



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

September 8, 2022

Jack Andrews
Zoning Manager
Centerline Communications, LLC
10130 Donleigh Drive
Columbia, MD 21046
jmandrews@clinellc.com

RE: EM-AT&T-158-220728 – AT&T notice of intent to modify an existing telecommunications facility located at 180A Bayberry Lane, Westport, Connecticut.

Dear Mr. Andrews:

The Connecticut Siting Council (Council) is in receipt of your correspondence of September 2, 2022 and September 7, 2022 submitted in response to the Council's August 24, 2022 and September 7, 2022 notifications of an incomplete request for exempt modification with regard to the above-referenced matter.

The submissions render the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/RDM/emr

From: John Andrews <jmandrews@clinellc.com>
Sent: Friday, September 2, 2022 10:19 AM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete Letter for EM-AT&T-158-220728 (180A Bayberry Lane, Westport)

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

I have attached an electronic copy of the Ex Mod documents for EM-AT&T-158-220728 (180A Bayberry Lane, Westport). This is the same document that I filed with you, except that it now contains a correct Letter of Authorization from ATC.

You commented that the supporting documentation is for a DISH telecommunications site in Montville, CT. I can only assume that I submitted the wrong hard copies. Accordingly, I will re-print the correct documents and mail them to you ASAP.

Thank you for your assistance and understanding.



John Andrews Jr. | Project Manager
10130 Donleigh Drive, Columbia, MD 21046
Centerline Communications
750 W Center St, Suite 301 | West Bridgewater, MA 02379
Mobile: 443.677.0144
jmandrews@clinellc.com | www.centerlinecommunications.com

From: John Andrews <jmandrews@clinellc.com>
Sent: Wednesday, September 7, 2022 3:33 PM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council 2nd Incomplete Letter for EM-AT&T-158-220728 (180A Bayberry Lane, Westport)

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Wow. Sorry about that. Attached is an Electronic copy of everything already sent with the missing Structural Analysis inserted at page 92. I will mail you a hard copy this afternoon, although I think you have copies already. Thanks



John Andrews Jr. | Project Manager
10130 Donleigh Drive, Columbia, MD 21046
Centerline Communications
750 W Center St, Suite 301 | West Bridgewater, MA 02379
Mobile: 443.677.0144
jmandrews@clinellc.com | www.centerlinecommunications.com



September 2, 2022

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

RE: EM-AT&T-158-220728 – AT&T notice of intent to modify an existing telecommunications facility located at 180A Bayberry Lane, Westport, Connecticut.

Dear Ms. Bachman,

The Council identified a deficiency in the above referenced request. Apparently, the supporting documentation was for another telecommunications site. I regret the error.

The electronic copy that I submitted to the Council contained only documents pertaining to AT&T at 180A Bayberry Lane. I must therefore assume that the hard copies I submitted were incorrect.

The deficiency letter recommended that I provide supporting documentation for the above-referenced site and submit an electronic version and one hard copy of the requested information. Accordingly, enclosed please find the following documents:

- the CSC Exempt Mod letter;
- a (new) Letter of Authorization from tower owner;
- the GIS map and print-out of the property;
- a copy of the Council's original tower approval;
- a set of Construction Drawings;
- a Structural Analysis Report;
- an Antenna Mount Analysis Report;
- an EME Study Report; and
- three (3) Notice Confirmations.

I will email a .pdf copy of these documents to the Council. If you have any questions, please feel free to contact me; I can be reached at 443-677-0144 or via email at jmandrews@clinellc.com. Thank you for your kind cooperation in this matter.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a faint circular stamp or watermark.

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

Connecticut Siting Council

[CT.gov Home](https://portal.ct.gov) |
 <https://portal.ct.gov/> |
 [Connecticut Siting Council](https://portal.ct.gov/CSC) |
 <https://portal.ct.gov/CSC> |
 DO 278 Westport Spectrasite D&O

DOCKET NO. 278 – SpectraSite Communications, Inc. application for an amendment to an existing Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility in Westport, Connecticut.

} Connecticut
 } Siting
 } Council
 May 19, 2004

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance 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 an amended Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to SpectraSite Communications, Inc. for the construction, maintenance and operation of a wireless telecommunications facility at 180-182 Bayberry Lane in Westport, Connecticut.

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 no taller than 140 feet above ground level to provide the proposed telecommunications services to both public and private entities. The overall height of the tower, taking into consideration all appurtenances attached thereto, shall not exceed a height of 150 feet above ground level and shall be designed with a yield point to reduce the setback radius to approximately 41 feet.
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 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. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

1. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is 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.
2. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
3. 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.

4. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
5. If the facility does not initially provide wireless services within one year of completion of construction or 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 before any such use is made.
6. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
7. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extensions of the period shall be filed with the Council not later than sixty days prior to expiration date of the Certificate and shall be served on all parties and intervenors, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Westport News and the Norwalk Hour.

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.

The parties and intervenors to this proceeding are:

<p><u>Applicant</u></p> <p>SpectraSite Communications, Inc.</p>	<p><u>Its Representative</u></p> <p>Julie Donaldson Kohler, Esq. Hurwitz & Sagarin, LLC 147 N. Broad Street Milford, CT 06460 (203) 877-8000</p>
<p><u>Party</u></p> <p>Town of Westport</p>	<p><u>Its Representative</u></p> <p>Eugene E. Cederbaum, Esq. Town of Westport 27 Imperial Avenue Westport, CT 06880 (203) 227-9545</p>
<p><u>Intervenor</u></p> <p>Sprint Spectrum L.P. d/b/a Sprint PCS</p>	<p><u>Its Representative</u></p> <p>Thomas J. Regan Brown, Rudnick, Berlack, Israels, LLP City Place I 185 Asylum Avenue Hartford, CT 06103-3402 (860) 509-6500</p>

Intervenor

AT&T Wireless, PCS, LLC

Its Representative

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
90 Maple Avenue
White Plains, NY 10601

Intervenor

Omnipoint Facilities Network 2 L.L.C. ("T-Mobile")

Its Representative

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae, LLP
Goodwin Square
225 Asylum Street
Hartford, CT 06103



June 27, 2022

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

Re: Exempt Modification Application – AT&T Site 13753216
AT&T Mobility Telecommunications Facility @ 180A Bayberry Lane, Westport, CT 06880

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, three (3) RRHs, twelve (12) RETs, twelve (12) TMAs, and six (6) coax cables;
- Install twelve (12) antennas, nine (9) RRHs, two (2) squids, four (4) DC trunks, two (2) fiber trunks and three (3) Y cables.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2), and as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of AT&T's intent to modify a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; The Town of Westport as Property Owner; Jennifer Tooker, the First Selectwoman of Westport, and Mary Young, Director of Westport Planning and Zoning. The tower was originally approved by the Council in Docket Number 278, on May 19, 2004, a copy of which is enclosed.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an extension of the site boundary.
3. The proposed modifications will NOT increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379



For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 180A Bayberry Lane, Westport, CT 06880. If you have any questions, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over the typed name and title.

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures: Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card and GIS
Exhibit 3 – Construction Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report
Exhibit 6 – EME Study Report
Exhibit 7 – Four (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
The Town of Westport - Property Owner
Jennifer Tooker - First Selectwoman of Westport
Mary Young - Director of Westport Planning and Zoning



AMERICAN TOWER®
CORPORATION
LETTER OF AUTHORIZATION

CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.


ATC Asset #	Site Name	Project Number	Site Address
283420	STONEBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut



AMERICAN TOWER®
CORPORATION

88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Branford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: _____


Margaret Robinson, Vice President
US Tower Legal Division

See attached Notary Block



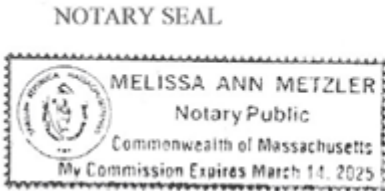
**LETTER OF AUTHORIZATION
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY**

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30th day of June, 2022.



Notary Public 
My Commission Expires: March 14, 2025



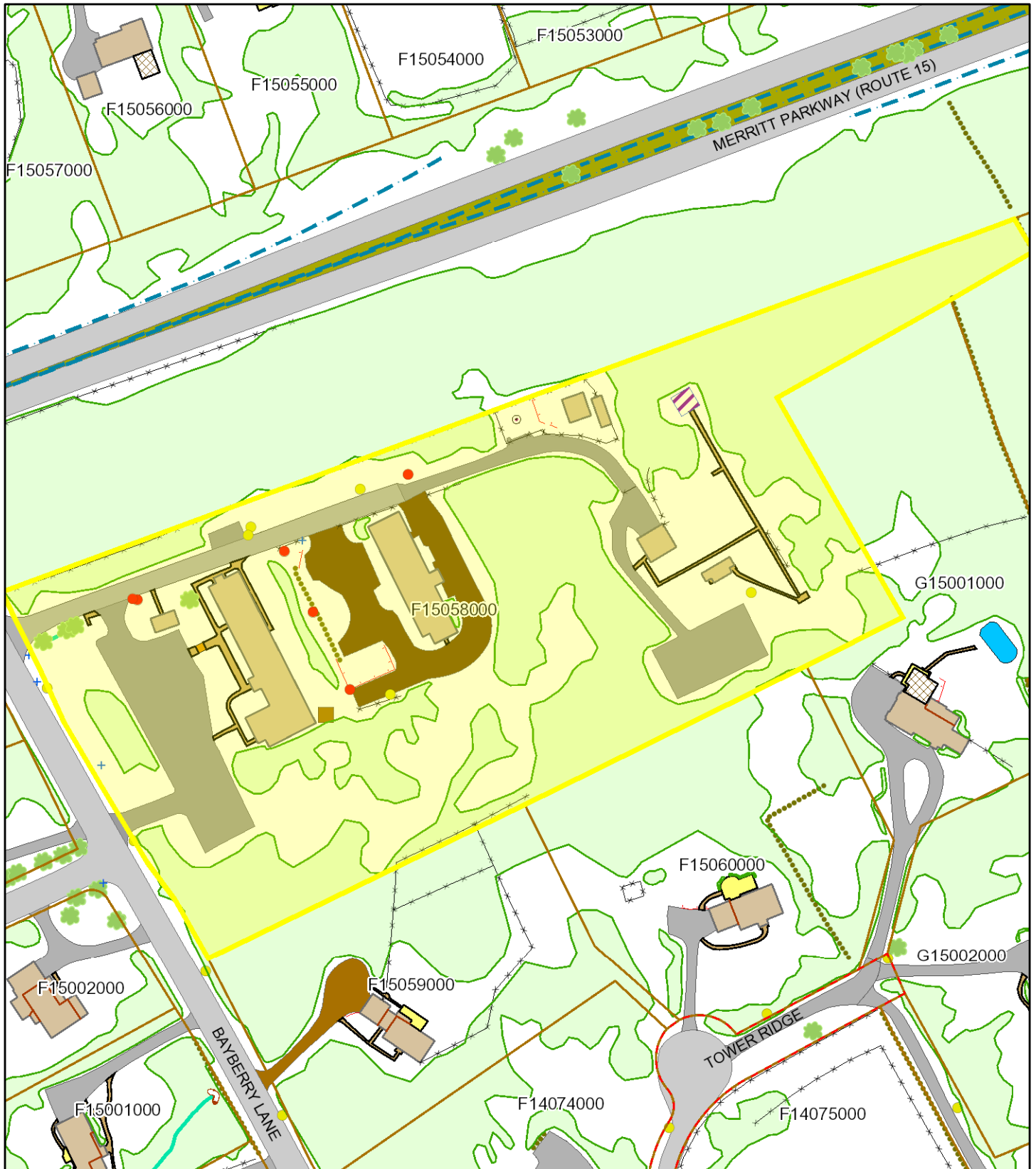
Westport, CT



June 27, 2022

1 inch = 141 Feet

www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

180 BAYBERRY LN

Location 180 BAYBERRY LN

Mblu F15//58//

Acct# 14714

Owner AMERICAN TOWERS, INC.

Assessment \$1,103,290

Appraisal \$1,575,900

PID 100658

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$1,575,900	\$0	\$1,575,900

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$1,103,290	\$0	\$1,103,290

Owner of Record

Owner	AMERICAN TOWERS, INC.	Sale Price	\$0
Co-Owner	PROPERTY TAX DEPT	Certificate	
Address	PO BOX 723597 ATLANTA, GA 31139	Book & Page	0000/0000
		Sale Date	10/01/2010

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
AMERICAN TOWERS, INC.	\$0		0000/0000	10/01/2010

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost
Less Depreciation: \$0

Building Attributes

Field	Description
Style:	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Kitchens	
Whirlpool Tubs	
Hot Tubs	
Sauna (SF Area)	
Fin Basement	
Fin Bsmt Qual	
Bsmt. Garages	
Interior Cond	
Fireplaces	
Ceiling Height	
Elevator	
Sprinklers	
Acc Apts	
Fndtn Cndtn	
Basement	

Building Photo



(<https://images.vgsi.com/photos2/WestportCTPhotos/\00\01\76\80.jpg>)

Building Layout

 Building Layout (ParcelSketch.ashx?pid=100658&bid=30421)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features

Legend

No Data for Extra Features

Land

Land Use

Use Code 435
Description Cell Site Vac Lnd
Zone AAA
Neighborhood
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 0
Frontage
Depth
Assessed Value \$0
Appraised Value \$0

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
CELL	Cell on TWR	TW		6.00 Sites	\$1,267,700	1
CB3	PerCastConcCel			360.00 S.F.	\$94,500	1
CB3	PerCastConcCel			440.00 S.F.	\$115,500	1
FN4	Fence 8'			200.00 L.F.	\$2,600	1
CB3	PerCastConcCel			144.00 S.F.	\$37,800	1
CB3	PerCastConcCel			220.00 S.F.	\$57,800	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$1,575,900	\$0	\$1,575,900
2020	\$1,575,900	\$0	\$1,575,900
2019	\$1,576,129	\$0	\$1,576,129

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$1,103,290	\$0	\$1,103,290
2020	\$1,103,290	\$0	\$1,103,290
2019	\$1,103,290	\$0	\$1,103,290



Radio Frequency Exposure Analysis Report

June 22, 2022

American Tower on behalf of AT&T

AT&T Site Name: WSPT-WESTPORT REBUILD CT

Site Number: CTL02107

FA#: 10034981

USID: 60394

Site Address: 180A BAYBERRY LANE, WESTPORT, CT 06880

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	29.14672 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	2.9152399999999998%



June 22, 2022

Centerline
Attn: John Luca, Associate Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **WSPT-WESTPORT REBUILD CT**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed AT&T facility at **180A BAYBERRY LANE, WESTPORT, CT 06880** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



Maximum Calculated Cumulative Power Density (Location: approximately 224' northeast of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
AT&T A 1	CCI TPA65R-BU6D	700	11.75	100.00	4.00	30.00	1795.48	0.00067	466.67	0.00014
AT&T A 1	CCI TPA65R-BU6D	1900	15.05	100.00	4.00	30.00	3838.67	0.00074	1000.00	0.00007
AT&T A 1	CCI TPA65R-BU6D	2100	15.95	100.00	4.00	45.00	7083.90	0.00143	1000.00	0.00014
AT&T A 2	Ericsson AIR6449	3700	23.45	98.00	1.00	108.40	23989.95	0.00498	1000.00	0.00050
AT&T A 3	Ericsson AIR6419	3450	23.45	102.00	1.00	108.40	23989.95	0.00360	1000.00	0.00036
AT&T A 4	CCI DMP65R-BU6D	700	11.35	100.00	4.00	30.00	1637.50	0.00130	466.67	0.00028
AT&T A 4	CCI DMP65R-BU6D	850	11.45	100.00	4.00	30.00	1675.64	0.00069	566.67	0.00012
AT&T B 5	CCI TPA65R-BU6D	700	11.75	100.00	4.00	30.00	1795.48	0.00000	466.67	0.00000
AT&T B 5	CCI TPA65R-BU6D	1900	15.05	100.00	4.00	30.00	3838.67	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU6D	2100	15.95	100.00	4.00	45.00	7083.90	0.00000	1000.00	0.00000
AT&T B 6	Ericsson AIR6449	3700	23.45	98.00	1.00	108.40	23989.95	0.00004	1000.00	0.00000
AT&T B 7	Ericsson AIR6419	3450	23.45	102.00	1.00	108.40	23989.95	0.00004	1000.00	0.00000
AT&T B 8	CCI DMP65R-BU6D	700	11.35	100.00	4.00	30.00	1637.50	0.00000	466.67	0.00000
AT&T B 8	CCI DMP65R-BU6D	850	11.45	100.00	4.00	30.00	1675.64	0.00000	566.67	0.00000
AT&T C 9	CCI TPA65R-BU6D	700	11.75	100.00	4.00	30.00	1795.48	0.00000	466.67	0.00000
AT&T C 9	CCI TPA65R-BU6D	1900	15.05	100.00	4.00	30.00	3838.67	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU6D	2100	15.95	100.00	4.00	45.00	7083.90	0.00000	1000.00	0.00000
AT&T C 10	Ericsson AIR6449	3700	23.45	98.00	1.00	108.40	23989.95	0.00004	1000.00	0.00000
AT&T C 11	Ericsson AIR6419	3450	23.45	102.00	1.00	108.40	23989.95	0.00004	1000.00	0.00000
AT&T C 12	CCI DMP65R-BU6D	700	11.35	100.00	4.00	30.00	1637.50	0.00000	466.67	0.00000
AT&T C 12	CCI DMP65R-BU6D	850	11.45	100.00	4.00	30.00	1675.64	0.00000	566.67	0.00000
Unknown 13	GENERIC MICROWAVE 6FT	6000	38.65	142.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 14	GENERIC OMNI 5FT	850	5.96	143.00	1.00	25.00	98.61	0.00001	566.67	0.00000
Unknown 15	GENERIC OMNI 6FT	850	5.96	143.00	1.00	25.00	98.61	0.00001	566.67	0.00000
Unknown 16	GENERIC OMNI 6FT	850	5.96	143.00	1.00	25.00	98.61	0.00001	566.67	0.00000
T-Mobile A 17	GENERIC PANEL 6FT	1900	15.84	132.00	2.00	60.00	4604.49	0.00030	1000.00	0.00003
T-Mobile A 18	GENERIC PANEL 6FT	600	12.33	132.00	2.00	60.00	2052.02	0.00030	400.00	0.00007
T-Mobile A 18	GENERIC PANEL 6FT	700	12.33	132.00	2.00	60.00	2052.02	0.00030	466.67	0.00006
T-Mobile A 19	GENERIC PANEL 6FT	2100	16.39	132.00	2.00	60.00	5226.14	0.00032	1000.00	0.00003
T-Mobile B 20	GENERIC PANEL 6FT	1900	15.84	132.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
T-Mobile B 21	GENERIC PANEL 6FT	600	12.33	132.00	2.00	60.00	2052.02	0.00000	400.00	0.00000
T-Mobile B 21	GENERIC PANEL 6FT	700	12.33	132.00	2.00	60.00	2052.02	0.00000	466.67	0.00000
T-Mobile B 22	GENERIC PANEL 6FT	2100	16.39	132.00	2.00	60.00	5226.14	0.00000	1000.00	0.00000
T-Mobile C 23	GENERIC PANEL 6FT	1900	15.84	132.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
T-Mobile C 24	GENERIC PANEL 6FT	600	12.33	132.00	2.00	60.00	2052.02	0.00000	400.00	0.00000



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
T-Mobile C 24	GENERIC PANEL 6FT	700	12.33	132.00	2.00	60.00	2052.02	0.00000	466.67	0.00000
T-Mobile C 25	GENERIC PANEL 6FT	2100	16.39	132.00	2.00	60.00	5226.14	0.00000	1000.00	0.00000
Unknown A 26	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00027	566.67	0.00005
Unknown A 27	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00027	566.67	0.00005
Unknown B 28	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00000	566.67	0.00000
Unknown B 29	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00000	566.67	0.00000
Unknown C 30	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00000	566.67	0.00000
Unknown C 31	GENERIC PANEL 2FT	850	8.11	130.00	1.00	60.00	388.29	0.00000	566.67	0.00000
Verizon A 32	GENERIC PANEL 6FT	850	12.62	110.00	4.00	40.00	2924.96	0.00060	566.67	0.00011
Verizon A 33	GENERIC PANEL 6FT	1900	15.84	110.00	4.00	40.00	6139.32	0.00060	1000.00	0.00006
Verizon A 34	GENERIC PANEL 6FT	2100	16.39	110.00	4.00	40.00	6968.19	0.00063	1000.00	0.00006
Verizon A 35	GENERIC PANEL 6FT	700	12.33	110.00	4.00	40.00	2736.02	0.00058	466.67	0.00013
Verizon B 36	GENERIC PANEL 6FT	850	12.62	110.00	4.00	40.00	2924.96	0.00000	566.67	0.00000
Verizon B 37	GENERIC PANEL 6FT	1900	15.84	110.00	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Verizon B 38	GENERIC PANEL 6FT	2100	16.39	110.00	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Verizon B 39	GENERIC PANEL 6FT	700	12.33	110.00	4.00	40.00	2736.02	0.00000	466.67	0.00000
Verizon C 40	GENERIC PANEL 6FT	850	12.62	110.00	4.00	40.00	2924.96	0.00000	566.67	0.00000
Verizon C 41	GENERIC PANEL 6FT	1900	15.84	110.00	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Verizon C 42	GENERIC PANEL 6FT	2100	16.39	110.00	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Verizon C 43	GENERIC PANEL 6FT	700	12.33	110.00	4.00	40.00	2736.02	0.00000	466.67	0.00000
Unknown A 44	GENERIC PANEL 6FT	862	12.62	77.00	2.00	40.00	1462.48	0.00064	574.67	0.00011
Unknown A 45	GENERIC PANEL 6FT	1900	15.84	77.00	2.00	60.00	4604.49	0.00095	1000.00	0.00010
Unknown A 46	GENERIC PANEL 6FT	2500	14.49	77.00	1.00	34.70	975.73	0.00028	1000.00	0.00003
Unknown B 47	GENERIC PANEL 6FT	862	12.62	77.00	2.00	40.00	1462.48	0.00000	574.67	0.00000
Unknown B 48	GENERIC PANEL 6FT	1900	15.84	77.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown B 49	GENERIC PANEL 6FT	2500	14.49	77.00	1.00	34.70	975.73	0.00000	1000.00	0.00000
Unknown C 50	GENERIC PANEL 6FT	862	12.62	77.00	2.00	40.00	1462.48	0.00000	574.67	0.00000
Unknown C 51	GENERIC PANEL 6FT	1900	15.84	77.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown C 52	GENERIC PANEL 6FT	2500	14.49	77.00	1.00	34.70	975.73	0.00000	1000.00	0.00000
							Cumulative Power Density:	29.14672 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	2.91524%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC

A handwritten signature in black ink, appearing to read "Katrina Styx", is positioned below the typed name and title.



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



Antenna Mount Analysis Report

ATC Site Name : WSPT-WESTPORT REBUILD CT
ATC Site Number : 310968
Engineering Number : 13753216_C8_01
Mount Elevation : 100 ft
Carrier : AT&T Mobility
Carrier Site Name : MRCTB056357
Carrier Site Number : CTL02107
Site Location : 180A Bayberry Lane
Westport, CT 06880-2844
41.17164920, -73.32860551
County : Fairfield
Date : March 8, 2022
Max Usage : 67%
Result : Contingent Pass

Prepared By:
Akhil Jayaraj, E.I.T.
EFI Global, Inc.

Reviewed By:
Ahmet Colakoglu, P.E.
EFI Global, Inc.

3/8/2022



COA#: PEC.0001245



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Calculations Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 100 ft.

Supporting Documents

Mount Mapping Report	B+T Project # G0160582.001.01, dated February 7,2022
RFDS	RFDS dated January 31, 2022
Photos	Site photos from 2022

Analysis

This antenna mount was analyzed using RISA-3D v19 analysis software

Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Risk Category:	II
Exposure Category:	B
Topographic Factor Procedure:	Method 2
Feature:	Flat
Spectral Response:	$S_s = 0.227, S_1 = 0.056$
Seismic Design Category	B
Site Class:	D – Stiff Soil
Live Loads:	$L_m = 500 \text{ lbs}, L_v = 250 \text{ lbs}$

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- A support rail kit was modeled due to the Carrier's proposed Mount Type. Install Valmont/Site Pro 1 Universal Support Rail Kit, P/N: HRK14 (ANT.51647) 30" above the base of the platform.
- Each mount pipe should be attached to the support rail.
- New (1) 48" long 2.0 STD pipe mount should be installed at each standoff tube arm using Valmont/Site Pro 1 Crossover Plate Kit w/ Square U-bolts (P/N: SQCX4-K), a total of three (3) to attach RRUs.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
100.0	102.0	3	Ericsson Air 6449 B77D*
	100.0	3	CCI TPA-65R-BU6DA-K
		3	CCI DMP65R-BU8D
		1	Raycap DC6-48-60-18-8F ("Squid")**
		2	Raycap DC9-48-60-24-8C-EV**
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 4426 B66
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 32 B2
	98.0	3	Ericsson AIR 6419 B77G*

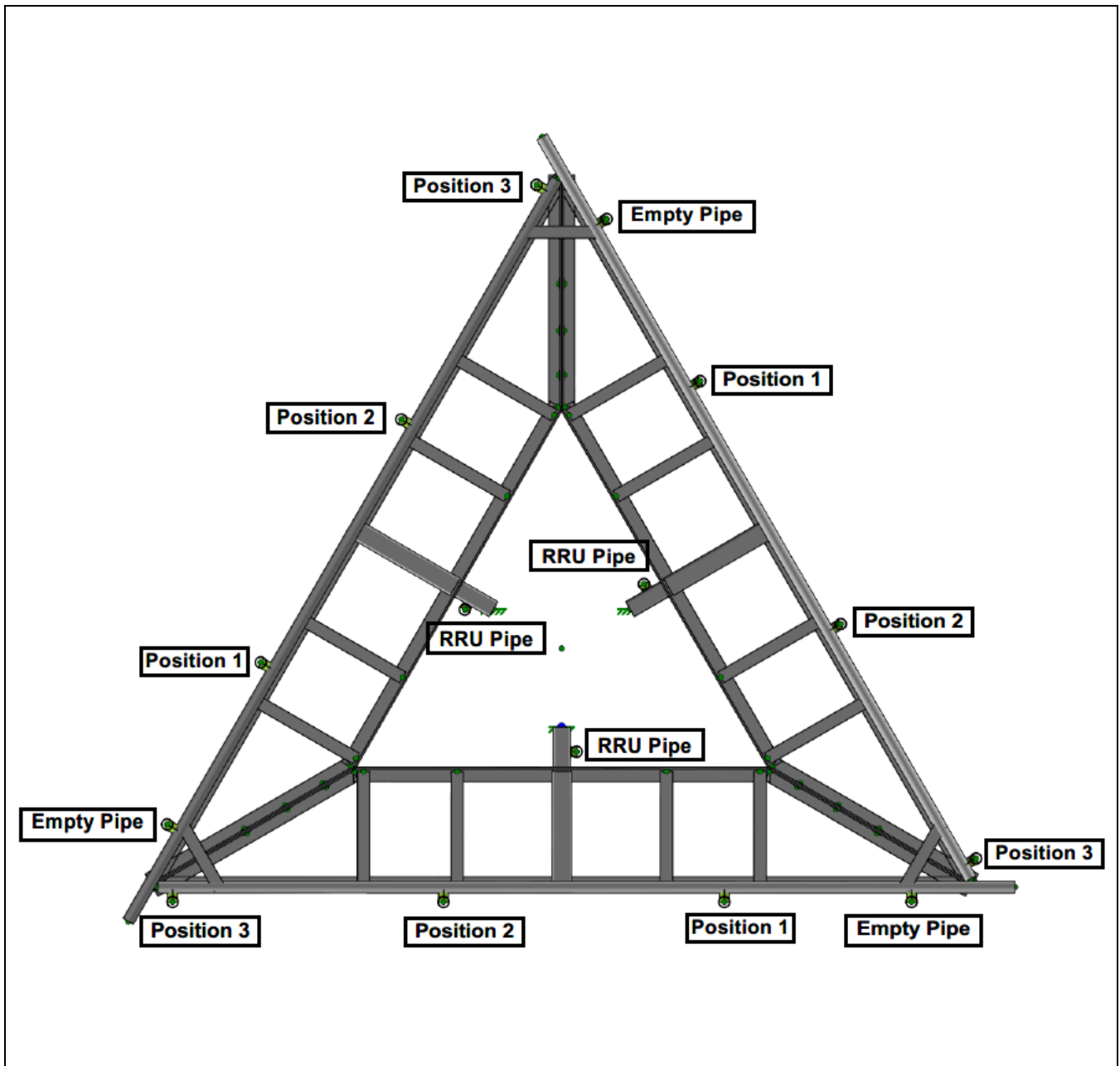
*Air 6449 & AIR 6419 are stacked.

**Mounted on Raycap Pipes attached to the corral mount

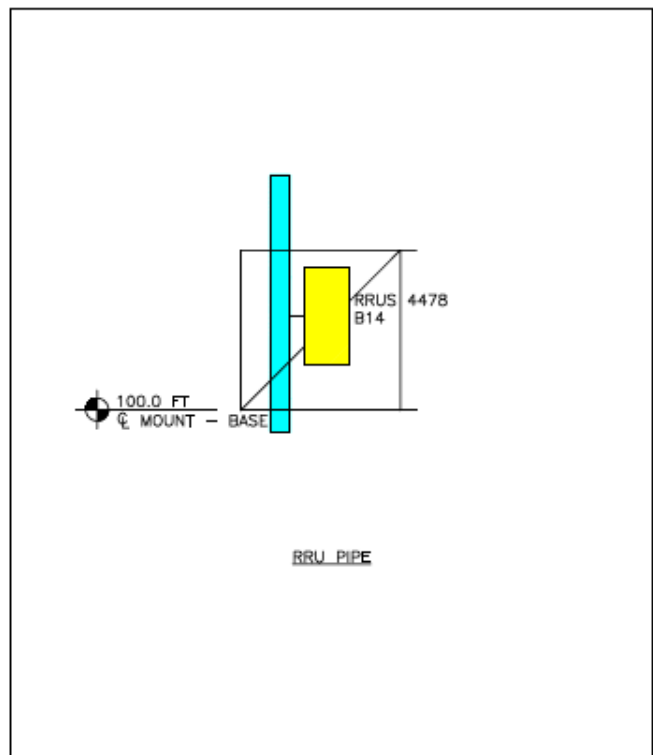
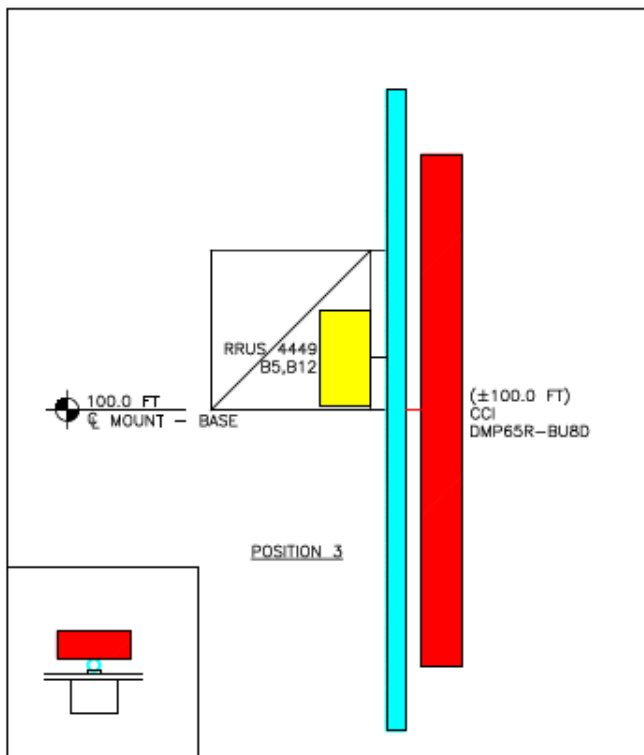
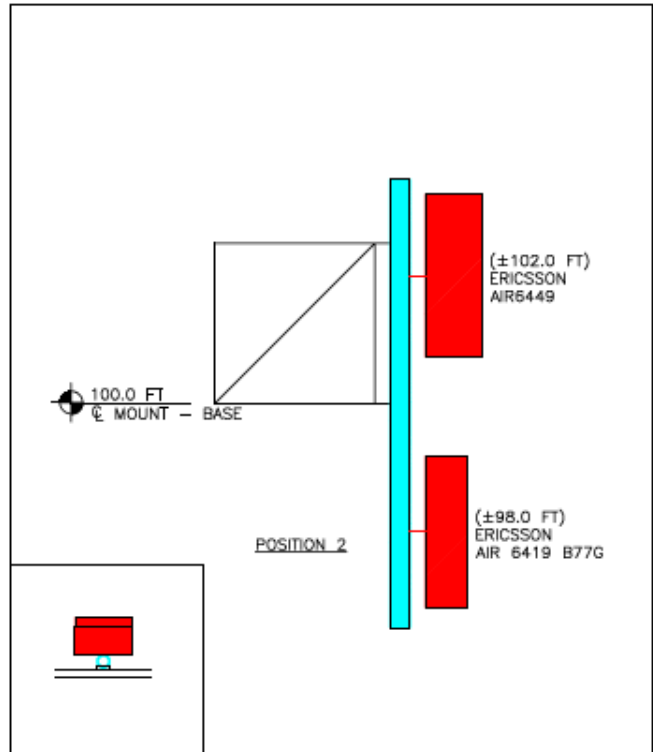
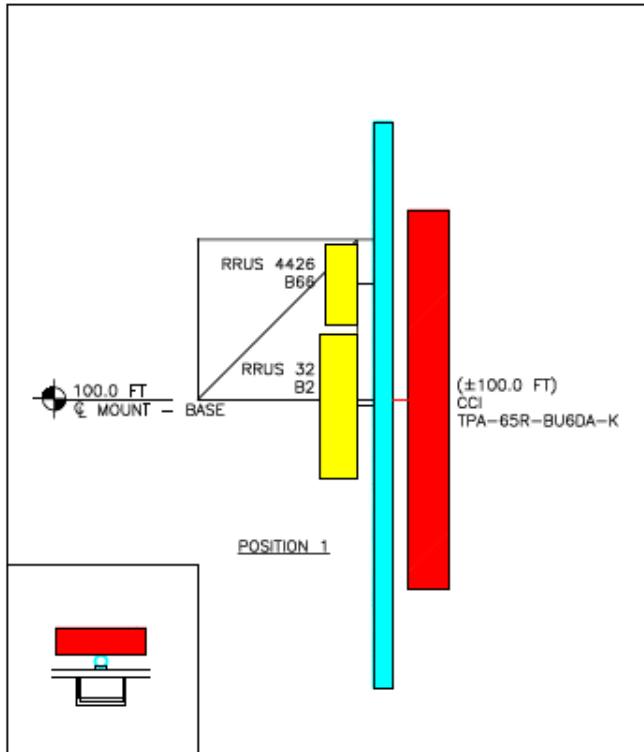
Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Platform Base Face Angles	64%	Pass
Platform Standoff Tubes	53%	Pass
Grating Angles	30%	Pass
Grating Plates	44%	Pass
Support Rail Pipes	35%	Pass
Support Rail Connection Angles	42%	Pass
Antenna Mount Pipes	67%	Pass

Mount Layout



Equipment Layout





Standard Conditions

All engineering services performed by EFI Global, Inc. (EFI) are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of EFI

It is the responsibility of the client to ensure that the information provided to EFI and used in the performance of our engineering services is correct and complete.

EFI assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and EFI, all services will be performed in accordance with the current revision of ANSI/TIA-222.

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. EFI is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

CLIENT: **ATC**
 PROJECT: **310968_13753216_ATT MOBILITY**
 SUBJECT: **Antenna Loads - TIA 222 H Standard**

Tower Height **140.00** ft
 Basic Wind Speed, V **118** mph
 Basic Wind Speed w/ Ice, V_i **50** mph
 Maintenance Load Factor, L_{FM} **0.0646** Load Factor for Maint. Load Cases (Basic Wind Speed=30 mph)
 Ultimate Ice Thickness, t_i **1** inches

Table 2-3 Importance Factors

Structure Classification	Wind Load Without Ice	Wind Load With Ice	Ice Thickness	Earthquake
II	1	1	1	1

Table 2-4 Exposure Category Coefficients

Exposure Category	Z_g	α	K_{zmin}	K_e	m
B	1200	7	0.7	0.9	0.55

Ground elevation factor, K_e
 Z_s **245** ft
 K_e 0.99

Table 2-5 Topographic Categories

K_{zt} 1.000

Table 2-2 Wind Directionality Factor, K_d

Structure Type	K_d
Monopole	0.95

DOES NOT CHANGE

Gust Effect Factor G_h

Structure Type	G_h
Lattice Tower	1.00

DOES NOT CHANGE

Shielding Factor, K_a

Structure Type	K_a
Lattice Tower	0.90

DOES NOT CHANGE

Seismic Factors

S_s	0.227
S_1	0.056
F_a	1.6
F_v	2.4
R	2

Truss or Pole

Wind & Ice Load Calculations		
Velocity Pressure Coefficient	K_z	0.99
Topographic Factor	K_{zt}	1.00
Rooftop Wind Speed-up Factor	K_s	1.00
Shielding Factor	K_a	0.90
Ground Elevation Factor	K_e	0.99
Wind Direction Probability Factor	K_d	0.95
Basic Wind Speed	V	118 mph
Velocity Pressure	q_z	33.2 psf
Height Escalation Factor	K_{iz}	1.12
Thickness of Radial Glaze Ice	T_{iz}	1.12 in

Seismic Load Calculations		
Short Period DSRAP	S_{DS}	0.24
1 Second DSRAP	S_{D1}	0.09
Importance Factor	I	1.00
Response Modification Coefficient	R	2.00
Seismic Response Coefficient	C_s	0.06
Amplification Factor	A	1.00
Seismic Design Category	SDC	B

CLIENT: **ATC**
 PROJECT: **310968_13753216_ATT MOBILITY**
 SUBJECT: **Antenna Loads - TIA 222 H Standard**

Rad Center **100.00** ft

Antenna AND Mount Without Ice

Mounting Pole	Height (ft)	Model Number	#	Weight (lbs)	H (in)	*W (in)	D (in)	Ka	**A _N (ft ²)	***A _T (ft ²)	Aspect (FRONT)	Aspect (SIDE)	Ca (FRONT)	Ca (SIDE)	K _z	q _z (psf)	Pounds								
																	Wind Load (Front)	Wind Load (Side)	Dead Load	Total Wind Load (Front)	Total Wind Load (Side)	Total Dead Load	Lateral Load (Seismic)	Vertical Load (Seismic)	
Pos. 1	100.00	CCI TPA-65R-BU6DA-K	1	79.6	71.1	25.5	7.6	0.90	12.59	3.75	2.79	9.36	1.21	1.48	0.988	33.2	455.8	165.6	79.6	456	237	181	10	9	
	100.00	RRUS 32 B2	1	53.0	27.2	N/A	7.0	0.90	-	1.32	-	3.89	-	1.26	0.988	33.2	0.0	49.8	53						
	100.00	RRUS 4426 B66	1	48.4	15.0	N/A	5.8	0.90	-	0.60	-	2.59	-	1.20	0.988	33.2	0.0	21.7	48.4						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	-	0.0	0.0	0					
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	-	0.0	0.0	0					
Pos. 2 top	102.00	Ericsson Air 6449 B77D	1	81.6	30.4	15.9	8.1	0.90	3.36	1.71	1.91	3.75	1.20	1.26	0.994	33.4	120.9	64.5	81.6	121	64	82	4	4	
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
Pos. 2 bottom	98.00	Ericsson AIR 6419 B77G	1	66.1	28.3	16.1	7.9	0.90	3.16	1.55	1.76	3.58	1.20	1.25	0.983	33.0	112.7	57.5	66.1	113	58	66	4	3	
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
Pos. 3	100.00	CCI DMP65R-BU8D	1	95.7	96.0	20.7	7.7	0.90	13.80	5.13	4.64	12.47	1.29	1.58	0.988	33.2	533.5	242.4	95.7	533	284	167	9	8	
	100.00	RRUS 4449 B5, B12	1	71.0	17.9	N/A	9.4	0.90	-	1.17	-	1.90	-	1.20	0.988	33.2	0.0	41.9	71						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
RRU Pipe		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						
	100.00	RRUS 4478 B14	1	59.4	18.1	13.4	8.3	0.90	1.68	1.04	1.35	2.18	1.20	1.20	0.988	33.2	60.3	37.4	59.4	269	184	107	6	5	
	100.00	DC6-48-60-18-8F ("Squid")	1	31.8	24.0	11.0	11.0	0.90	1.83	1.83	2.18	2.18	1.20	1.20	0.988	33.2	65.7	65.7	31.8						
	100.00	DC9-48-60-24-8C-EV	1	16.0	31.4	18.3	10.2	0.90	3.99	2.22	1.72	3.08	1.20	1.23	0.988	33.2	142.9	81.4	16						
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0						

* Enter N/A in the W column for front shielded apertures.

