.13	102.60	0.011 [1]
T2	81.25 - 71.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-0.48	102.60	0.005 [1]
T3	71.25 - 61.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-0.80	102.60	0.008 [1]
T4	61.25 - 51.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-1.17	102.60	0.011 [1]
T5	51.25 - 41.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-1.60	58.20	0.028 [1]
T6	41.25 - 31.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-2.15	58.20	0.037 [1]
T7	31.25 - 21.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-2.75	58.20	0.047 [1]
T8	21.25 - 11.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-3.40	58.20	0.058 [1]
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-4.68	58.20	0.080 [1]

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-9.52	58.20	0.164 [1]

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	91.25 - 81.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	2.54	293.94	0.009 [1] ✔
T2	81.25 - 71.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	5.11	293.94	0.017 [1] ✔
T3	71.25 - 61.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	16.37	293.94	0.056 [1] ✔
T4	61.25 - 51.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	30.04	293.94	0.102 [1] ✔
T5	51.25 - 41.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	49.87	293.94	0.170 [1] ✔
T6	41.25 - 31.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	73.89	430.56	0.172 [1] ✔
T7	31.25 - 21.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	101.85	430.56	0.237 [1] ✔
T8	21.25 - 11.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	132.53	430.56	0.308 [1] ✔
T9	11.25 - 0	HSS8x8x3/8	11.25	1.00	3.9	10.4000	192.12	430.56	0.446 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	91.25 - 81.25	L4x4x1/4	20.59	9.69	95.2	1.2909	3.20	56.16	0.057 [1] ✔
T2	81.25 - 71.25	L4x4x1/4	20.59	9.69	95.2	1.2909	6.36	56.16	0.113 [1] ✔
T3	71.25 - 61.25	L4x4x1/4	20.59	9.69	95.2	1.2909	8.94	56.16	0.159 [1] ✔
T4	61.25 - 51.25	L4x4x1/4	20.59	9.69	95.2	1.2909	11.57	56.16	0.206 [1] ✔
T5	51.25 - 41.25	L5x5x5/16	20.59	9.69	75.8	2.0674	14.11	89.93	0.157 [1] ✔
T6	41.25 - 31.25	L5x5x5/16	20.59	9.69	75.8	2.0674	16.82	89.93	0.187 [1] ✔
T7	31.25 - 21.25	L5x5x5/16	20.59	9.69	75.8	2.0674	19.36	89.93	0.215 [1] ✔
T8	21.25 - 11.25	L5x5x5/16	20.59	9.69	75.8	2.0674	20.37	89.93	0.226 [1] ✔
T9	11.25 - 0	L5x5x5/16	20.71	9.74	76.2	2.0674	26.88	89.93	0.299 [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 $\frac{P_u}{\phi P_n}$
T1	91.25 - 81.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1.82	313.81	0.006 [1] ✔
T2	81.25 - 71.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1.85	313.81	0.006 [1] ✔
T3	71.25 - 61.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1.75	313.81	0.006 [1] ✔
T4	61.25 - 51.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	2.09	313.81	0.007 [1] ✔
T5	51.25 - 41.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	3.37	178.02	0.019 [1] ✔
T6	41.25 - 31.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	4.19	178.02	0.024 [1] ✔
T7	31.25 - 21.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	4.10	178.02	0.023 [1] ✔
T8	21.25 - 11.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	5.86	178.02	0.033 [1] ✔
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2	4.3000	5.82	178.02	0.033 [1] ✔

[1] P_u / ϕP_n controls

Bottom 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 $\frac{P_u}{\phi P_n}$
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2	4.3000	11.91	178.02	0.067 [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	91.25 - 81.25	Leg	HSS8x8x1/4	1	-16.42	266.60	6.2	Pass
T2	81.25 - 71.25	Leg	HSS8x8x1/4	13	-27.66	266.60	10.4	Pass
T3	71.25 - 61.25	Leg	HSS8x8x1/4	25	-46.40	266.60	17.4	Pass
T4	61.25 - 51.25	Leg	HSS8x8x1/4	37	-67.55	266.60	25.3	Pass
T5	51.25 - 41.25	Leg	HSS8x8x1/4	49	-92.52	266.60	34.7	Pass

tnxTower	Job	Page
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Centerline Engineering Services, PA 750 W. Center St., Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX: (781) 713-4725	**Project** 17123923	**Date** 21:54:02 10/02/23
	Client Verizon	**Designed by** kavci

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T6	41.25 - 31.25	Leg	HSS8x8x3/8	61	-123.88	389.28	31.8	Pass
T7	31.25 - 21.25	Leg	HSS8x8x3/8	73	-158.53	389.28	40.7	Pass
T8	21.25 - 11.25	Leg	HSS8x8x3/8	85	-196.43	389.28	50.5	Pass
T9	11.25 - 0	Leg	HSS8x8x3/8	97	-269.93	430.13	62.8	Pass
							79.8 (b)	
T1	91.25 - 81.25	Diagonal	L4x4x1/4	7	-4.15	28.33	14.6	Pass
T2	81.25 - 71.25	Diagonal	L4x4x1/4	19	-7.47	28.33	26.4	Pass
T3	71.25 - 61.25	Diagonal	L4x4x1/4	31	-10.38	28.33	36.6	Pass
T4	61.25 - 51.25	Diagonal	L4x4x1/4	43	-13.10	28.33	46.3	Pass
T5	51.25 - 41.25	Diagonal	L5x5x5/16	56	-16.56	61.04	27.1	Pass
							41.7 (b)	
T6	41.25 - 31.25	Diagonal	L5x5x5/16	67	-18.32	61.04	30.0	Pass
							46.1 (b)	
T7	31.25 - 21.25	Diagonal	L5x5x5/16	79	-21.20	61.04	34.7	Pass
							53.3 (b)	
T8	21.25 - 11.25	Diagonal	L5x5x5/16	92	-22.66	61.04	37.1	Pass
							57.0 (b)	
T9	11.25 - 0	Diagonal	L5x5x5/16	107	-29.41	60.64	48.5	Pass
							74.0 (b)	
T1	91.25 - 81.25	Top Girt	HSS8x4x3/8	5	-1.13	102.60	1.1	Pass
T2	81.25 - 71.25	Top Girt	HSS8x4x3/8	16	1.85	313.81	0.6	Pass
T3	71.25 - 61.25	Top Girt	HSS8x4x3/8	30	-0.80	102.60	0.8	Pass
T4	61.25 - 51.25	Top Girt	HSS8x4x3/8	42	-1.17	102.60	1.1	Pass
T5	51.25 - 41.25	Top Girt	HSS6x4x1/4	54	-1.60	58.20	2.8	Pass
T6	41.25 - 31.25	Top Girt	HSS6x4x1/4	66	-2.15	58.20	3.7	Pass
T7	31.25 - 21.25	Top Girt	HSS6x4x1/4	78	-2.75	58.20	4.7	Pass
T8	21.25 - 11.25	Top Girt	HSS6x4x1/4	90	-3.40	58.20	5.8	Pass
T9	11.25 - 0	Top Girt	HSS6x4x1/4	102	-4.68	58.20	8.0	Pass
T9	11.25 - 0	Bottom Girt	HSS6x4x1/4	104	-9.52	58.20	16.4	Pass
							Summary	
						Leg (T9)	79.8	Pass
						Diagonal (T9)	74.0	Pass
						Top Girt (T9)	8.0	Pass
						Bottom Girt (T9)	16.4	Pass
						Bolt Checks	79.8	Pass
						RATING =	**79.8**	**Pass**

CENTERLINE

Centerline Engineering Services, PA
750 W. Center St., Suite 301
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Tel: (781) 713-4725
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Job:	23CLVZ-0013	Engineer:	KA
Project:	17123923	Date:	10/2/2023
Client:	Verizon	Sheet:	1 of 1

SST Anchor Rod Check (TIA-H)

Anchor Rod Information

Grout Considered?:	No	
Clear Distance, l_{ar}:	1.25	*in*
Quanity Per Leg:	8	
Diameter:	1.25	*in*
Rod Material:	A572 Gr. 50	
Strength (Fu):	65	*ksi*
Yield (Fy):	50	*ksi*

Reactions

Compression, P_{uc}:	270.0	*kips*
Comp Shear, V_{uc}:	28.0	*kips*
Tension, P_{ut}:	192.0	*kips*
Tension Shear, V_{ut}:	27.0	*kips*

Capacity Results

Anchor Rod Results

Interaction Equations for lar ≤ 1(d)	(Puc/ϕcRnc) + [Vu/ϕcRnvc]^2 ≤ 1.0

$R_{nt} = FuA_n$=	62.99	*kips*	Rnvc = $0.6F_yA_n/2$	14.54	*kips*	ϕ_t=	0.75
$R_{nc} = F_yA_n$=	48.45	*kips*	$R_{nb} = F_{cr}A_n$=	48.35	*kips*	ϕ_v=	0.75
$R_{nv} = 0.5F_uA_g$=	39.88	*kips*	$M_n = F_yZ$=	11.42	*ksi*	ϕ_c=	1.0
						ϕ_f=	0.9

P_{uc}=	33.75	*kips*	V_{uc}=	3.50	*kips*	M_{uc}=	2.84	*ksi*
P_{ut}=	24.00	*kips*	V_{ut}=	3.38	*kips*	M_{ut}=	2.74	*ksi*

Anchor Rod Stress Ratio= 75.5% Good

Centerline Engineering Services, PA
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Job:	23CLVZ-0013	Engineer:	KA
Project:	EAST LYME NORTH CT - D	Date:	10/2/2023
Client:	Verizon	Sheet:	1 of 1

SST Unit Base Analysis Summary (TIA-H)

Analysis Reactions and Tower Information

Global Moment, M:	3665	*ft-kips*
Global Axial, P:	105	*kips*
Global Shear, V:	69	*kips*
Leg Compression, P_{comp}:	270	*kips*
Leg Comp. Shear, V_{u_comp}:	28	*kips*
Leg Uplift, P_{uplift}:	192	*kips*
Leg Uplift Shear, V_{u_uplift}:	27	*kips*
Tower Height, H:	91.25	*ft*
Base Face Width: BW:	18	*ft*
BP Dist. Above Fdn, bp_{dist}:	2	*in*

Soil Properties

Total Soil Unit Weight, γ:	100	*pcf*
Ultimate Gross Bearing, Qult:	12	*ksf*
Cohesion, Cu:	0	*ksf*
Friction Angle, ϕ:	0	*degrees*
SPT Blow Count, N_{blows}:	0	
Base Friction, μ:	0.3	
Neglected Depth, N:	0	*ft*
Foundation Bearing on Rock?:	No	
Groundwater Depth, D_{gw}:	N/A	*ft*

Pier Properties

Pier Shape:	-	
Pier Diameter, d_{pier}:	-	
Ext. Above Grade, E:	-	
Pier Rebar Size, R_{spier}:	-	
Pier Rebar Quantity, R_{qpier}:	-	
Pier Tie Size, T_{spier}:	-	
Pier Tie Quantity, T_{qpier}:	-	
Pier Clear Cover, cc_{pier}:	-	

Pad Properties:

Depth, D:	2.75	*ft*
Pad Width, W:	26	*ft*
Pad Thickness, T:	3	*ft*
Pad Rebar Size (Bottom), R_{spad}:	8	
Pad Rebar Qnty (Bottom), R_{qpad}:	34	
Pad Clear Cover, cc_{pad}:	3	*in*

Material Properties

Rebar Strength, F_y:	60	*ksi*
Concrete Strength, f'c:	4	*ksi*
Dry Concrete Density, δ_c:	150	*pcf*

Foundation Analysis Results

Soil Capacity Results

	Capacity	Demand	Rating	
Lateral (Sliding) *(kips)* :	86.7	69.0	75.8%	89.8%
Bearing Pressure *(ksf)* :	9.0	3.4	37.6%	Good
Overturning *(kip*ft)* :	4,324.1	3,883.5	89.8%	

Structural Capacity Results

	Capacity	Demand	Rating	
Pier Flexure (Comp.) *(kip*ft)* :	-	-	-	
Pier Flexure (Tension) *(kip*ft)* :	-	-	-	
Pier Compression *(kip)* :	-	-	-	
Pad Flexure *(kip*ft)* :	3,715.6	1,572.0	40.3%	40.3%
Pad Shear - 1-way *(kips)* :	932.4	284.8	29.1%	Good
Pad Shear - 2-way *(ksi)* :	-	-	-	

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Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10207178
Colliers Engineering & Design CT, P.C. Project #: 23777164

August 24, 2023

Site Information	*Site ID:*	*5000202944-VZW /EAST LYME NORTH CT-D*
	Site Name:	*EAST LYME NORTH CT - D*
	Carrier Name:	*Verizon Wireless*
	Address:	*2 Arbor Crossing* *East Lyme, Connecticut 06333* *New London County*
	Latitude:	*41.366278°*
	Longitude:	*-72.242346°*
Structure Information	*Tower Type:*	*105-Ft Faux Silo*
	Mount Type:	*7.00-Ft Mount Pipes*

FUZE ID # 17123923

Analysis Results

Mount Pipes: **30.1% Pass***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements:***
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com

For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Lauren Luzier

Digitally signed by Derek Hartzell
Date: 2023.08.24 16:12:51-07'00'

Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Filter Add Scope of Work	*Provided by Verizon Wireless*
Previous New Site Build CDs	*On Air Engineering TowerCO Site #: CT0025, dated April 26, 2023*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC)	 Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	N/A – Mounts are fully Concealed
	Ice Wind Speed (3-sec. Gust):	N/A
	Design Ice Thickness:	N/A
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.988
Seismic Parameters:	S_S:	0.198 g
	S_1:	0.053 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	N/A
	Maintenance Live Load, Lv:	N/A
	Maintenance Live Load, Lm:	N/A
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
82.50	86.00	6	Commscope	NHH-65B-R2B	Retained
		3	Samsung	MT6407-77A	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4440D-13A	
		1	Raycap	RCMDC-6627-PF-48	
		2	KAelus	KA-6030	Added

The recent CDs reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

0

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design CT, P.C. and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design CT, P.C. to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design CT, P.C. is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design CT, P.C..

Analysis Results:

Component	Utilization %	Pass/Fail
Mount Pipe	4.6 %	Pass
Unistrut	30.1 %	Pass
Mount Connection	4.5 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	30.1 %

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	3.8	0.0	6.8	3.0
0.5	5.4	0.0	9.7	4.3
1	7.0	0.0	12.5	5.5

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 2 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts are **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

Contractor shall install proposed filters on existing Unistrut frame.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com.

For additional questions and support, please reach out to pmisupport@colliersengineering.com

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MDG #: 5000202944 SMART Project #: 10207178 Fuze Project ID: 17123923

Purpose – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built mount drawings" showing contractor's name, contact information, preparer's signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: ***https://pmi.vzwsmart.com***

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.
  - Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.

        - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
    - Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:

Issue:

Contractor shall install proposed filters on existing Unistrut frame.

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Structure: 5000202944-VZW - EAST LYME NORTH CT - D

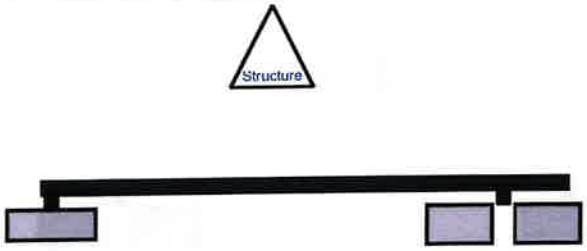
Sector: **A**
Structure Type: Stealth
Mount Elev: 86.00

10207178

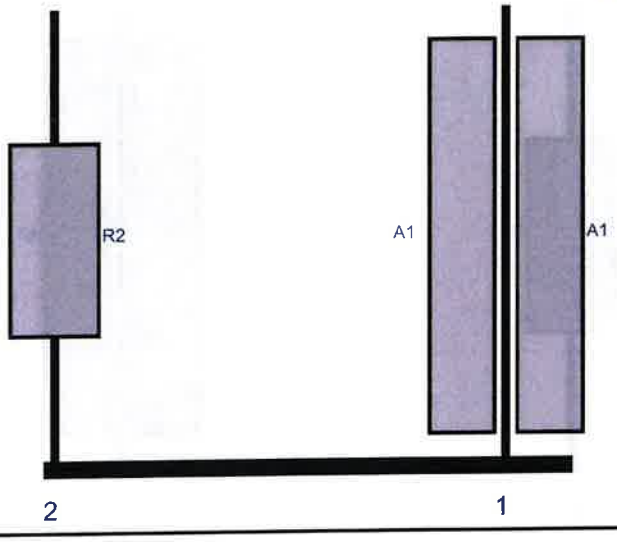
8/24/2023

Colliers Engineering & Design

Plan View



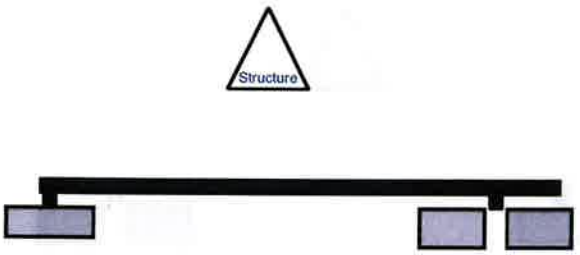
Front View - Looking at Structure



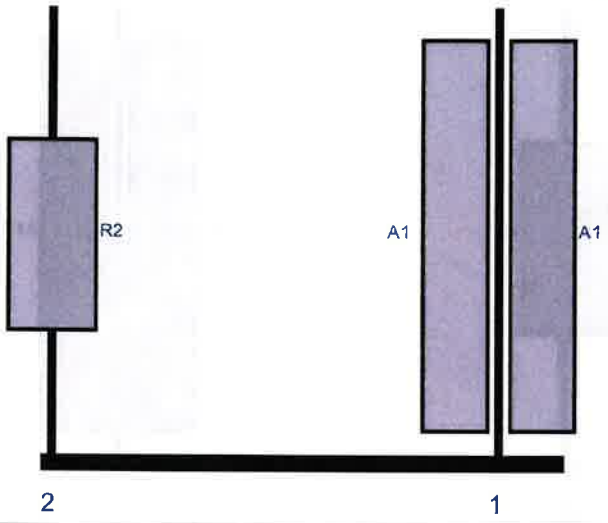
Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NHH-65B-R2B	72	11.9	84	1	a	Front	42	8	Retained	
A1	NHH-65B-R2B	72	11.9	84	1	b	Front	42	-8	Retained	
R2	MT6407-77A	35.1	16.1	2	2	a	Front	42	0	Retained	
M9	RF4439d-25A	15	15		Member					Retained	
M10	RF444QD-13A	15	11.8		Member					Retained	