** A_N is the product of H and W

*** A_T is the product of H and D

DL 603

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	Weight (lb/ft)	*** Ca	K _z	q _z (psf)	Wind Load (PLF)	Lateral Load (Seismic)	Vertical Load (Seismic)
	100.00	3.0 STD Pipe	0.00	3.50	0.00		-	-	-	-	-	-
	100.00	2.5 STD Pipe	12.00	2.88	0.00		1.20	0.988	29.9	9	-	-
	100.00	2.0 STD Pipe	12.00	2.38	0.00		1.20	0.988	29.9	7	-	-
	100.00	SR 5/8"	0.00	0.63	0.00		-	-	-	-	-	-
	100.00	SR 3/4"	0.00	0.75	0.00		-	-	-	-	-	-
	100.00	(L4x4)	0.00	4.00	4.00		-	-	-	-	-	-
	100.00	(L3x3)	12.00	3.00	3.00		2.00	0.988	29.9	15	-	-
	100.00	(L2.5x2.5)	12.00	2.50	2.50		2.00	0.988	29.9	12	-	-
	100.00	(L2x2)	0.00	2.00	2.00		-	-	-	-	-	-
	100.00	Plate (PL12x1)	0.00	1.00	12.00		-	-	-	-	-	-
	100.00	Plate (PL2 1/2x1/4)	12.00	0.25	2.50		2.00	0.988	29.9	1	-	-
	100.00	HSS4x4	12.00	4.00	4.00		2.00	0.988	29.9	20	-	-
	100.00	HSS3.5x3.5	12.00	3.50	3.50		2.00	0.988	29.9	17	-	-
	100.00	HSS3x3	0.00	3.00	3.00		-	-	-	-	-	-
	100.00	Double Angle (LL2.5x2.5x3x3)	0.00	2.50	5.40		-	-	-	-	-	-
	100.00	Tapered (5.5x6x3/8)	0.00	5.88	6.00		-	-	-	-	-	-
	100.00	ZU4x3	0.00	4.00	6.00		-	-	-	-	-	-

* The dimension L is the longest dimension of the member

** The dimension W is the height or width of the member that resists wind load

*** Ca will equal 1.2 for round members and 2.0 for flat members

CLIENT: **ATC**
 PROJECT: **310968_13753216_ATT MOBILITY**
 SUBJECT: **Antenna Loads - TIA 222 H Standard**

ti (in) 1.117245 Kiz 1.1172455 reduction 0.17955

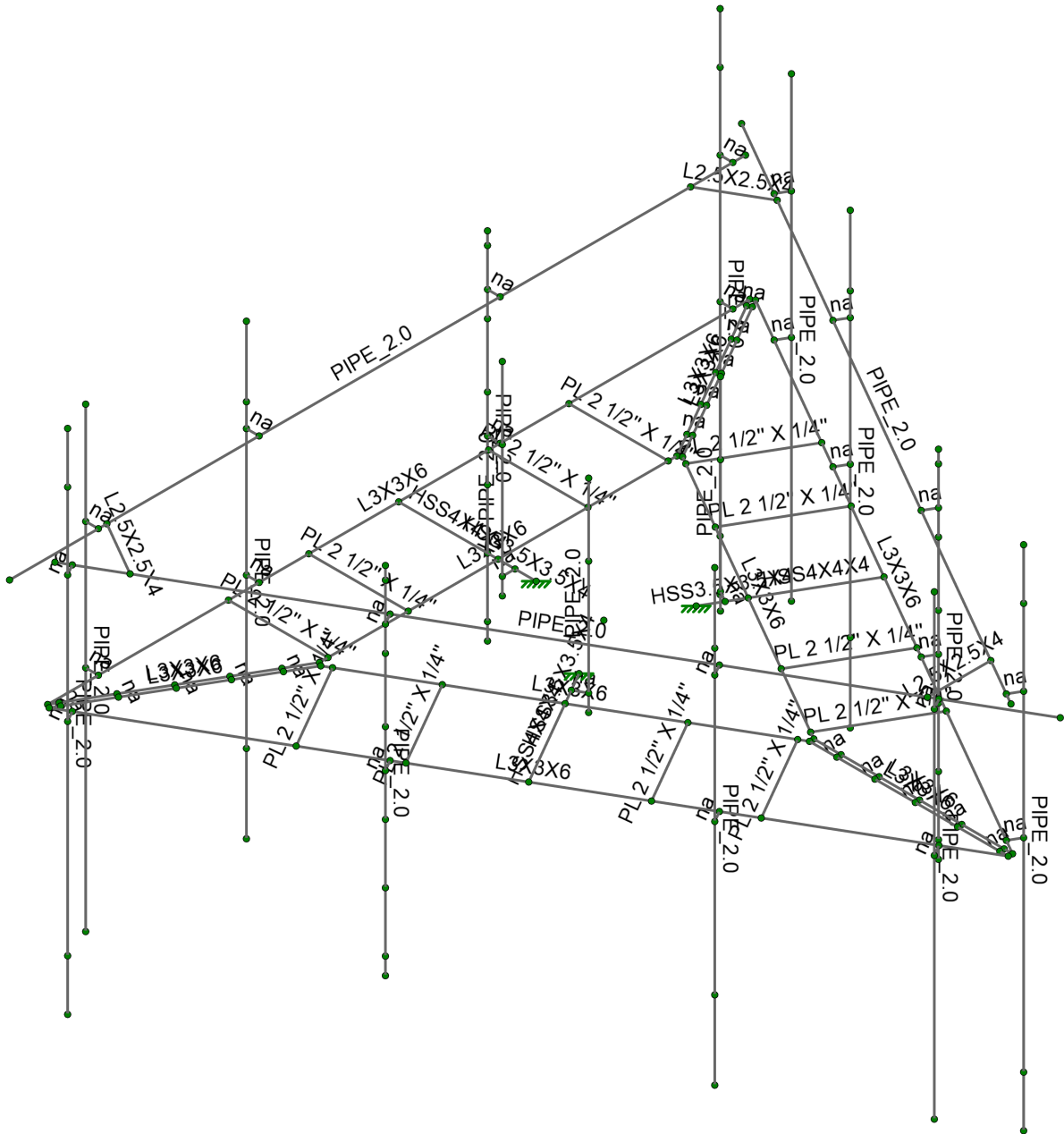
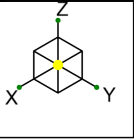
Antenna AND Mount With Ice

Mounting Pole	Height (ft)	Model Number	#	H (in)	W (in)	D (in)	Ka	*A _N (ft ²)	*A _T (ft ²)	*Volume Ice (ft ³)	*Weight Ice (lbs)	**Ca (FRONT)	**Ca (SIDE)	Kz	q _z (psf)	Pounds							
																Ice Wind Load (Front)	Ice Wind Load (Side)	Combined Wind Load (Front)	Combined Wind Load (Side)	Ice Dead Load	**Total Wind Load (Front)	**Total Wind Load (Side)	Total Ice Load
Pos. 1	100.00	CCI TPA-65R-BU6DA-K	1	71.1	25.5	7.6	0.90	1.53	1.26	3.60	201.68	0.70	0.81	0.988	6.0	5.8	5.5	87.6	35.2	202	88	52	285
	100.00	RRUS 32 B2	1	27.2	12.1	7.0	0.90	-	0.57	0.92	51.61	0.70	0.72	0.988	6.0	0.0	2.2	0.0	11.1	52	-	-	-
	100.00	RRUS 4426 B66	1	15.0	13.2	5.8	0.90	-	0.36	0.57	32.05	0.70	0.70	0.988	6.0	0.0	1.3	0.0	5.2	32	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	44	26	143
Pos. 2 top	102.00	Ericsson Air 6449 B77D	1	30.4	15.9	8.1	0.90	0.75	0.63	1.27	71.32	0.70	0.71	0.994	6.0	2.8	2.4	24.6	14.0	71	25	14	71
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	13	8	36
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
Pos. 2 bottom	98.00	Ericsson AIR 6419 B77G	1	28.3	16.1	7.9	0.90	0.72	0.60	1.20	67.22	0.70	0.71	0.983	5.9	2.7	2.3	22.9	12.6	67	23	13	67
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	12	7	34
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
Pos. 3	100.00	CCI DMP65R-BU8D	1	96.0	20.7	7.7	0.90	1.85	1.64	4.10	229.46	0.74	0.86	0.988	6.0	7.3	7.6	103.1	51.1	229	103	60	275
		RRUS 4449 B5, B12	1	17.9	13.2	9.4	0.90	-	0.46	0.81	45.19	0.70	0.70	0.988	6.0	0.0	1.7	0.0	9.2	45	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	52	31	138
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	-	-	-
RRU Pipe	100.00	Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	55	40	186
		RRUS 4478 B14	1	18.1	13.4	8.3	0.90	0.52	0.44	0.77	43.30	0.70	0.70	0.988	6.0	2.0	1.7	12.8	8.4	43	-	-	-
		DC6-48-60-18-8F ("Squid")	1	24.0	11.0	11.0	0.90	0.58	0.58	0.98	54.80	0.70	0.70	0.988	6.0	2.2	2.2	14.0	14.0	55	-	-	-
		DC9-48-60-24-8C-EV	1	31.4	18.3	10.2	0.90	0.81	0.68	1.58	88.37	0.70	0.70	0.988	6.0	3.0	2.6	28.7	17.2	88	-	-	-
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0	28	20	94

* A_N, A_T, Volume Ice and Weight Ice are calculated per unit
 ** Ca will equal 1.2 for all ice load calculations

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A _N (ft ²)	Volume Ice (ft ³)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q _z (psf)	PLF		
												Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	100.00	3.0 STD Pipe	0.00	3.50	0.00	-	-	-	-	-	-	-	-	-
	100.00	2.5 STD Pipe	0.00	2.88	0.00	-	-	-	-	-	-	-	-	-
	100.00	2.0 STD Pipe	12.00	2.38	0.00	0.26	0.09	4.77	1.20	0.988	5.4	1.7	2.9	5
	100.00	SR 5/8"	0.00	0.63	0.00	-	-	-	-	-	-	-	-	-
	100.00	SR 3/4"	0.00	0.75	0.00	-	-	-	-	-	-	-	-	-
	100.00	(L4x4)	0.00	4.00	4.00	-	-	-	-	-	-	-	-	-
	100.00	(L3x3)	12.00	3.00	3.00	0.27	0.09	5.21	1.20	0.988	5.4	1.7	4.4	5
	100.00	(L2.5x2.5)	12.00	2.50	2.50	0.26	0.08	4.34	1.20	0.988	5.4	1.7	3.9	4
	100.00	(L2x2)	0.00	2.00	2.00	-	-	-	-	-	-	-	-	-
	100.00	Plate (PL12x1)	0.00	1.00	12.00	-	-	-	-	-	-	-	-	-
	100.00	Plate (PL2 1/2x1/4)	12.00	0.25	2.50	0.22	0.09	5.18	1.20	0.988	5.4	1.4	1.7	5
	100.00	HSS4x4	12.00	4.00	4.00	0.28	0.21	11.71	1.20	0.988	5.4	1.8	5.4	12
	100.00	HSS3.5x3.5	12.00	3.50	3.50	0.28	0.19	10.41	1.20	0.988	5.4	1.8	4.9	10
	100.00	HSS3x3	0.00	3.00	3.00	-	-	-	-	-	-	-	-	-
	100.00	Double Angle (LL2.5x2.5x3x3)	0.00	2.50	5.40	-	-	-	-	-	-	-	-	-
	100.00	Tapered (5.5x6x3/8)	0.00	5.88	6.00	-	-	-	-	-	-	-	-	-
	100.00	ZU4x3	0.00	4.00	6.00	-	-	-	-	-	-	-	-	-

* The dimension L is the longest dimension of the member
 ** The dimension W is the height or width of the member that resists wind load
 *** A_N is the area of ice built up on the LW plane
 **** Ca will equal 1.2 for all ice load calculations



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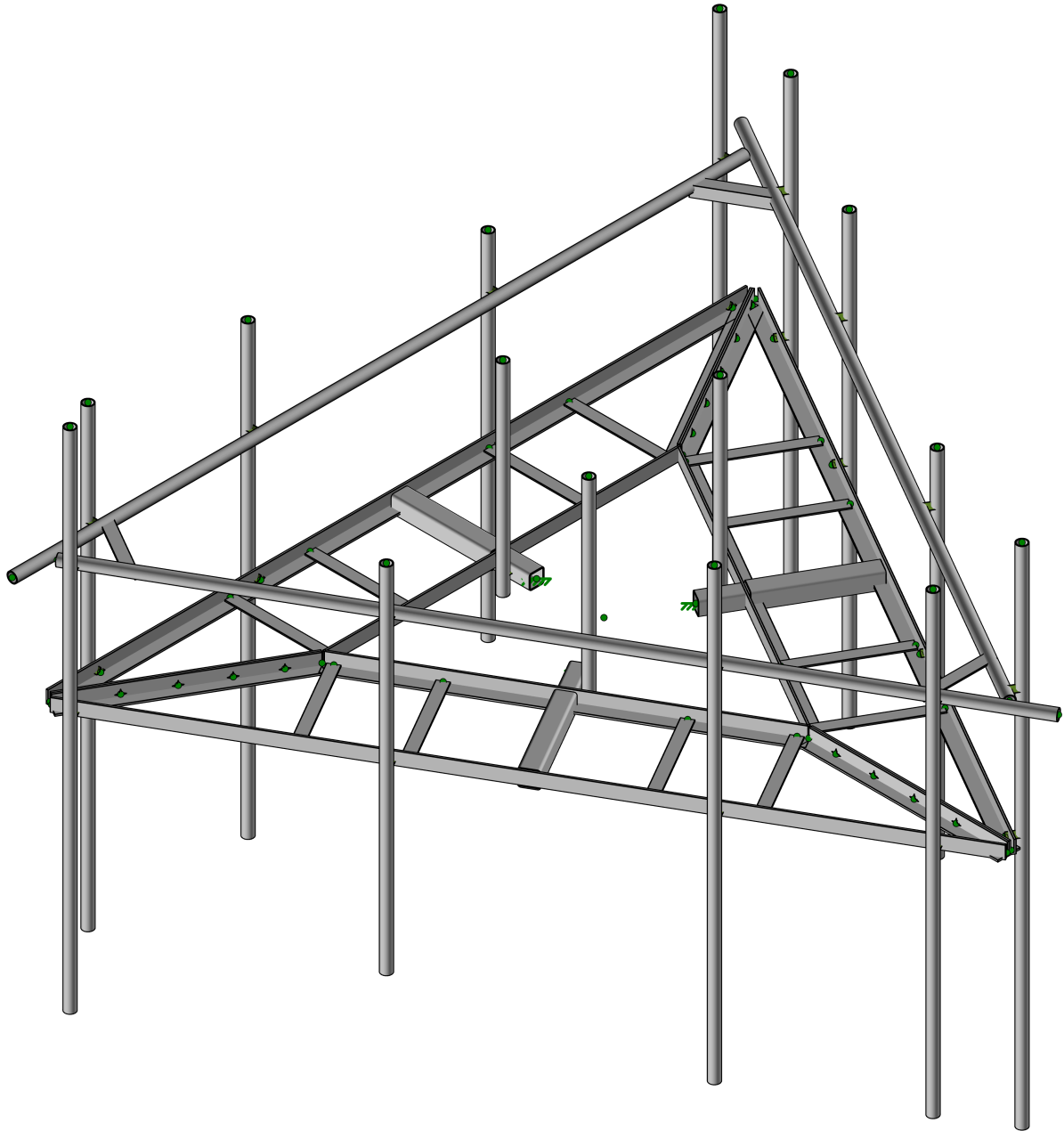
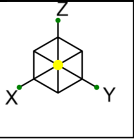
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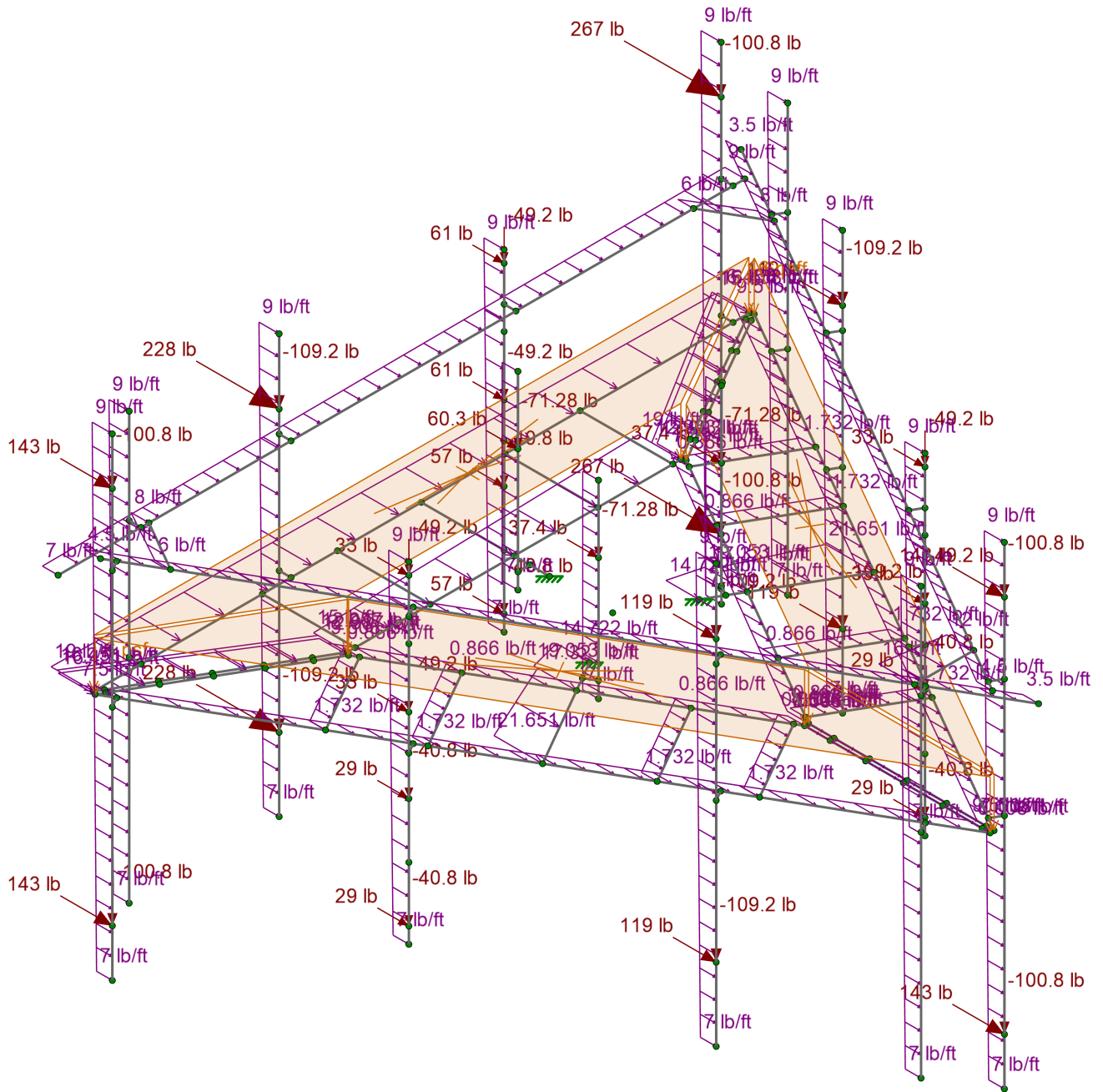
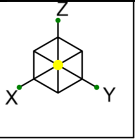
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SK-3

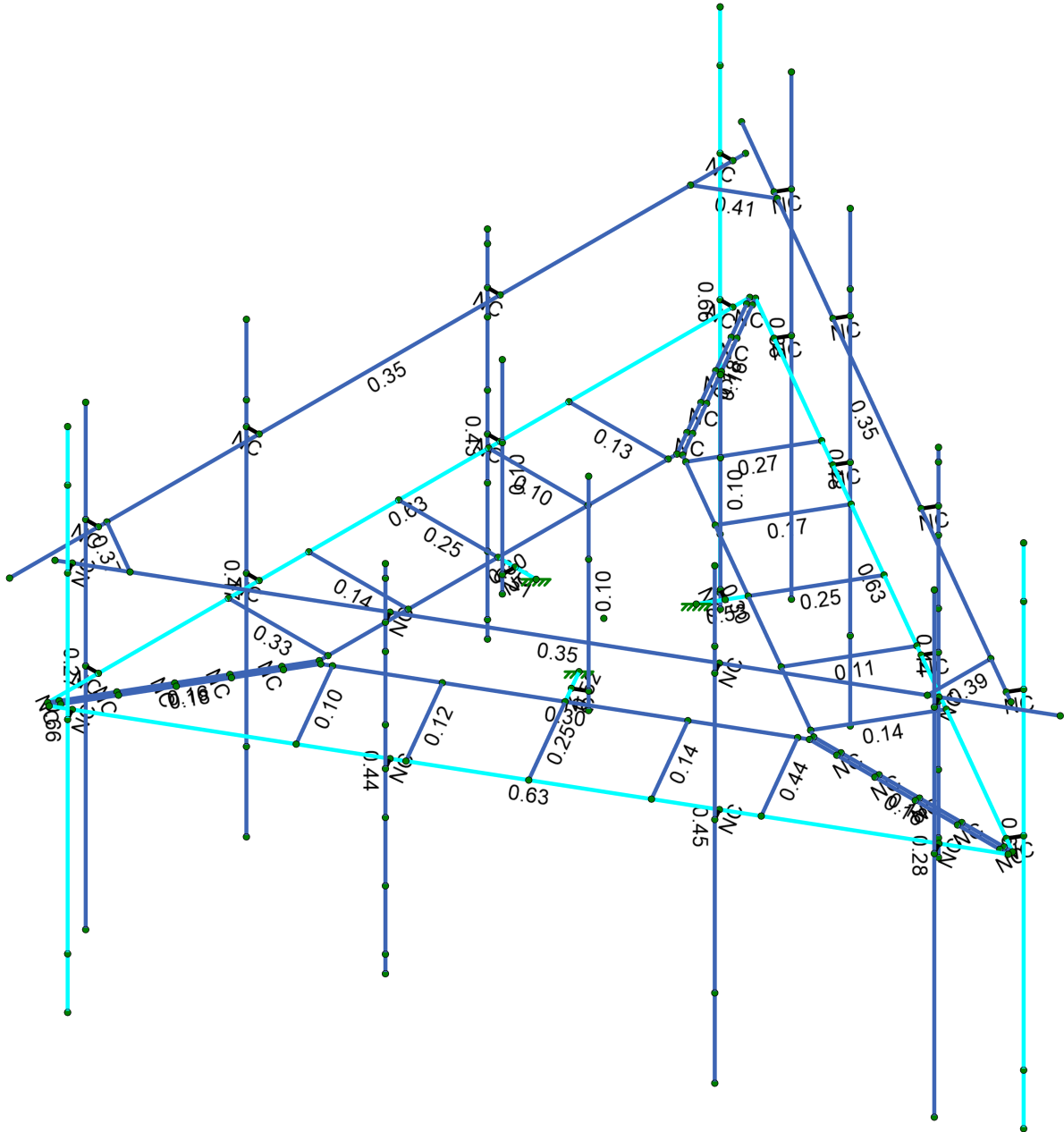
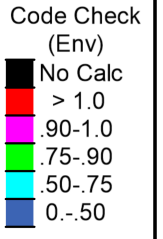
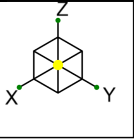
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Loads: LC 1, DL + WL (NO ICE) 0 Degree
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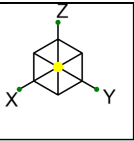


Member Code Checks Displayed (Enveloped)
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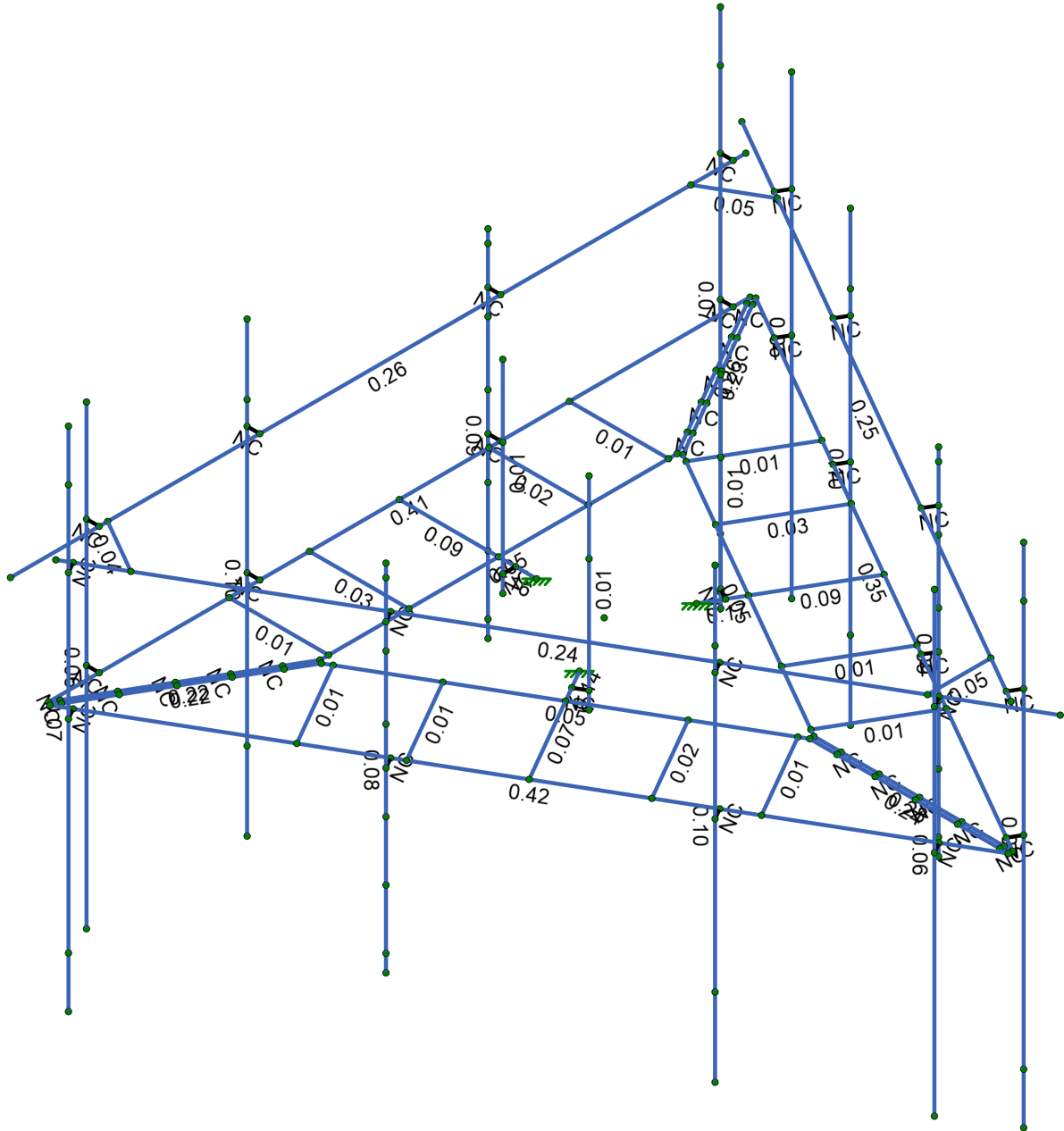
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Shear Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50

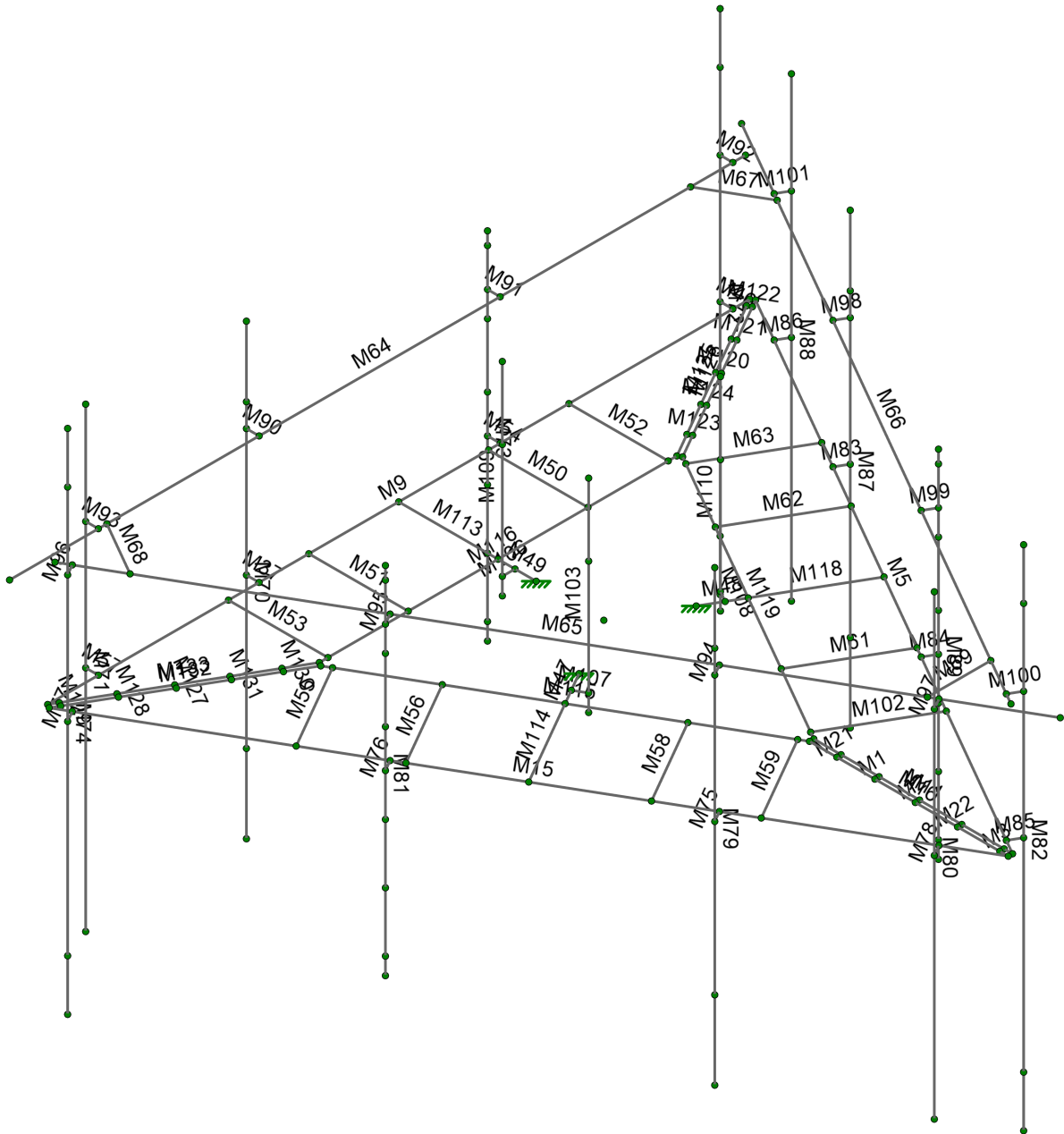
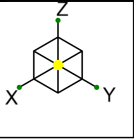


Member Shear Checks Displayed (Enveloped)
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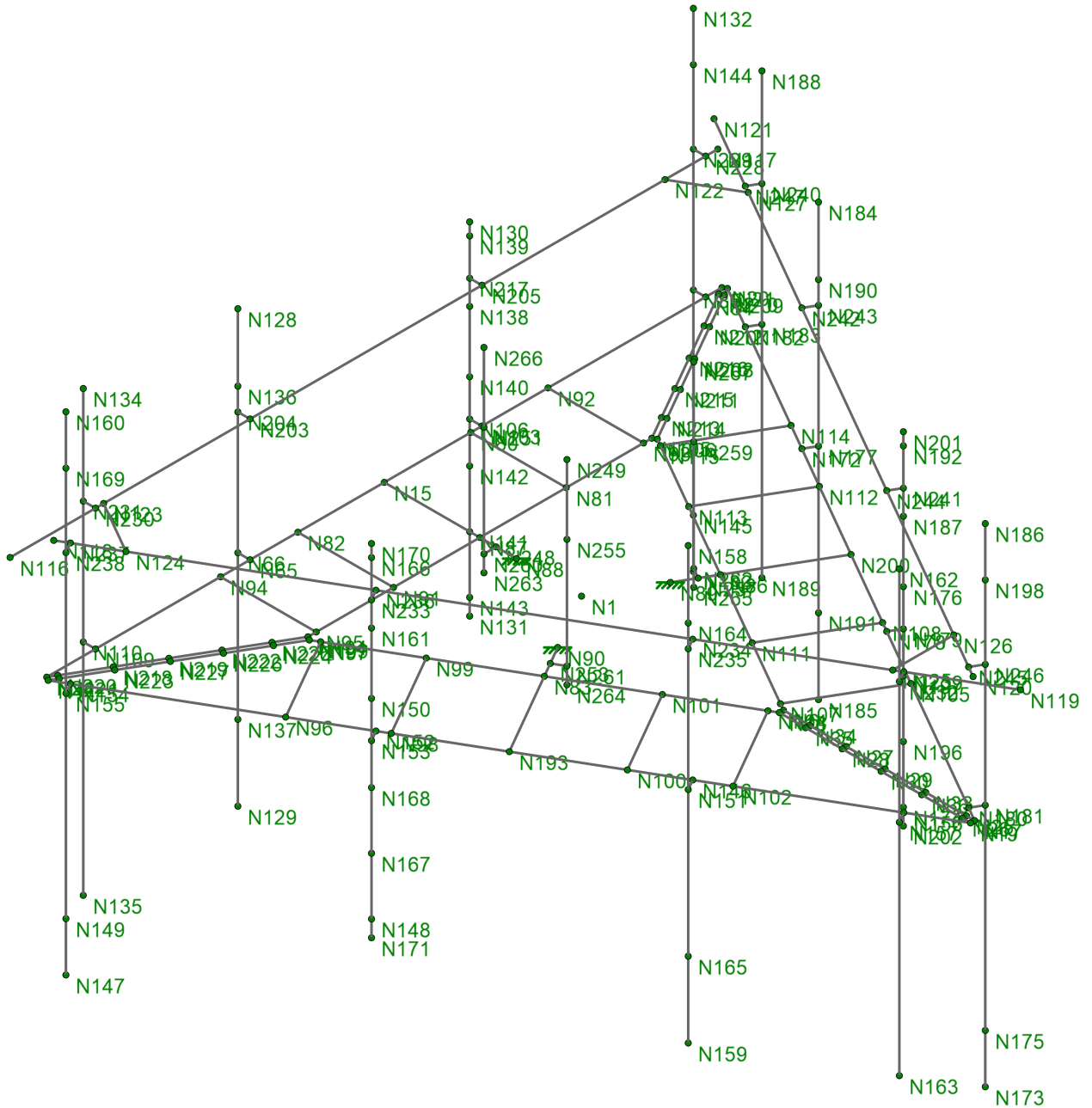
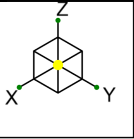
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Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
9	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	HR1	W4X13	Beam	Wide Flange	A36 Gr.36	Typical	3.83	3.86	11.3	0.151

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M2	N30	N29		RIGID	None	None	RIGID	Typical
2	M100	N245	N246		RIGID	None	None	RIGID	Typical
3	M46	N84	N85		RIGID	None	None	RIGID	Typical
4	M124	N211	N215		RIGID	None	None	RIGID	Typical
5	M3	N26	N25		RIGID	None	None	RIGID	Typical
6	M1	N28	N27		RIGID	None	None	RIGID	Typical
7	M129	N220	N221		RIGID	None	None	RIGID	Typical
8	M128	N218	N223		RIGID	None	None	RIGID	Typical
9	M130	N225	N224		RIGID	None	None	RIGID	Typical
10	M21	N35	N34		RIGID	None	None	RIGID	Typical
11	M95	N236	N233		RIGID	None	None	RIGID	Typical
12	M86	N182	N183		RIGID	None	None	RIGID	Typical
13	M101	N247	N240		RIGID	None	None	RIGID	Typical
14	M76	N152	N153		RIGID	None	None	RIGID	Typical
15	M78	N156	N157		RIGID	None	None	RIGID	Typical
16	M96	N237	N238		RIGID	None	None	RIGID	Typical
17	M91	N205	N217		RIGID	None	None	RIGID	Typical
18	M93	N230	N231		RIGID	None	None	RIGID	Typical
19	M75	N146	N151		RIGID	None	None	RIGID	Typical
20	M77	N154	N155		RIGID	None	None	RIGID	Typical
21	M98	N242	N243		RIGID	None	None	RIGID	Typical
22	M99	N244	N241		RIGID	None	None	RIGID	Typical
23	M22	N36	N33		RIGID	None	None	RIGID	Typical
24	M127	N219	N227		RIGID	None	None	RIGID	Typical
25	M37	N65	N66		RIGID	None	None	RIGID	Typical
26	M121	N207	N212		RIGID	None	None	RIGID	Typical
27	M54	N103	N106		RIGID	None	None	RIGID	Typical
28	M85	N180	N181		RIGID	None	None	RIGID	Typical
29	M94	N234	N235		RIGID	None	None	RIGID	Typical
30	M90	N203	N204		RIGID	None	None	RIGID	Typical
31	M57	N109	N110		RIGID	None	None	RIGID	Typical
32	M84	N178	N179		RIGID	None	None	RIGID	Typical
33	M123	N214	N213		RIGID	None	None	RIGID	Typical
34	M83	N172	N177		RIGID	None	None	RIGID	Typical
35	M92	N228	N229		RIGID	None	None	RIGID	Typical
36	M97	N239	N232		RIGID	None	None	RIGID	Typical
37	M120	N208	N216		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
38	M122	N209	N210		RIGID	None	None	RIGID	Typical
39	M131	N222	N226		RIGID	None	None	RIGID	Typical
40	M63	N114	N115	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
41	M56	N98	N99	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
42	M62	N112	N113	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
43	M61	N108	N111	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
44	M52	N92	N93	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
45	M55	N96	N97	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
46	M58	N100	N101	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
47	M50	N80	N81	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
48	M53	N94	N95	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
49	M51	N82	N91	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
50	M59	N102	N104	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
51	M72	N132	N133		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
52	M74	N160	N147		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
53	M73	N130	N131		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
54	M81	N170	N171		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
55	M88	N188	N189		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
56	M65	N118	N119		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
57	M71	N134	N135		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
58	M89	N201	N202		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
59	M87	N184	N185		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
60	M64	N117	N116		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
61	M82	N186	N173		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
62	M70	N128	N129		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
63	M79	N158	N159		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
64	M66	N120	N121		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
65	M80	N162	N163		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
66	M119	N6	N206		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
67	M133	N24	N194	270	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
68	M125	N20	N195		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
69	M11	N17	N6		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
70	M116	N195	N194		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
71	M115	N199	N18		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
72	M126	N21	N206	270	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
73	M5	N21	N17		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
74	M9	N24	N20		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
75	M16	N19	N18	270	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
76	M132	N4	N199		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
77	M15	N19	N4		L3X3X6	Beam	Single Angle	A36 Gr.36	Typical
78	M69	N125	N126	90	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical
79	M68	N123	N124	90	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical
80	M67	N127	N122	90	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical
81	M118	N200	N86		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
82	M113	N15	N87		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
83	M114	N193	N83		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
84	M47	N83	N90		HSS3.5X3.5X4	Beam	Tube	A500 Gr.B Rect	Typical
85	M48	N86	N89		HSS3.5X3.5X4	Beam	Tube	A500 Gr.B Rect	Typical
86	M49	N87	N88		HSS3.5X3.5X4	Beam	Tube	A500 Gr.B Rect	Typical
87	M102	N105	N107	90	PL 2 1/2" X 1/4"	Beam	RECT	A36 Gr.36	Typical
88	M106	N248	N260		RIGID	None	None	RIGID	Typical
89	M107	N253	N261		RIGID	None	None	RIGID	Typical
90	M108	N257	N262		RIGID	None	None	RIGID	Typical
91	M109	N263	N266		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
92	M103	N264	N249		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
93	M110	N265	N267		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical



Company : ATC/EFI
Designer : AJ
Job Number : 049.03063 - 2210142
Model Name : 310968_13753216_ATT MOBILITY

3/8/2022
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Checked By : _____

Member Primary Data (Continued)

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
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Member Advanced Data

	Label	Physical	Deflection Ratio Options	Seismic DR
1	M2	Yes	** NA **	None
2	M100	Yes	** NA **	None
3	M46	Yes	** NA **	None
4	M124	Yes	** NA **	None
5	M3	Yes	** NA **	None
6	M1	Yes	** NA **	None
7	M129	Yes	** NA **	None
8	M128	Yes	** NA **	None
9	M130	Yes	** NA **	None
10	M21	Yes	** NA **	None
11	M95	Yes	** NA **	None
12	M86	Yes	** NA **	None
13	M101	Yes	** NA **	None
14	M76	Yes	** NA **	None
15	M78	Yes	** NA **	None
16	M96	Yes	** NA **	None
17	M91	Yes	** NA **	None
18	M93	Yes	** NA **	None
19	M75	Yes	** NA **	None
20	M77	Yes	** NA **	None
21	M98	Yes	** NA **	None
22	M99	Yes	** NA **	None
23	M22	Yes	** NA **	None
24	M127	Yes	** NA **	None
25	M37	Yes	** NA **	None
26	M121	Yes	** NA **	None
27	M54	Yes	** NA **	None
28	M85	Yes	** NA **	None
29	M94	Yes	** NA **	None
30	M90	Yes	** NA **	None
31	M57	Yes	** NA **	None
32	M84	Yes	** NA **	None
33	M123	Yes	** NA **	None
34	M83	Yes	** NA **	None
35	M92	Yes	** NA **	None
36	M97	Yes	** NA **	None
37	M120	Yes	** NA **	None
38	M122	Yes	** NA **	None
39	M131	Yes	** NA **	None
40	M63	Yes	Default	None
41	M56	Yes	Default	None
42	M62	Yes	Default	None
43	M61	Yes	Default	None
44	M52	Yes	Default	None
45	M55	Yes	Default	None
46	M58	Yes	Default	None
47	M50	Yes	Default	None
48	M53	Yes	Default	None
49	M51	Yes	Default	None
50	M59	Yes	Default	None
51	M72	Yes	Default	None
52	M74	Yes	Default	None
53	M73	Yes	Default	None
54	M81	Yes	Default	None
55	M88	Yes	Default	None
56	M65	Yes	Default	None

Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Seismic DR
57	M71	Yes	Default	None
58	M89	Yes	Default	None
59	M87	Yes	Default	None
60	M64	Yes	Default	None
61	M82	Yes	Default	None
62	M70	Yes	Default	None
63	M79	Yes	Default	None
64	M66	Yes	Default	None
65	M80	Yes	Default	None
66	M119	Yes	Default	None
67	M133	Yes	Default	None
68	M125	Yes	Default	None
69	M11	Yes	Default	None
70	M116	Yes	Default	None
71	M115	Yes	Default	None
72	M126	Yes	Default	None
73	M5	Yes	Default	None
74	M9	Yes	Default	None
75	M16	Yes	Default	None
76	M132	Yes	Default	None
77	M15	Yes	Default	None
78	M69	Yes	Default	None
79	M68	Yes	Default	None
80	M67	Yes	Default	None
81	M118	Yes	Default	None
82	M113	Yes	Default	None
83	M114	Yes	Default	None
84	M47	Yes	Default	None
85	M48	Yes	Default	None
86	M49	Yes	Default	None
87	M102	Yes	Default	None
88	M106	Yes	** NA **	None
89	M107	Yes	** NA **	None
90	M108	Yes	** NA **	None
91	M109	Yes	N/A	None
92	M103	Yes	N/A	None
93	M110	Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Function
1	M63	PL 2 1/2" X 1/4"	23.525			Lbyy	Lateral
2	M56	PL 2 1/2" X 1/4"	23.497			Lbyy	Lateral
3	M62	PL 2 1/2" X 1/4"	23.516			Lbyy	Lateral
4	M61	PL 2 1/2" X 1/4"	23.497			Lbyy	Lateral
5	M52	PL 2 1/2" X 1/4"	23.484			Lbyy	Lateral
6	M55	PL 2 1/2" X 1/4"	23.488			Lbyy	Lateral
7	M58	PL 2 1/2" X 1/4"	23.516			Lbyy	Lateral
8	M50	PL 2 1/2" X 1/4"	23.493			Lbyy	Lateral
9	M53	PL 2 1/2" X 1/4"	23.521			Lbyy	Lateral
10	M51	PL 2 1/2" X 1/4"	23.512			Lbyy	Lateral
11	M59	PL 2 1/2" X 1/4"	23.525			Lbyy	Lateral
12	M72	PIPE 2.0	120			Lbyy	Lateral
13	M74	PIPE 2.0	120			Lbyy	Lateral
14	M73	PIPE 2.0	84			Lbyy	Lateral
15	M81	PIPE 2.0	84			Lbyy	Lateral
16	M88	PIPE 2.0	108			Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Function
17	M65	PIPE 2.0	174			Lbyy	Lateral
18	M71	PIPE 2.0	108			Lbyy	Lateral
19	M89	PIPE 2.0	84			Lbyy	Lateral
20	M87	PIPE 2.0	106			Lbyy	Lateral
21	M64	PIPE 2.0	174			Lbyy	Lateral
22	M82	PIPE 2.0	120			Lbyy	Lateral
23	M70	PIPE 2.0	106			Lbyy	Lateral
24	M79	PIPE 2.0	106			Lbyy	Lateral
25	M66	PIPE 2.0	174			Lbyy	Lateral
26	M80	PIPE 2.0	108			Lbyy	Lateral
27	M119	L3X3X6	84.581			Lbyy	Lateral
28	M133	L3X3X6	47.01			Lbyy	Lateral
29	M125	L3X3X6	47			Lbyy	Lateral
30	M11	L3X3X6	47.008			Lbyy	Lateral
31	M116	L3X3X6	84.581			Lbyy	Lateral
32	M115	L3X3X6	84.581			Lbyy	Lateral
33	M126	L3X3X6	47.017			Lbyy	Lateral
34	M5	L3X3X6	166.009	83	83	Lbyy	Lateral
35	M9	L3X3X6	165.996	83	83	Lbyy	Lateral
36	M16	L3X3X6	47.017			Lbyy	Lateral
37	M132	L3X3X6	47.008			Lbyy	Lateral
38	M15	L3X3X6	166.009	83	83	Lbyy	Lateral
39	M69	L2.5X2.5X4	14.998			Lbyy	Lateral
40	M68	L2.5X2.5X4	14.998			Lbyy	Lateral
41	M67	L2.5X2.5X4	14.998			Lbyy	Lateral
42	M118	HSS4X4X4	23.506			Lbyy	Lateral
43	M113	HSS4X4X4	23.502			Lbyy	Lateral
44	M114	HSS4X4X4	23.506			Lbyy	Lateral
45	M47	HSS3.5X3.5X4	9			Lbyy	Lateral
46	M48	HSS3.5X3.5X4	9			Lbyy	Lateral
47	M49	HSS3.5X3.5X4	9			Lbyy	Lateral
48	M102	PL 2 1/2" X 1/4"	23.488			Lbyy	Lateral
49	M109	PIPE 2.0	48			Lbyy	Lateral
50	M103	PIPE 2.0	48			Lbyy	Lateral
51	M110	PIPE 2.0	48			Lbyy	Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	0	0	0	
2	N4	83.506699	-47.637846	0	
3	N6	-0.517266	49.130113	0	
4	N15	0	-48.496134	0	
5	N17	-0.497765	96.137846	0	
6	N18	0.482726	49.112776	0	
7	N19	0.502232	96.130108	0	
8	N20	-83.002232	-48.496134	0	
9	N21	-83.502232	-47.630108	0	
10	N24	82.99331	-48.496134	0	
11	N25	-0.498594	94.137846	0	
12	N26	0.501402	94.130109	0	
13	N27	-0.510856	64.581122	0	
14	N28	0.489144	64.582444	0	
15	N29	-0.506892	74.137849	0	
16	N30	0.493109	74.139171	0	
17	N33	-0.502743	84.137847	0	
18	N34	-0.51459	55.581123	0	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
19	N35	0.48541	55.582445	0	
20	N36	0.497258	84.139169	0	
21	N65	33	-48.496134	0	
22	N66	33	-51.5	0	
23	N84	-79	-48.496134	0	
24	N85	-79	-51.5	0	
25	N194	42.291548	-24.974441	0	
26	N195	-42.289292	-25.013022	0	
27	N199	42.806559	-24.11709	0	
28	N206	-42.774275	-24.138335	0	
29	N207	-73.115287	-41.638947	0	
30	N208	-64.45296	-36.642541	0	
31	N209	-81.769766	-46.630827	0	
32	N210	-81.276469	-47.500719	0	
33	N211	-56.174609	-31.867611	0	
34	N212	-72.614142	-42.504312	0	
35	N213	-47.877369	-28.236209	0	
36	N214	-48.378514	-27.370844	0	
37	N215	-55.673464	-32.732976	0	
38	N216	-63.951815	-37.507906	0	
39	N218	72.618029	-42.500222	0	
40	N219	63.959851	-37.496631	0	
41	N220	81.268364	-47.499282	0	
42	N221	81.775064	-46.637128	0	
43	N222	55.685465	-32.714833	0	
44	N223	73.116885	-41.633535	0	
45	N224	48.391959	-27.344913	0	
46	N225	47.893104	-28.2116	0	
47	N226	56.18432	-31.848146	0	
48	N227	64.458707	-36.629944	0	
49	N193	42.002232	24.25	0	
50	N200	-42.002232	24.25	0	
51	N103	-24	-48.496134	0	
52	N106	-24	-51.5	0	
53	N83	21.645207	12.496866	0	
54	N86	-21.645207	12.496866	0	
55	N87	0	-24.993732	0	
56	N88	0	-15.993732	0	
57	N89	-13.850978	7.996866	0	
58	N90	13.850978	7.996866	0	
59	N80	-21.25	-48.496134	0	
60	N81	-21.25	-25.003425	0	
61	N82	21.25	-48.496134	0	
62	N91	21.25	-24.984039	0	
63	N92	-40.25	-48.496134	0	
64	N93	-40.25	-25.012092	0	
65	N94	40.25	-48.496134	0	
66	N95	40.25	-24.975373	0	
67	N96	62.127232	-10.607523	0	
68	N97	41.786107	-22.351477	0	
69	N98	52.627232	5.84696	0	
70	N99	32.278601	-5.901327	0	
71	N100	31.377232	42.65304	0	
72	N101	11.011813	30.895059	0	
73	N102	21.877232	59.107523	0	
74	N104	1.504307	47.345209	0	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
75	N105	-21.877232	59.107523	0	
76	N107	-1.536107	47.363568	0	
77	N108	-31.377232	42.65304	0	
78	N111	-11.028601	30.904752	0	
79	N112	-52.627232	5.84696	0	
80	N113	-32.261813	-5.91102	0	
81	N114	-62.127232	-10.607523	0	
82	N115	-41.754307	-22.369836	0	
83	N109	71	-48.496134	0	
84	N110	71	-51.5	0	
85	N116	92	-48.496134	30	
86	N117	-82	-48.496134	30	
87	N118	82.998884	-46.766016	30	
88	N119	-4.001116	103.922404	30	
89	N120	-0.998884	95.26215	30	
90	N121	-87.998884	-55.42627	30	
91	N122	-69	-48.496134	30	
92	N123	69	-48.496134	30	
93	N124	76.498884	-35.507686	30	
94	N125	7.498884	84.00382	30	
95	N126	-7.498884	84.00382	30	
96	N127	-76.498884	-35.507686	30	
97	N128	33	-51.5	52	
98	N129	33	-51.5	-54	
99	N130	-24	-51.5	42	
100	N131	-24	-51.5	-42	
101	N132	-79	-51.5	60	
102	N133	-79	-51.5	-60	
103	N134	71	-51.5	54	
104	N135	71	-51.5	-54	
105	N136	33	-51.5	35.5	
106	N137	33	-51.5	-35.5	
107	N138	-24	-51.5	24	
108	N139	-24	-51.5	39	
109	N140	-24	-51.5	9	
110	N141	-24	-51.5	-24	
111	N142	-24	-51.5	-10	
112	N143	-24	-51.5	-38	
113	N144	-79	-51.5	48	
114	N145	-79	-51.5	-48	
115	N146	25.502232	52.828838	0	
116	N147	84.09696	-42.66794	-60	
117	N148	56.59696	4.963457	-38	
118	N149	84.09696	-42.66794	-48	
119	N150	56.59696	4.963457	9	
120	N151	28.093612	54.324972	0	
121	N152	54.002232	3.46539	0	
122	N153	56.59696	4.963457	0	
123	N154	81.502232	-44.166007	0	
124	N155	84.09696	-42.66794	0	
125	N156	6.502232	85.737804	0	
126	N157	9.09696	87.235871	0	
127	N158	28.093612	54.324972	52	
128	N159	28.093612	54.324972	-54	
129	N160	84.09696	-42.66794	60	
130	N161	56.59696	4.963457	24	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
131	N162	9.09696	87.235871	54	
132	N163	9.09696	87.235871	-54	
133	N164	28.093612	54.324972	35.5	
134	N165	28.093612	54.324972	-35.5	
135	N166	56.59696	4.963457	39	
136	N167	56.59696	4.963457	-24	
137	N168	56.59696	4.963457	-10	
138	N169	84.09696	-42.66794	48	
139	N170	56.59696	4.963457	42	
140	N171	56.59696	4.963457	-42	
141	N172	-58.502232	-4.328838	0	
142	N173	-5.09696	94.164074	-60	
143	N174	-32.59696	46.532677	-38	
144	N175	-5.09696	94.164074	-48	
145	N176	-32.59696	46.532677	9	
146	N177	-61.093612	-2.832704	0	
147	N178	-30.002232	45.03461	0	
148	N179	-32.59696	46.532677	0	
149	N180	-2.502232	92.666007	0	
150	N181	-5.09696	94.164074	0	
151	N182	-77.502232	-37.237804	0	
152	N183	-80.09696	-35.739737	0	
153	N184	-61.093612	-2.832704	52	
154	N185	-61.093612	-2.832704	-54	
155	N186	-5.09696	94.164074	60	
156	N187	-32.59696	46.532677	24	
157	N188	-80.09696	-35.739737	54	
158	N189	-80.09696	-35.739737	-54	
159	N190	-61.093612	-2.832704	35.5	
160	N191	-61.093612	-2.832704	-35.5	
161	N192	-32.59696	46.532677	39	
162	N196	-32.59696	46.532677	-24	
163	N197	-32.59696	46.532677	-10	
164	N198	-5.09696	94.164074	48	
165	N201	-32.59696	46.532677	42	
166	N202	-32.59696	46.532677	-42	
167	N203	33	-48.496134	30	
168	N204	33	-51.5	30	
169	N205	-24	-48.496134	30	
170	N217	-24	-51.5	30	
171	N228	-79	-48.496134	30	
172	N229	-79	-51.5	30	
173	N230	71	-48.496134	30	
174	N231	71	-51.5	30	
175	N232	9.09696	87.235871	30	
176	N233	56.59696	4.963457	30	
177	N234	25.498884	52.826905	30	
178	N235	28.093612	54.324972	30	
179	N236	53.998884	3.463457	30	
180	N237	81.498884	-44.16794	30	
181	N238	84.09696	-42.66794	30	
182	N239	6.498884	85.735871	30	
183	N240	-80.09696	-35.739737	30	
184	N241	-32.59696	46.532677	30	
185	N242	-58.498884	-4.330771	30	
186	N243	-61.093612	-2.832704	30	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
187	N244	-29.998884	45.032677	30	
188	N245	-2.498884	92.664074	30	
189	N246	-5.09696	94.164074	30	
190	N247	-77.498884	-37.239737	30	
191	N248	0	-20.993732	0	
192	N251	3	-20.993732	27	
193	N253	18.181105	10.496866	0	
194	N255	16.681105	13.094942	27	
195	N257	-18.181105	10.496866	0	
196	N259	-19.681105	7.89879	27	
197	N260	3	-20.993732	0	
198	N261	16.681105	13.094942	0	
199	N262	-19.681105	7.89879	0	
200	N263	3	-20.993732	-4	
201	N264	16.681105	13.094942	-4	
202	N265	-19.681105	7.89879	-4	
203	N266	3	-20.993732	44	
204	N249	16.681105	13.094942	44	
205	N267	-19.681105	7.89879	44	

Node Boundary Conditions

	Node 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	N89	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N90	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N88	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed	Area(Member)
1	DEAD LOAD	None	-1	27		3
2	DEAD LOAD ICE	None		27	51	3
3	WIND LOAD (NO ICE) FRONT	None		27	51	
4	WIND LOAD (NO ICE) SIDE	None		27	51	
5	WIND LOAD (ICE) FRONT	None		27	51	
6	WIND LOAD (ICE) SIDE	None		27	51	
7	LIVE LOAD 1	None		1		
8	LIVE LOAD 2	None		1		
9	LIVE LOAD 3	None		1		
10	MAINTENANCE LOAD 1	None		1		
11	MAINTENANCE LOAD 2	None		1		
12	MAINTENANCE LOAD 3	None		1		
13	MAINTENANCE LOAD 4	None		1		
14	BLC 1 Transient Area Loads	None			126	
15	BLC 2 Transient Area Loads	None			126	

Node Loads and Enforced Displacements (BLC 1 : DEAD LOAD)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	Z	-91
2	N137	L	Z	-91
3	N190	L	Z	-91
4	N191	L	Z	-91
5	N164	L	Z	-91
6	N165	L	Z	-91
7	N139	L	Z	-41

Node Loads and Enforced Displacements (BLC 1 : DEAD LOAD) (Continued)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
8	N140	L	Z	-41
9	N192	L	Z	-41
10	N176	L	Z	-41
11	N166	L	Z	-41
12	N150	L	Z	-41
13	N142	L	Z	-34
14	N143	L	Z	-34
15	N197	L	Z	-34
16	N174	L	Z	-34
17	N168	L	Z	-34
18	N148	L	Z	-34
19	N144	L	Z	-84
20	N145	L	Z	-84
21	N198	L	Z	-84
22	N175	L	Z	-84
23	N169	L	Z	-84
24	N149	L	Z	-84
25	N251	L	Z	-59.4
26	N259	L	Z	-59.4
27	N255	L	Z	-59.4

Node Loads and Enforced Displacements (BLC 2 : DEAD LOAD ICE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	Z	-143
2	N137	L	Z	-143
3	N190	L	Z	-143
4	N191	L	Z	-143
5	N164	L	Z	-143
6	N165	L	Z	-143
7	N139	L	Z	-36
8	N140	L	Z	-36
9	N192	L	Z	-36
10	N176	L	Z	-36
11	N166	L	Z	-36
12	N150	L	Z	-36
13	N142	L	Z	-34
14	N143	L	Z	-34
15	N197	L	Z	-34
16	N174	L	Z	-34
17	N168	L	Z	-34
18	N148	L	Z	-34
19	N144	L	Z	-138
20	N145	L	Z	-138
21	N198	L	Z	-138
22	N175	L	Z	-138
23	N169	L	Z	-138
24	N149	L	Z	-138
25	N251	L	Z	-43
26	N259	L	Z	-43
27	N255	L	Z	-43

Node Loads and Enforced Displacements (BLC 3 : WIND LOAD (NO ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	Y	228
2	N137	L	Y	228
3	N190	L	Y	119
4	N191	L	Y	119
5	N164	L	Y	119
6	N165	L	Y	119
7	N139	L	Y	61
8	N140	L	Y	61
9	N192	L	Y	33
10	N176	L	Y	33
11	N166	L	Y	33
12	N150	L	Y	33
13	N142	L	Y	57
14	N143	L	Y	57
15	N197	L	Y	29
16	N174	L	Y	29
17	N168	L	Y	29
18	N148	L	Y	29
19	N144	L	Y	267
20	N145	L	Y	267
21	N198	L	Y	143
22	N175	L	Y	143
23	N169	L	Y	143
24	N149	L	Y	143
25	N251	L	Y	60.3
26	N259	L	Y	37.4
27	N255	L	Y	37.4

Node Loads and Enforced Displacements (BLC 4 : WIND LOAD (NO ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	X	119
2	N137	L	X	119
3	N190	L	X	228
4	N191	L	X	228
5	N164	L	X	228
6	N165	L	X	228
7	N139	L	X	33
8	N140	L	X	33
9	N192	L	X	61
10	N176	L	X	61
11	N166	L	X	61
12	N150	L	X	61
13	N142	L	X	29
14	N143	L	X	29
15	N197	L	X	57
16	N174	L	X	57
17	N168	L	X	57
18	N148	L	X	57
19	N144	L	X	143
20	N145	L	X	143
21	N198	L	X	267
22	N175	L	X	267
23	N169	L	X	267
24	N149	L	X	267
25	N251	L	X	37.4

Node Loads and Enforced Displacements (BLC 4 : WIND LOAD (NO ICE) SIDE) (Continued)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
26	N259	L	X	60.3
27	N255	L	X	60.3

Node Loads and Enforced Displacements (BLC 5 : WIND LOAD (ICE) FRONT)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	Y	44
2	N137	L	Y	44
3	N190	L	Y	26
4	N191	L	Y	26
5	N164	L	Y	26
6	N165	L	Y	26
7	N139	L	Y	13
8	N140	L	Y	13
9	N192	L	Y	8
10	N176	L	Y	8
11	N166	L	Y	8
12	N150	L	Y	8
13	N142	L	Y	12
14	N143	L	Y	12
15	N197	L	Y	7
16	N174	L	Y	7
17	N168	L	Y	7
18	N148	L	Y	7
19	N144	L	Y	52
20	N145	L	Y	52
21	N198	L	Y	31
22	N175	L	Y	31
23	N169	L	Y	31
24	N149	L	Y	31
25	N251	L	Y	12.8
26	N259	L	Y	8.4
27	N255	L	Y	8.4

Node Loads and Enforced Displacements (BLC 6 : WIND LOAD (ICE) SIDE)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N136	L	X	26
2	N137	L	X	26
3	N190	L	X	44
4	N191	L	X	44
5	N164	L	X	44
6	N165	L	X	44
7	N139	L	X	8
8	N140	L	X	8
9	N192	L	X	13
10	N176	L	X	13
11	N166	L	X	13
12	N150	L	X	13
13	N142	L	X	7
14	N143	L	X	7
15	N197	L	X	12
16	N174	L	X	12
17	N168	L	X	12
18	N148	L	X	12
19	N144	L	X	31

Node Loads and Enforced Displacements (BLC 6 : WIND LOAD (ICE) SIDE) (Continued)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
20	N145	L	X	31
21	N198	L	X	52
22	N175	L	X	52
23	N169	L	X	52
24	N149	L	X	52
25	N251	L	X	8.4
26	N259	L	X	12.8
27	N255	L	X	12.8

Node Loads and Enforced Displacements (BLC 7 : LIVE LOAD 1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N21	L	Z	-250

Node Loads and Enforced Displacements (BLC 8 : LIVE LOAD 2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N19	L	Z	-250

Node Loads and Enforced Displacements (BLC 9 : LIVE LOAD 3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N24	L	Z	-250

Node Loads and Enforced Displacements (BLC 10 : MAINTENANCE LOAD 1)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N135	L	Z	-500

Node Loads and Enforced Displacements (BLC 11 : MAINTENANCE LOAD 2)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N129	L	Z	-500

Node Loads and Enforced Displacements (BLC 12 : MAINTENANCE LOAD 3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N131	L	Z	-500

Node Loads and Enforced Displacements (BLC 13 : MAINTENANCE LOAD 4)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s ² /in, lb*s ² *in)]
1	N133	L	Z	-500

Member Point Loads

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Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M63	Z	-5	-5	0	%100
2	M56	Z	-5	-5	0	%100
3	M62	Z	-5	-5	0	%100



Member Distributed Loads (BLC 2 : DEAD LOAD ICE) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
4	M61	Z	-5	-5	0	%100
5	M52	Z	-5	-5	0	%100
6	M55	Z	-5	-5	0	%100
7	M58	Z	-5	-5	0	%100
8	M50	Z	-5	-5	0	%100
9	M53	Z	-5	-5	0	%100
10	M51	Z	-5	-5	0	%100
11	M59	Z	-5	-5	0	%100
12	M72	Z	-5	-5	0	%100
13	M74	Z	-5	-5	0	%100
14	M73	Z	-5	-5	0	%100
15	M81	Z	-5	-5	0	%100
16	M88	Z	-5	-5	0	%100
17	M65	Z	-5	-5	0	%100
18	M71	Z	-5	-5	0	%100
19	M89	Z	-5	-5	0	%100
20	M87	Z	-5	-5	0	%100
21	M64	Z	-5	-5	0	%100
22	M82	Z	-5	-5	0	%100
23	M70	Z	-5	-5	0	%100
24	M79	Z	-5	-5	0	%100
25	M66	Z	-5	-5	0	%100
26	M80	Z	-5	-5	0	%100
27	M119	Z	-5	-5	0	%100
28	M133	Z	-5	-5	0	%100
29	M125	Z	-5	-5	0	%100
30	M11	Z	-5	-5	0	%100
31	M116	Z	-5	-5	0	%100
32	M115	Z	-5	-5	0	%100
33	M126	Z	-5	-5	0	%100
34	M5	Z	-5	-5	0	%100
35	M9	Z	-5	-5	0	%100
36	M16	Z	-5	-5	0	%100
37	M132	Z	-5	-5	0	%100
38	M15	Z	-5	-5	0	%100
39	M69	Z	-4	-4	0	%100
40	M68	Z	-4	-4	0	%100
41	M67	Z	-4	-4	0	%100
42	M118	Z	-12	-12	0	%100
43	M113	Z	-12	-12	0	%100
44	M114	Z	-12	-12	0	%100
45	M47	Z	-10	-10	0	%100
46	M48	Z	-10	-10	0	%100
47	M49	Z	-10	-10	0	%100
48	M102	Z	-5	-5	0	%100
49	M103	Z	-5	-5	0	%100
50	M109	Z	-5	-5	0	%100
51	M110	Z	-5	-5	0	%100

Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M63	PY	2	1	0	%100
2	M56	PY	2	1	0	%100
3	M62	PY	2	1	0	%100
4	M61	PY	2	1	0	%100
5	M52	PY	2	1	0	%100



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 Designer : AJ
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Member Distributed Loads (BLC 3 : WIND LOAD (NO ICE) FRONT) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
6	M55	PY	2	1	0	%100
7	M58	PY	2	1	0	%100
8	M50	PY	2	1	0	%100
9	M53	PY	2	1	0	%100
10	M51	PY	2	1	0	%100
11	M59	PY	2	1	0	%100
12	M72	PY	9	7	0	%100
13	M74	PY	9	7	0	%100
14	M73	PY	9	7	0	%100
15	M81	PY	9	7	0	%100
16	M88	PY	9	7	0	%100
17	M65	PY	9	7	0	%100
18	M71	PY	9	7	0	%100
19	M89	PY	9	7	0	%100
20	M87	PY	9	7	0	%100
21	M64	PY	9	7	0	%100
22	M82	PY	9	7	0	%100
23	M70	PY	9	7	0	%100
24	M79	PY	9	7	0	%100
25	M66	PY	9	7	0	%100
26	M80	PY	9	7	0	%100
27	M119	PY	19	15	0	%100
28	M133	PY	19	15	0	%100
29	M125	PY	19	15	0	%100
30	M11	PY	19	15	0	%100
31	M116	PY	19	15	0	%100
32	M115	PY	19	15	0	%100
33	M126	PY	19	15	0	%100
34	M5	PY	19	15	0	%100
35	M9	PY	19	15	0	%100
36	M16	PY	19	15	0	%100
37	M132	PY	19	15	0	%100
38	M15	PY	19	15	0	%100
39	M69	PY	16	12	0	%100
40	M68	PY	16	12	0	%100
41	M67	PY	16	12	0	%100
42	M118	PY	25	20	0	%100
43	M113	PY	25	20	0	%100
44	M114	PY	25	20	0	%100
45	M47	PY	22	17	0	%100
46	M48	PY	22	17	0	%100
47	M49	PY	22	17	0	%100
48	M102	PY	2	1	0	%100
49	M103	PY	7	7	0	%100
50	M109	PY	7	7	0	%100
51	M110	PY	7	7	0	%100

Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M63	PX	2	1	0	%100
2	M56	PX	2	1	0	%100
3	M62	PX	2	1	0	%100
4	M61	PX	2	1	0	%100
5	M52	PX	2	1	0	%100
6	M55	PX	2	1	0	%100
7	M58	PX	2	1	0	%100



Member Distributed Loads (BLC 4 : WIND LOAD (NO ICE) SIDE) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
8	M50	PX	2	1	0	%100
9	M53	PX	2	1	0	%100
10	M51	PX	2	1	0	%100
11	M59	PX	2	1	0	%100
12	M72	PX	9	7	0	%100
13	M74	PX	9	7	0	%100
14	M73	PX	9	7	0	%100
15	M81	PX	9	7	0	%100
16	M88	PX	9	7	0	%100
17	M65	PX	9	7	0	%100
18	M71	PX	9	7	0	%100
19	M89	PX	9	7	0	%100
20	M87	PX	9	7	0	%100
21	M64	PX	9	7	0	%100
22	M82	PX	9	7	0	%100
23	M70	PX	9	7	0	%100
24	M79	PX	9	7	0	%100
25	M66	PX	9	7	0	%100
26	M80	PX	9	7	0	%100
27	M119	PX	19	15	0	%100
28	M133	PX	19	15	0	%100
29	M125	PX	19	15	0	%100
30	M11	PX	19	15	0	%100
31	M116	PX	19	15	0	%100
32	M115	PX	19	15	0	%100
33	M126	PX	19	15	0	%100
34	M5	PX	19	15	0	%100
35	M9	PX	19	15	0	%100
36	M16	PX	19	15	0	%100
37	M132	PX	19	15	0	%100
38	M15	PX	19	15	0	%100
39	M69	PX	16	12	0	%100
40	M68	PX	16	12	0	%100
41	M67	PX	16	12	0	%100
42	M118	PX	25	20	0	%100
43	M113	PX	25	20	0	%100
44	M114	PX	25	20	0	%100
45	M47	PX	22	17	0	%100
46	M48	PX	22	17	0	%100
47	M49	PX	22	17	0	%100
48	M102	PX	2	1	0	%100
49	M103	PX	7	7	0	%100
50	M109	PX	7	7	0	%100
51	M110	PX	7	7	0	%100

Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M63	PY	2.1	1.7	0	%100
2	M56	PY	2.1	1.7	0	%100
3	M62	PY	2.1	1.7	0	%100
4	M61	PY	2.1	1.7	0	%100
5	M52	PY	2.1	1.7	0	%100
6	M55	PY	2.1	1.7	0	%100
7	M58	PY	2.1	1.7	0	%100
8	M50	PY	2.1	1.7	0	%100
9	M53	PY	2.1	1.7	0	%100



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 Designer : AJ
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Member Distributed Loads (BLC 5 : WIND LOAD (ICE) FRONT) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
10	M51	PY	2.1	1.7	0	%100
11	M59	PY	2.1	1.7	0	%100
12	M72	PY	3.8	2.9	0	%100
13	M74	PY	3.8	2.9	0	%100
14	M73	PY	3.8	2.9	0	%100
15	M81	PY	3.8	2.9	0	%100
16	M88	PY	3.8	2.9	0	%100
17	M65	PY	3.8	2.9	0	%100
18	M71	PY	3.8	2.9	0	%100
19	M89	PY	3.8	2.9	0	%100
20	M87	PY	3.8	2.9	0	%100
21	M64	PY	3.8	2.9	0	%100
22	M82	PY	3.8	2.9	0	%100
23	M70	PY	3.8	2.9	0	%100
24	M79	PY	3.8	2.9	0	%100
25	M66	PY	3.8	2.9	0	%100
26	M80	PY	3.8	2.9	0	%100
27	M119	PY	5.6	4.4	0	%100
28	M133	PY	5.6	4.4	0	%100
29	M125	PY	5.6	4.4	0	%100
30	M11	PY	5.6	4.4	0	%100
31	M116	PY	5.6	4.4	0	%100
32	M115	PY	5.6	4.4	0	%100
33	M126	PY	5.6	4.4	0	%100
34	M5	PY	5.6	4.4	0	%100
35	M9	PY	5.6	4.4	0	%100
36	M16	PY	5.6	4.4	0	%100
37	M132	PY	5.6	4.4	0	%100
38	M15	PY	5.6	4.4	0	%100
39	M69	PY	5	3.9	0	%100
40	M68	PY	5	3.9	0	%100
41	M67	PY	5	3.9	0	%100
42	M118	PY	6.9	5.4	0	%100
43	M113	PY	6.9	5.4	0	%100
44	M114	PY	6.9	5.4	0	%100
45	M47	PY	6.3	4.9	0	%100
46	M48	PY	6.3	4.9	0	%100
47	M49	PY	6.3	4.9	0	%100
48	M102	PY	2.1	1.7	0	%100
49	M103	PY	2.9	2.9	0	%100
50	M109	PY	2.9	2.9	0	%100
51	M110	PY	2.9	2.9	0	%100

Member Distributed Loads (BLC 6 : WIND LOAD (ICE) SIDE)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M63	PX	2.1	1.7	0	%100
2	M56	PX	2.1	1.7	0	%100
3	M62	PX	2.1	1.7	0	%100
4	M61	PX	2.1	1.7	0	%100
5	M52	PX	2.1	1.7	0	%100
6	M55	PX	2.1	1.7	0	%100
7	M58	PX	2.1	1.7	0	%100
8	M50	PX	2.1	1.7	0	%100
9	M53	PX	2.1	1.7	0	%100
10	M51	PX	2.1	1.7	0	%100
11	M59	PX	2.1	1.7	0	%100



Member Distributed Loads (BLC 6 : WIND LOAD (ICE SIDE) (Continued))

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
12	M72	PX	3.8	2.9	0	%100
13	M74	PX	3.8	2.9	0	%100
14	M73	PX	3.8	2.9	0	%100
15	M81	PX	3.8	2.9	0	%100
16	M88	PX	3.8	2.9	0	%100
17	M65	PX	3.8	2.9	0	%100
18	M71	PX	3.8	2.9	0	%100
19	M89	PX	3.8	2.9	0	%100
20	M87	PX	3.8	2.9	0	%100
21	M64	PX	3.8	2.9	0	%100
22	M82	PX	3.8	2.9	0	%100
23	M70	PX	3.8	2.9	0	%100
24	M79	PX	3.8	2.9	0	%100
25	M66	PX	3.8	2.9	0	%100
26	M80	PX	3.8	2.9	0	%100
27	M119	PX	5.6	4.4	0	%100
28	M133	PX	5.6	4.4	0	%100
29	M125	PX	5.6	4.4	0	%100
30	M11	PX	5.6	4.4	0	%100
31	M116	PX	5.6	4.4	0	%100
32	M115	PX	5.6	4.4	0	%100
33	M126	PX	5.6	4.4	0	%100
34	M5	PX	5.6	4.4	0	%100
35	M9	PX	5.6	4.4	0	%100
36	M16	PX	5.6	4.4	0	%100
37	M132	PX	5.6	4.4	0	%100
38	M15	PX	5.6	4.4	0	%100
39	M69	PX	5	3.9	0	%100
40	M68	PX	5	3.9	0	%100
41	M67	PX	5	3.9	0	%100
42	M118	PX	6.9	5.4	0	%100
43	M113	PX	6.9	5.4	0	%100
44	M114	PX	6.9	5.4	0	%100
45	M47	PX	6.3	4.9	0	%100
46	M48	PX	6.3	4.9	0	%100
47	M49	PX	6.3	4.9	0	%100
48	M102	PX	2.1	1.7	0	%100
49	M103	PX	2.9	2.9	0	%100
50	M109	PX	2.9	2.9	0	%100
51	M110	PX	2.9	2.9	0	%100

Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M133	Z	-2.667	-3.14	21.624	30.086
2	M133	Z	-3.14	-2.567	30.086	38.548
3	M133	Z	-2.567	-1.076	38.548	47.01
4	M125	Z	-0.075	-1.252	4.7	13.16
5	M125	Z	-1.252	-2.69	13.16	21.62
6	M125	Z	-2.69	-3.136	21.62	30.08
7	M125	Z	-3.136	-2.572	30.08	38.54
8	M125	Z	-2.572	-1.075	38.54	47
9	M116	Z	-1.969	-1.92	0	16.916
10	M116	Z	-1.92	-0.945	16.916	33.832
11	M116	Z	-0.945	-0.946	33.832	50.749
12	M116	Z	-0.946	-1.926	50.749	67.665
13	M116	Z	-1.926	-1.986	67.665	84.581



Company : ATC/EFI
 Designer : AJ
 Job Number : 049.03063 - 2210142
 Model Name : 310968_13753216_ATT MOBILITY

3/8/2022
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 Checked By : _____

Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
14	M9	Z	-1.861	-2.368	0	27.666
15	M9	Z	-2.368	-2.022	27.666	55.332
16	M9	Z	-2.022	-1.421	55.332	82.998
17	M9	Z	-1.421	-2.021	82.998	110.664
18	M9	Z	-2.021	-2.36	110.664	138.33
19	M9	Z	-2.36	-1.836	138.33	165.996
20	M113	Z	-8.49	-8.49	0.119	23.502
21	M63	Z	-0.147	-2.714	0	4.705
22	M63	Z	-2.714	-6.44	4.705	9.41
23	M63	Z	-6.44	-6.249	9.41	14.115
24	M63	Z	-6.249	-3.428	14.115	18.82
25	M63	Z	-3.428	-0.485	18.82	23.525
26	M62	Z	-2.96	-2.759	0	4.703
27	M62	Z	-2.759	-5.872	4.703	9.406
28	M62	Z	-5.872	-7.258	9.406	14.11
29	M62	Z	-7.258	-4.25	14.11	18.813
30	M62	Z	-4.25	-1.888	18.813	23.516
31	M61	Z	-2.941	-2.764	0	4.699
32	M61	Z	-2.764	-5.905	4.699	9.399
33	M61	Z	-5.905	-7.297	9.399	14.098
34	M61	Z	-7.297	-4.271	14.098	18.797
35	M61	Z	-4.271	-1.893	18.797	23.497
36	M119	Z	-1.983	-1.925	0	16.916
37	M119	Z	-1.925	-0.945	16.916	33.832
38	M119	Z	-0.945	-0.946	33.832	50.749
39	M119	Z	-0.946	-1.922	50.749	67.665
40	M119	Z	-1.922	-1.972	67.665	84.581
41	M11	Z	-0.074	-1.254	4.701	13.162
42	M11	Z	-1.254	-2.689	13.162	21.624
43	M11	Z	-2.689	-3.127	21.624	30.085
44	M11	Z	-3.127	-2.563	30.085	38.546
45	M11	Z	-2.563	-1.074	38.546	47.008
46	M126	Z	-0.075	-1.223	4.702	13.165
47	M126	Z	-1.223	-2.668	13.165	21.628
48	M126	Z	-2.668	-3.145	21.628	30.091
49	M126	Z	-3.145	-2.576	30.091	38.554
50	M126	Z	-2.576	-1.077	38.554	47.017
51	M5	Z	-1.861	-2.371	0	27.668
52	M5	Z	-2.371	-2.024	27.668	55.336
53	M5	Z	-2.024	-1.421	55.336	83.004
54	M5	Z	-1.421	-2.019	83.004	110.673
55	M5	Z	-2.019	-2.358	110.673	138.341
56	M5	Z	-2.358	-1.838	138.341	166.009
57	M118	Z	-8.49	-8.49	0.119	23.506
58	M102	Z	-0.147	-2.712	0	4.698
59	M102	Z	-2.712	-6.41	4.698	9.395
60	M102	Z	-6.41	-6.22	9.395	14.093
61	M102	Z	-6.22	-3.425	14.093	18.79
62	M102	Z	-3.425	-0.482	18.79	23.488
63	M56	Z	-2.96	-2.759	0	4.699
64	M56	Z	-2.759	-5.872	4.699	9.399
65	M56	Z	-5.872	-7.258	9.399	14.098
66	M56	Z	-7.258	-4.25	14.098	18.797
67	M56	Z	-4.25	-1.889	18.797	23.497
68	M55	Z	-0.147	-2.714	0	4.698
69	M55	Z	-2.714	-6.439	4.698	9.395

Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
70	M55	Z	-6.439	-6.249	9.395	14.093
71	M55	Z	-6.249	-3.427	14.093	18.79
72	M55	Z	-3.427	-0.485	18.79	23.488
73	M58	Z	-2.942	-2.764	0	4.703
74	M58	Z	-2.764	-5.905	4.703	9.406
75	M58	Z	-5.905	-7.297	9.406	14.11
76	M58	Z	-7.297	-4.27	14.11	18.813
77	M58	Z	-4.27	-1.892	18.813	23.516
78	M59	Z	-0.147	-2.713	0	4.705
79	M59	Z	-2.713	-6.411	4.705	9.41
80	M59	Z	-6.411	-6.22	9.41	14.115
81	M59	Z	-6.22	-3.426	14.115	18.82
82	M59	Z	-3.426	-0.482	18.82	23.525
83	M115	Z	-1.969	-1.92	0	16.916
84	M115	Z	-1.92	-0.945	16.916	33.832
85	M115	Z	-0.945	-0.946	33.832	50.749
86	M115	Z	-0.946	-1.927	50.749	67.665
87	M115	Z	-1.927	-1.986	67.665	84.581
88	M16	Z	-0.075	-1.22	4.702	13.165
89	M16	Z	-1.22	-2.667	13.165	21.628
90	M16	Z	-2.667	-3.141	21.628	30.091
91	M16	Z	-3.141	-2.567	30.091	38.554
92	M16	Z	-2.567	-1.076	38.554	47.017
93	M132	Z	-0.075	-1.247	4.701	13.162
94	M132	Z	-1.247	-2.682	13.162	21.624
95	M132	Z	-2.682	-3.132	21.624	30.085
96	M132	Z	-3.132	-2.572	30.085	38.546
97	M132	Z	-2.572	-1.075	38.546	47.008
98	M15	Z	-1.862	-2.369	0	27.668
99	M15	Z	-2.369	-2.022	27.668	55.336
100	M15	Z	-2.022	-1.421	55.336	83.004
101	M15	Z	-1.421	-2.021	83.004	110.673
102	M15	Z	-2.021	-2.363	110.673	138.341
103	M15	Z	-2.363	-1.844	138.341	166.009
104	M114	Z	-8.49	-8.49	0.12	23.506
105	M52	Z	-0.147	-2.713	0	4.697
106	M52	Z	-2.713	-6.439	4.697	9.394
107	M52	Z	-6.439	-6.248	9.394	14.09
108	M52	Z	-6.248	-3.427	14.09	18.787
109	M52	Z	-3.427	-0.485	18.787	23.484
110	M50	Z	-2.96	-2.759	0	4.699
111	M50	Z	-2.759	-5.872	4.699	9.397
112	M50	Z	-5.872	-7.258	9.397	14.096
113	M50	Z	-7.258	-4.25	14.096	18.794
114	M50	Z	-4.25	-1.889	18.794	23.493
115	M53	Z	-0.147	-2.713	0	4.704
116	M53	Z	-2.713	-6.41	4.704	9.408
117	M53	Z	-6.41	-6.22	9.408	14.112
118	M53	Z	-6.22	-3.426	14.112	18.817
119	M53	Z	-3.426	-0.482	18.817	23.521
120	M51	Z	-2.941	-2.764	0	4.702
121	M51	Z	-2.764	-5.905	4.702	9.405
122	M51	Z	-5.905	-7.297	9.405	14.107
123	M51	Z	-7.297	-4.27	14.107	18.81
124	M51	Z	-4.27	-1.892	18.81	23.512
125	M133	Z	-0.075	-1.22	4.701	13.163



Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
126	M133	Z	-1.22	-2.667	13.163 21.624

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads)

Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M116	Z	-2.052	-2.001	0 16.916
2	M116	Z	-2.001	-0.985	16.916 33.832
3	M116	Z	-0.985	-0.985	33.832 50.749
4	M116	Z	-0.985	-2.007	50.749 67.665
5	M116	Z	-2.007	-2.069	67.665 84.581
6	M9	Z	-1.94	-2.468	0 27.666
7	M9	Z	-2.468	-2.107	27.666 55.332
8	M9	Z	-2.107	-1.481	55.332 82.998
9	M9	Z	-1.481	-2.106	82.998 110.664
10	M9	Z	-2.106	-2.459	110.664 138.33
11	M9	Z	-2.459	-1.913	138.33 165.996
12	M113	Z	-8.847	-8.847	0.119 23.502
13	M63	Z	-0.153	-2.828	0 4.705
14	M63	Z	-2.828	-6.71	4.705 9.41
15	M63	Z	-6.71	-6.511	9.41 14.115
16	M63	Z	-6.511	-3.572	14.115 18.82
17	M63	Z	-3.572	-0.506	18.82 23.525
18	M62	Z	-3.084	-2.875	0 4.703
19	M62	Z	-2.875	-6.119	4.703 9.406
20	M62	Z	-6.119	-7.563	9.406 14.11
21	M62	Z	-7.563	-4.428	14.11 18.813
22	M62	Z	-4.428	-1.968	18.813 23.516
23	M61	Z	-3.065	-2.88	0 4.699
24	M61	Z	-2.88	-6.153	4.699 9.399
25	M61	Z	-6.153	-7.604	9.399 14.098
26	M61	Z	-7.604	-4.45	14.098 18.797
27	M61	Z	-4.45	-1.972	18.797 23.497
28	M119	Z	-2.067	-2.006	0 16.916
29	M119	Z	-2.006	-0.985	16.916 33.832
30	M119	Z	-0.985	-0.985	33.832 50.749
31	M119	Z	-0.985	-2.003	50.749 67.665
32	M119	Z	-2.003	-2.055	67.665 84.581
33	M11	Z	-0.078	-1.306	4.701 13.162
34	M11	Z	-1.306	-2.802	13.162 21.624
35	M11	Z	-2.802	-3.258	21.624 30.085
36	M11	Z	-3.258	-2.671	30.085 38.546
37	M11	Z	-2.671	-1.119	38.546 47.008
38	M126	Z	-0.078	-1.274	4.702 13.165
39	M126	Z	-1.274	-2.78	13.165 21.628
40	M126	Z	-2.78	-3.277	21.628 30.091
41	M126	Z	-3.277	-2.684	30.091 38.554
42	M126	Z	-2.684	-1.122	38.554 47.017
43	M5	Z	-1.939	-2.471	0 27.668
44	M5	Z	-2.471	-2.109	27.668 55.336
45	M5	Z	-2.109	-1.481	55.336 83.004
46	M5	Z	-1.481	-2.104	83.004 110.673
47	M5	Z	-2.104	-2.457	110.673 138.341
48	M5	Z	-2.457	-1.915	138.341 166.009
49	M118	Z	-8.846	-8.846	0.119 23.506
50	M102	Z	-0.153	-2.826	0 4.698
51	M102	Z	-2.826	-6.679	4.698 9.395
52	M102	Z	-6.679	-6.481	9.395 14.093