0

Plan View



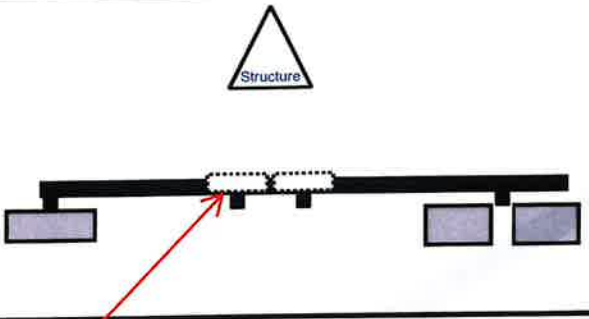
Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NHH-65B-R2B	72	11.9	84	1	a	Front	42	8	Retained	
A1	NHH-65B-R2B	72	11.9	84	1	b	Front	42	-8	Retained	
R2	MT6407-77A	35.1	16.1	2	2	a	Front	42	0	Retained	
M9	RF4439d-25A	15	15		Member					Retained	
M10	RF444OD-13A	15	11.8		Member					Retained	

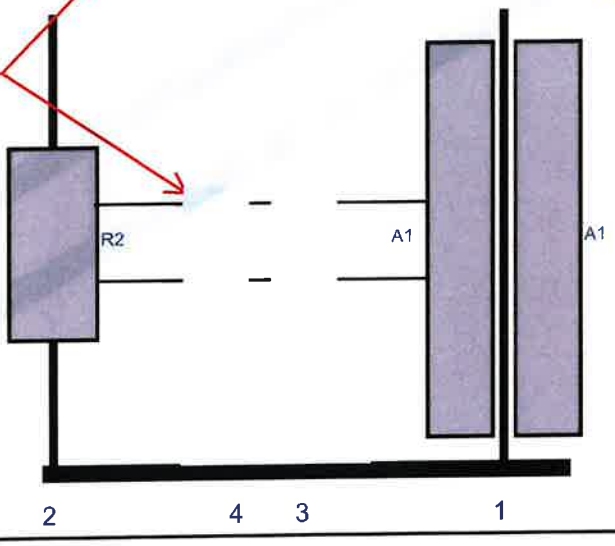
Colliers Engineering & Design

Plan View

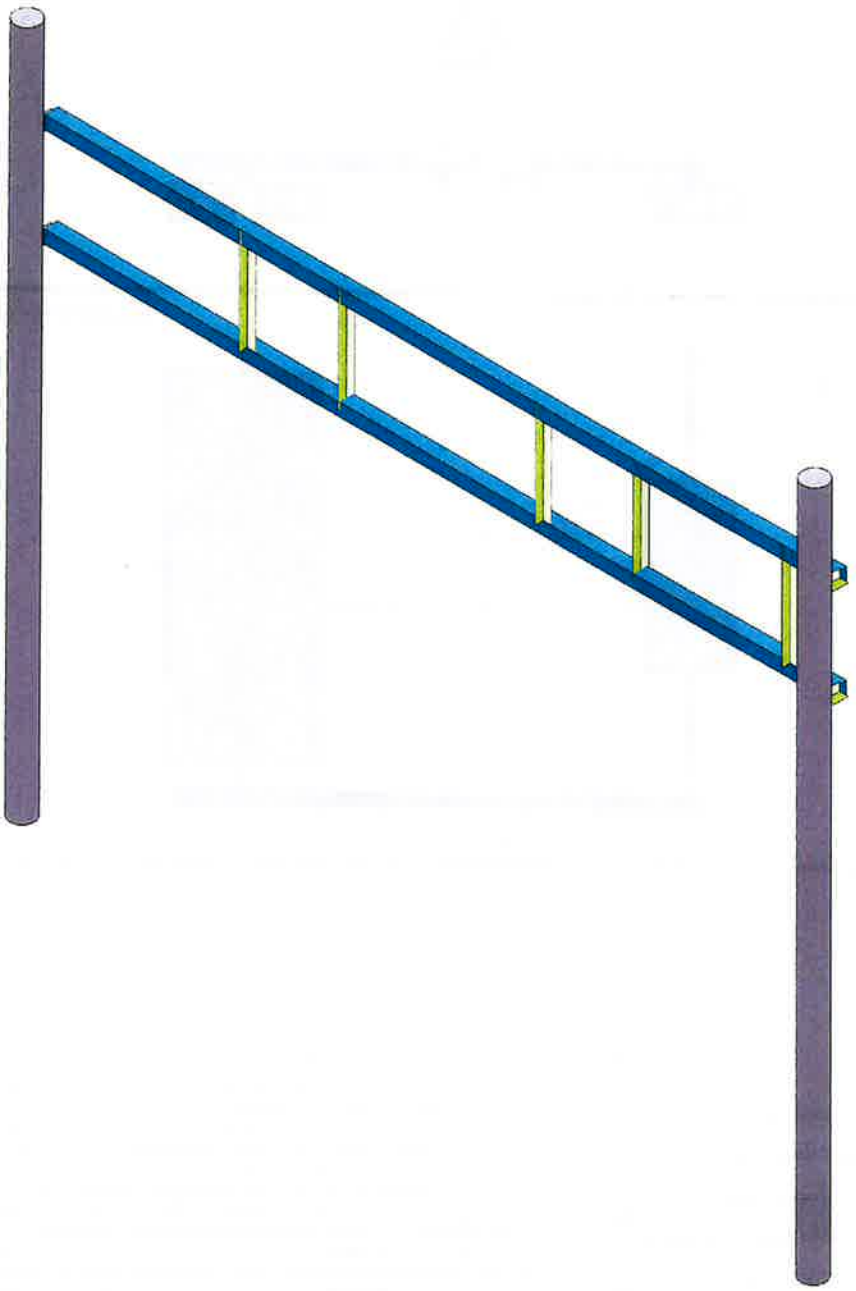


Front View - Looking at Structure

PROPOSED FILTERS ON UNISTRUT FRAME (RRUS & OVP NOT SHOWN)

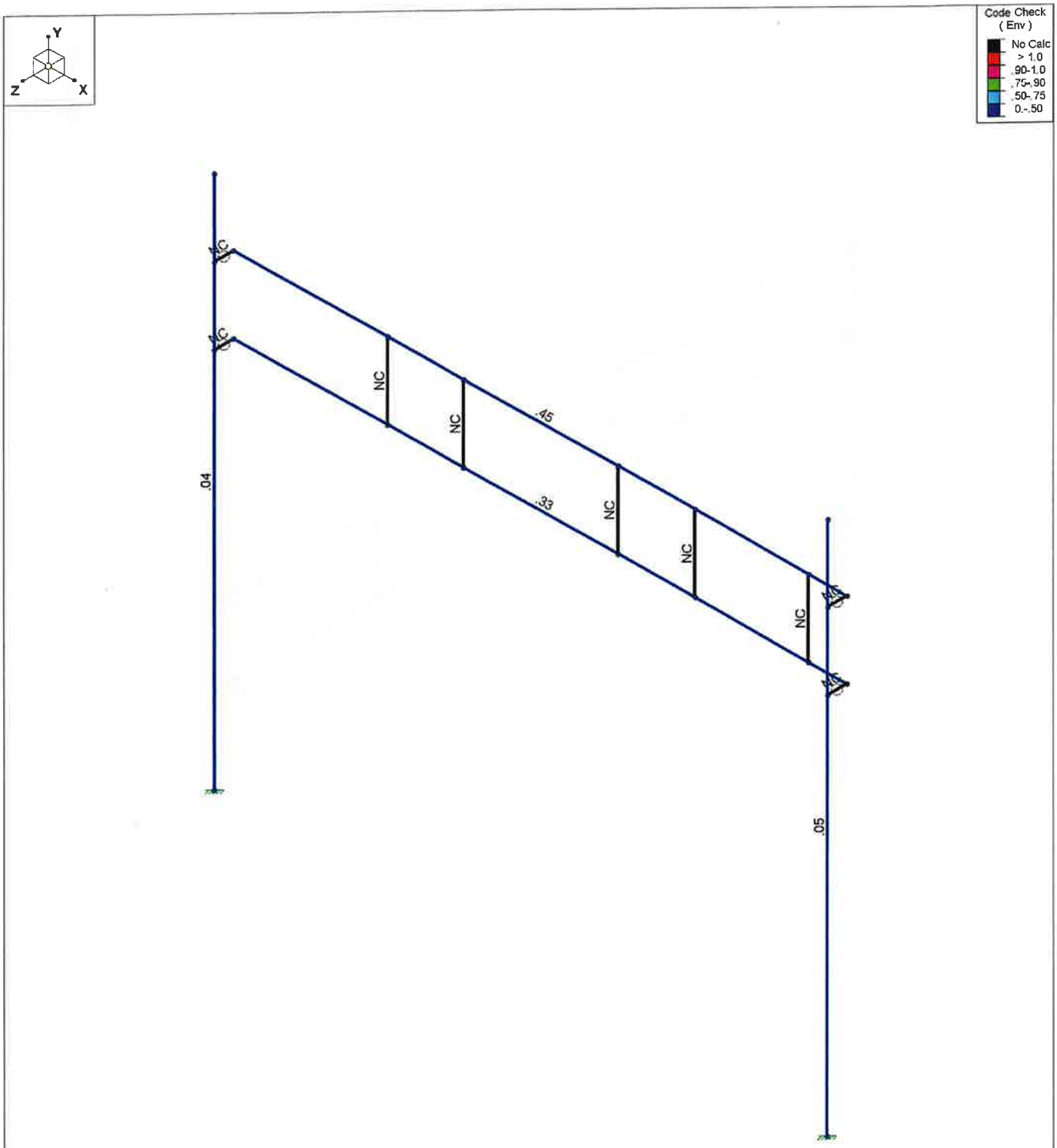


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NHH-65B-R2B	72	11.9	84	1	a	Front	42	8	Retained	
A1	NHH-65B-R2B	72	11.9	84	1	b	Front	42	-8	Retained	
R2	MT6407-77A	35.1	16.1	2	2	a	Front	42	0	Retained	
A6	KA-6030	10.6	10.9	48	Member				0	Added	
A6	KA-6030	10.6	10.9	36	Member				0	Added	
M9	RF4439d-25A	15	15		Member					Retained	
M10	RF444OD-13A	15	11.8		Member					Retained	
M9	RCMDC-6627-PF-48	15	15		Member					Retained	



Envelope Only Solution

		SK - 1
		Aug 24, 2023 at 12:14 PM
		5000202944-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 2
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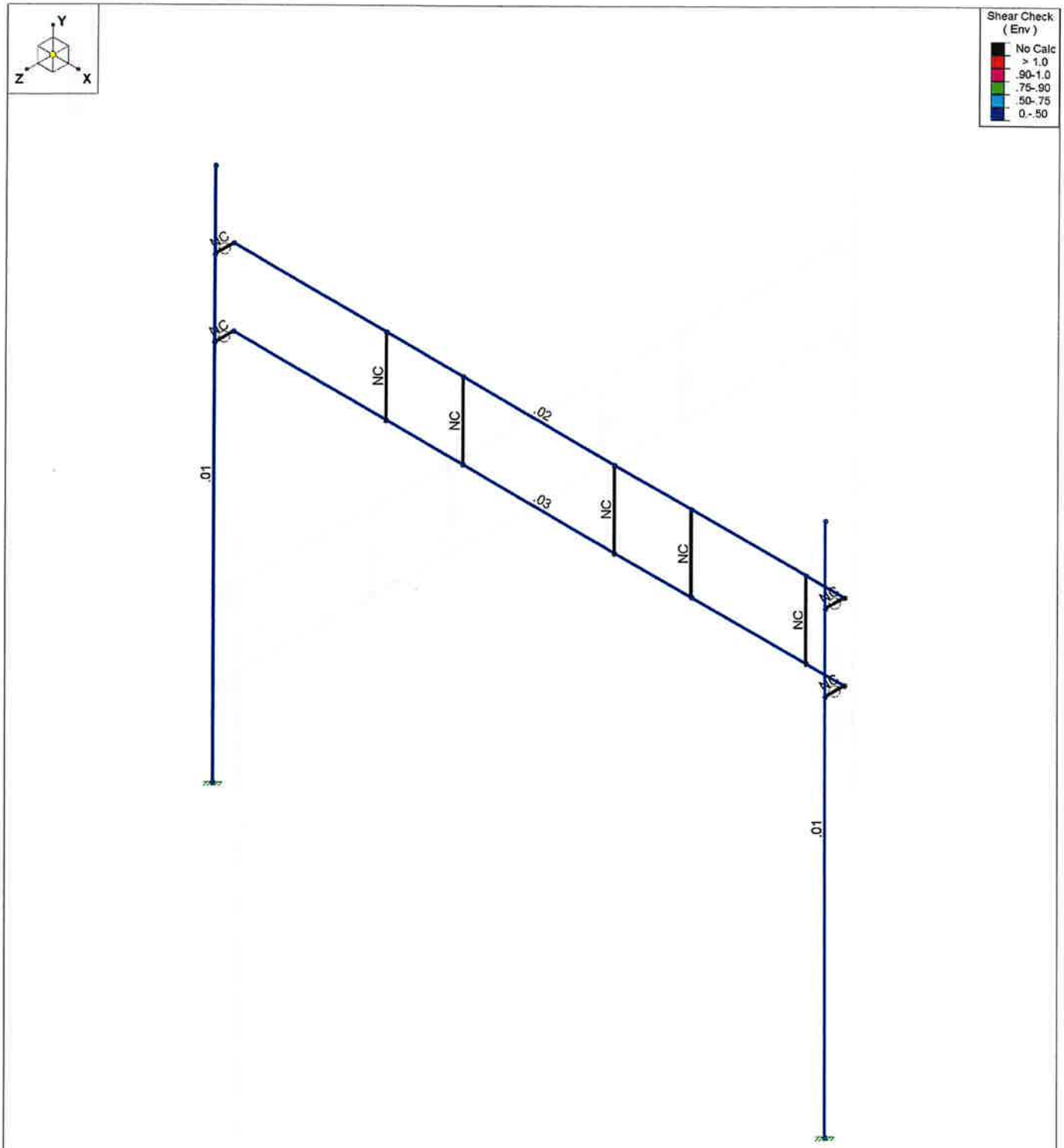


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 3
		Aug 24, 2023 at 12:14 PM
		5000202944-VZW_MT_LOT_A_H.r3d

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	7	0	0	
3	N3	-8	0	0	0	
4	N4	-8	7	0	0	
5	N5	0	6	0	0	
6	N6	-8	6	0	0	
7	N7	0	5	0	0	
8	N8	-8	5	0	0	
9	N9	0	6	-.25	0	
10	N10	-8	6	-.25	0	
11	N11	0	5	-.25	0	
12	N12	-8	5	-.25	0	
13	N13	-6	6	-.25	0	
14	N14	-3	6	-.25	0	
15	N15	-2	6	-.25	0	
16	N16	-6	5	-.25	0	
17	N17	-3	5	-.25	0	
18	N18	-2	5	-.25	0	
19	N19	-5	6	-.25	0	
20	N20	-5	5	-.25	0	
21	N21	-.5	6	-.25	0	
22	N22	-.5	5	-.25	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Options	Analysis ...	Inactive	Seismi...
1	MP1A						Yes	** NA **			None
2	MP2A						Yes	** NA **			None
3	M3						Yes				None
4	M4						Yes				None
5	M5		OOOOOO				Yes	** NA **			None
6	M6		OOOOOO				Yes	** NA **			None
7	M7		OOOOOO				Yes	** NA **			None
8	M8		OOOOOO				Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M10						Yes	** NA **			None
11	MP3A						Yes	** NA **			None
12	MP4						Yes	** NA **			None
13	M13						Yes	** NA **			None

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2/...
No Data to Print ...			

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	Y	-4.673	-4.673	0	%100
2	MP2A	Y	-4.673	-4.673	0	%100
3	M3	Y	-4.673	-4.673	0	%100
4	M4	Y	-4.673	-4.673	0	%100

Member Distributed Loads (BLC 41 : Structure Wo (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	-8.216	-8.216	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	-8.216	-8.216	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-8.216	-8.216	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-8.216	-8.216	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	4.108	4.108	0	%100
2	MP1A	Z	-7.116	-7.116	0	%100
3	MP2A	X	4.108	4.108	0	%100
4	MP2A	Z	-7.116	-7.116	0	%100
5	M3	X	3.081	3.081	0	%100
6	M3	Z	-5.337	-5.337	0	%100
7	M4	X	3.081	3.081	0	%100
8	M4	Z	-5.337	-5.337	0	%100

Member Distributed Loads (BLC 43 : Structure Wo (60 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	7.116	7.116	0	%100
2	MP1A	Z	-4.108	-4.108	0	%100
3	MP2A	X	7.116	7.116	0	%100
4	MP2A	Z	-4.108	-4.108	0	%100
5	M3	X	1.779	1.779	0	%100
6	M3	Z	-1.027	-1.027	0	%100
7	M4	X	1.779	1.779	0	%100
8	M4	Z	-1.027	-1.027	0	%100

Member Distributed Loads (BLC 44 : Structure Wo (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	8.216	8.216	0	%100
2	MP1A	Z	0	0	0	%100
3	MP2A	X	8.216	8.216	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 45 : Structure Wo (120 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	7.116	7.116	0	%100
2	MP1A	Z	4.108	4.108	0	%100

Member Distributed Loads (BLC 45 : Structure Wo (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
3	MP2A	X	7.116	7.116	0	%100
4	MP2A	Z	4.108	4.108	0	%100
5	M3	X	1.779	1.779	0	%100
6	M3	Z	1.027	1.027	0	%100
7	M4	X	1.779	1.779	0	%100
8	M4	Z	1.027	1.027	0	%100

Member Distributed Loads (BLC 46 : Structure Wo (150 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	4.108	4.108	0	%100
2	MP1A	Z	7.116	7.116	0	%100
3	MP2A	X	4.108	4.108	0	%100
4	MP2A	Z	7.116	7.116	0	%100
5	M3	X	3.081	3.081	0	%100
6	M3	Z	5.337	5.337	0	%100
7	M4	X	3.081	3.081	0	%100
8	M4	Z	5.337	5.337	0	%100

Member Distributed Loads (BLC 47 : Structure Wo (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	8.216	8.216	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	8.216	8.216	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	8.216	8.216	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	8.216	8.216	0	%100

Member Distributed Loads (BLC 48 : Structure Wo (210 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-4.108	-4.108	0	%100
2	MP1A	Z	7.116	7.116	0	%100
3	MP2A	X	-4.108	-4.108	0	%100
4	MP2A	Z	7.116	7.116	0	%100
5	M3	X	-3.081	-3.081	0	%100
6	M3	Z	5.337	5.337	0	%100
7	M4	X	-3.081	-3.081	0	%100
8	M4	Z	5.337	5.337	0	%100