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
53	M102	Z	-6.481	-3.569	14.093	18.79
54	M102	Z	-3.569	-0.502	18.79	23.488
55	M56	Z	-3.084	-2.875	0	4.699
56	M56	Z	-2.875	-6.119	4.699	9.399
57	M56	Z	-6.119	-7.563	9.399	14.098
58	M56	Z	-7.563	-4.428	14.098	18.797
59	M56	Z	-4.428	-1.968	18.797	23.497
60	M55	Z	-0.153	-2.827	0	4.698
61	M55	Z	-2.827	-6.71	4.698	9.395
62	M55	Z	-6.71	-6.511	9.395	14.093
63	M55	Z	-6.511	-3.571	14.093	18.79
64	M55	Z	-3.571	-0.505	18.79	23.488
65	M58	Z	-3.065	-2.88	0	4.703
66	M58	Z	-2.88	-6.153	4.703	9.406
67	M58	Z	-6.153	-7.603	9.406	14.11
68	M58	Z	-7.603	-4.45	14.11	18.813
69	M58	Z	-4.45	-1.971	18.813	23.516
70	M59	Z	-0.153	-2.827	0	4.705
71	M59	Z	-2.827	-6.68	4.705	9.41
72	M59	Z	-6.68	-6.481	9.41	14.115
73	M59	Z	-6.481	-3.57	14.115	18.82
74	M59	Z	-3.57	-0.502	18.82	23.525
75	M115	Z	-2.052	-2.001	0	16.916
76	M115	Z	-2.001	-0.985	16.916	33.832
77	M115	Z	-0.985	-0.985	33.832	50.749
78	M115	Z	-0.985	-2.008	50.749	67.665
79	M115	Z	-2.008	-2.07	67.665	84.581
80	M16	Z	-0.078	-1.271	4.702	13.165
81	M16	Z	-1.271	-2.779	13.165	21.628
82	M16	Z	-2.779	-3.273	21.628	30.091
83	M16	Z	-3.273	-2.675	30.091	38.554
84	M16	Z	-2.675	-1.121	38.554	47.017
85	M132	Z	-0.078	-1.3	4.701	13.162
86	M132	Z	-1.3	-2.794	13.162	21.624
87	M132	Z	-2.794	-3.264	21.624	30.085
88	M132	Z	-3.264	-2.68	30.085	38.546
89	M132	Z	-2.68	-1.12	38.546	47.008
90	M15	Z	-1.94	-2.468	0	27.668
91	M15	Z	-2.468	-2.107	27.668	55.336
92	M15	Z	-2.107	-1.481	55.336	83.004
93	M15	Z	-1.481	-2.106	83.004	110.673
94	M15	Z	-2.106	-2.462	110.673	138.341
95	M15	Z	-2.462	-1.921	138.341	166.009
96	M114	Z	-8.847	-8.847	0.12	23.506
97	M52	Z	-0.153	-2.827	0	4.697
98	M52	Z	-2.827	-6.709	4.697	9.394
99	M52	Z	-6.709	-6.511	9.394	14.09
100	M52	Z	-6.511	-3.571	14.09	18.787
101	M52	Z	-3.571	-0.506	18.787	23.484
102	M50	Z	-3.084	-2.875	0	4.699
103	M50	Z	-2.875	-6.119	4.699	9.397
104	M50	Z	-6.119	-7.563	9.397	14.096
105	M50	Z	-7.563	-4.429	14.096	18.794
106	M50	Z	-4.429	-1.968	18.794	23.493
107	M53	Z	-0.153	-2.827	0	4.704
108	M53	Z	-2.827	-6.679	4.704	9.408



Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
109	M53	Z	-6.679	-6.481	9.408	14.112
110	M53	Z	-6.481	-3.57	14.112	18.817
111	M53	Z	-3.57	-0.502	18.817	23.521
112	M51	Z	-3.065	-2.88	0	4.702
113	M51	Z	-2.88	-6.153	4.702	9.405
114	M51	Z	-6.153	-7.603	9.405	14.107
115	M51	Z	-7.603	-4.45	14.107	18.81
116	M51	Z	-4.45	-1.972	18.81	23.512
117	M133	Z	-0.078	-1.271	4.701	13.163
118	M133	Z	-1.271	-2.779	13.163	21.624
119	M133	Z	-2.779	-3.272	21.624	30.086
120	M133	Z	-3.272	-2.675	30.086	38.548
121	M133	Z	-2.675	-1.121	38.548	47.01
122	M125	Z	-0.078	-1.304	4.7	13.16
123	M125	Z	-1.304	-2.803	13.16	21.62
124	M125	Z	-2.803	-3.267	21.62	30.08
125	M125	Z	-3.267	-2.68	30.08	38.54
126	M125	Z	-2.68	-1.12	38.54	47

Member Area Loads (BLC 1 : DEAD LOAD)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N20	N195	N194	N24	Z	Two Way	-5
2	N21	N206	N6	N17	Z	Two Way	-5
3	N4	N199	N18	N19	Z	Two Way	-5

Member Area Loads (BLC 2 : DEAD LOAD ICE)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N20	N195	N194	N24	Z	Two Way	-5.21
2	N21	N206	N6	N17	Z	Two Way	-5.21
3	N4	N199	N18	N19	Z	Two Way	-5.21

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL + WL (NO ICE) 0 Degree	Yes	Y	1	1.2			3	1		
2	DL + WL (NO ICE) 30 Degree	Yes	Y	1	1.2			3	0.866	4	0.5
3	DL + WL (NO ICE) 60 Degree	Yes	Y	1	1.2			3	0.5	4	0.866
4	DL + WL (NO ICE) 90 Degree	Yes	Y	1	1.2					4	1
5	DL + WL (NO ICE) 120 Degree	Yes	Y	1	1.2			3	-0.5	4	0.866
6	DL + WL (NO ICE) 150 Degree	Yes	Y	1	1.2			3	-0.866	4	0.5
7	DL + WL (NO ICE) 180 Degree	Yes	Y	1	1.2			3	-1		
8	DL + WL (NO ICE) 210 Degree	Yes	Y	1	1.2			3	-0.866	4	-0.5
9	DL + WL (NO ICE) 240 Degree	Yes	Y	1	1.2			3	-0.5	4	-0.866
10	DL + WL (NO ICE) 270 Degree	Yes	Y	1	1.2					4	-1
11	DL + WL (NO ICE) 300 Degree	Yes	Y	1	1.2			3	0.5	4	-0.866
12	DL + WL (NO ICE) 330 Degree	Yes	Y	1	1.2			3	0.866	4	-0.5
13	DL + DL ICE + WL (ICE) 0 Degree	Yes	Y	1	1.2	2	1	5	1		
14	DL + DL ICE + WL (ICE) 30 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	0.5
15	DL + DL ICE + WL (ICE) 60 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	0.866
16	DL + DL ICE + WL (ICE) 90 Degree	Yes	Y	1	1.2	2	1			6	1
17	DL + DL ICE + WL (ICE) 120 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	0.866
18	DL + DL ICE + WL (ICE) 150 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	0.5
19	DL + DL ICE + WL (ICE) 180 Degree	Yes	Y	1	1.2	2	1	5	-1		
20	DL + DL ICE + WL (ICE) 210 Degree	Yes	Y	1	1.2	2	1	5	-0.866	6	-0.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
21	DL + DL ICE + WL (ICE) 240 Degree	Yes	Y	1	1.2	2	1	5	-0.5	6	-0.866
22	DL + DL ICE + WL (ICE) 270 Degree	Yes	Y	1	1.2	2	1			6	-1
23	DL + DL ICE + WL (ICE) 300 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	-0.866
24	DL + DL ICE + WL (ICE) 330 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	-0.5
25	DEAD LOAD + LIVE LOAD1	Yes	Y	1	1.2					7	1.5
26	DEAD LOAD + LIVE LOAD2	Yes	Y	1	1.2					8	1.5
27	DEAD LOAD + LIVE LOAD3	Yes	Y	1	1.2					9	1.5
28	DL + MAIN L1+30MPH WL FRONT	Yes	Y	1	1.2	10	1.5	3	0.065		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.065		
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.065		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.065		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.065		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.065		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.065		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.065		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.065		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.065		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.065		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.065		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.065		
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.065		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.065		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.065		

Node Reactions

No Data to Print...												
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Envelope Node Reactions

Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC		
1	N89	max	1846.074	9	2833.469	8	2704.369	23	2.924	13	5.209	22	1.812	2
2		min	-2111.471	3	-2699.518	2	898.552	32	0.812	36	1.602	32	-1.832	8
3	N90	max	1822.215	11	2635.078	6	2704.772	15	3.112	13	-1.456	43	1.598	5
4		min	-1573.219	5	-2472.97	12	847.029	43	0.814	39	-5.102	16	-1.619	11
5	N88	max	2341.903	10	460.696	7	2707.923	19	-2.245	26	0.981	43	1.018	10
6		min	-2326.01	4	-757.757	1	1081.659	26	-5.948	19	-1.049	32	-1.039	4
7	Totals:	max	5431.438	10	4906.866	7	7995.437	14						
8		min	-5431.433	4	-4906.857	1	3984.506	8						

Envelope Node Displacements

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
1	N1	max	0	43	0	43	0	43	0	43	0	43		
2		min	0	1	0	1	0	1	0	1	0	1		
3	N4	max	0.003	6	0.015	11	-0.114	43	4.775e-3	28	9.473e-3	32	7.001e-4	10
4		min	-0.002	12	-0.012	5	-0.78	32	-1.34e-3	26	-9.632e-5	43	-5.773e-4	4
5	N6	max	0.01	4	0.006	1	-0.034	39	-1.561e-3	36	-4.337e-4	35	2.242e-4	9
6		min	-0.01	10	-0.006	7	-0.175	13	-9.006e-3	24	-4.364e-3	26	-3.252e-4	3
7	N15	max	0.004	6	0	13	-0.067	26	7.548e-3	19	2.571e-3	32	2.589e-4	40
8		min	-0.003	12	0	7	-0.18	19	2.812e-3	26	-2.281e-3	43	-1.532e-4	3
9	N17	max	0.028	4	0.007	1	-0.083	39	-1.561e-4	35	9.174e-4	36	4.787e-4	8
10		min	-0.031	10	-0.008	7	-0.567	24	-7.647e-3	26	-3.719e-3	31	-3.564e-4	2
11	N18	max	0.011	4	0.006	1	-0.035	39	-1.406e-3	39	4.323e-3	26	3.341e-4	12
12		min	-0.011	10	-0.006	7	-0.175	13	-8.904e-3	13	3.924e-4	32	-1.074e-4	6
13	N19	max	0.028	4	0.007	1	-0.081	39	-7.441e-5	35	3.156e-3	5	1.694e-4	9
14		min	-0.03	10	-0.007	7	-0.566	24	-7.739e-3	26	-1.626e-3	11	-4.685e-4	3

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
15	N20	max	0.006	7	0.019	2	-0.142	28	9.398e-3	43	7.66e-4	28	2.389e-4	11
16		min	-0.004	1	-0.022	8	-0.85	39	8.026e-4	26	-8.384e-3	39	-1.166e-4	5
17	N21	max	0.006	7	0.019	2	-0.14	28	6.264e-3	39	-3.959e-4	36	1.389e-4	10
18		min	-0.004	1	-0.022	8	-0.848	39	-2.007e-3	1	-1.02e-2	31	-4.37e-4	4
19	N24	max	0.003	6	0.014	11	-0.116	43	8.793e-3	40	7.366e-3	32	3.309e-4	9
20		min	-0.002	12	-0.011	5	-0.782	32	-2.939e-5	4	-8.788e-4	43	-6.281e-4	3
21	N25	max	0.027	4	0.007	1	-0.082	39	-2.614e-4	35	1.525e-3	36	3.395e-4	9
22		min	-0.03	10	-0.007	7	-0.554	24	-7.896e-3	26	-2.333e-3	31	-4.063e-4	3
23	N26	max	0.027	4	0.007	1	-0.08	39	-2.614e-4	35	1.525e-3	36	3.395e-4	9
24		min	-0.03	10	-0.007	7	-0.553	24	-7.896e-3	26	-2.333e-3	31	-4.063e-4	3
25	N27	max	0.015	4	0.007	1	-0.057	39	-1.286e-3	39	5.909e-4	6	5.085e-4	10
26		min	-0.017	10	-0.007	7	-0.314	24	-8.841e-3	24	-8.743e-4	31	-3.958e-4	4
27	N28	max	0.015	4	0.007	1	-0.056	39	-1.286e-3	39	5.909e-4	6	5.085e-4	10
28		min	-0.017	10	-0.007	7	-0.313	24	-8.841e-3	24	-8.743e-4	31	-3.958e-4	4
29	N29	max	0.019	4	0.007	1	-0.068	39	-1.032e-3	39	8.35e-4	36	5.201e-4	10
30		min	-0.022	10	-0.007	7	-0.397	24	-8.713e-3	26	-1.339e-3	31	-4.333e-4	4
31	N30	max	0.019	4	0.007	1	-0.067	39	-1.032e-3	39	8.35e-4	36	5.201e-4	10
32		min	-0.022	10	-0.007	7	-0.396	24	-8.713e-3	26	-1.339e-3	31	-4.333e-4	4
33	N33	max	0.023	4	0.007	1	-0.077	39	-6.84e-4	35	1.181e-3	36	4.469e-4	9
34		min	-0.027	10	-0.007	7	-0.479	24	-8.395e-3	26	-1.836e-3	31	-4.203e-4	3
35	N34	max	0.012	4	0.006	1	-0.044	39	-1.437e-3	39	4.21e-4	6	3.867e-4	10
36		min	-0.012	10	-0.007	7	-0.233	13	-8.929e-3	24	-5.881e-4	12	-2.777e-4	4
37	N35	max	0.012	4	0.007	1	-0.044	39	-1.437e-3	39	4.21e-4	6	3.867e-4	10
38		min	-0.012	10	-0.007	7	-0.233	13	-8.929e-3	24	-5.881e-4	12	-2.777e-4	4
39	N36	max	0.023	4	0.007	1	-0.076	39	-6.84e-4	35	1.181e-3	36	4.469e-4	9
40		min	-0.027	10	-0.007	7	-0.478	24	-8.395e-3	26	-1.836e-3	31	-4.203e-4	3
41	N65	max	0.004	6	0.008	12	-0.121	26	6.279e-3	29	8.218e-3	40	6.083e-4	17
42		min	-0.003	12	-0.013	6	-0.387	36	-1.445e-3	7	-2.465e-4	31	1.492e-4	11
43	N66	max	0.005	6	0.008	12	-0.118	26	6.279e-3	29	8.218e-3	40	6.083e-4	17
44		min	-0.002	12	-0.013	6	-0.404	36	-1.445e-3	7	-2.465e-4	31	1.492e-4	11
45	N84	max	0.006	7	0.02	2	-0.146	28	6.679e-3	1	1.146e-3	40	1.824e-4	2
46		min	-0.004	1	-0.023	8	-0.818	39	-5.634e-3	7	-7.815e-3	35	-4.961e-4	39
47	N85	max	0.005	7	0.02	2	-0.155	28	6.679e-3	1	1.146e-3	40	1.824e-4	2
48		min	-0.003	1	-0.023	8	-0.832	39	-5.634e-3	7	-7.815e-3	35	-4.961e-4	39
49	N194	max	0.004	4	0.008	12	-0.043	43	1.118e-2	32	7.346e-3	32	4.427e-4	6
50		min	-0.004	10	-0.008	6	-0.225	32	1.614e-3	43	1.465e-3	43	-2.154e-4	12
51	N195	max	0.004	4	0.009	2	-0.049	28	1.243e-2	39	-1.666e-3	28	-1.772e-5	4
52		min	-0.004	10	-0.009	8	-0.237	39	2.059e-3	2	-7.833e-3	39	-2.201e-4	42
53	N199	max	0.006	5	0.005	12	-0.044	43	1.179e-3	33	1.319e-2	32	2.265e-4	11
54		min	-0.006	11	-0.004	6	-0.224	32	1.765e-4	11	2.03e-3	43	-3.269e-4	5
55	N206	max	0.006	4	0.007	2	-0.049	28	1.26e-3	9	-2.481e-3	28	6.448e-4	9
56		min	-0.006	10	-0.007	8	-0.237	39	-1.036e-4	3	-1.439e-2	39	-4.185e-4	3
57	N207	max	0.006	6	0.018	2	-0.123	28	8.025e-3	39	-6.423e-4	28	2.921e-4	9
58		min	-0.004	12	-0.02	8	-0.698	39	1.186e-4	2	-1.021e-2	39	-2.651e-4	3
59	N208	max	0.005	6	0.015	2	-0.105	28	7.851e-3	39	-1.157e-3	28	4.104e-4	8
60		min	-0.004	12	-0.017	8	-0.568	39	4.156e-4	2	-1.077e-2	39	-3.24e-4	2
61	N209	max	0.006	7	0.019	2	-0.138	28	8.057e-3	39	-4.213e-5	40	1.748e-4	11
62		min	-0.004	1	-0.022	8	-0.824	39	-2.052e-4	2	-9.438e-3	35	-2.412e-4	5
63	N210	max	0.006	7	0.019	2	-0.14	28	8.057e-3	39	-4.213e-5	40	1.748e-4	11
64		min	-0.004	1	-0.022	8	-0.826	39	-2.052e-4	2	-9.438e-3	35	-2.412e-4	5
65	N211	max	0.005	5	0.012	2	-0.085	28	7.548e-3	39	-1.566e-3	28	4.561e-4	8
66		min	-0.004	11	-0.014	8	-0.44	39	6.607e-4	2	-1.105e-2	39	-3.442e-4	2
67	N212	max	0.006	6	0.017	2	-0.125	28	8.025e-3	39	-6.423e-4	28	2.921e-4	9
68		min	-0.004	12	-0.02	8	-0.7	39	1.186e-4	2	-1.021e-2	39	-2.651e-4	3
69	N213	max	0.005	4	0.009	2	-0.065	28	7.134e-3	39	-1.857e-3	28	4.014e-4	8
70		min	-0.004	10	-0.01	8	-0.322	39	8.47e-4	2	-1.107e-2	39	-2.935e-4	2

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
71	N214	max	0.005	4	0.009	2	-0.064	28	7.134e-3	39	-1.857e-3	28	4.014e-4	8
72		min	-0.005	10	-0.01	8	-0.321	39	8.47e-4	2	-1.107e-2	39	-2.935e-4	2
73	N215	max	0.005	5	0.012	2	-0.086	28	7.548e-3	39	-1.566e-3	28	4.561e-4	8
74		min	-0.004	11	-0.013	8	-0.441	39	6.607e-4	2	-1.105e-2	39	-3.442e-4	2
75	N216	max	0.005	6	0.015	2	-0.106	28	7.851e-3	39	-1.157e-3	28	4.104e-4	8
76		min	-0.004	12	-0.017	8	-0.569	39	4.156e-4	2	-1.077e-2	39	-3.24e-4	2
77	N218	max	0.004	5	0.01	11	-0.104	43	7.046e-3	40	9.409e-3	32	3.419e-4	10
78		min	-0.003	11	-0.008	5	-0.648	32	2.031e-4	26	3.136e-4	43	-3.143e-4	4
79	N219	max	0.005	5	0.008	12	-0.09	43	6.96e-3	40	9.96e-3	32	2.055e-4	10
80		min	-0.004	11	-0.006	5	-0.529	32	6.047e-4	26	8.181e-4	43	-1.188e-4	4
81	N220	max	0.003	6	0.013	11	-0.114	43	6.997e-3	40	8.619e-3	32	5.191e-4	10
82		min	-0.002	12	-0.011	5	-0.761	32	-3.336e-4	4	-2.461e-4	43	-5.849e-4	4
83	N221	max	0.003	6	0.014	11	-0.112	43	6.997e-3	40	8.619e-3	32	5.191e-4	10
84		min	-0.002	12	-0.011	5	-0.759	32	-3.336e-4	4	-2.461e-4	43	-5.849e-4	4
85	N222	max	0.005	5	0.007	12	-0.073	43	6.749e-3	40	1.024e-2	32	1.593e-4	24
86		min	-0.005	11	-0.006	6	-0.413	32	9.372e-4	26	1.225e-3	43	-2.998e-5	35
87	N223	max	0.005	5	0.011	11	-0.102	43	7.046e-3	40	9.409e-3	32	3.419e-4	10
88		min	-0.003	11	-0.008	5	-0.647	32	2.031e-4	26	3.136e-4	43	-3.143e-4	4
89	N224	max	0.005	5	0.006	12	-0.056	43	6.433e-3	28	1.026e-2	32	1.415e-4	24
90		min	-0.005	11	-0.006	6	-0.302	32	1.193e-3	26	1.523e-3	43	-1.703e-5	31
91	N225	max	0.005	5	0.006	12	-0.056	43	6.433e-3	28	1.026e-2	32	1.415e-4	24
92		min	-0.005	11	-0.006	6	-0.303	32	1.193e-3	26	1.523e-3	43	-1.703e-5	31
93	N226	max	0.005	5	0.007	12	-0.073	43	6.749e-3	40	1.024e-2	32	1.593e-4	24
94		min	-0.005	11	-0.006	6	-0.412	32	9.372e-4	26	1.225e-3	43	-2.998e-5	35
95	N227	max	0.005	5	0.008	11	-0.088	43	6.96e-3	40	9.96e-3	32	2.055e-4	10
96		min	-0.004	11	-0.006	5	-0.528	32	6.047e-4	26	8.181e-4	43	-1.188e-4	4
97	N193	max	0.006	5	0.012	11	-0.05	43	-8.06e-4	36	6.369e-3	16	3.314e-4	10
98		min	-0.007	11	-0.011	5	-0.18	15	-4.147e-3	13	1.817e-3	43	-2.402e-4	4
99	N200	max	0.008	3	0.014	3	-0.054	32	-3.727e-4	39	-2.036e-3	32	3.826e-4	9
100		min	-0.009	9	-0.016	9	-0.18	23	-3.545e-3	13	-6.71e-3	22	-2.919e-4	3
101	N103	max	0.005	7	0.006	2	-0.096	26	6.818e-3	38	4.261e-4	32	-4.888e-5	8
102		min	-0.003	1	-0.009	8	-0.287	39	-3.99e-4	26	-7.82e-3	43	-4.334e-4	14
103	N106	max	0.004	7	0.006	2	-0.094	26	6.818e-3	38	4.261e-4	32	-4.888e-5	8
104		min	-0.004	1	-0.009	8	-0.307	39	-3.99e-4	26	-7.82e-3	43	-4.334e-4	14
105	N83	max	0.003	5	0.005	11	-0.007	43	-5.956e-4	39	3.896e-3	16	4.92e-4	11
106		min	-0.003	11	-0.005	5	-0.023	15	-2.421e-3	13	1.108e-3	43	-4.677e-4	5
107	N86	max	0.003	3	0.005	2	-0.007	32	-4.987e-4	39	-1.225e-3	32	5.875e-4	9
108		min	-0.003	9	-0.005	8	-0.023	23	-2.235e-3	13	-4.002e-3	22	-5.635e-4	3
109	N87	max	0.003	4	0	1	-0.009	26	4.548e-3	19	1.201e-3	32	1.864e-4	5
110		min	-0.003	10	0	7	-0.023	19	1.706e-3	26	-1.144e-3	43	-1.62e-4	11
111	N88	max	0	4	0	1	0	26	0	19	0	32	0	4
112		min	0	10	0	7	0	19	0	26	0	43	0	10
113	N89	max	0	3	0	2	0	32	0	36	0	32	0	8
114		min	0	9	0	8	0	23	0	13	0	22	0	2
115	N90	max	0	5	0	12	0	43	0	39	0	16	0	11
116		min	0	11	0	6	0	15	0	13	0	43	0	5
117	N80	max	0.005	7	0.005	2	-0.092	26	6.728e-3	38	1.027e-4	32	1.85e-4	8
118		min	-0.003	1	-0.009	8	-0.265	39	-1.821e-5	26	-7.93e-3	43	-2.727e-4	2
119	N81	max	0.004	4	0.005	2	-0.017	32	8.223e-3	39	-9.662e-4	28	3.097e-4	8
120		min	-0.004	10	-0.009	8	-0.092	43	2.51e-3	2	-5.534e-3	39	-2.831e-4	2
121	N82	max	0.004	6	0.005	12	-0.099	26	6.243e-3	29	9.104e-3	36	2.356e-4	12
122		min	-0.003	12	-0.01	6	-0.281	36	4.229e-4	26	1.097e-3	31	-5.437e-4	6
123	N91	max	0.004	4	0.005	12	-0.015	43	7.874e-3	36	5.224e-3	32	3.016e-4	12
124		min	-0.004	10	-0.01	6	-0.088	32	2.647e-3	26	8.349e-4	43	-3.225e-4	6
125	N92	max	0.005	7	0.009	2	-0.119	26	6.078e-3	31	-8.666e-4	32	3.572e-4	9
126		min	-0.003	1	-0.01	8	-0.435	39	-7.397e-4	26	-1.009e-2	43	-3.061e-4	3

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
127	N93	max	0.004	4	0.009	2	-0.045	28	1.205e-2	39	-1.688e-3	28	-4.463e-5	11
128		min	-0.004	10	-0.01	8	-0.221	39	2.169e-3	2	-7.718e-3	39	-2.478e-4	34
129	N94	max	0.003	6	0.009	12	-0.131	26	5.572e-3	29	8.697e-3	32	4.378e-4	37
130		min	-0.002	12	-0.01	6	-0.448	36	-1.221e-3	26	-1.016e-5	43	-2.556e-5	1
131	N95	max	0.004	4	0.008	12	-0.04	43	1.094e-2	32	7.228e-3	32	3.665e-4	6
132		min	-0.004	10	-0.009	6	-0.21	32	1.861e-3	43	1.484e-3	43	-1.365e-4	12
133	N96	max	0.01	4	0.011	11	-0.085	43	5.856e-3	32	7.816e-3	40	1.565e-4	6
134		min	-0.01	10	-0.009	5	-0.393	32	-2.116e-4	11	-2.119e-3	35	-1.053e-4	12
135	N97	max	0.006	5	0.005	12	-0.041	43	1.167e-3	33	1.287e-2	32	1.357e-4	10
136		min	-0.006	11	-0.004	6	-0.209	32	1.684e-4	11	2.158e-3	43	-2.802e-4	4
137	N98	max	0.011	4	0.012	11	-0.069	43	3.971e-3	36	7.548e-3	32	8.201e-5	3
138		min	-0.008	10	-0.009	5	-0.25	16	-1.246e-3	26	-1.376e-3	43	-1.695e-4	9
139	N99	max	0.007	4	0.006	12	-0.018	43	8.473e-4	32	9.031e-3	32	2.065e-4	5
140		min	-0.003	10	-0.004	6	-0.086	32	-4.357e-4	26	2.291e-3	43	-1.797e-4	11
141	N100	max	0.015	4	0.012	11	-0.067	39	-2.555e-4	35	3.331e-3	40	2.437e-4	9
142		min	-0.011	10	-0.008	5	-0.276	14	-8.187e-3	13	-1.898e-3	35	-5.523e-4	3
143	N101	max	0.01	4	0.007	1	-0.014	36	-1.572e-3	39	4.437e-3	13	3.119e-4	9
144		min	-0.007	10	-0.004	7	-0.069	24	-7.106e-3	13	1.198e-3	39	-3.333e-4	3
145	N102	max	0.016	4	0.01	12	-0.08	39	1.765e-3	35	3.23e-3	40	3.825e-4	22
146		min	-0.016	10	-0.008	6	-0.382	13	-6.473e-3	26	-3.403e-3	35	6.419e-6	4
147	N104	max	0.011	4	0.007	1	-0.033	39	-1.503e-3	39	4.26e-3	26	3.004e-4	24
148		min	-0.01	10	-0.006	7	-0.164	13	-8.912e-3	13	5.783e-4	35	-4.154e-5	6
149	N105	max	0.014	4	0.013	2	-0.076	36	8.936e-4	36	2.446e-3	40	2.01e-4	11
150		min	-0.015	10	-0.014	8	-0.346	13	-7.199e-3	26	-3.028e-3	35	-1.502e-4	5
151	N107	max	0.009	4	0.007	1	-0.032	39	-1.651e-3	36	-6.111e-4	35	1.131e-4	9
152		min	-0.01	10	-0.006	7	-0.164	13	-9.001e-3	24	-4.249e-3	26	-2.581e-4	3
153	N108	max	0.012	3	0.013	2	-0.066	36	2.561e-4	36	1.941e-3	32	2.297e-4	10
154		min	-0.016	9	-0.012	8	-0.25	24	-6.619e-3	24	-4.388e-3	43	-3.172e-4	4
155	N111	max	0.007	4	0.006	1	-0.011	39	-1.689e-3	36	-1.242e-3	32	2.53e-4	12
156		min	-0.011	10	-0.004	7	-0.068	13	-7.077e-3	24	-4.36e-3	24	-2.263e-4	6
157	N112	max	0.01	3	0.014	2	-0.081	32	5.664e-3	43	7.997e-6	40	1.879e-4	4
158		min	-0.014	9	-0.013	8	-0.276	22	-2.038e-4	26	-8.672e-3	35	-4.961e-4	10
159	N113	max	0.005	4	0.006	2	-0.021	28	7.02e-4	39	-2.567e-3	32	2.272e-4	4
160		min	-0.009	10	-0.004	8	-0.092	39	-4.492e-4	26	-9.819e-3	43	-2.48e-4	10
161	N114	max	0.011	4	0.014	2	-0.108	32	6.038e-3	43	2.304e-3	40	4.997e-4	9
162		min	-0.012	10	-0.014	8	-0.446	43	-6.727e-4	26	-7.895e-3	35	-2.03e-4	3
163	N115	max	0.007	4	0.007	2	-0.046	28	1.122e-3	9	-2.606e-3	28	5.39e-4	9
164		min	-0.007	10	-0.006	8	-0.221	39	-1.055e-4	3	-1.404e-2	39	-3.098e-4	3
165	N109	max	0.003	6	0.011	12	-0.13	43	3.26e-3	36	6.525e-3	32	5.054e-4	40
166		min	-0.002	12	-0.008	6	-0.7	32	-3.137e-3	26	-1.573e-3	43	-1.768e-4	3
167	N110	max	0.004	7	0.011	12	-0.137	43	3.26e-3	36	6.525e-3	32	5.054e-4	40
168		min	-0.002	1	-0.008	6	-0.71	32	-3.137e-3	26	-1.573e-3	43	-1.768e-4	3
169	N116	max	0.13	32	0.102	26	-0.079	43	3.601e-3	36	5.825e-3	32	1.38e-3	20
170		min	-0.117	43	-0.057	39	-0.821	32	-2.213e-3	12	-2.492e-3	43	7.269e-5	2
171	N117	max	0.126	32	0.068	26	-0.138	32	5.954e-3	7	3.186e-3	32	7.246e-4	1
172		min	-0.121	43	-0.123	39	-0.834	43	-4.579e-3	1	-5.876e-3	43	-1.295e-3	7
173	N118	max	0.119	32	0.09	26	-0.111	43	3.598e-3	7	5.423e-3	4	1.116e-3	10
174		min	-0.114	43	-0.078	39	-0.759	32	-3.413e-3	1	-3.735e-3	10	-1.683e-3	4
175	N119	max	0.097	32	0.077	26	-0.05	36	2.667e-3	39	2.655e-3	32	1.204e-3	15
176		min	-0.16	43	-0.102	39	-0.568	26	-3.904e-3	26	-3.69e-3	43	1.079e-4	4
177	N120	max	0.108	32	0.082	26	-0.078	39	2.512e-3	39	5.322e-3	4	3.78e-4	6
178		min	-0.144	43	-0.105	39	-0.553	13	-4.06e-3	26	-6.012e-3	10	-9.469e-4	12
179	N121	max	0.131	32	0.06	26	-0.128	28	4.746e-3	39	3.155e-3	32	1.361e-3	23
180		min	-0.106	43	-0.132	39	-0.865	39	-1.41e-3	26	-5.005e-3	43	-8.941e-5	3
181	N122	max	0.126	32	0.067	26	-0.16	26	6.258e-3	39	2.986e-4	32	1.112e-3	12
182		min	-0.121	43	-0.128	39	-0.74	39	-1.582e-3	1	-9.104e-3	43	-1.344e-3	6

Envelope Node Displacements (Continued)

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC		
183	N123	max	0.13	32	0.09	26	-0.136	43	3.795e-3	36	6.382e-3	32	1.382e-3	37
184		min	-0.117	43	-0.084	36	-0.686	32	-2.19e-3	12	-1.912e-3	43	-4.787e-5	2
185	N124	max	0.119	32	0.092	26	-0.103	43	5.354e-3	36	7.066e-3	32	1.398e-3	9
186		min	-0.116	43	-0.078	39	-0.676	32	-5.721e-4	26	-2.132e-3	43	-1.625e-3	3
187	N125	max	0.107	32	0.085	26	-0.074	39	2.619e-3	39	2.332e-3	32	1.159e-3	15
188		min	-0.147	43	-0.095	39	-0.504	13	-4.334e-3	26	-3.469e-3	43	1.212e-4	4
189	N126	max	0.107	32	0.084	26	-0.085	36	1.113e-3	36	2.539e-3	4	6.508e-4	5
190		min	-0.147	43	-0.104	39	-0.514	24	-6.535e-3	26	-2.936e-3	43	-8.808e-4	11
191	N127	max	0.123	32	0.067	26	-0.123	28	5.248e-3	39	3.014e-3	32	1.32e-3	23
192		min	-0.117	43	-0.126	39	-0.714	39	-1.058e-3	26	-5.378e-3	43	-2.038e-4	3
193	N128	max	0.254	32	0.173	1	-0.119	26	5.911e-3	7	5.439e-3	32	2.792e-3	19
194		min	-0.168	43	-0.245	7	-0.404	36	-5.296e-3	1	-2.552e-3	43	4.901e-4	1
195	N129	max	0.15	4	0.738	1	-0.119	26	1.593e-2	1	8.575e-3	40	6.083e-4	17
196		min	-0.456	40	-0.55	7	-0.404	36	-1.236e-2	7	-4.108e-3	4	1.492e-4	11
197	N130	max	0.161	32	0.116	1	-0.095	26	5.406e-3	7	3.284e-3	32	-2.968e-4	11
198		min	-0.18	43	-0.226	39	-0.308	39	-3.991e-3	1	-4.771e-3	43	-1.915e-3	18
199	N131	max	0.327	35	0.279	31	-0.094	26	6.758e-3	31	4.573e-4	40	-4.888e-5	8
200		min	-0.017	40	-0.018	26	-0.307	39	-3.981e-4	26	-7.832e-3	35	-4.334e-4	14
201	N132	max	0.222	32	0.264	1	-0.155	28	9.166e-3	7	4.417e-3	4	7.248e-4	1
202		min	-0.302	43	-0.322	7	-0.832	39	-7.789e-3	1	-6.001e-3	43	-1.295e-3	7
203	N133	max	0.72	4	1.408	1	-0.155	28	2.912e-2	1	1.221e-2	10	1.824e-4	2
204		min	-0.532	10	-1.348	7	-0.834	39	-2.809e-2	7	-1.533e-2	4	-4.961e-4	39
205	N134	max	0.272	32	0.143	26	-0.137	43	3.608e-3	36	5.796e-3	32	1.403e-3	20
206		min	-0.175	43	-0.168	36	-0.709	32	-2.315e-3	12	-2.536e-3	43	1.863e-5	2
207	N135	max	0.083	43	0.164	40	-0.137	43	2.959e-3	40	5.989e-3	28	5.054e-4	40
208		min	-0.33	32	-0.166	26	-0.711	32	-3.134e-3	26	-1.501e-3	43	-1.768e-4	3
209	N136	max	0.164	32	0.086	1	-0.119	26	5.873e-3	7	5.437e-3	32	2.792e-3	19
210		min	-0.126	43	-0.161	36	-0.404	36	-5.258e-3	1	-2.549e-3	43	4.901e-4	1
211	N137	max	0.074	4	0.444	1	-0.119	26	1.588e-2	1	8.573e-3	40	6.083e-4	17
212		min	-0.298	40	-0.322	7	-0.404	36	-1.232e-2	7	-4.066e-3	4	1.492e-4	11
213	N138	max	0.097	32	0.046	1	-0.095	26	5.23e-3	7	4.749e-3	32	-2.737e-4	11
214		min	-0.1	43	-0.142	39	-0.308	39	-3.429e-3	1	-3.327e-3	43	-1.61e-3	18
215	N139	max	0.152	32	0.104	1	-0.095	26	5.406e-3	7	3.284e-3	32	-2.968e-4	11
216		min	-0.166	43	-0.212	39	-0.308	39	-3.991e-3	1	-4.771e-3	43	-1.915e-3	18
217	N140	max	0.023	32	0.008	1	-0.094	26	5.979e-3	39	3.965e-3	32	-1.967e-4	10
218		min	-0.052	43	-0.061	38	-0.307	39	-1.32e-3	1	-4.22e-3	43	-8.469e-4	18
219	N141	max	0.187	39	0.158	31	-0.094	26	6.732e-3	31	4.422e-4	40	-4.888e-5	8
220		min	-0.009	28	-0.011	26	-0.307	39	-3.982e-4	26	-7.819e-3	35	-4.334e-4	14
221	N142	max	0.078	39	0.064	35	-0.094	26	6.654e-3	35	4.04e-4	28	-4.888e-5	8
222		min	-0.004	28	-0.006	26	-0.307	39	-3.986e-4	26	-7.788e-3	39	-4.334e-4	14
223	N143	max	0.296	35	0.252	31	-0.094	26	6.758e-3	31	4.573e-4	40	-4.888e-5	8
224		min	-0.015	40	-0.017	26	-0.307	39	-3.981e-4	26	-7.832e-3	35	-4.334e-4	14
225	N144	max	0.183	32	0.17	1	-0.155	28	9.152e-3	7	4.402e-3	4	7.248e-4	1
226		min	-0.23	43	-0.222	39	-0.832	39	-7.775e-3	1	-6.e-3	43	-1.295e-3	7
227	N145	max	0.537	4	1.058	1	-0.155	28	2.911e-2	1	1.22e-2	10	1.824e-4	2
228		min	-0.386	10	-1.011	7	-0.834	39	-2.807e-2	7	-1.531e-2	4	-4.961e-4	39
229	N146	max	0.017	4	0.011	12	-0.078	39	1.427e-3	35	3.838e-3	40	6.261e-4	23
230		min	-0.014	10	-0.008	6	-0.347	14	-6.477e-3	26	-3.464e-3	35	4.624e-5	5
231	N147	max	1.233	4	0.729	1	-0.098	43	1.538e-2	1	2.879e-2	10	9.081e-4	10
232		min	-1.377	10	-0.594	7	-0.753	32	-1.319e-2	7	-2.635e-2	4	-1.175e-3	4
233	N148	max	0.078	35	0.149	28	-0.063	43	3.919e-3	28	7.562e-3	40	-4.915e-5	35
234		min	-0.283	40	-0.054	26	-0.278	16	-1.458e-3	26	-2.072e-3	35	-4.159e-4	22
235	N149	max	0.916	4	0.544	1	-0.098	43	1.537e-2	1	2.878e-2	10	9.081e-4	10
236		min	-1.032	10	-0.436	7	-0.753	32	-1.317e-2	7	-2.634e-2	4	-1.175e-3	4
237	N150	max	0.06	32	0.028	12	-0.063	43	2.208e-3	39	5.389e-3	32	-1.848e-4	39
238		min	-0.021	43	-0.024	36	-0.278	16	-3.673e-3	26	-2.803e-3	43	-8.387e-4	15