Member Distributed Loads (BLC 49 : Structure Wo (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-7.116	-7.116	0	%100
2	MP1A	Z	4.108	4.108	0	%100
3	MP2A	X	-7.116	-7.116	0	%100
4	MP2A	Z	4.108	4.108	0	%100
5	M3	X	-1.779	-1.779	0	%100
6	M3	Z	1.027	1.027	0	%100
7	M4	X	-1.779	-1.779	0	%100
8	M4	Z	1.027	1.027	0	%100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-8.216	-8.216	0	%100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
2	MP1A	Z	0	0	0	%100
3	MP2A	X	-8.216	-8.216	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 51 : Structure Wo (300 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-7.116	-7.116	0	%100
2	MP1A	Z	-4.108	-4.108	0	%100
3	MP2A	X	-7.116	-7.116	0	%100
4	MP2A	Z	-4.108	-4.108	0	%100
5	M3	X	-1.779	-1.779	0	%100
6	M3	Z	-1.027	-1.027	0	%100
7	M4	X	-1.779	-1.779	0	%100
8	M4	Z	-1.027	-1.027	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-4.108	-4.108	0	%100
2	MP1A	Z	-7.116	-7.116	0	%100
3	MP2A	X	-4.108	-4.108	0	%100
4	MP2A	Z	-7.116	-7.116	0	%100
5	M3	X	-3.081	-3.081	0	%100
6	M3	Z	-5.337	-5.337	0	%100
7	M4	X	-3.081	-3.081	0	%100
8	M4	Z	-5.337	-5.337	0	%100

Member Distributed Loads (BLC 53 : Structure Wi (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	-.843	-.843	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	-.843	-.843	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-.843	-.843	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-.843	-.843	0	%100

Member Distributed Loads (BLC 54 : Structure Wi (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.422	.422	0	%100
2	MP1A	Z	-.73	-.73	0	%100
3	MP2A	X	.422	.422	0	%100
4	MP2A	Z	-.73	-.73	0	%100
5	M3	X	.316	.316	0	%100
6	M3	Z	-.548	-.548	0	%100
7	M4	X	.316	.316	0	%100
8	M4	Z	-.548	-.548	0	%100

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg))

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.73	.73	0	%100
2	MP1A	Z	-.422	-.422	0	%100
3	MP2A	X	.73	.73	0	%100
4	MP2A	Z	-.422	-.422	0	%100
5	M3	X	.183	.183	0	%100
6	M3	Z	-.105	-.105	0	%100
7	M4	X	.183	.183	0	%100
8	M4	Z	-.105	-.105	0	%100

Member Distributed Loads (BLC 56 : Structure Wi (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.843	.843	0	%100
2	MP1A	Z	0	0	0	%100
3	MP2A	X	.843	.843	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 57 : Structure Wi (120 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.73	.73	0	%100
2	MP1A	Z	.422	.422	0	%100
3	MP2A	X	.73	.73	0	%100
4	MP2A	Z	.422	.422	0	%100
5	M3	X	.183	.183	0	%100
6	M3	Z	.105	.105	0	%100
7	M4	X	.183	.183	0	%100
8	M4	Z	.105	.105	0	%100

Member Distributed Loads (BLC 58 : Structure Wi (150 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.422	.422	0	%100
2	MP1A	Z	.73	.73	0	%100
3	MP2A	X	.422	.422	0	%100
4	MP2A	Z	.73	.73	0	%100
5	M3	X	.316	.316	0	%100
6	M3	Z	.548	.548	0	%100
7	M4	X	.316	.316	0	%100
8	M4	Z	.548	.548	0	%100

Member Distributed Loads (BLC 59 : Structure Wi (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	.843	.843	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	.843	.843	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	.843	.843	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	.843	.843	0	%100

Member Distributed Loads (BLC 60 : Structure Wi (210 Deg))

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 60 : Structure Wi (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.422	-.422	0	%100
2	MP1A	Z	.73	.73	0	%100
3	MP2A	X	-.422	-.422	0	%100
4	MP2A	Z	.73	.73	0	%100
5	M3	X	-.316	-.316	0	%100
6	M3	Z	.548	.548	0	%100
7	M4	X	-.316	-.316	0	%100
8	M4	Z	.548	.548	0	%100

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.73	-.73	0	%100
2	MP1A	Z	.422	.422	0	%100
3	MP2A	X	-.73	-.73	0	%100
4	MP2A	Z	.422	.422	0	%100
5	M3	X	-.183	-.183	0	%100
6	M3	Z	.105	.105	0	%100
7	M4	X	-.183	-.183	0	%100
8	M4	Z	.105	.105	0	%100

Member Distributed Loads (BLC 62 : Structure Wi (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.843	-.843	0	%100
2	MP1A	Z	0	0	0	%100
3	MP2A	X	-.843	-.843	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 63 : Structure Wi (300 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.73	-.73	0	%100
2	MP1A	Z	-.422	-.422	0	%100
3	MP2A	X	-.73	-.73	0	%100
4	MP2A	Z	-.422	-.422	0	%100
5	M3	X	-.183	-.183	0	%100
6	M3	Z	-.105	-.105	0	%100
7	M4	X	-.183	-.183	0	%100
8	M4	Z	-.105	-.105	0	%100

Member Distributed Loads (BLC 64 : Structure Wi (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.422	-.422	0	%100
2	MP1A	Z	-.73	-.73	0	%100
3	MP2A	X	-.422	-.422	0	%100
4	MP2A	Z	-.73	-.73	0	%100
5	M3	X	-.316	-.316	0	%100
6	M3	Z	-.548	-.548	0	%100
7	M4	X	-.316	-.316	0	%100
8	M4	Z	-.548	-.548	0	%100

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg))

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	-.438	-.438	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	-.438	-.438	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-.438	-.438	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-.438	-.438	0	%100

Member Distributed Loads (BLC 66 : Structure Wm (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.219	.219	0	%100
2	MP1A	Z	-.379	-.379	0	%100
3	MP2A	X	.219	.219	0	%100
4	MP2A	Z	-.379	-.379	0	%100
5	M3	X	.164	.164	0	%100
6	M3	Z	-.284	-.284	0	%100
7	M4	X	.164	.164	0	%100
8	M4	Z	-.284	-.284	0	%100

Member Distributed Loads (BLC 67 : Structure Wm (60 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.379	.379	0	%100
2	MP1A	Z	-.219	-.219	0	%100
3	MP2A	X	.379	.379	0	%100
4	MP2A	Z	-.219	-.219	0	%100
5	M3	X	.095	.095	0	%100
6	M3	Z	-.055	-.055	0	%100
7	M4	X	.095	.095	0	%100
8	M4	Z	-.055	-.055	0	%100

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.438	.438	0	%100
2	MP1A	Z	0	0	0	%100
3	MP2A	X	.438	.438	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 69 : Structure Wm (120 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.379	.379	0	%100
2	MP1A	Z	.219	.219	0	%100
3	MP2A	X	.379	.379	0	%100
4	MP2A	Z	.219	.219	0	%100
5	M3	X	.095	.095	0	%100
6	M3	Z	.055	.055	0	%100
7	M4	X	.095	.095	0	%100
8	M4	Z	.055	.055	0	%100

Member Distributed Loads (BLC 70 : Structure Wm (150 Deg))

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 70 : Structure Wm (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	.219	.219	0	%100
2	MP1A	Z	.379	.379	0	%100
3	MP2A	X	.219	.219	0	%100
4	MP2A	Z	.379	.379	0	%100
5	M3	X	.164	.164	0	%100
6	M3	Z	.284	.284	0	%100
7	M4	X	.164	.164	0	%100
8	M4	Z	.284	.284	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	0	0	0	%100
2	MP1A	Z	.438	.438	0	%100
3	MP2A	X	0	0	0	%100
4	MP2A	Z	.438	.438	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	.438	.438	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	.438	.438	0	%100

Member Distributed Loads (BLC 72 : Structure Wm (210 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.219	-.219	0	%100
2	MP1A	Z	.379	.379	0	%100
3	MP2A	X	-.219	-.219	0	%100
4	MP2A	Z	.379	.379	0	%100
5	M3	X	-.164	-.164	0	%100
6	M3	Z	.284	.284	0	%100
7	M4	X	-.164	-.164	0	%100
8	M4	Z	.284	.284	0	%100

Member Distributed Loads (BLC 73 : Structure Wm (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.379	-.379	0	%100
2	MP1A	Z	.219	.219	0	%100
3	MP2A	X	-.379	-.379	0	%100
4	MP2A	Z	.219	.219	0	%100
5	M3	X	-.095	-.095	0	%100
6	M3	Z	.055	.055	0	%100
7	M4	X	-.095	-.095	0	%100
8	M4	Z	.055	.055	0	%100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.438	-.438	0	%100
2	MP1A	Z	0	0	0	%100
3	MP2A	X	-.438	-.438	0	%100
4	MP2A	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	0	0	0	%100

Member Distributed Loads (BLC 75 : Structure Wm (300 Deg))

Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 75 : Structure Wm (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.379	-.379	0	%100
2	MP1A	Z	-.219	-.219	0	%100
3	MP2A	X	-.379	-.379	0	%100
4	MP2A	Z	-.219	-.219	0	%100
5	M3	X	-.095	-.095	0	%100
6	M3	Z	-.055	-.055	0	%100
7	M4	X	-.095	-.095	0	%100
8	M4	Z	-.055	-.055	0	%100