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
239	N151	max	0.017	4	0.012	12	-0.068	39	1.427e-3	35	3.838e-3	40	6.261e-4	23
240		min	-0.015	10	-0.008	6	-0.359	14	-6.477e-3	26	-3.464e-3	35	4.624e-5	5
241	N152	max	0.011	4	0.012	11	-0.071	43	3.932e-3	36	7.461e-3	32	-4.915e-5	35
242		min	-0.008	10	-0.009	5	-0.262	16	-1.462e-3	26	-1.968e-3	43	-4.159e-4	22
243	N153	max	0.011	4	0.012	11	-0.063	43	3.932e-3	36	7.461e-3	32	-4.915e-5	35
244		min	-0.008	10	-0.009	5	-0.278	16	-1.462e-3	26	-1.968e-3	43	-4.159e-4	22
245	N154	max	0.006	5	0.013	11	-0.11	43	5.959e-3	32	6.414e-3	40	9.081e-4	10
246		min	-0.004	11	-0.01	5	-0.747	32	-1.521e-3	9	-3.885e-3	4	-1.175e-3	4
247	N155	max	0.007	5	0.015	11	-0.098	43	5.959e-3	32	6.414e-3	40	9.081e-4	10
248		min	-0.005	11	-0.013	5	-0.753	32	-1.521e-3	9	-3.885e-3	4	-1.175e-3	4
249	N156	max	0.026	4	0.006	1	-0.077	39	2.917e-3	39	2.489e-3	32	4.25e-4	10
250		min	-0.029	10	-0.007	7	-0.513	13	-4.816e-3	26	-5.252e-3	43	-1.339e-4	4
251	N157	max	0.026	4	0.007	1	-0.059	39	2.917e-3	39	2.489e-3	32	4.25e-4	10
252		min	-0.03	10	-0.007	7	-0.511	13	-4.816e-3	26	-5.252e-3	43	-1.339e-4	4
253	N158	max	0.212	32	0.194	26	-0.068	39	2.539e-3	39	4.343e-3	3	2.662e-3	15
254		min	-0.199	43	-0.126	39	-0.36	14	-3.786e-3	26	-4.559e-3	9	9.204e-4	8
255	N159	max	0.592	4	0.128	1	-0.068	39	3.576e-3	1	1.396e-2	10	6.261e-4	23
256		min	-0.639	10	-0.418	7	-0.359	14	-9.024e-3	7	-1.304e-2	4	4.624e-5	5
257	N160	max	0.291	4	0.211	1	-0.098	43	5.425e-3	7	8.635e-3	4	1.116e-3	10
258		min	-0.23	10	-0.201	7	-0.753	32	-5.24e-3	1	-6.945e-3	10	-1.683e-3	4
259	N161	max	0.127	32	0.088	26	-0.063	43	2.092e-3	39	4.158e-3	32	-4.037e-4	39
260		min	-0.07	43	-0.052	39	-0.278	16	-3.778e-3	26	-3.45e-3	43	-1.59e-3	15
261	N162	max	0.17	32	0.179	26	-0.059	39	2.706e-3	39	2.681e-3	32	1.224e-3	15
262		min	-0.237	43	-0.159	39	-0.511	13	-3.872e-3	26	-3.679e-3	43	1.547e-4	4
263	N163	max	0.274	43	0.153	35	-0.059	39	2.857e-3	35	2.416e-3	32	4.25e-4	10
264		min	-0.13	32	-0.26	26	-0.511	13	-4.812e-3	26	-5.176e-3	43	-1.339e-4	4
265	N164	max	0.157	32	0.132	26	-0.068	39	2.536e-3	39	4.31e-3	3	2.662e-3	15
266		min	-0.133	43	-0.084	39	-0.359	14	-3.786e-3	26	-4.526e-3	9	9.204e-4	8
267	N165	max	0.351	4	0.062	2	-0.068	39	3.533e-3	1	1.392e-2	10	6.261e-4	23
268		min	-0.381	10	-0.252	8	-0.359	14	-8.981e-3	7	-1.299e-2	4	4.624e-5	5
269	N166	max	0.193	32	0.131	26	-0.063	43	3.048e-3	36	4.465e-3	32	-4.879e-4	8
270		min	-0.122	43	-0.09	36	-0.278	16	-2.566e-3	26	-3.468e-3	43	-1.89e-3	15
271	N167	max	0.049	35	0.095	28	-0.063	43	3.905e-3	28	7.537e-3	40	-4.915e-5	35
272		min	-0.178	40	-0.034	26	-0.278	16	-1.459e-3	26	-2.045e-3	35	-4.159e-4	22
273	N168	max	0.021	35	0.041	40	-0.063	43	3.894e-3	32	7.458e-3	40	-4.915e-5	35
274		min	-0.073	40	-0.013	26	-0.278	16	-1.46e-3	26	-1.961e-3	35	-4.159e-4	22
275	N169	max	0.216	32	0.149	1	-0.098	43	5.41e-3	7	8.62e-3	4	1.116e-3	10
276		min	-0.173	43	-0.136	36	-0.753	32	-5.225e-3	1	-6.93e-3	10	-1.683e-3	4
277	N170	max	0.206	32	0.139	26	-0.063	43	3.048e-3	36	4.465e-3	32	-4.879e-4	8
278		min	-0.132	43	-0.099	36	-0.278	16	-2.566e-3	26	-3.468e-3	43	-1.89e-3	15
279	N171	max	0.086	35	0.165	28	-0.063	43	3.919e-3	28	7.562e-3	40	-4.915e-5	35
280		min	-0.314	40	-0.06	26	-0.278	16	-1.458e-3	26	-2.072e-3	35	-4.159e-4	22
281	N172	max	0.011	4	0.014	2	-0.1	32	5.463e-3	43	2.076e-3	40	6.452e-4	21
282		min	-0.016	10	-0.012	8	-0.382	43	-1.024e-3	26	-8.097e-3	35	-4.476e-5	3
283	N173	max	1.32	4	0.545	1	-0.076	36	1.226e-2	1	2.813e-2	10	6.396e-4	8
284		min	-1.363	10	-0.737	7	-0.554	24	-1.545e-2	7	-2.746e-2	4	-9.074e-4	2
285	N174	max	0.172	35	0.025	32	-0.061	36	6.621e-4	28	2.435e-3	40	-9.113e-6	11
286		min	-0.093	40	-0.24	26	-0.278	24	-6.327e-3	26	-4.626e-3	35	-4.512e-4	35
287	N175	max	0.99	4	0.398	1	-0.076	36	1.225e-2	1	2.812e-2	10	6.396e-4	8
288		min	-1.025	10	-0.551	7	-0.554	24	-1.544e-2	7	-2.745e-2	4	-9.074e-4	2
289	N176	max	0.021	32	0.045	26	-0.061	36	2.684e-3	39	2.534e-3	32	-2.353e-4	28
290		min	-0.052	43	-0.012	36	-0.278	24	-3.709e-3	26	-6.046e-3	43	-8.078e-4	21
291	N177	max	0.011	4	0.014	2	-0.092	32	5.463e-3	43	2.076e-3	40	6.452e-4	21
292		min	-0.017	10	-0.014	8	-0.394	43	-1.024e-3	26	-8.097e-3	35	-4.476e-5	3
293	N178	max	0.012	4	0.013	2	-0.068	36	6.737e-4	36	2.36e-3	32	-9.113e-6	11
294		min	-0.016	10	-0.012	8	-0.263	24	-6.343e-3	26	-4.561e-3	43	-4.512e-4	35

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
295	N179	max	0.013	4	0.013	2	-0.061	36	6.737e-4	36	2.36e-3	32	-9.113e-6	11
296		min	-0.016	10	-0.012	8	-0.278	24	-6.343e-3	26	-4.561e-3	43	-4.512e-4	35
297	N180	max	0.027	4	0.008	1	-0.088	36	1.745e-3	28	5.681e-3	10	6.396e-4	8
298		min	-0.03	10	-0.009	7	-0.552	24	-5.547e-3	26	-5.006e-3	4	-9.074e-4	2
299	N181	max	0.027	4	0.01	1	-0.076	36	1.745e-3	28	5.681e-3	10	6.396e-4	8
300		min	-0.03	10	-0.01	7	-0.553	24	-5.547e-3	26	-5.006e-3	4	-9.074e-4	2
301	N182	max	0.008	6	0.018	2	-0.128	28	7.142e-3	39	3.985e-3	32	5.172e-4	9
302		min	-0.006	12	-0.021	8	-0.73	39	-1.001e-3	1	-5.404e-3	43	-2.263e-4	3
303	N183	max	0.008	6	0.019	2	-0.113	28	7.142e-3	39	3.985e-3	32	5.172e-4	9
304		min	-0.006	12	-0.022	8	-0.733	39	-1.001e-3	1	-5.404e-3	43	-2.263e-4	3
305	N184	max	0.164	32	0.124	26	-0.092	32	4.767e-3	39	4.112e-3	4	2.791e-3	22
306		min	-0.271	43	-0.21	39	-0.395	43	-1.98e-3	12	-5.378e-3	10	3.806e-4	4
307	N185	max	0.762	4	0.335	1	-0.092	32	7.37e-3	1	1.11e-2	10	6.452e-4	21
308		min	-0.487	10	-0.23	7	-0.394	43	-5.433e-3	7	-1.63e-2	4	-4.476e-5	3
309	N186	max	0.31	4	0.227	1	-0.076	36	4.245e-3	7	8.534e-3	4	3.782e-4	6
310		min	-0.35	10	-0.182	39	-0.554	24	-5.797e-3	1	-9.225e-3	10	-9.471e-4	12
311	N187	max	0.061	32	0.087	26	-0.061	36	3.808e-3	39	2.81e-3	32	-4.951e-4	28
312		min	-0.144	43	-0.067	39	-0.279	24	-2.677e-3	26	-5.543e-3	43	-1.536e-3	22
313	N188	max	0.199	32	0.099	26	-0.113	28	4.722e-3	39	3.181e-3	32	1.381e-3	23
314		min	-0.237	43	-0.241	39	-0.733	39	-1.442e-3	26	-4.994e-3	43	-1.221e-4	3
315	N189	max	0.291	31	0.379	39	-0.113	28	7.065e-3	39	3.947e-3	36	5.172e-4	9
316		min	-0.209	36	-0.037	26	-0.733	39	-6.629e-4	26	-5.367e-3	31	-2.263e-4	3
317	N190	max	0.108	32	0.095	26	-0.092	32	4.765e-3	39	4.074e-3	4	2.791e-3	22
318		min	-0.19	43	-0.131	39	-0.395	43	-1.947e-3	12	-5.34e-3	10	3.806e-4	4
319	N191	max	0.461	4	0.201	31	-0.092	32	7.327e-3	1	1.106e-2	10	6.452e-4	21
320		min	-0.281	10	-0.13	7	-0.394	43	-5.39e-3	7	-1.626e-2	4	-4.476e-5	3
321	N192	max	0.105	32	0.135	26	-0.061	36	2.389e-3	35	3.021e-3	4	-5.958e-4	32
322		min	-0.213	43	-0.108	39	-0.279	24	-3.442e-3	26	-4.321e-3	43	-1.829e-3	23
323	N196	max	0.108	35	0.016	32	-0.061	36	6.472e-4	28	2.408e-3	40	-9.113e-6	11
324		min	-0.059	40	-0.151	26	-0.278	24	-6.329e-3	26	-4.6e-3	35	-4.512e-4	35
325	N197	max	0.044	35	0.007	32	-0.061	36	6.343e-4	32	2.324e-3	40	-9.113e-6	11
326		min	-0.025	40	-0.062	26	-0.278	24	-6.335e-3	26	-4.518e-3	35	-4.512e-4	35
327	N198	max	0.208	4	0.157	26	-0.076	36	4.23e-3	7	8.519e-3	4	3.782e-4	6
328		min	-0.24	10	-0.15	39	-0.554	24	-5.782e-3	1	-9.21e-3	10	-9.471e-4	12
329	N201	max	0.114	32	0.146	26	-0.061	36	2.389e-3	35	3.021e-3	4	-5.958e-4	32
330		min	-0.226	43	-0.115	39	-0.279	24	-3.442e-3	26	-4.321e-3	43	-1.829e-3	23
331	N202	max	0.191	35	0.027	32	-0.061	36	6.622e-4	28	2.435e-3	40	-9.113e-6	11
332		min	-0.102	40	-0.265	26	-0.278	24	-6.327e-3	26	-4.626e-3	35	-4.512e-4	35
333	N203	max	0.129	32	0.057	1	-0.125	26	5.583e-3	7	5.425e-3	32	2.792e-3	19
334		min	-0.118	43	-0.141	36	-0.394	28	-4.968e-3	1	-2.537e-3	43	4.901e-4	1
335	N204	max	0.134	32	0.057	1	-0.119	26	5.583e-3	7	5.425e-3	32	2.792e-3	19
336		min	-0.112	43	-0.141	36	-0.404	36	-4.968e-3	1	-2.537e-3	43	4.901e-4	1
337	N205	max	0.127	32	0.068	1	-0.1	26	5.221e-3	7	3.277e-3	32	-2.968e-4	11
338		min	-0.12	43	-0.17	39	-0.294	43	-3.806e-3	1	-4.763e-3	43	-1.915e-3	18
339	N217	max	0.122	32	0.068	1	-0.095	26	5.221e-3	7	3.277e-3	32	-2.968e-4	11
340		min	-0.123	43	-0.17	39	-0.308	39	-3.806e-3	1	-4.763e-3	43	-1.915e-3	18
341	N228	max	0.126	32	0.067	26	-0.148	32	5.954e-3	7	3.186e-3	32	7.248e-4	1
342		min	-0.121	43	-0.125	39	-0.816	43	-4.579e-3	1	-5.876e-3	43	-1.295e-3	7
343	N229	max	0.124	32	0.067	26	-0.155	28	5.954e-3	7	3.186e-3	32	7.248e-4	1
344		min	-0.123	43	-0.125	39	-0.832	39	-4.579e-3	1	-5.876e-3	43	-1.295e-3	7
345	N230	max	0.13	32	0.091	26	-0.131	43	3.601e-3	36	5.788e-3	32	1.403e-3	20
346		min	-0.117	43	-0.082	36	-0.699	32	-2.213e-3	12	-2.528e-3	43	1.863e-5	2
347	N231	max	0.133	32	0.091	26	-0.137	43	3.601e-3	36	5.788e-3	32	1.403e-3	20
348		min	-0.114	43	-0.082	36	-0.709	32	-2.213e-3	12	-2.528e-3	43	1.863e-5	2
349	N232	max	0.106	32	0.086	26	-0.059	39	2.698e-3	39	2.673e-3	32	1.224e-3	15
350		min	-0.149	43	-0.094	39	-0.511	13	-3.872e-3	26	-3.671e-3	43	1.547e-4	4

Envelope Node Displacements (Continued)

Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC	
351	N233	max	0.153	32	0.108	26	-0.063	43	3.041e-3	36	4.452e-3	32	-4.879e-4	8
352		min	-0.09	43	-0.064	39	-0.278	16	-2.566e-3	26	-3.456e-3	43	-1.89e-3	15
353	N234	max	0.142	32	0.107	26	-0.081	35	2.525e-3	39	4.059e-3	3	2.662e-3	15
354		min	-0.109	43	-0.073	39	-0.355	13	-3.786e-3	26	-4.275e-3	9	9.204e-4	8
355	N235	max	0.14	32	0.111	26	-0.068	39	2.525e-3	39	4.059e-3	3	2.662e-3	15
356		min	-0.11	43	-0.07	39	-0.359	14	-3.786e-3	26	-4.275e-3	9	9.204e-4	8
357	N236	max	0.151	32	0.111	26	-0.075	43	3.041e-3	36	4.452e-3	32	-4.879e-4	8
358		min	-0.091	43	-0.063	39	-0.27	17	-2.566e-3	26	-3.456e-3	43	-1.89e-3	15
359	N237	max	0.12	32	0.091	26	-0.11	43	3.598e-3	7	5.423e-3	4	1.116e-3	10
360		min	-0.115	43	-0.078	39	-0.744	32	-3.413e-3	1	-3.735e-3	10	-1.683e-3	4
361	N238	max	0.12	32	0.09	26	-0.098	43	3.598e-3	7	5.423e-3	4	1.116e-3	10
362		min	-0.115	43	-0.077	39	-0.753	32	-3.413e-3	1	-3.735e-3	10	-1.683e-3	4
363	N239	max	0.107	32	0.084	26	-0.072	39	2.698e-3	39	2.673e-3	32	1.224e-3	15
364		min	-0.148	43	-0.095	39	-0.509	13	-3.872e-3	26	-3.671e-3	43	1.547e-4	4
365	N240	max	0.123	32	0.065	26	-0.113	28	4.714e-3	39	3.173e-3	32	1.381e-3	23
366		min	-0.117	43	-0.128	39	-0.733	39	-1.442e-3	26	-4.986e-3	43	-1.221e-4	3
367	N241	max	0.079	32	0.104	26	-0.061	36	2.388e-3	35	2.924e-3	32	-5.958e-4	32
368		min	-0.174	43	-0.086	39	-0.279	24	-3.441e-3	26	-4.309e-3	43	-1.829e-3	23
369	N242	max	0.09	32	0.09	26	-0.104	28	4.753e-3	39	3.784e-3	4	2.791e-3	22
370		min	-0.16	43	-0.101	39	-0.39	39	-1.794e-3	12	-5.05e-3	10	3.806e-4	4
371	N243	max	0.089	32	0.086	26	-0.092	32	4.753e-3	39	3.784e-3	4	2.791e-3	22
372		min	-0.163	43	-0.105	39	-0.395	43	-1.794e-3	12	-5.05e-3	10	3.806e-4	4
373	N244	max	0.078	32	0.102	26	-0.072	36	2.388e-3	35	2.924e-3	32	-5.958e-4	32
374		min	-0.176	43	-0.09	39	-0.271	13	-3.441e-3	26	-4.309e-3	43	-1.829e-3	23
375	N245	max	0.108	32	0.083	26	-0.086	36	2.512e-3	39	5.322e-3	4	3.782e-4	6
376		min	-0.145	43	-0.105	39	-0.547	13	-4.06e-3	26	-6.013e-3	10	-9.471e-4	12
377	N246	max	0.108	32	0.084	26	-0.076	36	2.512e-3	39	5.322e-3	4	3.782e-4	6
378		min	-0.144	43	-0.104	39	-0.553	24	-4.06e-3	26	-6.013e-3	10	-9.471e-4	12
379	N247	max	0.123	32	0.066	26	-0.124	28	4.714e-3	39	3.173e-3	32	1.381e-3	23
380		min	-0.116	43	-0.126	39	-0.727	39	-1.442e-3	26	-4.986e-3	43	-1.221e-4	3
381	N248	max	0.002	4	0	1	-0.003	26	2.763e-3	19	6.758e-4	32	2.847e-4	4
382		min	-0.002	10	0	7	-0.008	19	1.037e-3	26	-6.318e-4	43	-2.725e-4	10
383	N251	max	0.034	4	0.006	1	-0.003	26	3.556e-3	7	1.687e-3	4	2.847e-4	4
384		min	-0.032	10	-0.084	19	-0.008	17	-9.252e-4	1	-1.63e-3	10	-2.725e-4	10
385	N253	max	0.001	5	0.002	11	-0.002	43	-3.685e-4	39	2.365e-3	16	5.21e-4	11
386		min	-0.001	11	-0.002	5	-0.008	15	-1.476e-3	13	6.689e-4	43	-5.088e-4	5
387	N255	max	0.075	4	0.051	1	-0.002	39	9.693e-4	7	3.382e-3	4	5.21e-4	11
388		min	-0.014	10	-0.014	7	-0.008	13	-2.334e-3	1	-1.132e-3	10	-5.088e-4	5
389	N257	max	0.001	3	0.002	2	-0.002	32	-3.487e-4	39	-7.44e-4	32	5.93e-4	9
390		min	-0.001	9	-0.002	8	-0.008	23	-1.354e-3	13	-2.435e-3	22	-5.811e-4	3
391	N259	max	0.011	4	0.052	1	-0.003	32	1.057e-3	7	1.08e-3	4	5.93e-4	9
392		min	-0.076	22	-0.018	7	-0.008	21	-2.323e-3	1	-3.388e-3	10	-5.811e-4	3
393	N260	max	0.002	4	0.001	4	-0.003	26	2.763e-3	19	6.758e-4	32	2.847e-4	4
394		min	-0.002	10	-0.001	10	-0.008	17	1.037e-3	26	-6.318e-4	43	-2.725e-4	10
395	N261	max	0.003	5	0.001	12	-0.002	39	-3.685e-4	39	2.365e-3	16	5.21e-4	11
396		min	-0.003	11	-0.001	6	-0.008	13	-1.476e-3	13	6.689e-4	43	-5.088e-4	5
397	N262	max	0	9	0.003	2	-0.003	32	-3.487e-4	39	-7.44e-4	32	5.93e-4	9
398		min	0	3	-0.003	8	-0.008	21	-1.354e-3	13	-2.435e-3	22	-5.811e-4	3
399	N263	max	0.003	35	0.011	18	-0.003	26	2.763e-3	19	6.757e-4	32	2.847e-4	4
400		min	-0.003	40	0.004	12	-0.008	17	1.037e-3	26	-6.318e-4	43	-2.725e-4	10
401	N264	max	-0.003	6	-0.001	43	-0.002	39	-3.686e-4	39	2.365e-3	16	5.21e-4	11
402		min	-0.01	24	-0.006	16	-0.008	13	-1.476e-3	13	6.689e-4	43	-5.088e-4	5
403	N265	max	0.01	22	0	3	-0.003	32	-3.488e-4	39	-7.44e-4	32	5.93e-4	9
404		min	0.003	32	-0.006	21	-0.008	21	-1.354e-3	13	-2.434e-3	22	-5.811e-4	3
405	N266	max	0.063	4	0.023	1	-0.003	26	3.589e-3	7	1.72e-3	4	2.847e-4	4
406		min	-0.06	10	-0.141	19	-0.008	17	-9.58e-4	1	-1.663e-3	10	-2.725e-4	10



Envelope Node Displacements (Continued)

Node Label	X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
407 N249 max	0.133	4	0.091	1	-0.002	39	1.002e-3	7	3.415e-3	4	5.21e-4	11
408 min	-0.034	10	-0.031	7	-0.008	13	-2.367e-3	1	-1.165e-3	10	-5.088e-4	5
409 N267 max	0.029	4	0.092	1	-0.003	32	1.09e-3	7	1.113e-3	4	5.93e-4	9
410 min	-0.131	10	-0.036	7	-0.008	21	-2.355e-3	1	-3.421e-3	10	-5.811e-4	3

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn	
1	M63	PL 2 1/2" X 1/4"	0.27	23.525	6	0.012	23.525	y	35	1328.756	20250	0.105	1.055	2.249	H1-1a
2	M56	PL 2 1/2" X 1/4"	0.116	23.497	10	0.013	23.497	y	40	1331.931	20250	0.105	1.055	2.272	H1-1b
3	M62	PL 2 1/2" X 1/4"	0.172	23.516	10	0.027	23.516	y	43	1329.736	20250	0.105	1.055	2.249	H1-1b
4	M61	PL 2 1/2" X 1/4"	0.112	23.497	20	0.012	23.497	y	39	1331.931	20250	0.105	1.055	2.216	H1-1b
5	M52	PL 2 1/2" X 1/4"	0.129	23.484	1	0.015	0	y	43	1333.353	20250	0.105	1.055	1.625	H1-1b*
6	M55	PL 2 1/2" X 1/4"	0.101	23.488	22	0.011	23.488	y	40	1332.914	20250	0.105	1.055	2.234	H1-1b
7	M58	PL 2 1/2" X 1/4"	0.14	23.516	13	0.023	23.516	y	13	1329.736	20250	0.105	1.055	2.201	H1-1b
8	M50	PL 2 1/2" X 1/4"	0.105	23.493	14	0.016	0	y	43	1332.369	20250	0.105	1.055	2.205	H1-1b
9	M53	PL 2 1/2" X 1/4"	0.33	0	2	0.013	0	y	5	1329.193	20250	0.105	1.055	2.277	H1-1a
10	M51	PL 2 1/2" X 1/4"	0.143	23.512	19	0.029	23.512	y	37	1330.173	20250	0.105	1.055	2.214	H1-1b
11	M59	PL 2 1/2" X 1/4"	0.436	23.525	10	0.012	23.525	y	32	1328.756	20250	0.105	1.055	2.239	H1-1a
12	M72	PIPE 2.0	0.657	60	7	0.066	60	17	9836.597	32130	1.872	1.872	1.435	H1-1b	
13	M74	PIPE 2.0	0.663	60	4	0.065	60	13	9836.597	32130	1.872	1.872	1.734	H1-1b	
14	M73	PIPE 2.0	0.432	42	16	0.086	42	17	17855.085	32130	1.872	1.872	1.507	H1-1b	
15	M81	PIPE 2.0	0.44	42	24	0.084	42	13	17855.085	32130	1.872	1.872	1.705	H1-1b	
16	M88	PIPE 2.0	0.33	54	35	0.059	54	24	12143.947	32130	1.872	1.872	1.577	H1-1b	
17	M65	PIPE 2.0	0.351	58	24	0.241	12.687	9	4678.524	32130	1.872	1.872	2.871	H1-1b	
18	M71	PIPE 2.0	0.272	54	23	0.06	54	20	12143.947	32130	1.872	1.872	1.579	H1-1b	
19	M89	PIPE 2.0	0.436	42	20	0.086	42	21	17855.085	32130	1.872	1.872	1.867	H1-1b	
20	M87	PIPE 2.0	0.48	51.896	4	0.1	51.896	24	12606.974	32130	1.872	1.872	2.544	H1-1b	
21	M64	PIPE 2.0	0.348	58	17	0.264	12.688	1	4678.524	32130	1.872	1.872	2.846	H1-1b	
22	M82	PIPE 2.0	0.671	60	4	0.066	60	21	9836.597	32130	1.872	1.872	1.467	H1-1b	
23	M70	PIPE 2.0	0.467	51.896	1	0.102	51.896	20	12606.974	32130	1.872	1.872	1.734	H1-1b	
24	M79	PIPE 2.0	0.449	51.896	18	0.101	51.896	17	12606.974	32130	1.872	1.872	3	H1-1b	
25	M66	PIPE 2.0	0.353	58	21	0.25	12.687	5	4678.524	32130	1.872	1.872	2.858	H1-1b	
26	M80	PIPE 2.0	0.276	54	19	0.059	54	17	12143.947	32130	1.872	1.872	1.485	H1-1b	
27	M119	L3X3X6	0.303	41.409	21	0.051	42.29	z	43	22492.125	68364	2.307	5.027	1.443	H2-1
28	M133	L3X3X6	0.158	1.959	24	0.225	1.959	z	20	48433.909	68364	2.307	5.322	1.5	H2-1
29	M125	L3X3X6	0.176	0	21	0.257	1.958	z	12	48440.734	68364	2.307	5.322	1.5	H2-1
30	M11	L3X3X6	0.176	0	14	0.28	0	y	4	48435.239	68364	2.307	5.322	1.5	H2-1
31	M116	L3X3X6	0.301	41.409	35	0.05	41.409	y	39	22492.125	68364	2.307	5.062	1.5	H2-1
32	M115	L3X3X6	0.301	41.409	24	0.049	84.581	z	4	22492.125	68364	2.307	5.018	1.428	H2-1
33	M126	L3X3X6	0.158	1.959	16	0.229	1.959	z	24	48428.422	68364	2.307	5.322	1.5	H2-1
34	M5	L3X3X6	0.635	83.004	24	0.351	166.009	z	11	23357.071	68364	2.307	5.078	1.5	H2-1
35	M9	L3X3X6	0.634	82.998	20	0.408	165.996	z	7	23357.071	68364	2.307	5.078	1.5	H2-1
36	M16	L3X3X6	0.157	1.959	20	0.238	1.959	z	4	48428.422	68364	2.307	5.322	1.5	H2-1
37	M132	L3X3X6	0.18	0	17	0.224	1.959	y	20	48435.239	68364	2.307	5.322	1.5	H2-1
38	M15	L3X3X6	0.635	83.004	16	0.421	166.009	z	4	23357.071	68364	2.307	5.078	1.5	H2-1
39	M69	L2.5X2.5X4	0.388	14.998	4	0.048	14.998	z	10	36640.056	38556	1.114	2.537	1.5	H2-1
40	M68	L2.5X2.5X4	0.366	14.998	9	0.043	14.998	z	3	36640.056	38556	1.114	2.537	1.5	H2-1
41	M67	L2.5X2.5X4	0.415	14.998	1	0.045	14.998	z	6	36640.056	38556	1.114	2.537	1.5	H2-1
42	M118	HSS4X4X4	0.249	23.506	24	0.09	23.506	y	39	137295.416	139518	16.181	16.181	1.683	H1-1b
43	M113	HSS4X4X4	0.252	23.502	21	0.091	23.502	y	32	137296.141	139518	16.181	16.181	1.684	H1-1b
44	M114	HSS4X4X4	0.248	23.506	17	0.073	23.506	y	36	137295.416	139518	16.181	16.181	1.684	H1-1b
45	M47	HSS3.5X3.5X4	0.521	9	17	0.144	9	y	32	120095.587	120474	12.075	12.075	1.159	H1-1b
46	M48	HSS3.5X3.5X4	0.528	9	21	0.168	9	y	39	120095.587	120474	12.075	12.075	1.159	H1-1b
47	M49	HSS3.5X3.5X4	0.512	9	17	0.163	9	y	32	120095.587	120474	12.075	12.075	1.159	H1-1b
48	M102	PL 2 1/2" X 1/4"	0.135	23.488	4	0.01	23.488	y	8	1332.914	20250	0.105	1.055	2.228	H1-1b
49	M109	PIPE 2.0	0.1	4	7	0.009	4	7	26521.424	32130	1.872	1.872	2.186	H1-1b	



Company : ATC/EFI
 Designer : AJ
 Job Number : 049.03063 - 2210142
 Model Name : 310968_13753216_ATT MOBILITY

3/8/2022
 10:57:24 AM
 Checked By : _____

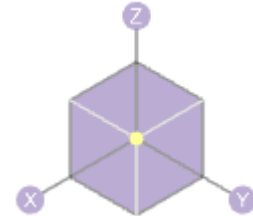
Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	C	ϕ^*P_{nc} [lb]	ϕ^*P_{nt} [lb]	$\phi^*M_{n y-y}$ [k-ft]	$\phi^*M_{n z-z}$ [k-ft]	Cb	Eqn
50	M103	PIPE 2.0	0.1	4	4	0.009	4	4	26521.424	32130	1.872	1.872	2.162	H1-1b
51	M110	PIPE 2.0	0.1	4	10	0.009	4	10	26521.424	32130	1.872	1.872	2.162	H1-1b

MOUNT TO TOWER CONNECTION CHECK:

FORCES FROM ANALYSIS RESULTS:

$V_x := 255.2421 \text{bf}$	Horizontal shear per connection
$V_y := 548.0071 \text{bf}$	Tension per connection
$V_z := 1500.5951 \text{bf}$	Vertical shear per connection
$M_x := 3.638 \text{kip}\cdot\text{ft}$	Moment about X-axis
$M_y := 0.022 \text{kip}\cdot\text{ft}$	Moment about Y-axis
$M_z := 0.187 \text{kip}\cdot\text{ft}$	Moment about Z-axis



DIMENSIONS OF PLATE:

$H := 12 \text{in}$	Height of Plate
$W := 7 \text{in}$	Width of Plate
$T := 0.5 \text{in}$	Thickness of Plate

WELD CONNECTION:

Weld Properties

$b := 3.5 \text{in}$	Width of HSS
$d := 3.5 \text{in}$	Depth of HSS
$l_{\text{weld}} := 2(b + d) = 14 \cdot \text{in}$	Length of Weld

$$S := b \cdot d + \frac{d^2}{3} = 16.333 \cdot \text{in}^2 \quad I_p := \frac{(b + d)^3}{6} = 57.167 \cdot \text{in}^3$$

Max Tensile Force on Weld:

$$P_{wy} := \frac{V_y}{l_{\text{weld}}} + \frac{M_x}{S} + \frac{M_z}{S} = 2.849 \cdot \frac{\text{kip}}{\text{in}}$$

Max Shear Force on Weld

$$P_{wx} := \frac{V_x}{l_{\text{weld}}} + \frac{M_y}{I_p} \cdot \frac{d}{2} = 0.026 \cdot \frac{\text{kip}}{\text{in}} \quad P_{wz} := \frac{V_z}{l_{\text{weld}}} + \frac{M_y}{I_p} \cdot \frac{b}{2} = 0.115 \cdot \frac{\text{kip}}{\text{in}}$$

$$P_{w_tot} := \sqrt{P_{wx}^2 + P_{wz}^2} = 0.118 \cdot \frac{\text{kip}}{\text{in}}$$

Max Applied Weld Force Per Inch:

$$P_{w_max} := \sqrt{P_{wy}^2 + P_{w_tot}^2} = 2.852 \cdot \frac{\text{kip}}{\text{in}}$$

Weld Sizing

Electrode Strength

$$F_{EXX} := 70 \cdot \text{ksi}$$

Vertical fillet weld size - jump plate to leg
(in sixteenths of an inch):

$$D_{vplate} := 5$$

$$\text{Weldsizemax} := T - \frac{1 \cdot \text{in}}{16} = 0.438 \cdot \text{in} > \text{Weldsize} := \frac{D_{vplate} \cdot \text{in}}{16} = 0.313 \cdot \text{in} \quad \text{Acceptable}$$

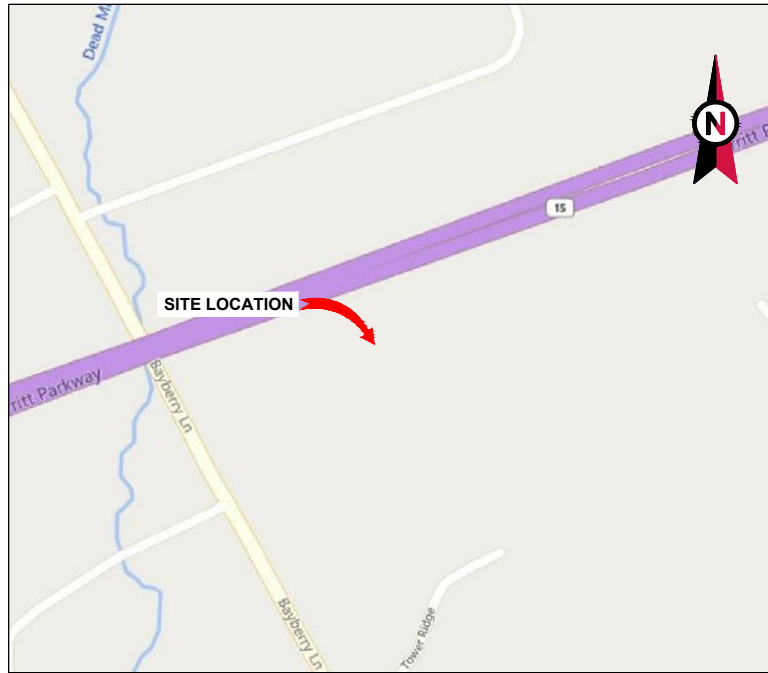
Weld Capacity

$$\phi_w := 0.75 \quad \theta := \text{atan}\left(\frac{P_{wy}}{P_{w_tot}}\right) = 1.529$$

$$F_w := 0.6 \cdot F_{EXX} \cdot \left[1 + 0.5 (\sin(\theta))^{1.5}\right] = 62.973 \cdot \text{ksi}$$

$$\phi R_w := \phi_w \cdot (0.707 \text{Weldsize}) \cdot (F_w) = 10.435 \cdot \frac{\text{kip}}{\text{in}}$$

Interaction Capacity : $\frac{P_{w_max}}{\phi R_w} = 27.3 \cdot \% < 100\% \dots \text{OK!}$



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: WSPT-WESTPORT REBUILD CT
 ATC SITE NUMBER: 310968
 AT&T PACE NUMBERS: MRCTB054847 MRCTB054591
 MRCTB056370 MRCTB056357
 MRCTB055167 MRCTB053599
 MRCTB054298

AT&T SITE ID: CTL02107
 AT&T FA CODE: 10034981
 AT&T SITE NAME: WESTPORT
 SITE ADDRESS: 180A BAYBERRY LANE
 WESTPORT, CT 06880-2844

**AT&T 5G NR RADIO/ CBAND
 AMENDMENT PLAN**



LOCATION MAP



Colliers Engineering & Design

www.colliersengineering.com
 Doing Business as **MASER CONSULTING**
STAMFORD
 1055 Washington Boulevard
 Stamford, CT 06901
 Phone: 203.324.0800
 COLLIERS ENGINEERING & DESIGN CT, P.C.
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	3/31/22
B	PRELIM	JLK	04/12/22
0	FOR CONSTRUCTION	AMN	05/23/22

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT REBUILD CT

AT&T SITE NAME:
WESTPORT

SITE ADDRESS:
180A BAYBERRY LANE
WESTPORT, CT 06880-2844



NOTE: Digitally signed by Justin Peter Linette
 Date: 2022.05.24 13:44:58-04'00'

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.



DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

TITLE SHEET

SHEET NUMBER:
G-001

REVISION:
0

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
<p>ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <ol style="list-style-type: none"> CT STATE BUILDING CODE, INCORPORATING THE 2018 INTERNATIONAL BUILDING CODE 2017 NATIONAL ELECTRIC CODE (NEC) LOCAL BUILDING CODE CITY/COUNTY ORDINANCES 	<p><u>SITE ADDRESS:</u> 180A BAYBERRY LANE WESTPORT, CT 06880-2844 COUNTY: FAIRFIELD</p> <p><u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.1716492 LONGITUDE: -73.32860551 GROUND ELEVATION: 250' AMSL</p>	<p>THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (9) ANTENNA(S), (3) RRR(S), (12) RET(S), (12) TMA(S) AND (6) COAX CABLE(S) INSTALL (12) ANTENNA(S), (9) RRR(S), (2) SQUID(S), (4) DC TRUNK(S), (2) FIBER TRUNK(S) AND (3) Y CABLES EXISTING (3) RRR(S), (1) SQUID(S), (6) COAX CABLE(S), (1) CABLE(S), (1) FIBER TRUNK(S) AND (2) DC TRUNK(S) TO REMAIN <u>GROUND WORK:</u> INSTALL (1) INDOOR DC 12, (1) 6648 WITH XCEDE CABLES AND (1) 6630 WITH IDLE CABLE</p>	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<p><u>PROJECT TEAM</u></p> <p><u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801</p> <p><u>APPLICANT:</u> AT&T MOBILITY</p> <p><u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 1055 WASHINGTON BLVD STAMFORD, CT 06901</p> <p>PROJECT #: 22904228A</p> <p><u>PROPERTY OWNER:</u> TOWN OF WESTPORT CT 180A BAYBERRY LANE WESTPORT, CT 06880-2844</p>	<p><u>PROJECT NOTES</u></p> <ol style="list-style-type: none"> THE FACILITY IS UNMANNED. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. HANDICAP ACCESS IS NOT REQUIRED. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7). 	G-001	TITLE SHEET	0	05/23/22	MPT
	<p><u>UTILITY COMPANIES</u></p> <p>POWER COMPANY: UNKNOWN PHONE: N/A</p> <p>TELEPHONE COMPANY: UNKNOWN PHONE: N/A</p>	<p><u>PROJECT LOCATION DIRECTIONS</u></p> <p>FROM HARTFORD TAKE I-91 SOUTH TO MERRITT PKWY SOUTH. TAKE EXIT 42 AND TURN RIGHT OFF EXIT. AT FORK STAY LEFT AND TURN LEFT AT STOP SIGN ONTO EASTON ROAD. FOLLOW EASTON TO BAYBERRY LANE AND TURN RIGHT. GO UNDER MERRITT OVERPASS AND TURN LEFT INTO TOWN COMPLEX. TOWER IS UP HILL JUST PASS ACCESS GATE.</p>	C-101	DETAILED SITE PLAN	0	05/23/22	MPT
		C-201	TOWER ELEVATION	0	05/23/22	MPT	
		C-401	RF SCHEDULE AND ANTENNA INSTALLATION	0	05/23/22	MPT	
		C-501	CONSTRUCTION DETAILS	0	05/23/22	MPT	
		E-501	GROUNDING DETAILS	0	05/23/22	MPT	
		R-601	SUPPLEMENTAL				
		R-602	SUPPLEMENTAL				
		R-603	SUPPLEMENTAL				
		R-604	SUPPLEMENTAL				



Know what's below.
Call before you dig.