Member Distributed Loads (BLC 76 : Structure Wm (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.219	-.219	0	%100
2	MP1A	Z	-.379	-.379	0	%100
3	MP2A	X	-.219	-.219	0	%100
4	MP2A	Z	-.379	-.379	0	%100
5	M3	X	-.164	-.164	0	%100
6	M3	Z	-.284	-.284	0	%100
7	M4	X	-.164	-.164	0	%100
8	M4	Z	-.284	-.284	0	%100

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Antenna D	None					27			
2	Antenna Di	None					27			
3	Antenna Wo (0 Deg)	None					27			
4	Antenna Wo (30 Deg)	None					27			
5	Antenna Wo (60 Deg)	None					27			
6	Antenna Wo (90 Deg)	None					27			
7	Antenna Wo (120 Deg)	None					27			
8	Antenna Wo (150 Deg)	None					27			
9	Antenna Wo (180 Deg)	None					27			
10	Antenna Wo (210 Deg)	None					27			
11	Antenna Wo (240 Deg)	None					27			
12	Antenna Wo (270 Deg)	None					27			
13	Antenna Wo (300 Deg)	None					27			
14	Antenna Wo (330 Deg)	None					27			
15	Antenna Wi (0 Deg)	None					27			
16	Antenna Wi (30 Deg)	None					27			
17	Antenna Wi (60 Deg)	None					27			
18	Antenna Wi (90 Deg)	None					27			
19	Antenna Wi (120 Deg)	None					27			
20	Antenna Wi (150 Deg)	None					27			
21	Antenna Wi (180 Deg)	None					27			
22	Antenna Wi (210 Deg)	None					27			
23	Antenna Wi (240 Deg)	None					27			
24	Antenna Wi (270 Deg)	None					27			
25	Antenna Wi (300 Deg)	None					27			
26	Antenna Wi (330 Deg)	None					27			
27	Antenna Wm (0 Deg)	None					27			
28	Antenna Wm (30 Deg)	None					27			
29	Antenna Wm (60 Deg)	None					27			
30	Antenna Wm (90 Deg)	None					27			
31	Antenna Wm (120 Deg)	None					27			
32	Antenna Wm (150 Deg)	None					27			
33	Antenna Wm (180 Deg)	None					27			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
34	Antenna Wm (210 Deg)	None					27			
35	Antenna Wm (240 Deg)	None					27			
36	Antenna Wm (270 Deg)	None					27			
37	Antenna Wm (300 Deg)	None					27			
38	Antenna Wm (330 Deg)	None					27			
39	Structure D	None		-1						
40	Structure Di	None						4		
41	Structure Wo (0 Deg)	None						8		
42	Structure Wo (30 Deg)	None						8		
43	Structure Wo (60 Deg)	None						8		
44	Structure Wo (90 Deg)	None						8		
45	Structure Wo (120 Deg)	None						8		
46	Structure Wo (150 Deg)	None						8		
47	Structure Wo (180 Deg)	None						8		
48	Structure Wo (210 Deg)	None						8		
49	Structure Wo (240 Deg)	None						8		
50	Structure Wo (270 Deg)	None						8		
51	Structure Wo (300 Deg)	None						8		
52	Structure Wo (330 Deg)	None						8		
53	Structure Wi (0 Deg)	None						8		
54	Structure Wi (30 Deg)	None						8		
55	Structure Wi (60 Deg)	None						8		
56	Structure Wi (90 Deg)	None						8		
57	Structure Wi (120 Deg)	None						8		
58	Structure Wi (150 Deg)	None						8		
59	Structure Wi (180 Deg)	None						8		
60	Structure Wi (210 Deg)	None						8		
61	Structure Wi (240 Deg)	None						8		
62	Structure Wi (270 Deg)	None						8		
63	Structure Wi (300 Deg)	None						8		
64	Structure Wi (330 Deg)	None						8		
65	Structure Wm (0 Deg)	None						8		
66	Structure Wm (30 Deg)	None						8		
67	Structure Wm (60 Deg)	None						8		
68	Structure Wm (90 Deg)	None						8		
69	Structure Wm (120 Deg)	None						8		
70	Structure Wm (150 Deg)	None						8		
71	Structure Wm (180 Deg)	None						8		
72	Structure Wm (210 Deg)	None						8		
73	Structure Wm (240 Deg)	None						8		
74	Structure Wm (270 Deg)	None						8		
75	Structure Wm (300 Deg)	None						8		
76	Structure Wm (330 Deg)	None						8		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					27			
82	Antenna Eh (0 Deg)	None					18			
83	Antenna Eh (90 Deg)	None					18			
84	Structure Ev	ELY		-.042						
85	Structure Eh (0 Deg)	ELZ			-.106					
86	Structure Eh (90 Deg)	ELX	.106							

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N3	max	34.127	61	248.049	51	20.498	52	.064	64	.012	70	.048	67
2		min	-18.65	67	139.465	67	-19.462	70	-.121	58	-.018	52	-.088	61
3	N1	max	19.58	73	365.798	51	30.526	64	.116	64	.008	75	.073	55
4		min	-35.047	55	210.025	73	-31.549	58	-.176	58	-.01	57	-.057	73
5	Totals:	max	50.812	61	613.846	51	50.81	52						
6		min	-50.811	67	374.291	64	-50.807	70						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[...	LC	z Shear[...	LC	Torque[...	LC	y-y Moment[k-ft]	LC	z-z Mom...	LC
1	MP1A	1	max	0	75	.002	61	.005	52	0	75	0	75	0	75
2			min	0	51	0	67	-.006	58	0	51	0	51	0	51
3		2	max	167.029	51	31.859	67	9.503	64	.012	74	-.004	64	.015	73
4			min	97.683	66	-41.265	61	-12.338	58	-.012	56	-.024	58	-.041	55
5		3	max	277.773	51	12.997	73	24.063	64	.008	64	.051	52	-.003	73
6			min	156.094	73	-28.468	55	-25.227	58	-.009	58	-.045	70	-.035	55
7		4	max	291.195	51	14.009	73	25.076	64	.008	64	.093	52	.018	67
8			min	164.318	73	-29.481	55	-26.24	58	-.009	58	-.089	70	-.029	61
9		5	max	365.798	51	19.636	73	30.703	64	.008	75	.116	64	.073	55
10			min	210.025	73	-35.108	55	-31.867	58	-.01	57	-.176	58	-.057	73
11	MP2A	1	max	0	75	0	60	.002	52	0	75	0	75	0	75
12			min	0	51	0	54	-.004	58	0	51	0	51	0	51
13		2	max	48.845	51	65.517	55	10.049	52	.005	71	.016	52	.026	61
14			min	24.644	67	.516	73	-7.301	70	-.025	53	0	70	-.024	67
15		3	max	160.234	51	27.562	61	13.92	52	.012	70	.02	64	.024	61
16			min	85.663	67	-12.045	67	-12.921	70	-.018	52	-.034	58	-.009	67
17		4	max	234.626	51	33.173	61	19.532	52	.012	70	.029	64	.017	67
18			min	131.242	67	-17.656	67	-18.532	70	-.018	52	-.088	58	-.029	61
19		5	max	248.049	51	34.185	61	20.544	52	.012	70	.064	64	.048	67
20			min	139.465	67	-18.669	67	-19.545	70	-.018	52	-.121	58	-.088	61
21	M3	1	max	66.534	55	9.046	52	-16.442	67	0	75	.035	61	.013	52
22			min	-.5	73	-6.272	70	-36.739	61	0	51	.015	67	-.01	70
23		2	max	144.477	51	8.882	52	-14.537	67	0	52	-.016	67	.003	70
24			min	78.748	73	-6.068	70	-35.629	61	0	70	-.036	61	-.005	52
25		3	max	236.675	51	8.679	52	-12.12	67	0	52	0	68	.005	70
26			min	136.014	67	-5.839	70	-32.874	61	0	70	-.001	51	-.005	52
27		4	max	279.176	51	2.45	57	69.372	51	0	52	-.028	73	.008	70
28			min	147.015	67	.297	75	36.355	73	0	70	-.053	51	-.011	52
29		5	max	46.959	61	6.458	58	92.431	51	0	75	.022	51	.002	65
30			min	-37.476	67	-3.733	64	51.968	66	0	51	.012	66	-.005	59
31	M4	1	max	18.484	73	.144	71	-15.416	67	0	75	.04	61	.004	64
32			min	-69.051	55	-1.889	53	-40.047	61	0	51	.014	67	-.004	58
33		2	max	-61.233	73	.348	71	-14.025	67	0	52	-.015	67	.007	52
34			min	-140.021	55	-2.092	53	-37.288	61	0	70	-.038	61	-.004	70
35		3	max	-135.543	72	.581	71	-12.12	67	0	52	0	68	.005	70
36			min	-226.355	51	-2.361	53	-32.874	61	0	70	-.001	51	-.005	52
37		4	max	-144.379	67	7.975	70	69.372	51	0	52	-.028	73	.009	70
38			min	-268.855	51	-9.701	52	36.355	73	0	70	-.053	51	-.012	52
39		5	max	56.952	55	12.182	70	103.036	55	0	75	.029	55	.005	64
40			min	-50.887	73	-13.898	52	42.968	73	0	51	.009	73	-.007	58
41	M5	1	max	1.863	53	40.041	61	18.484	73	-.014	67	.018	56	.01	61
42			min	-.147	71	15.44	67	-69.051	55	-.04	61	-.005	74	.004	67
43		2	max	1.863	53	40.041	61	18.484	73	-.014	67	.014	56	.008	61
44			min	-.147	71	15.44	67	-69.051	55	-.04	61	-.004	74	.003	67
45		3	max	1.863	53	40.041	61	18.484	73	-.014	67	.01	56	.005	61