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO

- DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
 24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
 25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
 26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
 27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
 28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
 29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
 30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
 31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
 32. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
 33. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
 - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
 - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
 - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
 - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
 - G. ANTENNA AND COAXIAL CABLE GROUNDING:
 2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
 3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	3/31/22
B	PRELIM	JLK	04/12/22
0	FOR CONSTRUCTION	AMN	05/23/22

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT REBUILD CT

AT&T SITE NAME:
WESTPORT

SITE ADDRESS:
180A BAYBERRY LANE
WESTPORT, CT 06880-2844

SEAL:

NOTE: Digitally signed by Justin Peter Linette
Date: 2022.05.24 13:45:07-04:00

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DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

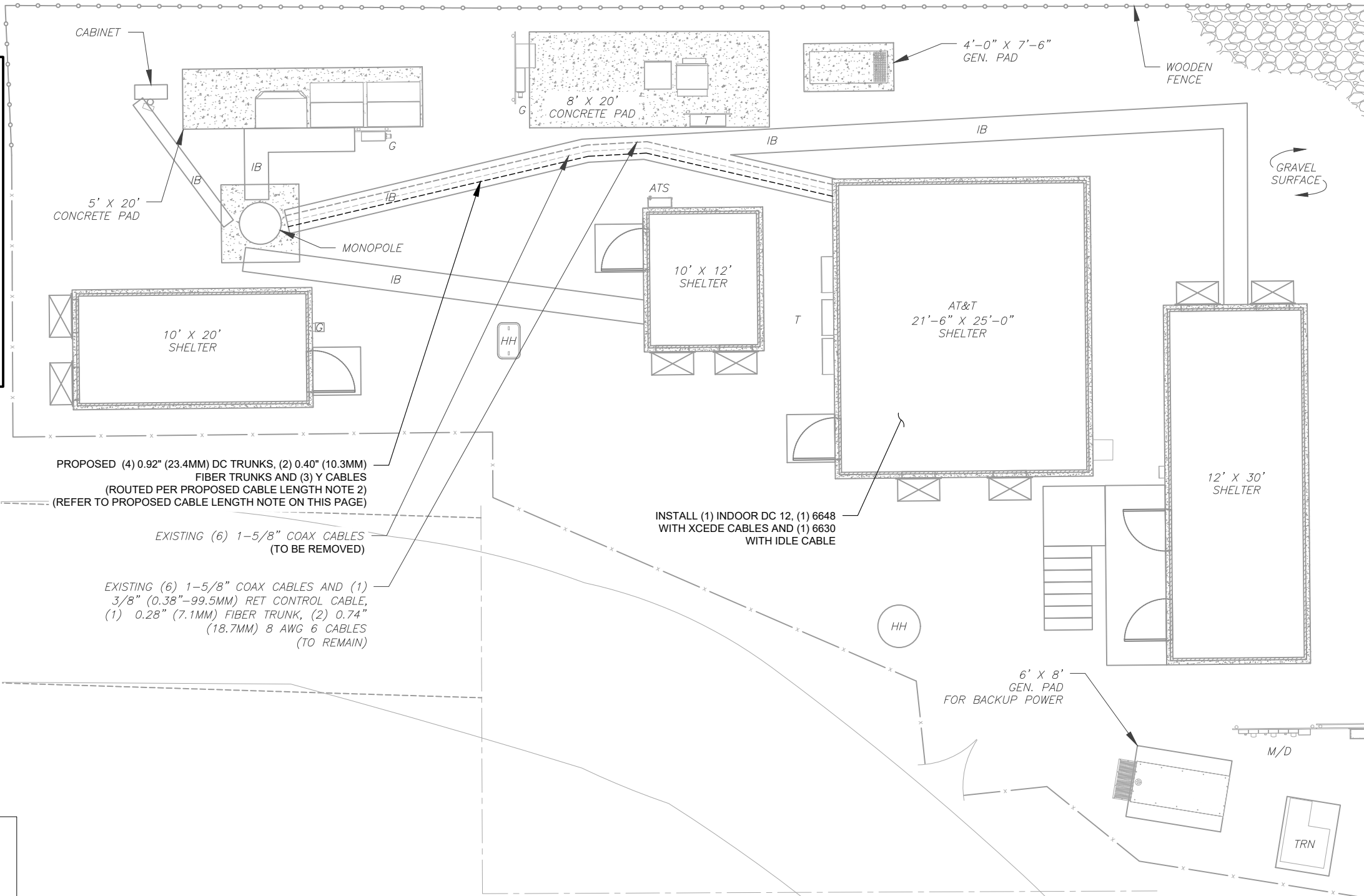
GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

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SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE



PROPOSED (4) 0.92" (23.4MM) DC TRUNKS, (2) 0.40" (10.3MM) FIBER TRUNKS AND (3) Y CABLES (ROUTED PER PROPOSED CABLE LENGTH NOTE 2) (REFER TO PROPOSED CABLE LENGTH NOTE ON THIS PAGE)

EXISTING (6) 1-5/8" COAX CABLES (TO BE REMOVED)

EXISTING (6) 1-5/8" COAX CABLES AND (1) 3/8" (9.5MM) RET CONTROL CABLE, (1) 0.28" (7.1MM) FIBER TRUNK, (2) 0.74" (18.7MM) 8 AWG 6 CABLES (TO REMAIN)

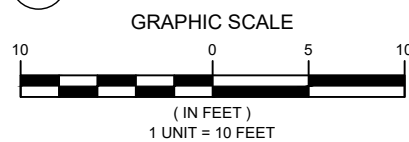
INSTALL (1) INDOOR DC 12, (1) 6648 WITH XCEDE CABLES AND (1) 6630 WITH IDLE CABLE

6' X 8' GEN. PAD FOR BACKUP POWER

PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **190'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

1 DETAILED SITE PLAN



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 Date: 2022.05.24 13:45:07-04'00'

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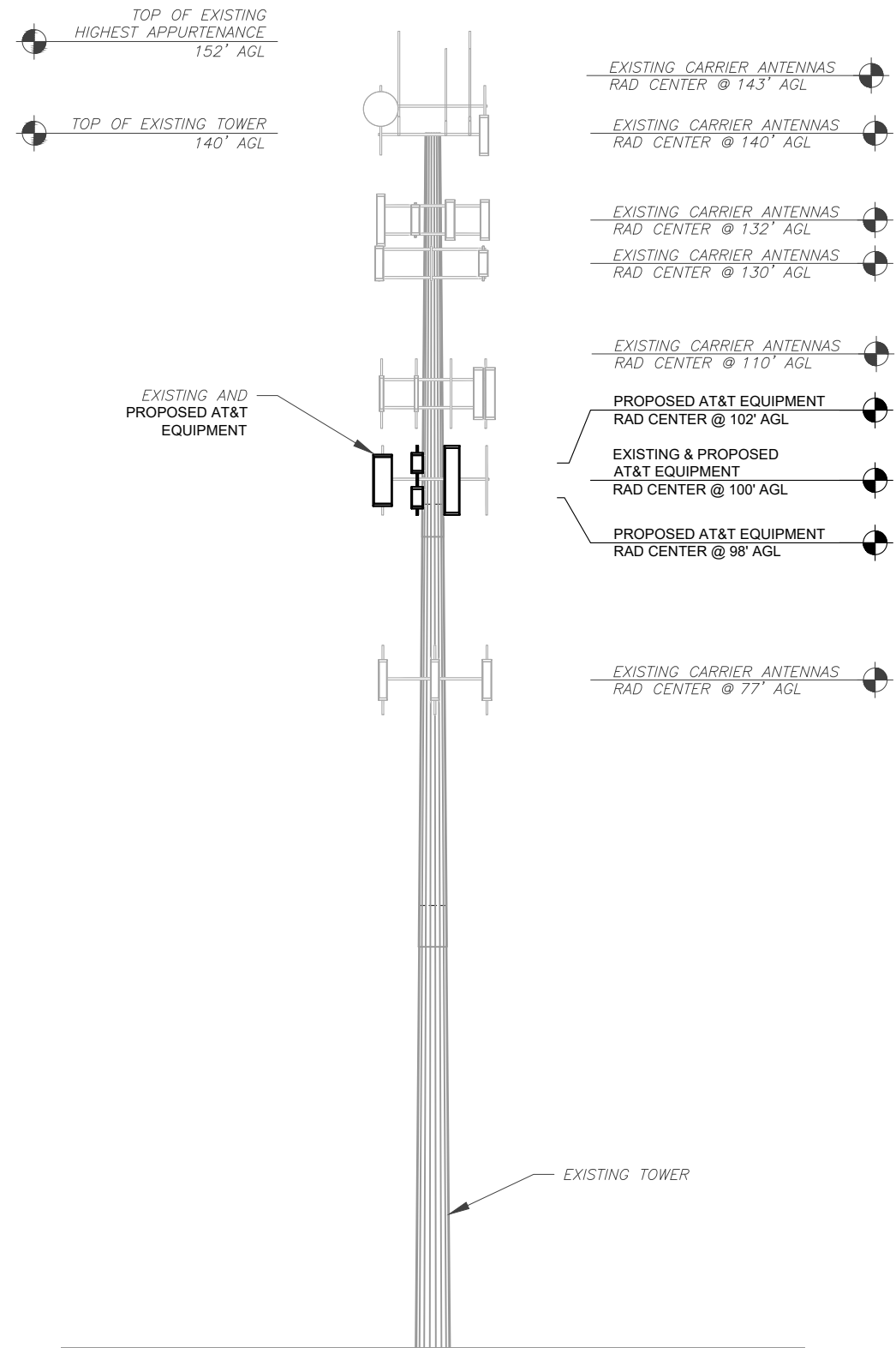


DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

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1 TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY EFI GLOBAL, DATED 3/8/2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS. EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
 - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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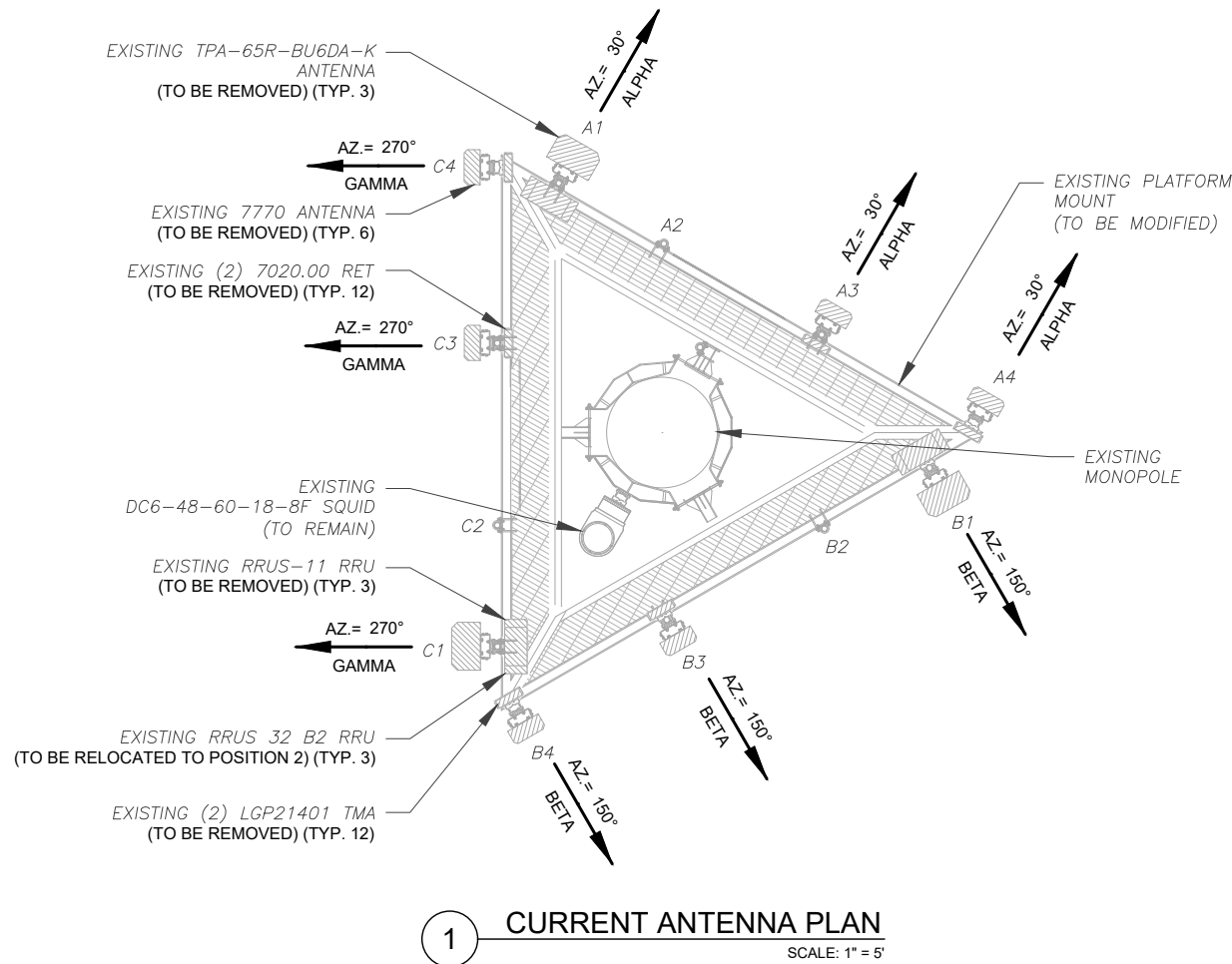
DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

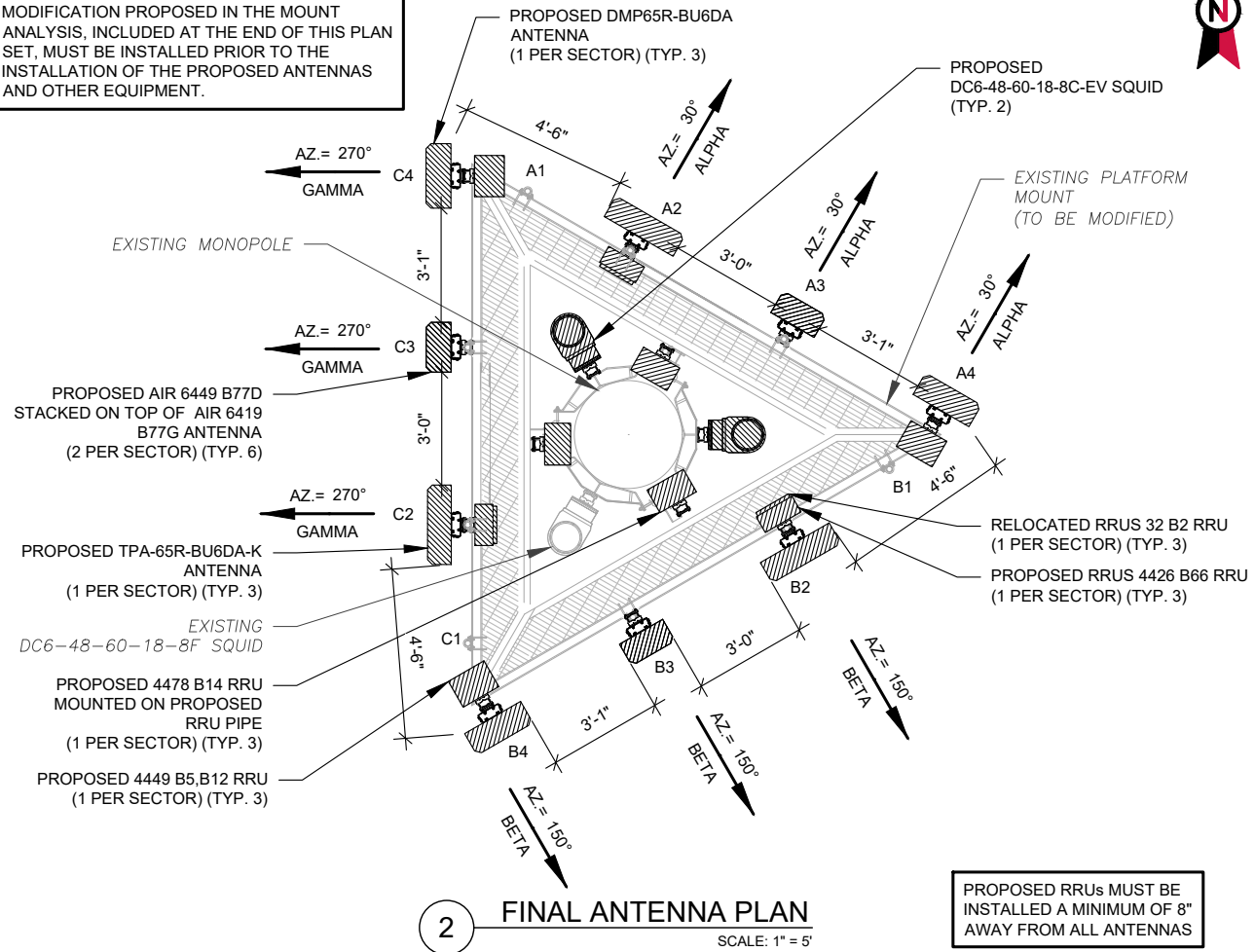
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EXISTING CONFIGURATIONS ARE BASED ON RFDS. CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 CURRENT ANTENNA PLAN
SCALE: 1" = 5"

PER MOUNT ANALYSIS COMPLETED BY EFI GLOBAL, DATED 3/8/2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN
SCALE: 1" = 5"

PROPOSED RRUs MUST BE INSTALLED A MINIMUM OF 8" AWAY FROM ALL ANTENNAS

EXISTING ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	100'	30°	A1	HPA-65R-BUU-H6	LTE 700/ LTE 1900	RMV	RRUS-11 RRUS 32 B2	RMV REL
			A2	-	-	-	-	-
			A3	7770	GSM 850	RMV	(2) LGP21401 (2) 7020.00	RMV
			A4	7770	UMTS 850/ UMTS 1900	RMV	(2) LGP21401 (2) 7020.00	RMV
BETA	100'	150°	B1	HPA-65R-BUU-H6	LTE 700/ LTE 1900	RMV	RRUS-11 RRUS 32 B2	RMV REL
			B2	-	-	-	-	-
			B3	7770	GSM 850	RMV	(2) LGP21401 (2) 7020.00	RMV
			B4	7770	UMTS 850/ UMTS 1900	RMV	(2) LGP21401 (2) 7020.00	RMV
GAMMA	100'	270°	C1	HPA-65R-BUU-H6	LTE 700/ LTE 1900	RMV	RRUS-11 RRUS 32 B2	RMV REL
			C2	-	-	-	-	-
			C3	7770	GSM 850	RMV	(2) LGP21401 (2) 7020.00	RMV
			C4	7770	UMTS 850/ UMTS 1900	RMV	(2) LGP21401 (2) 7020.00	RMV

- NOTES**
- CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
 - CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

FINAL ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	100'	30°	A1	-	-	-	-	-
			A2	TPA-65R-BU6DA-K	LTE 700/ LTE 1900/ LTE AWS/ 5G 1900/ 5G AWS	ADD	RRUS 4426 B66 RRUS 32 B2 RRUS 4478 B14	ADD REL ADD
			A3	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-
			A4	DMP65R-BU6DA	LTE 700/ 5G 850	ADD	RRUS 4449 B5, B12	ADD
BETA	100'	150°	B1	-	-	-	-	-
			B2	TPA-65R-BU6DA-K	LTE 700/ LTE 1900/ LTE AWS/ 5G 1900/ 5G AWS	ADD	RRUS 4426 B66 RRUS 32 B2 RRUS 4478 B14	ADD REL ADD
			B3	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-
			B4	DMP65R-BU6DA	LTE 700/ 5G 850	ADD	RRUS 4449 B5, B12	ADD
GAMMA	100'	270°	C1	-	-	-	-	-
			C2	TPA-65R-BU6DA-K	LTE 700/ LTE 1900/ LTE AWS/ 5G 1900/ 5G AWS	ADD	RRUS 4426 B66 RRUS 32 B2 RRUS 4478 B14	ADD REL ADD
			C3	AIR 6419 B77G AIR 6449 B77D	5G CBAND	ADD ADD	-	-
			C4	DMP65R-BU6DA	LTE 700/ 5G 850	ADD	RRUS 4449 B5, B12	ADD

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
DC6-48-60-18-8F	RMN	(6) 1-5/8"	-	-	RMV
-	-	(6) 1-5/8" (1) 3/8" RET	(2) 0.74" (18.7MM) 8 AWG 7	(1) 0.28" (7.1MM)	RMN

STATUS ABBREVIATIONS
 RMV: TO BE REMOVED
 RMN: TO REMAIN
 REL: TO BE RELOCATED
 ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS
 JUNCTION BOX TO RRU: 15'
 RRU TO ANTENNA: 10'

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
DC6-48-60-18-8F	RMN	(6) 1-5/8" (1) 3/8" RET	(2) 0.74" (18.7MM) 8 AWG 7	(1) 0.28" (7.1MM)	RMN
(2) DC6-48-60-18-8C-EV	ADD	(3) Y CABLES	(4) 0.92" 6AWG6 (23.4MM)	(2) 0.40" (10.3MM)	ADD



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 Stamford, CT 06901
 Phone: 203.324.0800
 COLLIERS ENGINEERING & DESIGN CT, P.C.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	3/31/22
B	PRELIM	JLK	04/12/22
0	FOR CONSTRUCTION	AMN	05/23/22

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT REBUILD CT

AT&T SITE NAME:
WESTPORT

SITE ADDRESS:
180A BAYBERRY LANE
WESTPORT, CT 06880-2844

SEAL: [Signature]

NOTE: Digitally signed by Justin Peter Linette
Date: 2022.05.24 13:45:08-04'00'

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.

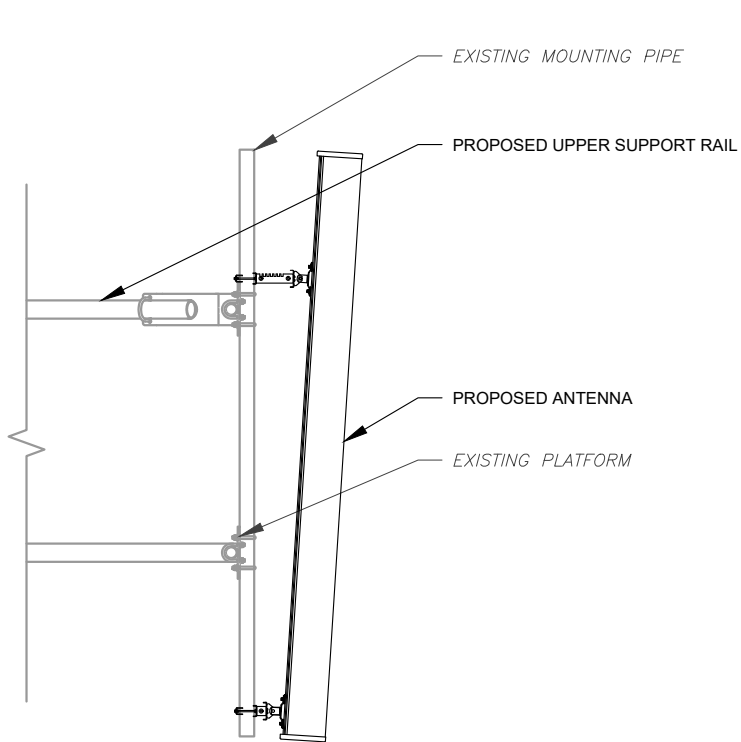


DATE DRAWN: 3/31/22
 ATC JOB NO: 13753216_G5
 CUSTOMER ID: CTL02107
 CUSTOMER #: 10034981

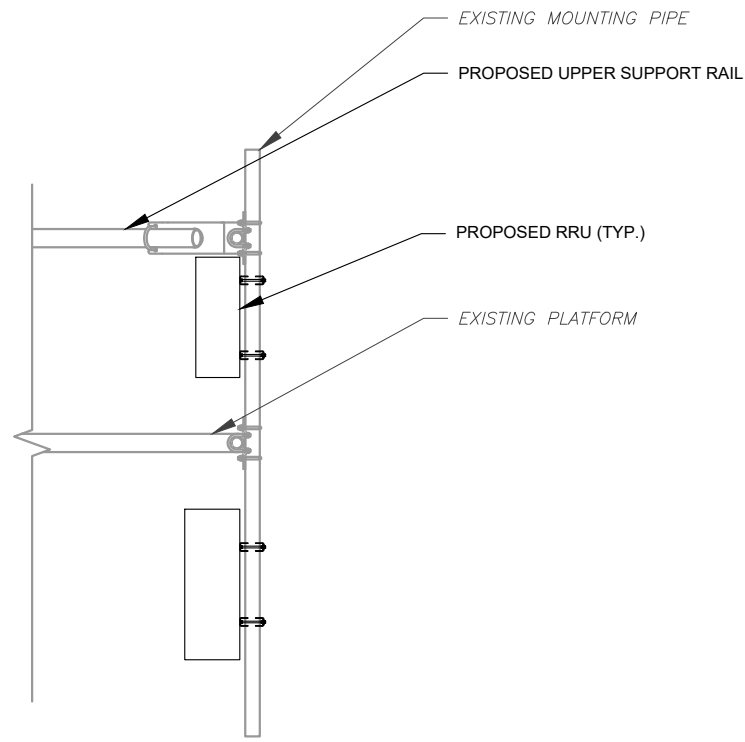
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER: **C-401** REVISION: **0**

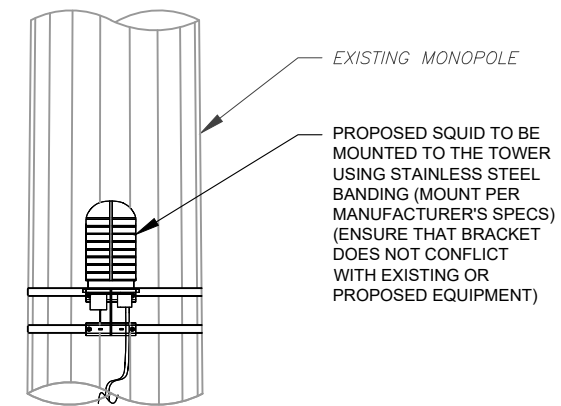
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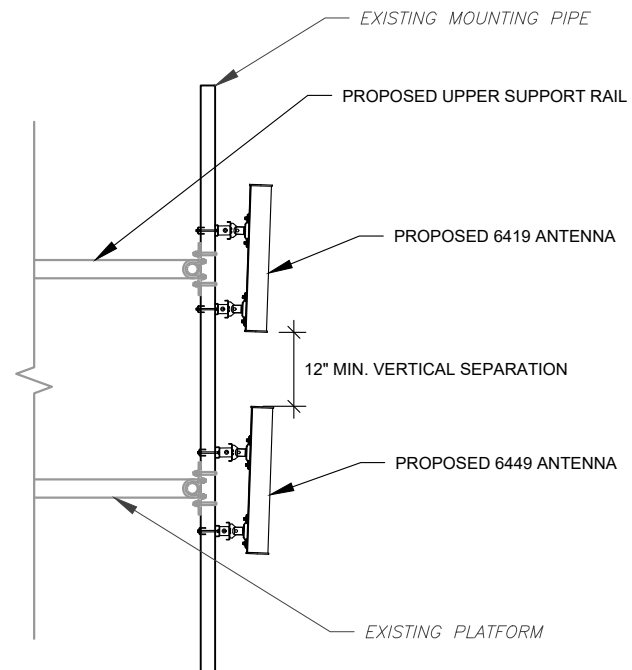
1 ANTENNA DETAIL
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED SQUID MOUNTING
SCALE: N.T.S.



5 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	3/31/22
B	PRELIM	JLK	04/12/22
0	FOR CONSTRUCTION	AMN	05/23/22

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT REBUILD CT

AT&T SITE NAME:
WESTPORT

SITE ADDRESS:
180A BAYBERRY LANE
WESTPORT, CT 06880-2844



NOTE: Digitally signed by Justin Peter Linette
 Date: 2022.05.24 13:45:09-04'00'

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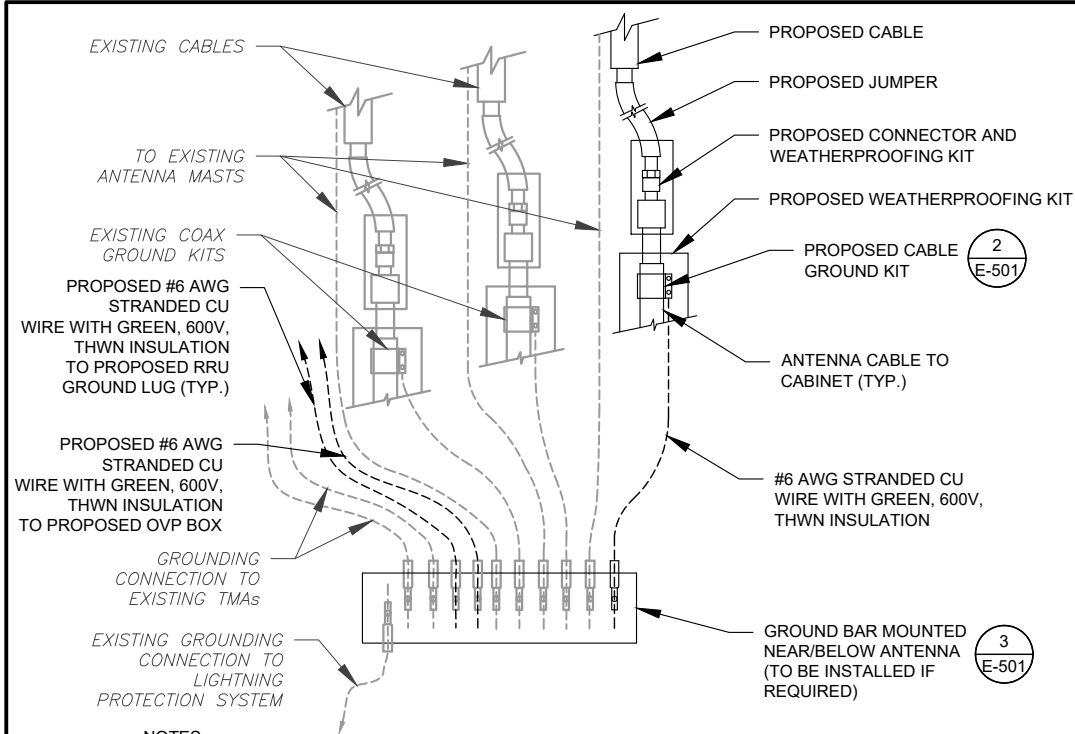


DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

CONSTRUCTION
DETAILS

SHEET NUMBER:
C-501

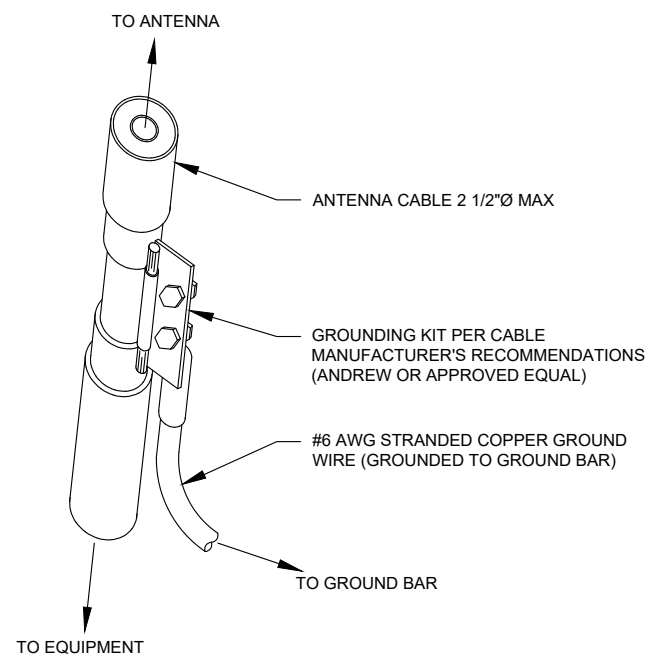
REVISION:
0



NOTES:

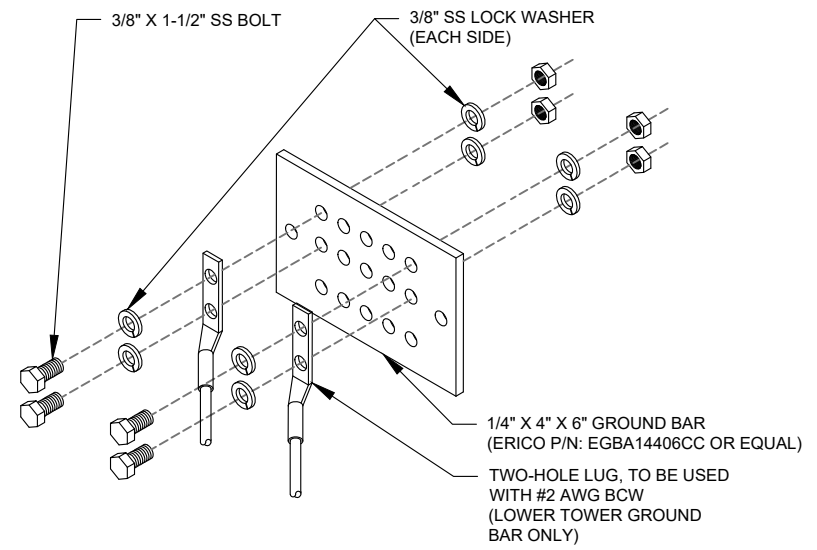
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

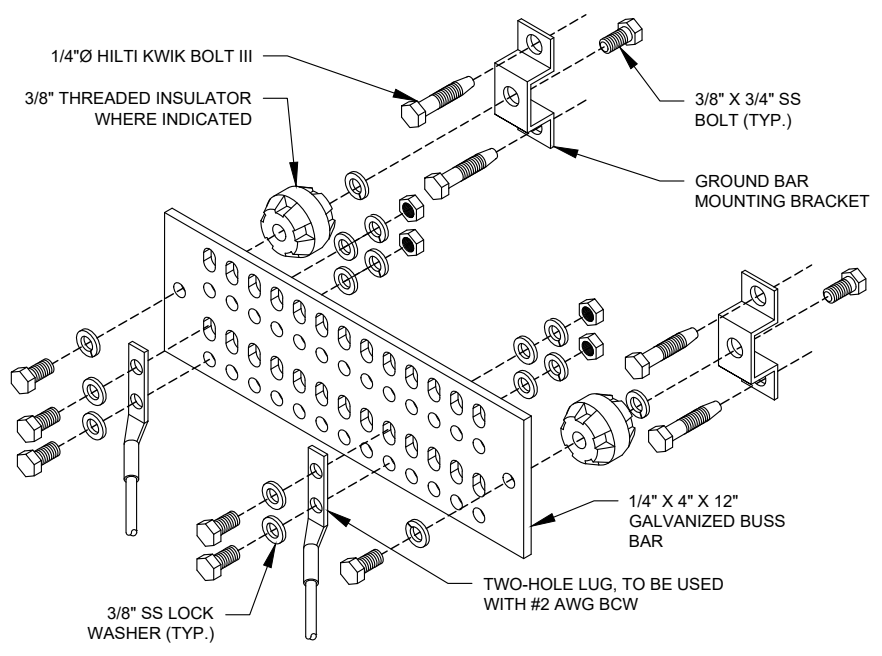
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

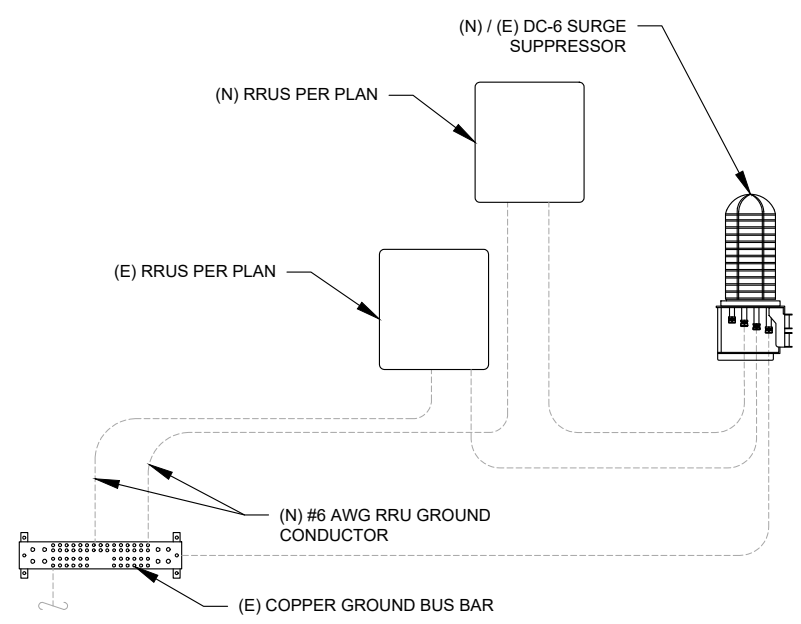
3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



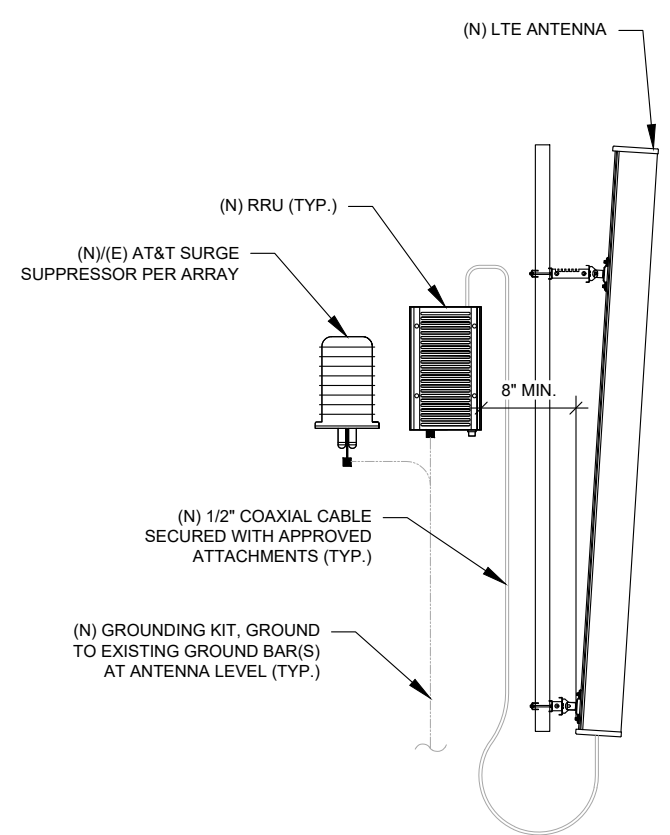
GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

4 MAIN GROUND BAR DETAIL
SCALE: N.T.S.



5 RRU GROUNDING
SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	3/31/22
B	PRELIM	JLK	04/12/22
0	FOR CONSTRUCTION	AMN	05/23/22

ATC SITE NUMBER:
310968

ATC SITE NAME:
WSPT-WESTPORT REBUILD CT

AT&T SITE NAME:
WESTPORT

SITE ADDRESS:
**180A BAYBERRY LANE
WESTPORT, CT 06880-2844**

SEAL:

NOTE: Digitally signed by Justin Peter Linette
Date: 2022.05.24 13:45:09-04'00'

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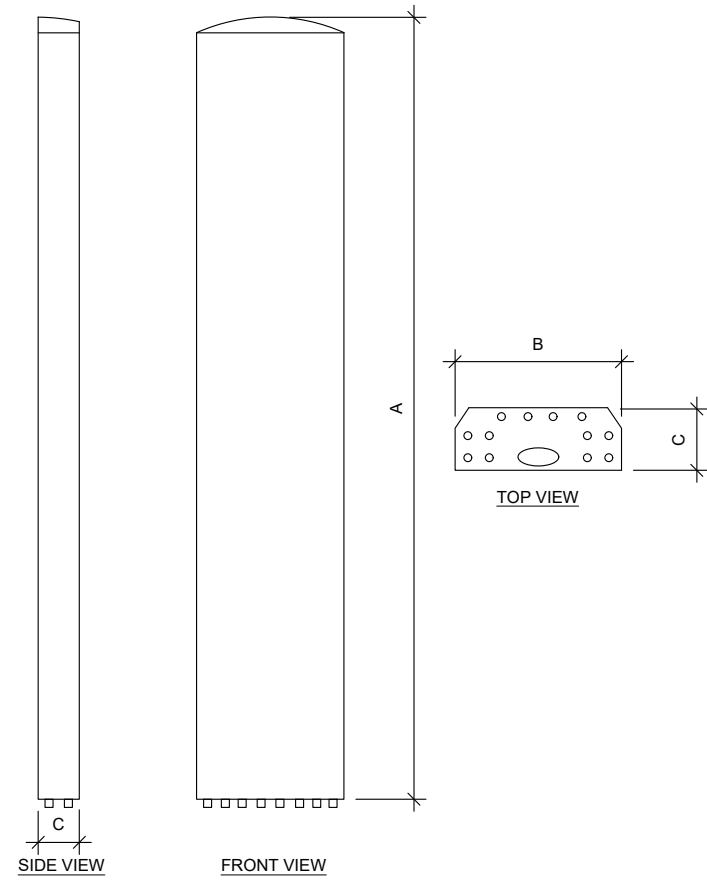
DATE DRAWN:	3/31/22
ATC JOB NO:	13753216_G5
CUSTOMER ID:	CTL02107
CUSTOMER #:	10034981

GROUNDING DETAILS

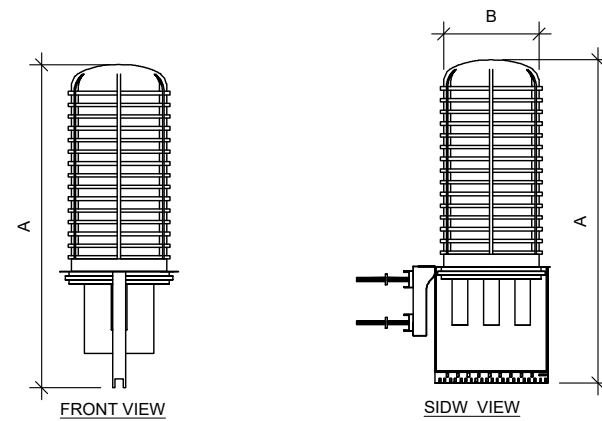
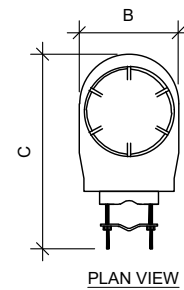
SHEET NUMBER:
E-501

REVISION:
0

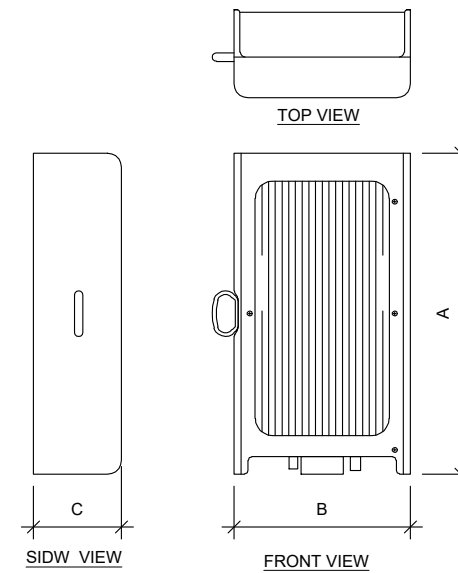
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ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
DMP65R-BU6DA	48.0"	20.7"	7.7"	67.9
TPA-65R-BU6DA-K	71.1"	25.5"	7.6"	68.3
AIR 6449 B77D	30.6"	15.9"	10.6"	83.8
AIR 6419 B77G	28.3"	16.1"	7.9"	83.0



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC6-48-60-18-8C-EV	31.4"	18.3"	10.2"	16.0



RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4449 B5, B12	17.9"	13.2"	9.4"	71.0
4478 B14	18.1"	13.4"	8.3"	59.4
RRUS 4426 B66	14.96	13.2	5.9	48.5

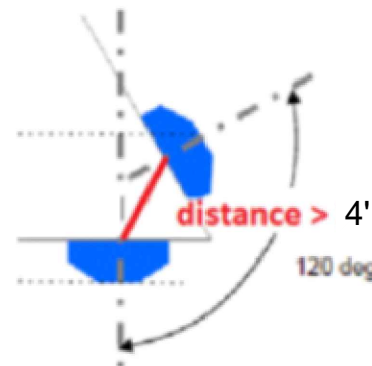
1 EQUIPMENT SPECIFICATIONS
SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: -

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- Horizontal separation (side to side of antenna): $\geq 3'$
- Vertical separation (between the tips of the antennas): $> 3'$
- Inter-sector separation: $> 4'$ between the center of the antenna backplanes.



- Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- Typical 3' horizontal separation can tolerate skew angle up to 6° .



NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:
R-602

REVISION:
-



This report was prepared for American Tower Corporation by



Antenna Mount Analysis Report

ATC Site Name : WSPT-WESTPORT REBUILD CT
ATC Site Number : 310968
Engineering Number : 13753216_C8_01
Mount Elevation : 100 ft
Carrier : AT&T Mobility
Carrier Site Name : MRCTB056357
Carrier Site Number : CTL02107
Site Location : 180A Bayberry Lane
 Westport, CT 06880-2844
 41.17164920, -73.32860551
County : Fairfield
Date : March 8, 2022
Max Usage : 67%
Result : Contingent Pass

Prepared By:
Akhil Jayaraj, E.I.T.
EFI Global, Inc.

Reviewed By:
Ahmet Colakoglu, P.E.
EFI Global, Inc.