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[...	LC	z Shear[...	LC	Torque[...	LC	y-y Moment[k-ft]	LC	z-z Mom...	LC
46			min	-.147	71	15.44	67	-69.051	55	-.04	61	-.003	74	.002	67
47		4	max	1.863	53	40.041	61	18.484	73	-.014	67	.006	57	.003	61
48			min	-.147	71	15.44	67	-69.051	55	-.04	61	-.003	75	0	67
49		5	max	1.863	53	40.041	61	18.484	73	-.014	67	.004	58	0	75
50			min	-.147	71	15.44	67	-69.051	55	-.04	61	-.004	64	0	58
51	M6	1	max	6.252	70	36.732	61	66.533	55	-.015	67	.005	71	.009	61
52			min	-9.013	52	16.421	67	-.5	73	-.035	61	-.025	53	.004	67
53		2	max	6.252	70	36.732	61	66.533	55	-.015	67	.006	71	.007	61
54			min	-9.013	52	16.421	67	-.5	73	-.035	61	-.022	53	.003	67
55		3	max	6.252	70	36.732	61	66.533	55	-.015	67	.007	71	.005	61
56			min	-9.013	52	16.421	67	-.5	73	-.035	61	-.018	53	.002	67
57		4	max	6.252	70	36.732	61	66.533	55	-.015	67	.008	70	.002	61
58			min	-9.013	52	16.421	67	-.5	73	-.035	61	-.015	52	.001	67
59		5	max	6.252	70	36.732	61	66.533	55	-.015	67	.01	70	0	75
60			min	-9.013	52	16.421	67	-.5	73	-.035	61	-.013	52	0	70
61	M7	1	max	6.458	58	92.427	51	37.477	67	.022	51	.009	74	.023	51
62			min	-3.735	64	51.975	66	-46.959	61	.012	66	-.01	56	.013	66
63		2	max	6.458	58	92.427	51	37.477	67	.022	51	.007	74	.017	51
64			min	-3.735	64	51.975	66	-46.959	61	.012	66	-.008	56	.01	66
65		3	max	6.458	58	92.427	51	37.477	67	.022	51	.004	74	.012	51
66			min	-3.735	64	51.975	66	-46.959	61	.012	66	-.006	56	.006	66
67		4	max	6.458	58	92.427	51	37.477	67	.022	51	.002	75	.006	51
68			min	-3.735	64	51.975	66	-46.959	61	.012	66	-.005	57	.003	66
69		5	max	6.458	58	92.427	51	37.477	67	.022	51	.002	65	0	75
70			min	-3.735	64	51.975	66	-46.959	61	.012	66	-.005	59	0	69
71	M8	1	max	12.184	70	103.016	55	50.887	73	.029	55	.013	66	.026	55
72			min	-13.901	52	42.99	73	-56.952	55	.009	73	-.013	60	.011	73
73		2	max	12.184	70	103.016	55	50.887	73	.029	55	.01	66	.019	55
74			min	-13.901	52	42.99	73	-56.952	55	.009	73	-.011	60	.008	73
75		3	max	12.184	70	103.016	55	50.887	73	.029	55	.007	65	.013	55
76			min	-13.901	52	42.99	73	-56.952	55	.009	73	-.008	59	.005	73
77		4	max	12.184	70	103.016	55	50.887	73	.029	55	.005	65	.006	55
78			min	-13.901	52	42.99	73	-56.952	55	.009	73	-.007	59	.003	73
79		5	max	12.184	70	103.016	55	50.887	73	.029	55	.005	64	0	75
80			min	-13.901	52	42.99	73	-56.952	55	.009	73	-.007	58	0	70
81	M9	1	max	-31.992	73	-62.623	73	3.946	70	.004	70	0	52	-.029	73
82			min	-52.208	51	-120.612	51	-3.948	52	-.007	52	0	70	-.061	55
83		2	max	-31.992	73	-62.623	73	3.946	70	.004	70	0	58	-.014	73
84			min	-52.208	51	-120.612	51	-3.948	52	-.007	52	0	64	-.032	55
85		3	max	52.372	51	-54.734	73	3.941	64	.004	70	.002	58	.002	73
86			min	32.052	67	-126.201	55	-3.942	58	-.007	52	-.002	52	-.002	55
87		4	max	52.372	51	-54.734	73	3.941	64	.004	70	0	70	.03	51
88			min	32.052	67	-126.201	55	-3.942	58	-.007	52	0	52	.016	73
89		5	max	52.372	51	-54.734	73	3.941	64	.004	70	0	70	.061	55
90			min	32.052	67	-126.201	55	-3.942	58	-.007	52	0	52	.029	73
91	M10	1	max	-26.837	73	52.99	61	3.312	58	.005	70	0	70	.028	61
92			min	-43.758	51	10.767	67	-3.308	64	-.008	52	0	52	.004	67
93		2	max	-26.837	73	52.99	61	3.312	58	.005	70	0	70	.015	61
94			min	-43.758	51	10.767	67	-3.308	64	-.008	52	0	52	.001	67
95		3	max	44.162	51	59.621	61	3.324	52	.005	70	.002	70	.002	73
96			min	26.99	67	4.135	67	-3.321	70	-.008	52	-.002	64	-.002	55
97		4	max	44.162	51	59.621	61	3.324	52	.005	70	0	58	-.003	67
98			min	26.99	67	4.135	67	-3.321	70	-.008	52	0	64	-.013	61
99		5	max	44.162	51	59.621	61	3.324	52	.005	70	0	52	-.004	67
100			min	26.99	67	4.135	67	-3.321	70	-.008	52	0	70	-.028	61
101	MP3A	1	max	1.649	61	107.415	61	.002	70	.005	70	0	52	.053	61
102			min	-.502	67	43.305	67	-.004	52	-.009	52	0	70	.022	67

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[...	LC	z Shear[...	LC	Torque[...	LC	y-y Moment[k-ft]	LC	z-z Mom...	LC
103		2	max	1.649	61	107.415	61	.002	70	.005	70	0	52	.026	61
104			min	-.502	67	43.305	67	-.004	52	-.009	52	0	70	.011	67
105		3	max	1.649	61	107.415	61	.002	70	.005	70	0	71	0	67
106			min	-.502	67	43.305	67	-.004	52	-.009	52	0	53	-.001	61
107		4	max	1.649	61	107.415	61	.002	70	.005	70	0	70	-.011	67
108			min	-.502	67	43.305	67	-.004	52	-.009	52	0	52	-.028	61
109		5	max	1.649	61	107.415	61	.002	70	.005	70	0	70	-.021	67
110			min	-.502	67	43.305	67	-.004	52	-.009	52	0	52	-.055	61
111	MP4	1	max	-.021	67	100.403	61	.005	70	.005	70	0	52	.05	61
112			min	-.091	51	37.898	67	-.009	52	-.008	52	0	70	.019	67
113		2	max	-.021	67	100.403	61	.005	70	.005	70	0	52	.025	61
114			min	-.091	51	37.898	67	-.009	52	-.008	52	0	70	.009	67
115		3	max	-.021	67	100.403	61	.005	70	.005	70	0	70	0	75
116			min	-.091	51	37.898	67	-.009	52	-.008	52	0	52	0	59
117		4	max	-.021	67	100.403	61	.005	70	.005	70	0	70	-.009	67
118			min	-.091	51	37.898	67	-.009	52	-.008	52	0	52	-.025	61
119		5	max	-.021	67	100.403	61	.005	70	.005	70	0	70	-.019	67
120			min	-.091	51	37.898	67	-.009	52	-.008	52	0	52	-.05	61
121	M13	1	max	-2.005	67	-86.571	73	3.941	58	.003	71	0	70	-.043	73
122			min	-28.134	61	-152.248	51	-3.937	64	-.005	53	0	52	-.077	51
123		2	max	-2.005	67	-86.571	73	3.941	58	.003	71	0	70	-.021	73
124			min	-28.134	61	-152.248	51	-3.937	64	-.005	53	0	52	-.039	51
125		3	max	32.456	55	-78.682	73	3.951	52	.003	71	.002	58	0	74
126			min	4.636	73	-152.248	51	-3.948	70	-.005	53	-.002	52	-.002	56
127		4	max	32.456	55	-78.682	73	3.951	52	.003	71	0	58	.037	51
128			min	4.636	73	-152.248	51	-3.948	70	-.005	53	0	64	.02	73
129		5	max	32.456	55	-78.682	73	3.951	52	.003	71	0	52	.075	51
130			min	4.636	73	-152.248	51	-3.948	70	-.005	53	0	70	.04	73

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Lo...	LC	Shear Check	Lo...	...	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
1	MP1A	PIPE_2.5	.054	7	58	.006	1.0...	61	3396...	50715	3.596	3.596	...	H1-1b
2	MP2A	PIPE_2.5	.038	7	58	.012	1.0...	54	3396...	50715	3.596	3.596	...	H1-1b

VzW SMART Tool© Vendor

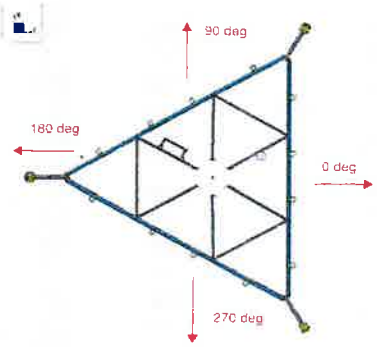
Client:	Verizon Wireless	Date:	8/23/2023
Site Name:	EAST LYME NORTH CT - D		
MDG #:	5000202944		
Fuze ID #:	17123923	Page:	1