COA#: PEC.0001245



EFI Job No.: 049.03063 - 2210142
March 8, 2022
Page 1

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 100 ft.

Supporting Documents

Mount Mapping Report	B+T Project # G0160582.001.01, dated February 7, 2022
RFDS	RFDS dated January 31, 2022
Photos	Site photos from 2022

Analysis

This antenna mount was analyzed using RISA-3D v19 analysis software

Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Risk Category:	II
Exposure Category:	B
Topographic Factor Procedure:	Method 2
Feature:	Flat
Spectral Response:	S _s = 0.227, S ₁ = 0.056
Seismic Design Category	B
Site Class:	D - Stiff Soil
Live Loads:	L _m = 500 lbs, L _v = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- A support rail kit was modeled due to the Carrier's proposed Mount Type. Install Valmont/Site Pro 1 Universal Support Rail Kit, P/N: HRK14 (ANT.51647) 30" above the base of the platform.
- Each mount pipe should be attached to the support rail.
- New (1) 48" long 2.0 STD pipe mount should be installed at each standoff tube arm using Valmont/Site Pro 1 Crossover Plate Kit w/ Square U-bolts (P/N: SQCX4-K), a total of three (3) to attach RRU's.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



EFI Job No.: 049.03063 - 2210142
March 8, 2022
Page 2

Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
100.0	100.0	3	Ericsson Air 6449 B77D*
		3	CCI TPA-65R-BU6DA-K
		3	CCI DMP65R-BU8D
		1	Raycap DC6-48-60-18-8F ("Squid")**
		2	Raycap DC9-48-60-24-8C-EV**
		3	Ericsson RRU5 4449 B5, B12
		3	Ericsson RRU5 4426 B66
		3	Ericsson RRU5 4478 B14
		3	Ericsson RRU5 32 B2
		98.0	3

*Air 6449 & AIR 6419 are stacked.

**Mounted on Raycap Pipes attached to the corral mount

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Platform Base Face Angles	64%	Pass
Platform Standoff Tubes	53%	Pass
Grating Angles	30%	Pass
Grating Plates	44%	Pass
Support Rail Pipes	35%	Pass
Support Rail Connection Angles	42%	Pass
Antenna Mount Pipes	67%	Pass

SUPPLEMENTAL

SHEET NUMBER:
R-603

REVISION:
-

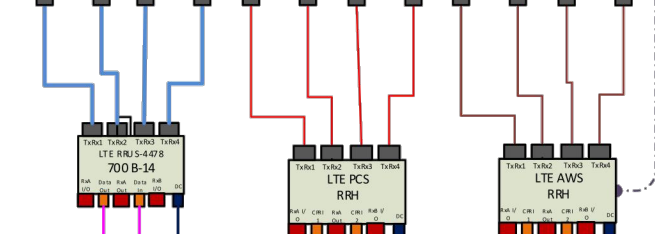
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

ANTENNA
POSITION 1

EMPTY

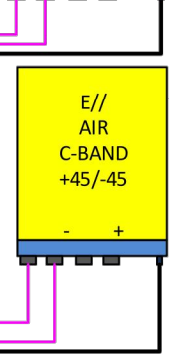
Antenna 2
LTE B14 / PCS / AWS

BA 12PORT					
Low 700/850 +45/-45	Low 700/850 +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45
- +	- +	- +	- +	- +	- +
RET	RET	RET	RET	RET	RET



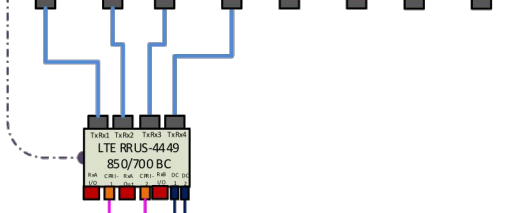
Antenna 3
DoD + Cband

DoD +45/-45
- +



Antenna 4
LTE 700 BC / 850

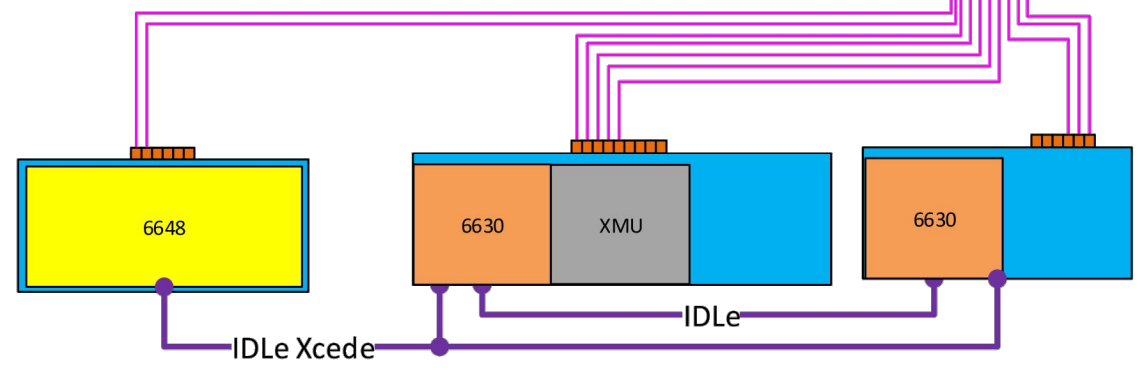
Broadband Octo Low 700/850 +45/-45	Broadband Octo Low 700/850 +45/-45	Broadband Octo High 4Tx/4Rx +45/-45	Broadband Octo High 4Tx/4Rx +45/-45
- +	- +	- +	- +
RET	RET	RET	RET



1 Squid per sector

(Y- Cable)

- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER: R-604	REVISION: -
-------------------------------	----------------



April 7, 2022

Jacqueline Hall
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Exempt Modification Application – AT&T Site 13753216
AT&T Mobility Telecommunications Facility @ 180A Bayberry Lane, Westport, CT 06880

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

Remove nine (9) antennas, three (3) RRHs, twelve (12) RETs, twelve (12) TMAs, and six (6) coax cables;

Install twelve (12) antennas, nine (9) RRHs, two (2) squids, four (4) DC trunks, two (2) fiber trunks and three (3) Y cables.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, the Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a printed name.

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046



June 27, 2022

Mary Young, Director, Planning & Zoning
Westport Town Hall, Room 203
110 Myrtle Avenue
Westport, CT 06880

Re: Exempt Modification Application – AT&T Site 13753216
AT&T Mobility Telecommunications Facility @ 180A Bayberry Lane, Westport, CT 06880

Dear Ms. Young:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

Remove nine (9) antennas, three (3) RRHs, twelve (12) RETs, twelve (12) TMAs, and six (6) coax cables;

Install twelve (12) antennas, nine (9) RRHs, two (2) squids, four (4) DC trunks, two (2) fiber trunks and three (3) Y cables.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over the printed name.

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046



June 27, 2022

Jennifer Tooker
First Selectwoman
The Town of Westport
Westport Town Hall
110 Myrtle Avenue, Room 310
Westport CT 06880

Re: Notice of Exempt Modification – AT&T Mobility Site 13683394, Site # CT1009
AT&T Wireless Telecommunications Facility @ 699 West Street, Rocky Hill, CT 06067

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

Remove nine (9) antennas, three (3) RRHs, twelve (12) RETs, twelve (12) TMAs, and six (6) coax cables;

Install twelve (12) antennas, nine (9) RRHs, two (2) squids, four (4) DC trunks, two (2) fiber trunks and three (3) Y cables.

This letter is intended to serve as the required notice to both the property owner and to the chief elected official of the municipality. As required by Regulations of Connecticut State Agencies (“RCSA”) 16-50j-73 the Connecticut Siting Council (“CSC”) has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T’s proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, the Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular stamp or seal.

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

[Track Another Package +](#)

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Your item was delivered to an individual at the address at 10:24 am on June 30, 2022 in WESTPORT, CT 06880.

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WESTPORT, CT 06880

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June 30, 2022 at 10:24 am
WESTPORT, CT 06880

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WOBURN, MA 01801

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FAQs

Feedback



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



Structural Analysis Report

Structure : 140 ft Monopole
ATC Site Name : WSPT-WESTPORT REBUILD CT,CT
ATC Site Number : 310968
Engineering Number : 13753216_C3_04
Proposed Carrier : AT&T MOBILITY
Carrier Site Name : MRCTB056357
Carrier Site Number : CTL02107
Site Location : 180A Bayberry Lane
Westport, CT 06880-2844
41.1716, -73.3286
County : Fairfield
Date : March 8, 2022
Max Usage : 78%
Result : Pass

Prepared By:
Uma Toluganti
POD

Reviewed By:

Jason Cheroni
Digitally signed
by Jason
Cheronis
Date: 2022.03.08
16:12:16 -05'00'



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 140 ft Monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	PJF, Penn Summit Job #29204-0171, dated July 1, 2004
Foundation Drawing	PJF, Penn Summit Job #29204-0171, dated June 10, 2004
Geotechnical Report	GeoTechnologies Project #1-02-1190-EA, dated September 23, 2002

Analysis

The tower was analyzed using American Tower Corporation’s tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	118 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	S _s = 0.23, S _i = 0.06
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact POD Group via email at bsmith@podgrp.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
147.0	3	dbSpectra DS7C09P36U-D	Triangular Platform with Handrails	(6) 1 5/8" Coax (2) 3/8" Coax (4) 7/8" Coax (1) 1/2" Coax (1) EW90	TOWN OF WESTPORT
143.4	1	Generic 12' Omni			
	1	Generic 12' Omni			
142.8	2	Generic 8' Omni			
142.6	1	Generic 6' FM antenna			
141.0	1	Generic 12' Dipole			
140.0	1	TX RX Systems 432F-83W-01-C-110/110R/48/48R			
	1	RFS SC3-W100AB			
138.0	1	Generic 6' Omni	Triangular Platform with Handrails	(2) 1 1/4" (1.25"-31.8mm) Fiber (1) 1.99" (50.7mm) Hybrid	T-MOBILE
132.0	3	Ericsson Radio 4449 B71+B85			
	3	Ericsson 4460 BAND 2/25			
	3	Commscope VV-65A-R1			
	3	Ericsson AIR 6419 B41			
130.0	3	RFS APXVAARR24_43-U-NA20	Triangular Low Profile Platform	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	RFS APXV9TM14-ALU-I20*			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 4x40W RRH (91 lb)			
	3	Alcatel-Lucent 800 MHz 2X50W RRH w/ Filter			
125.4	1	Generic 9' Omni	Leg	(2) 1 1/4" Coax (1) 1/2" Coax	EVERSOURCE ENERGY
115.5	2	Diamond X50A			
110.0	3	Nokia AirScale RRH 4T4R B5 160W AHCA	Triangular Platform with Handrails	(1) 1 1/4" Hybriflex Cable (1) 1 1/4" Hybriflex Cable (12) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Antel BXA-70080/6CF			
	3	Amphenol Antel BXA-171063/8CF			
	2	RFS DB-T1-6Z-8AB-OZ			
	6	Commscope JAHH-65B-R3B			
	3	Alcatel-Lucent RRH 2X60-1900			
	3	Alcatel-Lucent B66a RRH4x45 (AWS-3)			
100.0	1	Raycap DC6-48-60-18-8F ("Squid")	Triangular Low Profile Platform	(6) 1 5/8" Coax (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	3	Ericsson RRUS 32 B2			
77.0	3	Fujitsu TA08025-B605	Triangular Platform with Handrails	(1) 1.75" (44.5mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			
	1	Raycap RDIDC-9181-PF-48			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
100.0	12	Powerwave Allgon 7020.00 Dual Band RET	-	(1) 0.28" (7.1mm) Fiber (2) 0.74" (18.7mm) 8 AWG 7 (6) 1 5/8" Coax	AT&T MOBILITY
	12	Powerwave Allgon LGP21401			
	3	CCI HPA-65R-BUU-H6			
	6	Powerwave Allgon 7770.00			
	3	Ericsson RRUS-11 (50 lbs.)			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
102.0	3	Ericsson Air 6449 B77D	Triangular Low Profile Platform	(3) 0.40" (10.3mm) Fiber (2) 0.78" (19.7mm) 8 AWG 6 (4) 0.92" (23.4mm) Cable (3) 2" conduit	AT&T MOBILITY
100.0	3	Ericsson RRUS 4426 B66			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	2	Raycap DC9-48-60-24-8C-EV			
	3	CCI TPA-65R-BU6DA-K			
	3	CCI DMP65R-BU8D			
98.0	3	Ericsson AIR 6419 B77G			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	66%	Pass
Shaft	79%	Pass
Base Plate	26%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3550.0	4792.5	2993.7	62%
Shear (Kips)	35.0	47.2	28.1	60%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
140.0	RFS SC3-W100AB	TOWN OF WESTPORT	1.678	1.300
102.0	Ericsson Air 6449 B77D	AT&T MOBILITY	0.884	0.990
100.0	Ericsson RRUS 4449 B5, B12		0.851	0.950
	Ericsson RRUS 4426 B66			
	Ericsson RRUS 4478 B14			
	Raycap DC9-48-60-24-8C-EV			
	CCI TPA-65R-BU6DA-K			
98.0	Ericsson AIR 6419 B77G	0.818	0.920	

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H

Standard Conditions

All engineering services performed by POD Group are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of POD Group

It is the responsibility of the client to ensure that the information provided to POD Group and used in the performance of our engineering services is correct and complete.

POD Group assumes that all structures were constructed in accordance with the drawings and specifications.

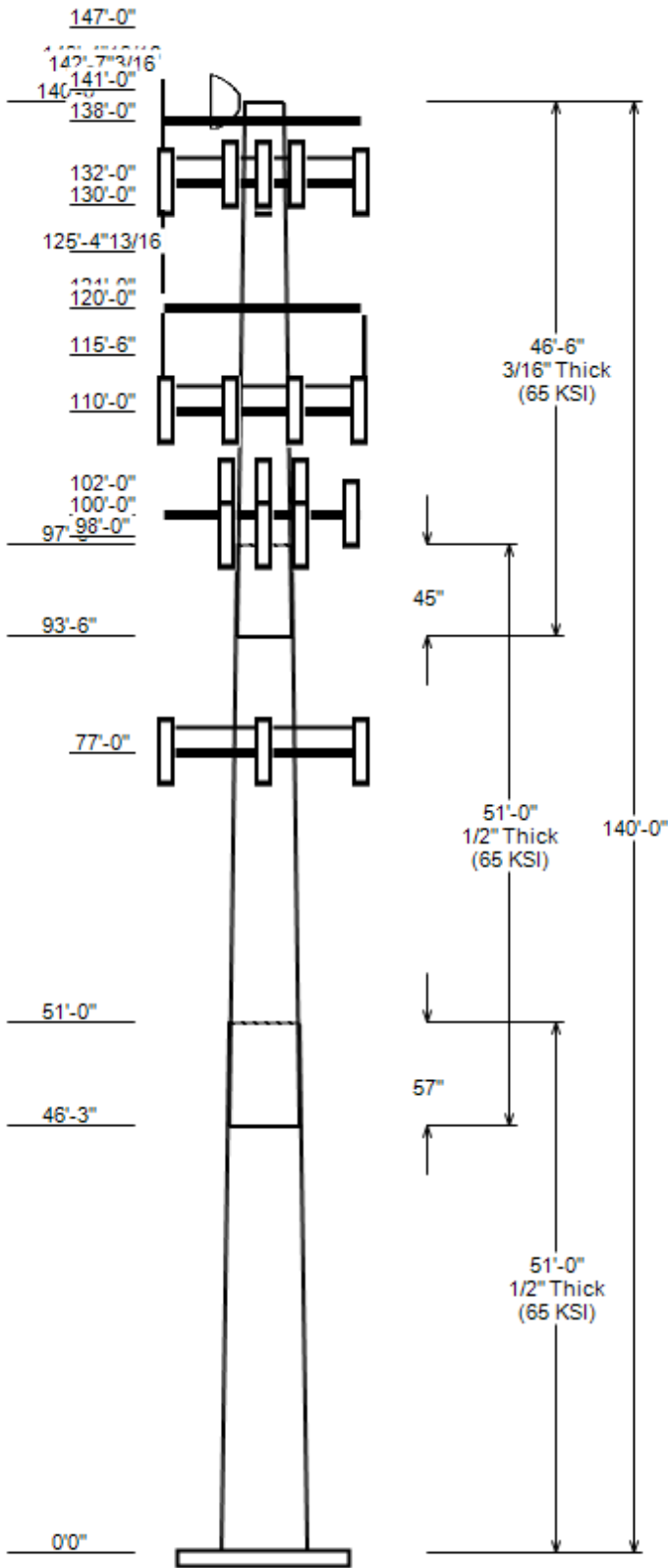
All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and POD Group, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. POD Group is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Asset : 310968, WSPT-WESTPORT REBUILD CT
 Client : AT&T MOBILITY
 Code : ANSI/TIA-222-H

Height : 140 ft
 Base Width : 47.13
 Shape : 18 Sides



SITE PARAMETERS

Nominal Wind: 118 mph wind with no ice **Topo Category:** 1
Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1
Base Elev (ft): 0.00 **Taper :** 0.20000 (in/ft) **Topo Feature:**
Structure Class: II **Exposure :** B **S_s :** 0.227 **S₁ :** 0.056

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Shape	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	51.000	36.93	47.13	0.500		0.000	18 Sides	65
2	51.000	28.68	38.88	0.500	Slip Joint	57.000	18 Sides	65
3	46.500	20.50	29.80	0.188	Slip Joint	45.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
147.0	147.0	3	dbSpectra DS7C09P36U-D
143.4	143.4	1	Generic 12' Omni
143.4	143.4	1	Generic 12' Omni
142.8	142.8	2	Generic 8' Omni
142.6	142.6	1	Generic 6' FM antenna
141.0	141.0	1	Generic 12' Dipole
140.0	140.0	1	TX RX Systems 432F-83W-01-C-11
140.0	140.0	1	RFS SC3-W100AB
138.0	138.0	1	Generic 6' Omni
138.0	138.0	1	Flat Platform w/ Handrails
132.0	132.0	3	Ericsson Radio 4449 B71+B85
132.0	132.0	3	Ericsson 4460 BAND 2/25
132.0	132.0	3	Commscope VV-65A-R1
132.0	132.0	3	Ericsson AIR 6419 B41
132.0	132.0	3	RFS APXVAARR24_43-U-NA20
132.0	132.0	1	Generic Flat Platform with Han
130.0	132.8	3	Alcatel-Lucent 800 MHz 2X50W R
130.0	132.9	3	Alcatel-Lucent 4x40W RRH (91 I
130.0	133.6	3	Alcatel-Lucent TD-RRH8x20-25 w
130.0	132.7	3	RFS APXV9TM14-ALU-I20*
130.0	132.0	3	RFS APXVSP18-C-A20
125.4	125.4	1	Generic 9' Omni
121.0	123.0	1	Andrew DB586
120.0	120.0	1	Generic Round Low Profile Plat
115.5	115.5	2	Diamond X50A
110.0	110.0	3	Commscope CBC78T-DS-43-2X
110.0	110.0	3	Nokia AirScale RRH 4T4R B5 160
110.0	110.0	3	Alcatel-Lucent RRH 2X60-1900
110.0	110.0	3	Alcatel-Lucent B66a RRH4x45 (A
110.0	110.0	3	Amphenol Antel BXA-171063/8CF
110.0	110.0	2	RFS DB-T1-6Z-8AB-0Z
110.0	110.0	3	Antel BXA-70080/6CF__
110.0	110.0	6	Commscope JAHH-65B-R3B
110.0	110.0	1	Generic Round Platform with Ha
102.0	102.0	3	Ericsson Air 6449 B77D
100.0	100.0	1	Raycap DC6-48-60-18-8F ("Squid
100.0	100.0	3	Ericsson RRUS 4426 B66
100.0	100.0	3	Ericsson RRUS 4449 B5, B12
100.0	100.0	3	Ericsson RRUS 4478 B14
100.0	100.0	3	Ericsson RRUS 32 B2
100.0	100.0	2	Raycap DC9-48-60-24-8C-EV
100.0	100.0	3	CCI TPA-65R-BU6DA-K
100.0	100.0	3	CCI DMP65R-BU8D
100.0	100.0	1	Generic Flat Low Profile Platf

JOB INFORMATION

Asset : 310968, WSPT-WESTPORT REBUILD CT
 Client : AT&T MOBILITY
 Code : ANSI/TIA-222-H

Height : 140 ft
 Base Width : 47.13
 Shape : 18 Sides

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
98.0	98.0	3	Ericsson AIR 6419 B77G
77.0	77.0	1	Raycap RDIDC-9181-PF-48
77.0	77.0	3	Fujitsu TA08025-B605
77.0	77.0	3	Fujitsu TA08025-B604
77.0	77.0	3	JMA Wireless MX08FRO665-21
77.0	77.0	1	Generic Flat Platform with Han

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	147.0	1 5/8" Coax	No
0.0	142.6	7/8" Coax	No
0.0	142.6	3/8" Coax	No
0.0	142.6	1 5/8" Coax	No
0.0	140.0	EW90	No
0.0	140.0	1/2" Coax	No
0.0	132.0	1.99" (50.7mm) Hybrid	No
0.0	132.0	1 1/4" (1.25"- 31.8mm) Fiber	No
0.0	130.0	1 1/4" Hybriflex Cable	No
0.0	121.0	1/2" Coax	No
0.0	121.0	1 1/4" Coax	No
0.0	115.6	1/2" Coax	No
0.0	114.7	1 1/4" Hybriflex Cable	No
0.0	110.0	1 5/8" Hybriflex	No
0.0	110.0	1 5/8" Coax	No
0.0	110.0	1 5/8" Coax	No
0.0	110.0	1 1/4" Hybriflex Cable	No
0.0	100.0	3/8" (0.38"- 9.5mm) RET Control Cable	No
0.0	100.0	2" conduit	No
0.0	100.0	1 5/8" Coax	No
0.0	100.0	0.92" (23.4mm) Cable	No
0.0	100.0	0.78" (19.7mm) 8 AWG 6	No
0.0	100.0	0.40" (10.3mm) Fiber	No
0.0	77.0	1.75" (44.5mm) Hybrid	No

LOAD CASES

1.2D + 1.0W Normal	118 mph wind with no ice
0.9D + 1.0W Normal	118 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	2993.68	28.13	57.70
0.9D + 1.0W Normal	2949.87	28.11	43.26
1.2D + 1.0Di + 1.0Wi Normal	787.58	7.39	74.82
1.2D + 1.0Ev + 1.0Eh Normal	166.18	1.45	58.19
0.9D - 1.0Ev + 1.0Eh Normal	163.03	1.45	39.69
1.0D + 1.0W Service Normal	686.50	6.50	48.12

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W Service Normal	140.00	20.145	1.303

ANALYSIS PARAMETERS

Location:	Fairfield County,CT	Height:	140 ft
Type and Shape:	Taper, 18 Sides	Base Diameter:	47.13 in
Manufacturer:	Undetermined	Top Diameter:	20.50 in
K_d (non-service):	0.95	Taper:	0.2000 in/ft
K_e:	0.99	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	118 mph
Risk Category:	II	Design Wind Speed w/Ice:	50 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	250.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	2.48
T_L (sec):	6	P:	1
S_s:	0.227	S₁:	0.056
F_a:	1.600	F_v:	2.400
S_{ds}:	0.242	S_{dt}:	0.090
		C_s:	0.030
		C_s Max:	0.030
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W Normal	118 mph wind with no ice
0.9D + 1.0W Normal	118 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	51.00	0.5000	65		0.00	11,437	47.13	0.000	74.00	20,328.7	14.86	94.26	36.93	51.00	57.81	9,692.3	11.26	73.86	0.2000
2-18	51.00	0.5000	65	Slip	57.00	9,165	38.88	46.250	60.90	11,333.7	11.95	77.76	28.68	97.25	44.71	4,485.1	8.35	57.35	0.2000
3-18	46.50	0.1875	65	Slip	45.00	2,351	29.80	93.500	17.62	1,952.7	26.26	158.94	20.50	140.00	12.09	630.1	17.52	109.33	0.2000

Shaft Weight 22,953

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor
147.00	dbSpectra DS7C09P36U-D	3	1.00	0.000	70.00	3.550	1.00	130.81	6.896	1.00
143.40	Generic 12' Omni	1	1.00	0.000	40.00	3.600	1.00	100.19	6.448	1.00
143.40	Generic 12' Omni	1	1.00	0.000	40.00	3.600	1.00	100.19	6.448	1.00
142.80	Generic 8' Omni	2	1.00	0.000	25.00	2.400	1.00	65.44	4.221	1.00
142.60	Generic 6' FM antenna	1	1.00	0.000	30.00	13.450	1.00	481.31	16.500	1.00
141.00	Generic 12' Dipole	1	1.00	0.000	40.00	4.510	1.00	128.40	9.255	1.00
140.00	RFS SC3-W100AB	1	1.00	0.000	40.00	10.737	1.00	223.95	12.007	1.00
140.00	TX RX Systems 432F-83W-01-C-11	1	0.75	0.000	18.00	1.500	1.00	49.28	2.039	1.00
138.00	Generic 6' Omni	1	1.00	0.000	25.00	1.760	1.00	55.51	2.592	1.00
138.00	Flat Platform w/ Handrails	1	1.00	0.000	1750.00	33.000	1.00	2572.92	43.802	1.00
132.00	Ericsson 4460 BAND 2/25	3	0.75	0.000	109.00	2.564	0.67	167.25	3.259	0.67
132.00	Commscope VV-65A-R1	3	0.75	0.000	23.80	5.928	0.63	101.19	7.324	0.63
132.00	Ericsson AIR 6419 B41	3	0.75	0.000	83.30	6.322	0.63	183.04	7.437	0.63
132.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	386.63	22.687	0.63
132.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3670.78	56.222	1.00
132.00	Ericsson Radio 4449 B71+B85	3	0.75	0.000	75.00	1.650	0.50	114.50	2.208	0.50
130.00	RFS APXV9TM14-ALU-I20*	3	0.80	2.700	55.10	6.342	0.66	145.61	7.774	0.66
130.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.80	3.600	70.00	4.046	0.61	132.13	4.919	0.61
130.00	Alcatel-Lucent 4x40W RRH (91 I	3	0.80	2.900	91.00	3.287	0.72	162.97	4.071	0.72
130.00	Alcatel-Lucent 800 MHz 2X50W R	3	0.80	2.800	64.00	2.058	0.67	114.65	2.688	0.67
130.00	RFS APXVSP18-C-A20	3	0.80	2.000	57.00	8.024	0.69	170.39	9.858	0.69
125.40	Generic 9' Omni	1	1.00	0.000	25.00	2.700	1.00	69.91	4.832	1.00
121.00	Andrew DB586	1	1.00	2.000	8.30	0.740	1.00	12.08	1.077	1.00
120.00	Generic Round Low Profile Plat	1	1.00	0.000	1875.00	21.700	1.00	2403.08	34.219	1.00
115.50	Diamond X50A	2	1.00	0.000	2.30	1.120	1.00	3.24	2.284	1.00
110.00	Nokia AirScale RRH 4T4R B5 160	3	0.75	0.000	35.30	1.286	0.50	60.71	1.772	0.50
110.00	Alcatel-Lucent RRH 2X60-1900	3	0.75	0.000	39.60	1.876	0.50	75.07	2.481	0.50
110.00	Alcatel-Lucent B66a RRH4x45 (A	3	0.75	0.000	67.00	2.660	0.67	112.81	3.402	0.67
110.00	Amphenol Antel BXA-171063/8CF	3	0.75	0.000	10.50	2.900	0.67	53.99	3.963	0.67
110.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3546.58	42.995	1.00
110.00	Antel BXA-70080/6CF	3	0.75	0.000	18.00	5.836	0.72	99.20	7.373	0.72
110.00	Commscope JAHH-65B-R3B	6	0.75	0.000	60.60	9.113	0.69	191.32	10.906	0.69
110.00	Commscope CBC78T-DS-43-2X	3	0.75	0.000	20.70	0.552	0.50	34.98	0.880	0.50
110.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	0.000	44.00	4.800	0.72	125.32	5.718	0.72
102.00	Ericsson Air 6449 B77D	3	0.80	0.000	81.60	4.028	0.65	147.63	4.911	0.65
100.00	Ericsson RRUS 4426 B66	3	0.80	0.000	48.40	1.650	0.50	77.01	2.194	0.50
100.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	112.30	2.567	0.50
100.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.67	98.73	2.626	0.67
100.00	Ericsson RRUS 32 B2	3	0.80	0.000	53.00	2.743	0.67	100.13	3.492	0.67
100.00	Raycap DC9-48-60-24-8C-EV	2	0.80	0.000	16.00	4.788	0.75	98.73	5.731	0.75
100.00	CCI TPA-65R-BU6DA-K	3	0.80	0.000	79.60	15.270	0.60	271.47	17.104	0.60
100.00	CCI DMP65R-BU8D	3	0.80	0.000	95.70	17.871	0.63	313.51	20.233	0.63
100.00	Generic Flat Low Profile Platf	1	1.00	0.000	1875.00	26.100	1.00	2394.00	38.335	1.00
100.00	Raycap DC6-48-60-18-8F ("Squid	1	0.80	0.000	31.80	1.470	1.00	71.34	1.918	1.00
98.00	Ericsson AIR 6419 B77G	3	0.80	0.000	66.10	3.797	0.65	128.19	4.640	0.65
77.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	114.10	2.536	0.50
77.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	57.42	2.429	1.00
77.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	100.30	2.536	0.50
77.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	224.92	14.243	0.64
77.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3608.74	55.489	1.00

Totals Num Loadings: 50 115 19,184.40 33,081.72

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev	Elev	Qty	Description	Coax	Coax	Flat	Max	Dist	Dist	Azimuth	Dist Exposed	Carrier
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ASSET: 310968, WSPT-WESTPORT REBUILD CT
 CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
 ENG NO: 13753216_C3_04

From (ft)	To (ft)		Dia (in)	Wt (lb/ft)	Coax/Row	Between Rows(in)	Between Cols(in)	(deg)	From Face (in)	To Wind		
0.00	147.00	3	1 5/8" Coax	1.98	0.82	N	0	0	0	0	N	TOWN OF WESTP
0.00	142.60	4	7/8" Coax	1.09	0.33	N	0	0	0	0	N	TOWN OF WESTP
0.00	142.60	3	1 5/8" Coax	1.98	0.82	N	0	0	0	0	N	TOWN OF WESTP
0.00	142.60	2	3/8" Coax	0.44	0.08	N	0	0	0	0	N	TOWN OF WESTP
0.00	140.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	N	TOWN OF WESTP
0.00	140.00	1	EW90	1.32	0.32	N	0	0	0	0	N	TOWN OF WESTP
0.00	132.00	2	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0	0	0	N	T-MOBILE
0.00	132.00	1	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	N	T-MOBILE
0.00	130.00	4	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	N	SPRINT NEXTEL
0.00	121.00	2	1 1/4" Coax	1.55	0.63	N	0	0	0	0	N	EVERSOURCE EN
0.00	121.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	N	EVERSOURCE EN
0.00	115.60	2	1/2" Coax	0.63	0.15	N	0	0	0	0	N	SENET, INC.
0.00	114.70	1	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	N	VERIZON WIREL
0.00	110.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	N	VERIZON WIREL
0.00	110.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	N	VERIZON WIREL
0.00	110.00	1	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	N	VERIZON WIREL
0.00	110.00	1	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	N	VERIZON WIREL
0.00	100.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	4	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	3	2" conduit	2.38	3.65	N	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	3	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	1	3/8" (0.38"- 9.5mm) R	0.38	0.23	N	0	0	0	0	N	AT&T MOBILITY
0.00	77.00	1	1.75" (44.5mm) Hybrid	1.75	2.72	N	0	0	0	0	N	DISH WIRELESS

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F _y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.5000	47.130	73.999	20,328.70	14.86	94.26	82.6	849.6	0.0	0.0
5.00		0.5000	46.130	72.412	19,048.50	14.50	92.26	82.6	813.3	0.0	1,245.5
10.00		0.5000	45.130	70.825	17,823.20	14.15	90.26	82.6	777.9	0.0	1,218.5
15.00		0.5000	44.129	69.237	16,651.50	13.80	88.26	82.6	743.2	0.0	1,191.5
20.00		0.5000	43.129	67.650	15,532.40	13.45	86.26	82.6	709.3	0.0	1,164.5
25.00		0.5000	42.129	66.063	14,464.60	13.09	84.26	82.6	676.2	0.0	1,137.5
30.00		0.5000	41.129	64.476	13,446.80	12.74	82.26	82.6	644.0	0.0	1,110.5
35.00		0.5000	40.129	62.889	12,478.00	12.39	80.26	82.6	612.5	0.0	1,083.5
40.00		0.5000	39.129	61.301	11,556.90	12.04	78.26	82.6	581.7	0.0	1,056.5
45.00		0.5000	38.128	59.714	10,682.20	11.68	76.26	82.6	551.8	0.0	1,029.5
46.25	Bot - Section 2	0.5000	37.878	59.317	10,470.70	11.59	75.76	82.6	544.5	0.0	253.1
50.00		0.5000	37.128	58.127	9,852.80	11.33	74.26	82.6	522.7	0.0	1,518.9
51.00	Top - Section 1	0.5000	37.928	59.396	10,512.60	11.61	75.86	82.6	545.9	0.0	399.9
55.00		0.5000	37.128	58.127	9,852.70	11.33	74.26	82.6	522.7	0.0	799.8
60.00		0.5000	36.128	56.539	9,067.40	10.98	72.26	82.6	494.3	0.0	975.5
65.00		0.5000	35.128	54.952	8,325.00	10.62	70.26	82.6	466.8	0.0	948.5
70.00		0.5000	34.127	53.365	7,624.30	10.27	68.25	82.6	440.0	0.0	921.4
75.00		0.5000	33.127	51.778	6,964.00	9.92	66.25	82.6	414.1	0.0	894.4
77.00		0.5000	32.727	51.143	6,711.00	9.78	65.45	82.6	403.9	0.0	350.2
80.00		0.5000	32.127	50.190	6,343.00	9.57	64.25	82.6	388.9	0.0	517.2
85.00		0.5000	31.127	48.603	5,760.00	9.21	62.25	82.6	364.5	0.0	840.4
90.00		0.5000	30.127	47.016	5,214.00	8.86	60.25	82.6	340.9	0.0	813.4
93.50	Bot - Section 3	0.5000	29.427	45.905	4,853.00	8.61	58.85	82.6	324.8	0.0	553.3
95.00		0.5000	29.127	45.429	4,703.50	8.51	58.25	82.6	318.1	0.0	322.6
97.25	Top - Section 2	0.1875	29.052	17.177	1,808.10	25.56	154.94	71.3	122.6	0.0	477.6
98.00		0.1875	28.901	17.088	1,780.00	25.42	154.14	71.5	121.3	0.0	43.7
100.00		0.1875	28.501	16.850	1,706.70	25.04	152.01	71.9	117.9	0.0	115.5
102.00		0.1875	28.101	16.612	1,635.30	24.66	149.87	72.4	114.6	0.0	113.9
105.00		0.1875	27.501	16.255	1,532.10	24.10	146.67	73.1	109.7	0.0	167.8
110.00		0.1875	26.501	15.659	1,369.90	23.16	141.34	74.2	101.8	0.0	271.5
115.00		0.1875	25.501	15.064	1,219.50	22.22	136.00	75.3	94.2	0.0	261.4
115.50		0.1875	25.401	15.005	1,205.10	22.12	135.47	75.4	93.4	0.0	25.6
120.00		0.1875	24.501	14.469	1,080.60	21.28	130.67	76.4	86.9	0.0	225.7
121.00		0.1875	24.301	14.350	1,054.20	21.09	129.60	76.6	85.4	0.0	49.0
125.00		0.1875	23.501	13.874	952.70	20.34	125.34	77.5	79.8	0.0	192.1
125.40		0.1875	23.421	13.826	942.90	20.26	124.91	77.6	79.3	0.0	18.9
130.00		0.1875	22.500	13.278	835.20	19.40	120.00	78.6	73.1	0.0	212.1
132.00		0.1875	22.100	13.040	791.10	19.02	117.87	79	70.5	0.0	89.6
135.00		0.1875	21.500	12.683	727.90	18.46	114.67	79.7	66.7	0.0	131.3
138.00		0.1875	20.900	12.326	668.10	17.89	111.47	80.4	63.0	0.0	127.7
140.00		0.1875	20.500	12.088	630.10	17.52	109.33	80.8	60.5	0.0	83.1

Totals: 22,952.6

Load Case: 1.2D + 1.0W Normal	118 mph wind with no ice	24 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 1.20		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.70	-28.13	-0.09	-2,993.7	0.00	2,993.68	5,497.77	1,298.68	5,470.20	5,259.85	0	0	0.580
5.00	-55.78	-27.96	-0.09	-2,853.0	0.00	2,853.01	5,379.84	1,270.83	5,238.09	5,035.45	0.11	-0.2	0.577
10.00	-53.90	-27.79	-0.09	-2,713.2	0.00	2,713.20	5,261.92	1,242.97	5,011.02	4,815.96	0.44	-0.41	0.574
15.00	-52.05	-27.62	-0.09	-2,574.2	0.00	2,574.25	5,144.00	1,215.12	4,788.97	4,601.35	0.98	-0.62	0.570
20.00	-50.23	-27.44	-0.09	-2,436.2	0.00	2,436.17	5,026.07	1,187.26	4,571.96	4,391.63	1.75	-0.84	0.565
25.00	-48.45	-27.26	-0.09	-2,299.0	0.00	2,298.98	4,908.15	1,159.41	4,359.97	4,186.81	2.74	-1.05	0.560
30.00	-46.70	-27.07	-0.09	-2,162.7	0.00	2,162.69	4,790.23	1,131.55	4,153.02	3,986.88	3.96	-1.27	0.553
35.00	-44.98	-26.88	-0.09	-2,027.3	0.00	2,027.32	4,672.31	1,103.69	3,951.10	3,791.84	5.41	-1.5	0.545
40.00	-43.30	-26.66	-0.09	-1,893.0	0.00	1,892.95	4,554.38	1,075.84	3,754.22	3,601.69	7.1	-1.72	0.536
45.00	-41.68	-26.50	-0.09	-1,759.6	0.00	1,759.64	4,436.46	1,047.98	3,562.36	3,416.43	9.02	-1.94	0.525
46.25	-41.25	-26.40	-0.09	-1,726.5	0.00	1,726.52	4,406.98	1,041.02	3,515.18	3,370.88	9.54	-2	0.522
50.00	-39.15	-26.23	-0.09	-1,627.5	0.00	1,627.54	4,318.54	1,020.13	3,375.54	3,236.07	11.18	-2.17	0.513
51.00	-38.56	-26.11	-0.09	-1,601.3	0.00	1,601.31	4,412.85	1,042.41	3,524.56	3,379.93	11.64	-2.22	0.483
55.00	-37.27	-25.87	-0.09	-1,496.9	0.00	1,496.88	4,318.52	1,020.12	3,375.50	3,236.03	13.58	-2.4	0.472
60.00	-35.70	-25.58	-0.09	-1,367.6	0.00	1,367.55	4,200.59	992.27	3,193.71	3,060.56	16.2	-2.61	0.456
65.00	-34.17	-25.28	-0.09	-1,239.6	0.00	1,239.65	4,082.67	964.41	3,016.95	2,889.98	19.04	-2.81	0.438
70.00	-32.67	-24.98	-0.09	-1,113.2	0.00	1,113.24	3,964.75	936.55	2,845.22	2,724.29	22.09	-3.01	0.418
75.00	-31.24	-24.73	-0.09	-988.4	0.00	988.36	3,846.82	908.70	2,678.53	2,563.49	25.35	-3.21	0.394
77.00	-27.04	-22.13	-0.09	-938.9	0.00	938.89	3,799.65	897.56	2,613.26	2,500.54	26.72	-3.29	0.383
80.00	-26.19	-21.88	-0.09	-872.5	0.00	872.51	3,728.90	880.84	2,516.86	2,407.59	28.82	-3.4	0.370
85.00	-24.83	-21.54	-0.09	-763.1	0.00	763.11	3,610.98	852.99	2,360.23	2,256.57	32.48	-3.59	0.346
90.00	-23.52	-21.24	-0.09	-655.4	0.00	655.40	3,493.05	825.13	2,208.63	2,110.45	36.33	-3.76	0.318
93.50	-22.62	-21.05	-0.09	-581.1	0.00	581.06	3,410.51	805.63	2,105.50	2,011.07	39.13	-3.88	0.296
95.00	-22.13	-20.92	-0.09	-549.5	0.00	549.48	3,375.13	797.28	2,062.06	1,969.22	40.36	-3.93	0.286
97.25	-21.41	-20.79	-0.09	-502.4	0.00	502.42	1,102.89	301.46	785.89	655.89	42.22	-4	0.790
98.00	-21.07	-20.50	-0.09	-486.8	-0.01	486.82	1,099.71	299.89	777.74	650.58	42.85	-4.02	0.772
100.00	-17.24	-16.70	-0.09	-445.8	-0.01	445.83	1,091.10	295.71	756.22	636.43	44.57	-4.17	0.720
102.00	-16.72	-16.33	-0.09	-412.4	-0.01	412.43	1,082.30	291.53	735.01	622.32	46.35	-4.32	0.681
105.00	-16.36	-16.13	-0.09	-363.4	-0.01	363.45	1,068.74	285.27	703.75	601.22	49.13	-4.52	0.623
110.00	-11.86	-12.40	-0.09	-282.8	-0.01	282.81	1,045.19	274.82	653.15	566.30	54.02	-4.82	0.513
115.00	-11.42	-12.23	-0.09	-220.8	-0.01	220.80	1,020.46	264.37	604.45	531.74	59.21	-5.08	0.429
115.50	-11.37	-12.02	-0.09	-214.7	-0.01	214.68	1,017.93	263.33	599.68	528.30	59.74	-5.11	0.420
120.00	-8.84	-10.81	-0.09	-160.6	-0.01	160.61	994.55	253.93	557.63	497.61	64.65	-5.31	0.333
121.00	-8.76	-10.64	0.00	-149.8	0.00	149.75	989.22	251.84	548.50	490.84	65.76	-5.35	0.316
125.00	-8.45	-10.50	0.00	-107.2	0.00	107.19	967.45	243.48	512.70	463.98	70.3	-5.49	0.242
125.40	-8.41	-10.26	0.00	-103.0	0.00	102.99	965.23	242.65	509.19	461.32	70.76	-5.5	0.234
130.00	-7.02	-8.43	0.00	-51.8	0.00	51.81	939.16	233.04	469.66	430.94	76.11	-5.61	0.129
132.00	-2.77	-4.14	0.00	-35.0	0.00	34.95	927.52	228.86	452.97	417.90	78.46	-5.64	0.087
135.00	-2.61	-3.97	0.00	-22.5	0.00	22.52	909.69	222.59	428.50	398.55	82.01	-5.67	0.060
138.00	-0.46	-2.23	0.00	-10.6	0.00	10.62	891.44	216.32	404.72	379.46	85.57	-5.69	0.029
140.00	0.00	-2.17	0.00	-6.2	0.00	6.16	879.04	212.15	389.23	366.89	87.95	-5.69	0.017