Version 1.01

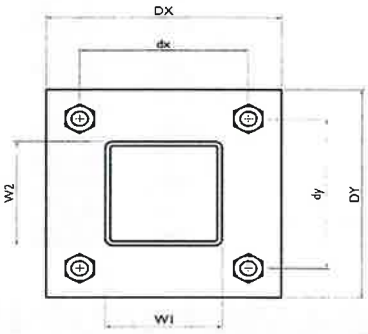
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

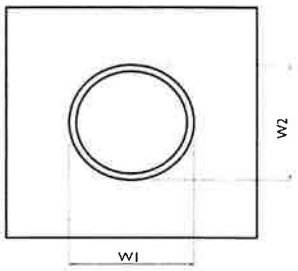
Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N3	0
N1	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Vertical (bottom)
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	9
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	9
Bolt Type:	A307
Bolt Diameter (in):	0.5
Required Tensile Strength / bolt (kips):	0.0
Required Shear Strength / bolt (kips):	0.0
Tensile Capacity / bolt (kips):	6.6
Shear Capacity / bolt (kips):	4.0
Bolt Overall Utilization:	0.8%



Tower Connection Baseplate Checks	Yes
Connecting Standoff Member Shape:	Pipe
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	12
Plate Height, D_y (in):	12
W1 = Diameter (in):	2.875
W2 = N/A:	
Member Thickness (in):	0.189
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.25
Length of Yield Line, L_y (in):	10.81
Bolt Eccentricity, e (in):	4.93
M_u (kip-in):	0.25
Phi*M_n (kip-in):	5.47
Plate Bending Utilization:	4.5%



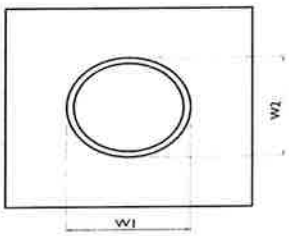
VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	8/23/2023
Site Name:	EAST LYME NORTH CT - D		
PSLC #:	5000202944		
Fuze ID #:	17123923	Page:	2

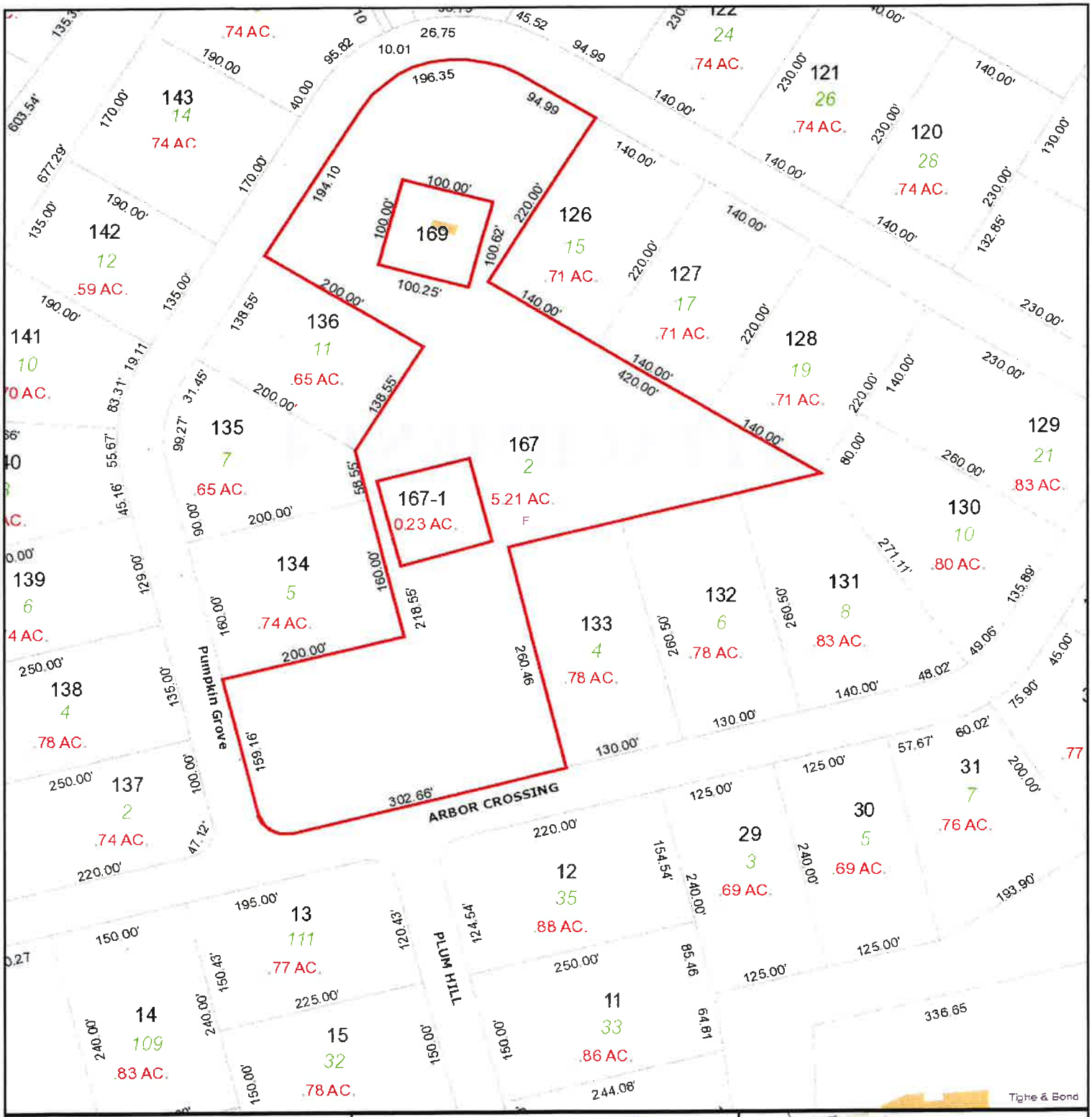
Version 1.01

Tower Connection Weld Checks

	Yes
Weld Shape:	Circle
Weld Stiffener Configuration:	None
Stiffener Notch Length, n (in):	
Weld Size (1/16 in):	3
W1 = Diameter (in):	2.875
W2 = Diameter (in):	2.875
Weld Total Length (in):	9.03
Z_x (in^3/in):	6.49
Z_y (in^3/in):	6.49
J_p (in^4/in):	18.66
c_x (in)	1.6265
c_y (in)	1.6265
Required combined strength (kip/in):	0.19
Weld Capacity (kip/in):	4.18
Weld Utilization:	**4.5%**



ATTACHMENT 4



2 ARBOR CROSSING

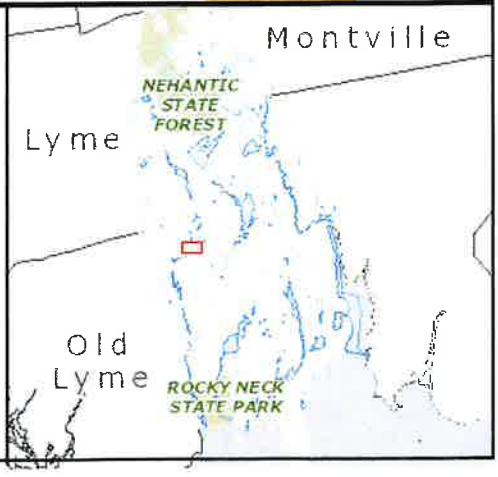
10/6/2023 2:39:33

1"=150'

Property Information

Parcel ID	29.1 167
Address	2 ARBOR CROSSING
Total Assessed Parcel	412510

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



2 ARBOR CROSSING

Location	2 ARBOR CROSSING	**Mblu**	29.1/ 167/ / /
Acct#	009061	**Owner**	ORCHARDS AT EAST LYME INC
Assessment	$412,510	**Appraisal**	$589,300
PID	100909	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$589,300	$0	$589,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$412,510	$0	$412,510

Owner of Record

Owner	ORCHARDS AT EAST LYME INC
Co-Owner	
Address	C/O NORTHEAST PROPERTY GROUP 150 EUGENE ONEILL DR NEW LONDON, CT 06320

Sale Price	$0
Certificate	
Book & Page	722/731
Sale Date	10/28/2005
Instrument	03

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
ORCHARD WOODS AT EAST LYME LLC	$0		0674/0231	04	06/23/2004
ORCHARD WOODS ASSOC LP	$0		0472/0513		03/01/1999

Building Information

Building 1 : Section 1

Year Built:	2006
Living Area:	1,922
Replacement Cost:	$389,448
Building Percent Good:	94
Replacement Cost Less Depreciation:	$366,100

ATTACHMENT 5

Verizon/East Lyme North

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here ***Postmark with Date of Receipt.***
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 10/10/2023 US POSTAGE $003.19⁰ ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Kevin Seery, First Selectman Town of East Lyme 108 Pennsylvania Avenue Niantic, CT 06357				
2.	Gary Goeschel II, Director of Planning Town of East Lyme 108 Pennsylvania Avenue Niantic, CT 06357				
3.	Orchards at East Lyme, Inc. c/o Northeast Property Group 150 Eugene O'Neill Drive New London, CT 06320				
4.					
5.					
6.					

USPS OCT 10 2023 STATE HOUSE STATION 06103