Load Case: 0.9D + 1.0W Normal	118 mph wind with no ice	24 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 0.90		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.26	-28.11	-0.09	-2,949.9	0.00	2,949.87	5,497.77	1,298.68	5,470.20	5,259.85	0	0	0.569
5.00	-41.80	-27.88	-0.09	-2,809.3	0.00	2,809.34	5,379.84	1,270.83	5,238.09	5,035.45	0.11	-0.2	0.566
10.00	-40.36	-27.66	-0.09	-2,669.9	0.00	2,669.92	5,261.92	1,242.97	5,011.02	4,815.96	0.43	-0.41	0.563
15.00	-38.95	-27.44	-0.09	-2,531.6	0.00	2,531.61	5,144.00	1,215.12	4,788.97	4,601.35	0.97	-0.61	0.558
20.00	-37.57	-27.22	-0.09	-2,394.4	0.00	2,394.41	5,026.07	1,187.26	4,571.96	4,391.63	1.72	-0.82	0.553
25.00	-36.21	-27.00	-0.09	-2,258.3	0.00	2,258.31	4,908.15	1,159.41	4,359.97	4,186.81	2.7	-1.04	0.547
30.00	-34.88	-26.77	-0.09	-2,123.3	0.00	2,123.32	4,790.23	1,131.55	4,153.02	3,986.88	3.9	-1.25	0.540
35.00	-33.57	-26.54	-0.09	-1,989.5	0.00	1,989.46	4,672.31	1,103.69	3,951.10	3,791.84	5.33	-1.47	0.532
40.00	-32.28	-26.29	-0.09	-1,856.8	0.00	1,856.77	4,554.38	1,075.84	3,754.22	3,601.69	6.98	-1.69	0.523
45.00	-31.06	-26.12	-0.09	-1,725.3	0.00	1,725.32	4,436.46	1,047.98	3,562.36	3,416.43	8.87	-1.91	0.513
46.25	-30.73	-25.99	-0.09	-1,692.7	0.00	1,692.68	4,406.98	1,041.02	3,515.18	3,370.88	9.38	-1.97	0.510
50.00	-29.14	-25.82	-0.09	-1,595.2	0.00	1,595.21	4,318.54	1,020.13	3,375.54	3,236.07	10.99	-2.13	0.500
51.00	-28.69	-25.69	-0.09	-1,569.4	0.00	1,569.39	4,412.85	1,042.41	3,524.56	3,379.93	11.44	-2.18	0.471
55.00	-27.70	-25.43	-0.09	-1,466.6	0.00	1,466.64	4,318.52	1,020.12	3,375.50	3,236.03	13.35	-2.36	0.460
60.00	-26.51	-25.12	-0.09	-1,339.5	0.00	1,339.51	4,200.59	992.27	3,193.71	3,060.56	15.93	-2.56	0.445
65.00	-25.35	-24.81	-0.09	-1,213.9	0.00	1,213.90	4,082.67	964.41	3,016.95	2,889.98	18.71	-2.76	0.427
70.00	-24.22	-24.49	-0.09	-1,089.9	0.00	1,089.86	3,964.75	936.55	2,845.22	2,724.29	21.71	-2.96	0.407
75.00	-23.13	-24.25	-0.09	-967.4	0.00	967.41	3,846.82	908.70	2,678.53	2,563.49	24.91	-3.15	0.384
77.00	-20.00	-21.69	-0.09	-918.9	0.00	918.91	3,799.65	897.56	2,613.26	2,500.54	26.25	-3.23	0.373
80.00	-19.36	-21.44	-0.09	-853.8	0.00	853.83	3,728.90	880.84	2,516.86	2,407.59	28.31	-3.34	0.360
85.00	-18.33	-21.10	-0.09	-746.6	0.00	746.65	3,610.98	852.99	2,360.23	2,256.57	31.9	-3.52	0.337
90.00	-17.34	-20.80	-0.09	-641.1	0.00	641.14	3,493.05	825.13	2,208.63	2,110.45	35.68	-3.69	0.309
93.50	-16.66	-20.62	-0.09	-568.3	0.00	568.33	3,410.51	805.63	2,105.50	2,011.07	38.43	-3.81	0.288
95.00	-16.29	-20.49	-0.09	-537.4	0.00	537.40	3,375.13	797.28	2,062.06	1,969.22	39.63	-3.85	0.278
97.25	-15.75	-20.37	-0.09	-491.3	0.00	491.29	1,102.89	301.46	785.89	655.89	41.46	-3.92	0.768
98.00	-15.49	-20.07	-0.09	-476.0	0.00	476.01	1,099.71	299.89	777.74	650.58	42.08	-3.95	0.750
100.00	-12.67	-16.34	-0.09	-435.9	0.00	435.87	1,091.10	295.71	756.22	636.43	43.77	-4.09	0.700
102.00	-12.27	-15.96	-0.09	-403.2	0.00	403.18	1,082.30	291.53	735.01	622.32	45.51	-4.23	0.662
105.00	-11.99	-15.75	-0.09	-355.3	-0.01	355.30	1,068.74	285.27	703.75	601.22	48.23	-4.43	0.605
110.00	-8.67	-12.11	-0.09	-276.6	-0.01	276.55	1,045.19	274.82	653.15	566.30	53.03	-4.72	0.499
115.00	-8.34	-11.94	-0.09	-216.0	-0.01	216.00	1,020.46	264.37	604.45	531.74	58.12	-4.98	0.416
115.50	-8.30	-11.72	-0.09	-210.0	-0.01	210.04	1,017.93	263.33	599.68	528.30	58.64	-5	0.408
120.00	-6.42	-10.57	-0.09	-157.3	-0.01	157.30	994.55	253.93	557.63	497.61	63.45	-5.2	0.324
121.00	-6.36	-10.40	0.00	-146.7	0.00	146.68	989.22	251.84	548.50	490.84	64.54	-5.24	0.307
125.00	-6.13	-10.26	0.00	-105.1	0.00	105.08	967.45	243.48	512.70	463.98	68.99	-5.38	0.235
125.40	-6.10	-10.02	0.00	-101.0	0.00	100.97	965.23	242.65	509.19	461.32	69.44	-5.39	0.227
130.00	-5.09	-8.23	0.00	-50.9	0.00	50.89	939.16	233.04	469.66	430.94	74.68	-5.5	0.125
132.00	-1.99	-4.06	0.00	-34.4	0.00	34.43	927.52	228.86	452.97	417.90	76.99	-5.53	0.085
135.00	-1.87	-3.89	0.00	-22.2	0.00	22.25	909.69	222.59	428.50	398.55	80.46	-5.56	0.058
138.00	-0.29	-2.21	0.00	-10.6	0.00	10.58	891.44	216.32	404.72	379.46	83.96	-5.58	0.028
140.00	0.00	-2.17	0.00	-6.2	0.00	6.16	879.04	212.15	389.23	366.89	86.29	-5.58	0.017

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice		24 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00	
Dead load Factor:	1.20			Ice Importance Factor 1.00
Wind Load Factor:	1.00			

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-74.82	-7.39	-0.02	-787.6	0.00	787.58	5,497.77	1,298.68	5,470.20	5,259.85	0	0	0.163
5.00	-72.77	-7.35	-0.02	-750.6	0.00	750.62	5,379.84	1,270.83	5,238.09	5,035.45	0.03	-0.05	0.163
10.00	-70.73	-7.30	-0.02	-713.9	0.00	713.89	5,261.92	1,242.97	5,011.02	4,815.96	0.11	-0.11	0.162
15.00	-68.72	-7.26	-0.02	-677.4	0.00	677.38	5,144.00	1,215.12	4,788.97	4,601.35	0.26	-0.16	0.161
20.00	-66.73	-7.21	-0.02	-641.1	0.00	641.10	5,026.07	1,187.26	4,571.96	4,391.63	0.46	-0.22	0.159
25.00	-64.78	-7.16	-0.02	-605.1	0.00	605.06	4,908.15	1,159.41	4,359.97	4,186.81	0.72	-0.28	0.158
30.00	-62.86	-7.11	-0.02	-569.2	0.00	569.25	4,790.23	1,131.55	4,153.02	3,986.88	1.04	-0.34	0.156
35.00	-60.98	-7.06	-0.02	-533.7	0.00	533.68	4,672.31	1,103.69	3,951.10	3,791.84	1.42	-0.39	0.154
40.00	-59.13	-7.00	-0.02	-498.4	0.00	498.39	4,554.38	1,075.84	3,754.22	3,601.69	1.87	-0.45	0.151
45.00	-57.32	-6.96	-0.02	-463.4	0.00	463.38	4,436.46	1,047.98	3,562.36	3,416.43	2.37	-0.51	0.149
46.25	-56.87	-6.93	-0.02	-454.7	0.00	454.68	4,406.98	1,041.02	3,515.18	3,370.88	2.51	-0.53	0.148
50.00	-54.61	-6.88	-0.02	-428.7	0.00	428.70	4,318.54	1,020.13	3,375.54	3,236.07	2.94	-0.57	0.145
51.00	-54.01	-6.85	-0.02	-421.8	0.00	421.82	4,412.85	1,042.41	3,524.56	3,379.93	3.06	-0.58	0.137
55.00	-52.59	-6.78	-0.02	-394.4	0.00	394.42	4,318.52	1,020.12	3,375.50	3,236.03	3.57	-0.63	0.134
60.00	-50.84	-6.70	-0.02	-360.5	0.00	360.51	4,200.59	992.27	3,193.71	3,060.56	4.26	-0.69	0.130
65.00	-49.14	-6.62	-0.02	-327.0	0.00	327.00	4,082.67	964.41	3,016.95	2,889.98	5.01	-0.74	0.125
70.00	-47.47	-6.53	-0.02	-293.9	0.00	293.92	3,964.75	936.55	2,845.22	2,724.29	5.82	-0.79	0.120
75.00	-45.84	-6.46	-0.02	-261.3	0.00	261.27	3,846.82	908.70	2,678.53	2,563.49	6.68	-0.85	0.114
77.00	-40.02	-5.83	-0.02	-248.4	0.00	248.35	3,799.65	897.56	2,613.26	2,500.54	7.03	-0.87	0.110
80.00	-39.08	-5.76	-0.02	-230.9	0.00	230.87	3,728.90	880.84	2,516.86	2,407.59	7.59	-0.9	0.106
85.00	-37.54	-5.66	-0.02	-202.1	0.00	202.09	3,610.98	852.99	2,360.23	2,256.57	8.55	-0.95	0.100
90.00	-36.04	-5.57	-0.02	-173.8	0.00	173.81	3,493.05	825.13	2,208.63	2,110.45	9.57	-0.99	0.093
93.50	-35.02	-5.51	-0.02	-154.3	0.00	154.33	3,410.51	805.63	2,105.50	2,011.07	10.31	-1.02	0.087
95.00	-34.47	-5.47	-0.02	-146.1	0.00	146.06	3,375.13	797.28	2,062.06	1,969.22	10.63	-1.04	0.084
97.25	-33.67	-5.43	-0.02	-133.8	0.00	133.75	1,102.89	301.46	785.89	655.89	11.12	-1.06	0.235
98.00	-33.15	-5.36	-0.02	-129.7	0.00	129.68	1,099.71	299.89	777.74	650.58	11.29	-1.06	0.230
100.00	-27.15	-4.46	-0.02	-119.0	0.00	118.95	1,091.10	295.71	756.22	636.43	11.74	-1.1	0.212
102.00	-26.41	-4.36	-0.02	-110.0	0.00	110.04	1,082.30	291.53	735.01	622.32	12.21	-1.14	0.201
105.00	-25.98	-4.30	-0.02	-97.0	0.00	96.95	1,068.74	285.27	703.75	601.22	12.95	-1.19	0.186
110.00	-18.95	-3.33	-0.02	-75.4	0.00	75.43	1,045.19	274.82	653.15	566.30	14.24	-1.27	0.151
115.00	-18.34	-3.27	-0.02	-58.8	0.00	58.80	1,020.46	264.37	604.45	531.74	15.61	-1.34	0.129
115.50	-18.27	-3.20	-0.02	-57.2	0.00	57.16	1,017.93	263.33	599.68	528.30	15.75	-1.35	0.126
120.00	-15.09	-2.84	-0.02	-42.8	0.00	42.76	994.55	253.93	557.63	497.61	17.05	-1.4	0.101
121.00	-14.96	-2.79	0.00	-39.9	0.00	39.90	989.22	251.84	548.50	490.84	17.35	-1.41	0.097
125.00	-14.52	-2.75	0.00	-28.7	0.00	28.73	967.45	243.48	512.70	463.98	18.55	-1.45	0.077
125.40	-14.41	-2.67	0.00	-27.6	0.00	27.63	965.23	242.65	509.19	461.32	18.67	-1.45	0.075
130.00	-11.81	-2.21	0.00	-14.5	0.00	14.46	939.16	233.04	469.66	430.94	20.09	-1.48	0.046
132.00	-4.96	-1.16	0.00	-10.0	0.00	10.04	927.52	228.86	452.97	417.90	20.71	-1.49	0.029
135.00	-4.68	-1.11	0.00	-6.5	0.00	6.54	909.69	222.59	428.50	398.55	21.65	-1.5	0.022
138.00	-1.62	-0.65	0.00	-3.2	0.00	3.23	891.44	216.32	404.72	379.46	22.6	-1.51	0.010
140.00	0.00	-0.61	0.00	-1.9	0.00	1.93	879.04	212.15	389.23	366.89	23.23	-1.51	0.005

Load Case: 1.0D + 1.0W Service Normal	60 mph Wind with No Ice	23 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 1.00		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.12	-6.50	-0.02	-686.5	0.00	686.50	5,497.77	1,298.68	5,470.20	5,259.85	0	0	0.139
5.00	-46.60	-6.46	-0.02	-654.0	0.00	653.98	5,379.84	1,270.83	5,238.09	5,035.45	0.03	-0.05	0.139
10.00	-45.11	-6.41	-0.02	-621.7	0.00	621.70	5,261.92	1,242.97	5,011.02	4,815.96	0.1	-0.09	0.138
15.00	-43.65	-6.36	-0.02	-589.7	0.00	589.66	5,144.00	1,215.12	4,788.97	4,601.35	0.22	-0.14	0.137
20.00	-42.21	-6.31	-0.02	-557.8	0.00	557.85	5,026.07	1,187.26	4,571.96	4,391.63	0.4	-0.19	0.135
25.00	-40.80	-6.27	-0.02	-526.3	0.00	526.28	4,908.15	1,159.41	4,359.97	4,186.81	0.63	-0.24	0.134
30.00	-39.41	-6.22	-0.02	-495.0	0.00	494.95	4,790.23	1,131.55	4,153.02	3,986.88	0.91	-0.29	0.132
35.00	-38.06	-6.17	-0.02	-463.9	0.00	463.86	4,672.31	1,103.69	3,951.10	3,791.84	1.24	-0.34	0.131
40.00	-36.73	-6.11	-0.02	-433.0	0.00	433.03	4,554.38	1,075.84	3,754.22	3,601.69	1.63	-0.39	0.128
45.00	-35.43	-6.07	-0.02	-402.5	0.00	402.47	4,436.46	1,047.98	3,562.36	3,416.43	2.07	-0.45	0.126
46.25	-35.11	-6.05	-0.02	-394.9	0.00	394.88	4,406.98	1,041.02	3,515.18	3,370.88	2.19	-0.46	0.125
50.00	-33.38	-6.01	-0.02	-372.2	0.00	372.20	4,318.54	1,020.13	3,375.54	3,236.07	2.56	-0.5	0.123
51.00	-32.93	-5.98	-0.02	-366.2	0.00	366.19	4,412.85	1,042.41	3,524.56	3,379.93	2.67	-0.51	0.116
55.00	-31.91	-5.92	-0.02	-342.3	0.00	342.28	4,318.52	1,020.12	3,375.50	3,236.03	3.11	-0.55	0.113
60.00	-30.66	-5.85	-0.02	-312.7	0.00	312.68	4,200.59	992.27	3,193.71	3,060.56	3.71	-0.6	0.109
65.00	-29.44	-5.78	-0.02	-283.4	0.00	283.42	4,082.67	964.41	3,016.95	2,889.98	4.36	-0.64	0.105
70.00	-28.25	-5.71	-0.02	-254.5	0.00	254.51	3,964.75	936.55	2,845.22	2,724.29	5.06	-0.69	0.101
75.00	-27.09	-5.65	-0.02	-226.0	0.00	225.96	3,846.82	908.70	2,678.53	2,563.49	5.81	-0.73	0.095
77.00	-23.50	-5.06	-0.02	-214.6	0.00	214.65	3,799.65	897.56	2,613.26	2,500.54	6.12	-0.75	0.092
80.00	-22.83	-5.00	-0.02	-199.5	0.00	199.47	3,728.90	880.84	2,516.86	2,407.59	6.6	-0.78	0.089
85.00	-21.73	-4.92	-0.02	-174.5	0.00	174.47	3,610.98	852.99	2,360.23	2,256.57	7.44	-0.82	0.083
90.00	-20.66	-4.86	-0.02	-149.8	0.00	149.85	3,493.05	825.13	2,208.63	2,110.45	8.32	-0.86	0.077
93.50	-19.93	-4.81	-0.02	-132.8	0.00	132.85	3,410.51	805.63	2,105.50	2,011.07	8.96	-0.89	0.072
95.00	-19.53	-4.78	-0.02	-125.6	0.00	125.63	3,375.13	797.28	2,062.06	1,969.22	9.24	-0.9	0.070
97.25	-18.94	-4.75	-0.02	-114.9	0.00	114.87	1,102.89	301.46	785.89	655.89	9.67	-0.92	0.193
98.00	-18.66	-4.69	-0.02	-111.3	0.00	111.31	1,099.71	299.89	777.74	650.58	9.81	-0.92	0.188
100.00	-15.29	-3.82	-0.02	-101.9	0.00	101.93	1,091.10	295.71	756.22	636.43	10.21	-0.95	0.174
102.00	-14.87	-3.73	-0.02	-94.3	0.00	94.30	1,082.30	291.53	735.01	622.32	10.61	-0.99	0.165
105.00	-14.62	-3.68	-0.02	-83.1	0.00	83.11	1,068.74	285.27	703.75	601.22	11.25	-1.03	0.152
110.00	-10.68	-2.83	-0.02	-64.7	0.00	64.69	1,045.19	274.82	653.15	566.30	12.37	-1.1	0.125
115.00	-10.33	-2.79	-0.02	-50.5	0.00	50.53	1,020.46	264.37	604.45	531.74	13.56	-1.16	0.105
115.50	-10.29	-2.74	-0.02	-49.1	0.00	49.13	1,017.93	263.33	599.68	528.30	13.68	-1.17	0.103
120.00	-8.12	-2.47	-0.02	-36.8	0.00	36.78	994.55	253.93	557.63	497.61	14.8	-1.21	0.082
121.00	-8.05	-2.43	0.00	-34.3	0.00	34.30	989.22	251.84	548.50	490.84	15.06	-1.22	0.078
125.00	-7.80	-2.40	0.00	-24.6	0.00	24.56	967.45	243.48	512.70	463.98	16.1	-1.25	0.061
125.40	-7.75	-2.35	0.00	-23.6	0.00	23.60	965.23	242.65	509.19	461.32	16.2	-1.26	0.059
130.00	-6.47	-1.93	0.00	-11.9	0.00	11.89	939.16	233.04	469.66	430.94	17.43	-1.28	0.035
132.00	-2.62	-0.95	0.00	-8.0	0.00	8.03	927.52	228.86	452.97	417.90	17.97	-1.29	0.022
135.00	-2.47	-0.91	0.00	-5.2	0.00	5.18	909.69	222.59	428.50	398.55	18.78	-1.3	0.016
138.00	-0.55	-0.51	0.00	-2.5	0.00	2.46	891.44	216.32	404.72	379.46	19.6	-1.3	0.007
140.00	0.00	-0.50	0.00	-1.4	0.00	1.43	879.04	212.15	389.23	366.89	20.14	-1.3	0.004

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.227
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.056
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_a):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.242
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.090
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.480
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	1.990
Total Unfactored Dead Load:	48.120 k
Seismic Base Shear (E):	1.440 k

1.2D + 1.0Ev + 1.0Eh Normal Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	139	97	1,766	0.005	7	121
39	136.5	148	2,609	0.008	11	185
38	133.5	152	2,558	0.007	11	190
37	131	111	1,805	0.005	8	139
36	127.7	281	4,324	0.012	18	350
35	125.2	25	368	0.001	2	31
34	123	252	3,599	0.010	15	314
33	120.5	65	897	0.003	4	82
32	117.75	299	3,922	0.011	16	373
31	115.25	34	426	0.001	2	42
30	112.5	349	4,181	0.012	17	436
29	107.5	420	4,598	0.013	19	524
28	103.5	257	2,608	0.008	11	321
27	101	173	1,676	0.005	7	216
26	99	217	2,018	0.006	8	271
25	97.625	82	740	0.002	3	102
24	96.125	592	5,188	0.015	22	739
23	94.25	399	3,361	0.010	14	498
22	91.75	731	5,841	0.017	24	913
21	87.5	1,068	7,760	0.022	32	1,333
20	82.5	1,095	7,078	0.020	30	1,367
19	78.5	670	3,923	0.011	16	836
18	76	457	2,512	0.007	10	571
17	72.5	1,162	5,812	0.017	24	1,451
16	67.5	1,189	5,160	0.015	22	1,485
15	62.5	1,216	4,528	0.013	19	1,518
14	57.5	1,243	3,922	0.011	16	1,552
13	53	1,014	2,720	0.008	11	1,266
12	50.5	453	1,105	0.003	5	566
11	48.125	1,720	3,808	0.011	16	2,147
10	45.625	320	637	0.002	3	400
9	42.5	1,297	2,243	0.006	9	1,619
8	37.5	1,324	1,785	0.005	7	1,653
7	32.5	1,351	1,371	0.004	6	1,687

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
6	27.5	1,378	1,003	0.003	4	1,721
5	22.5	1,405	686	0.002	3	1,754
4	17.5	1,432	424	0.001	2	1,788
3	12.5	1,459	221	0.001	1	1,822
2	7.5	1,486	82	0.000	0	1,855
1	2.5	1,513	9	0.000	0	1,889
dbSpectra DS7C09P36U-D	140	210	3,887	0.011	16	262
Generic 12' Omni	140	40	740	0.002	3	50
Generic 12' Omni	140	40	740	0.002	3	50
Generic 8' Omni	140	50	925	0.003	4	62
Generic 6' FM antenna	140	30	555	0.002	2	37
Generic 12' Dipole	140	40	740	0.002	3	50
TX RX Systems 432F-83W-01-C-110/110R/48/48R	140	18	333	0.001	1	22
RFS SC3-W100AB	140	40	740	0.002	3	50
Generic 6' Omni	138	25	450	0.001	2	31
Flat Platform w/ Handrails	138	1,750	31,474	0.091	131	2,185
Ericsson Radio 4449 B71+B85	132	225	3,704	0.011	15	281
Ericsson 4460 BAND 2/25	132	327	5,384	0.016	22	408
Commscope VV-65A-R1	132	71	1,176	0.003	5	89
Ericsson AIR 6419 B41	132	250	4,114	0.012	17	312
RFS APXVAARR24_43-U-NA20	132	384	6,317	0.018	26	479
Generic Flat Platform with Handrails	132	2,500	41,160	0.119	172	3,121
Generic Flat Platform with Handrails	77	2,500	14,094	0.041	59	3,121
Alcatel-Lucent 800 MHz 2X50W RRH w/ Filter	130	192	3,067	0.009	13	240
Alcatel-Lucent 4x40W RRH (91 lb)	130	273	4,360	0.013	18	341
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	130	210	3,354	0.010	14	262
RFS APXV9TM14-ALU-I20*	130	165	2,640	0.008	11	206
RFS APXVSPP18-C-A20	130	171	2,731	0.008	11	213
Generic 9' Omni	125.4	25	372	0.001	2	31
Andrew DB586	121	8	115	0.000	0	10
Generic Round Low Profile Platform	120	1,875	25,541	0.074	107	2,341
Diamond X50A	115.5	5	58	0.000	0	6
Commscope CBC78T-DS-43-2X	110	62	712	0.002	3	78
Nokia AirScale RRH 4T4R B5 160W AHCA	110	106	1,213	0.004	5	132
Alcatel-Lucent RRH 2X60-1900	110	119	1,361	0.004	6	148
Alcatel-Lucent B66a RRH4x45 (AWS-3)	110	201	2,303	0.007	10	251
Amphenol Antel BXA-171063/8CF	110	32	361	0.001	2	39
RFS DB-T1-6Z-8AB-0Z	110	88	1,008	0.003	4	110
Antel BXA-70080/6CF__	110	54	619	0.002	3	67
Commscope JAHH-65B-R3B	110	364	4,166	0.012	17	454
Generic Round Platform with Handrails	110	2,500	28,644	0.083	119	3,121
Ericsson Air 6449 B77D	102	245	2,414	0.007	10	306
Raycap DC6-48-60-18-8F ("Squid")	100	32	301	0.001	1	40
Ericsson RRUS 4426 B66	100	145	1,376	0.004	6	181
Ericsson RRUS 4449 B5, B12	100	213	2,019	0.006	8	266
Ericsson RRUS 4478 B14	100	178	1,689	0.005	7	222
Ericsson RRUS 32 B2	100	159	1,507	0.004	6	198
Raycap DC9-48-60-24-8C-EV	100	32	303	0.001	1	40
CCI TPA-65R-BU6DA-K	100	239	2,264	0.006	9	298
CCI DMP65R-BU8D	100	287	2,722	0.008	11	358
Generic Flat Low Profile Platform	100	1,875	17,774	0.051	74	2,341
Ericsson AIR 6419 B77G	98	198	1,806	0.005	8	248
Raycap RDIDC-9181-PF-48	77	22	123	0.000	1	27
Fujitsu TA08025-B605	77	225	1,268	0.004	5	281
Fujitsu TA08025-B604	77	192	1,081	0.003	5	239
JMA Wireless MX08FRO665-21	77	194	1,091	0.003	5	242
		48,122	346,171	1.000	1,444	60,077

0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	139	97	1,766	0.005	7	82
39	136.5	148	2,609	0.008	11	126
38	133.5	152	2,558	0.007	11	129
37	131	111	1,805	0.005	8	95
36	127.7	281	4,324	0.012	18	239
35	125.2	25	368	0.001	2	21
34	123	252	3,599	0.010	15	214
33	120.5	65	897	0.003	4	56
32	117.75	299	3,922	0.011	16	255
31	115.25	34	426	0.001	2	29
30	112.5	349	4,181	0.012	17	297
29	107.5	420	4,598	0.013	19	358
28	103.5	257	2,608	0.008	11	219
27	101	173	1,676	0.005	7	148
26	99	217	2,018	0.006	8	185
25	97.625	82	740	0.002	3	70
24	96.125	592	5,188	0.015	22	504
23	94.25	399	3,361	0.010	14	340
22	91.75	731	5,841	0.017	24	623
21	87.5	1,068	7,760	0.022	32	909
20	82.5	1,095	7,078	0.020	30	932
19	78.5	670	3,923	0.011	16	570
18	76	457	2,512	0.007	10	389
17	72.5	1,162	5,812	0.017	24	990
16	67.5	1,189	5,160	0.015	22	1,013
15	62.5	1,216	4,528	0.013	19	1,036
14	57.5	1,243	3,922	0.011	16	1,059
13	53	1,014	2,720	0.008	11	864
12	50.5	453	1,105	0.003	5	386
11	48.125	1,720	3,808	0.011	16	1,464
10	45.625	320	637	0.002	3	273
9	42.5	1,297	2,243	0.006	9	1,105
8	37.5	1,324	1,785	0.005	7	1,128
7	32.5	1,351	1,371	0.004	6	1,151
6	27.5	1,378	1,003	0.003	4	1,174
5	22.5	1,405	686	0.002	3	1,197
4	17.5	1,432	424	0.001	2	1,220
3	12.5	1,459	221	0.001	1	1,243
2	7.5	1,486	82	0.000	0	1,266
1	2.5	1,513	9	0.000	0	1,289
dbSpectra DS7C09P36U-D	140	210	3,887	0.011	16	179
Generic 12' Omni	140	40	740	0.002	3	34
Generic 12' Omni	140	40	740	0.002	3	34
Generic 8' Omni	140	50	925	0.003	4	43
Generic 6' FM antenna	140	30	555	0.002	2	26
Generic 12' Dipole	140	40	740	0.002	3	34
TX RX Systems 432F-83W-01-C-110/110R/48/48R	140	18	333	0.001	1	15
RFS SC3-W100AB	140	40	740	0.002	3	34
Generic 6' Omni	138	25	450	0.001	2	21
Flat Platform w/ Handrails	138	1,750	31,474	0.091	131	1,490
Ericsson Radio 4449 B71+B85	132	225	3,704	0.011	15	192
Ericsson 4460 BAND 2/25	132	327	5,384	0.016	22	278
Commscope VV-65A-R1	132	71	1,176	0.003	5	61
Ericsson AIR 6419 B41	132	250	4,114	0.012	17	213
RFS APXVAARR24_43-U-NA20	132	384	6,317	0.018	26	327
Generic Flat Platform with Handrails	132	2,500	41,160	0.119	172	2,129
Generic Flat Platform with Handrails	77	2,500	14,094	0.041	59	2,129
Alcatel-Lucent 800 MHz 2X50W RRH w/ Filter	130	192	3,067	0.009	13	164
Alcatel-Lucent 4x40W RRH (91 lb)	130	273	4,360	0.013	18	232
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	130	210	3,354	0.010	14	179
RFS APXV9TM14-ALU-I20*	130	165	2,640	0.008	11	141
RFS APXVSPP18-C-A20	130	171	2,731	0.008	11	146
Generic 9' Omni	125.4	25	372	0.001	2	21
Andrew DB586	121	8	115	0.000	0	7
Generic Round Low Profile Platform	120	1,875	25,541	0.074	107	1,597
Diamond X50A	115.5	5	58	0.000	0	4
Commscope CBC78T-DS-43-2X	110	62	712	0.002	3	53
Nokia AirScale RRH 4T4R B5 160W AHCA	110	106	1,213	0.004	5	90
Alcatel-Lucent RRH 2X60-1900	110	119	1,361	0.004	6	101

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
Alcatel-Lucent B66a RRH4x45 (AWS-3)	110	201	2,303	0.007	10	171
Amphenol Antel BXA-171063/8CF	110	32	361	0.001	2	27
RFS DB-T1-6Z-8AB-0Z	110	88	1,008	0.003	4	75
Antel BXA-70080/6CF	110	54	619	0.002	3	46
Commscope JAHH-65B-R3B	110	364	4,166	0.012	17	310
Generic Round Platform with Handrails	110	2,500	28,644	0.083	119	2,129
Ericsson Air 6449 B77D	102	245	2,414	0.007	10	208
Raycap DC6-48-60-18-8F ("Squid")	100	32	301	0.001	1	27
Ericsson RRUS 4426 B66	100	145	1,376	0.004	6	124
Ericsson RRUS 4449 B5, B12	100	213	2,019	0.006	8	181
Ericsson RRUS 4478 B14	100	178	1,689	0.005	7	152
Ericsson RRUS 32 B2	100	159	1,507	0.004	6	135
Raycap DC9-48-60-24-8C-EV	100	32	303	0.001	1	27
CCI TPA-65R-BU6DA-K	100	239	2,264	0.006	9	203
CCI DMP65R-BU8D	100	287	2,722	0.008	11	244
Generic Flat Low Profile Platform	100	1,875	17,774	0.051	74	1,597
Ericsson AIR 6419 B77G	98	198	1,806	0.005	8	169
Raycap RDIDC-9181-PF-48	77	22	123	0.000	1	19
Fujitsu TA08025-B605	77	225	1,268	0.004	5	192
Fujitsu TA08025-B604	77	192	1,081	0.003	5	163
JMA Wireless MX08FRO665-21	77	194	1,091	0.003	5	165
		48,122	346,171	1.000	1,444	40,980

1.2D + 1.0Ev + 1.0Eh Normal Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-58.19	-1.45	0.00	-166.18	0.00	166.18	5,497.77	1,298.68	5,470	5,259.85	0.00	0.00	0.04
5.00	-56.33	-1.46	0.00	-158.93	0.00	158.93	5,379.84	1,270.83	5,238	5,035.45	0.01	-0.01	0.04
10.00	-54.51	-1.47	0.00	-151.63	0.00	151.63	5,261.92	1,242.97	5,011	4,815.96	0.02	-0.02	0.04
15.00	-52.72	-1.48	0.00	-144.29	0.00	144.29	5,144.00	1,215.12	4,789	4,601.35	0.05	-0.03	0.04
20.00	-50.97	-1.48	0.00	-136.90	0.00	136.90	5,026.07	1,187.26	4,572	4,391.63	0.10	-0.05	0.04
25.00	-49.25	-1.49	0.00	-129.48	0.00	129.48	4,908.15	1,159.41	4,360	4,186.81	0.15	-0.06	0.04
30.00	-47.56	-1.49	0.00	-122.04	0.00	122.04	4,790.23	1,131.55	4,153	3,986.88	0.22	-0.07	0.04
35.00	-45.91	-1.49	0.00	-114.58	0.00	114.58	4,672.31	1,103.69	3,951	3,791.84	0.30	-0.08	0.04
40.00	-44.29	-1.49	0.00	-107.12	0.00	107.12	4,554.38	1,075.84	3,754	3,601.69	0.40	-0.10	0.04
45.00	-43.89	-1.49	0.00	-99.67	0.00	99.67	4,436.46	1,047.98	3,562	3,416.43	0.51	-0.11	0.04
46.25	-41.74	-1.48	0.00	-97.80	0.00	97.80	4,406.98	1,041.02	3,515	3,370.88	0.53	-0.11	0.04
50.00	-41.17	-1.48	0.00	-92.26	0.00	92.26	4,318.54	1,020.13	3,376	3,236.07	0.63	-0.12	0.04
51.00	-39.91	-1.47	0.00	-90.79	0.00	90.79	4,412.85	1,042.41	3,525	3,379.93	0.65	-0.12	0.04
55.00	-38.35	-1.45	0.00	-84.92	0.00	84.92	4,318.52	1,020.12	3,376	3,236.03	0.76	-0.14	0.04
60.00	-36.84	-1.44	0.00	-77.65	0.00	77.65	4,200.59	992.27	3,194	3,060.56	0.91	-0.15	0.03
65.00	-35.35	-1.42	0.00	-70.45	0.00	70.45	4,082.67	964.41	3,017	2,889.98	1.07	-0.16	0.03
70.00	-33.90	-1.40	0.00	-63.35	0.00	63.35	3,964.75	936.55	2,845	2,724.29	1.24	-0.17	0.03
75.00	-33.33	-1.39	0.00	-56.36	0.00	56.36	3,846.82	908.70	2,679	2,563.49	1.43	-0.18	0.03
77.00	-28.58	-1.29	0.00	-53.58	0.00	53.58	3,799.65	897.56	2,613	2,500.54	1.50	-0.19	0.03
80.00	-27.22	-1.26	0.00	-49.71	0.00	49.71	3,728.90	880.84	2,517	2,407.59	1.62	-0.19	0.03
85.00	-25.88	-1.23	0.00	-43.42	0.00	43.42	3,610.98	852.99	2,360	2,256.57	1.83	-0.20	0.03
90.00	-24.97	-1.20	0.00	-37.28	0.00	37.28	3,493.05	825.13	2,209	2,110.45	2.05	-0.21	0.03
93.50	-24.47	-1.19	0.00	-33.07	0.00	33.07	3,410.51	805.63	2,106	2,011.07	2.20	-0.22	0.02
95.00	-23.73	-1.17	0.00	-31.29	0.00	31.29	3,375.13	797.28	2,062	1,969.22	2.27	-0.22	0.02
97.25	-23.63	-1.16	0.00	-28.67	0.00	28.67	1,102.89	301.46	786	655.89	2.38	-0.23	0.07
98.00	-23.11	-1.15	0.00	-27.80	0.00	27.80	1,099.71	299.89	778	650.58	2.42	-0.23	0.06
100.00	-18.95	-1.00	0.00	-25.50	0.00	25.50	1,091.10	295.71	756	636.43	2.51	-0.24	0.06
102.00	-18.32	-0.98	0.00	-23.50	0.00	23.50	1,082.30	291.53	735	622.32	2.61	-0.24	0.06
105.00	-17.80	-0.96	0.00	-20.56	0.00	20.56	1,068.74	285.27	704	601.22	2.77	-0.26	0.05
110.00	-12.96	-0.76	0.00	-15.74	0.00	15.74	1,045.19	274.82	653	566.30	3.05	-0.27	0.04
115.00	-12.92	-0.76	0.00	-11.94	0.00	11.94	1,020.46	264.37	604	531.74	3.34	-0.29	0.04
115.50	-12.54	-0.74	0.00	-11.56	0.00	11.56	1,017.93	263.33	600	528.30	3.37	-0.29	0.03
120.00	-10.12	-0.62	0.00	-8.22	0.00	8.22	994.55	253.93	558	497.61	3.65	-0.30	0.03
121.00	-9.80	-0.60	0.00	-7.60	0.00	7.60	989.22	251.84	548	490.84	3.71	-0.30	0.03
125.00	-9.77	-0.60	0.00	-5.19	0.00	5.19	967.45	243.48	513	463.98	3.97	-0.31	0.02
125.40	-9.38	-0.58	0.00	-4.95	0.00	4.95	965.23	242.65	509	461.32	3.99	-0.31	0.02

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
130.00	-7.98	-0.50	0.00	-2.27	0.00	2.27	939.16	233.04	470	430.94	4.29	-0.31	0.01
132.00	-3.11	-0.20	0.00	-1.27	0.00	1.27	927.52	228.86	453	417.90	4.42	-0.31	0.01
135.00	-2.92	-0.19	0.00	-0.66	0.00	0.66	909.69	222.59	428	398.55	4.62	-0.32	0.01
138.00	-0.58	-0.04	0.00	-0.08	0.00	0.08	891.44	216.32	405	379.46	4.82	-0.32	0.00
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	879.04	212.15	389	366.89	4.95	-0.32	0.00

0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.69	-1.45	0.00	-163.03	0.00	163.03	5,497.77	1,298.68	5,470	5,259.85	0.00	0.00	0.04
5.00	-38.43	-1.45	0.00	-155.80	0.00	155.80	5,379.84	1,270.83	5,238	5,035.45	0.01	-0.01	0.04
10.00	-37.18	-1.46	0.00	-148.53	0.00	148.53	5,261.92	1,242.97	5,011	4,815.96	0.02	-0.02	0.04
15.00	-35.96	-1.47	0.00	-141.23	0.00	141.23	5,144.00	1,215.12	4,789	4,601.35	0.05	-0.03	0.04
20.00	-34.77	-1.47	0.00	-133.90	0.00	133.90	5,026.07	1,187.26	4,572	4,391.63	0.10	-0.05	0.04
25.00	-33.59	-1.47	0.00	-126.56	0.00	126.56	4,908.15	1,159.41	4,360	4,186.81	0.15	-0.06	0.04
30.00	-32.44	-1.47	0.00	-119.21	0.00	119.21	4,790.23	1,131.55	4,153	3,986.88	0.22	-0.07	0.04
35.00	-31.31	-1.47	0.00	-111.86	0.00	111.86	4,672.31	1,103.69	3,951	3,791.84	0.30	-0.08	0.04
40.00	-30.21	-1.46	0.00	-104.52	0.00	104.52	4,554.38	1,075.84	3,754	3,601.69	0.39	-0.09	0.04
45.00	-29.93	-1.46	0.00	-97.20	0.00	97.20	4,436.46	1,047.98	3,562	3,416.43	0.49	-0.11	0.04
46.25	-28.47	-1.45	0.00	-95.37	0.00	95.37	4,406.98	1,041.02	3,515	3,370.88	0.52	-0.11	0.04
50.00	-28.08	-1.45	0.00	-89.93	0.00	89.93	4,318.54	1,020.13	3,376	3,236.07	0.61	-0.12	0.03
51.00	-27.22	-1.44	0.00	-88.49	0.00	88.49	4,412.85	1,042.41	3,525	3,379.93	0.64	-0.12	0.03
55.00	-26.16	-1.42	0.00	-82.74	0.00	82.74	4,318.52	1,020.12	3,376	3,236.03	0.75	-0.13	0.03
60.00	-25.13	-1.41	0.00	-75.63	0.00	75.63	4,200.59	992.27	3,194	3,060.56	0.89	-0.14	0.03
65.00	-24.11	-1.39	0.00	-68.60	0.00	68.60	4,082.67	964.41	3,017	2,889.98	1.05	-0.15	0.03
70.00	-23.12	-1.36	0.00	-61.67	0.00	61.67	3,964.75	936.55	2,845	2,724.29	1.21	-0.17	0.03
75.00	-22.73	-1.36	0.00	-54.84	0.00	54.84	3,846.82	908.70	2,679	2,563.49	1.39	-0.18	0.03
77.00	-19.50	-1.26	0.00	-52.13	0.00	52.13	3,799.65	897.56	2,613	2,500.54	1.47	-0.18	0.03
80.00	-18.56	-1.23	0.00	-48.36	0.00	48.36	3,728.90	880.84	2,517	2,407.59	1.58	-0.19	0.03
85.00	-17.65	-1.20	0.00	-42.22	0.00	42.22	3,610.98	852.99	2,360	2,256.57	1.79	-0.20	0.02
90.00	-17.03	-1.17	0.00	-36.25	0.00	36.25	3,493.05	825.13	2,209	2,110.45	2.00	-0.21	0.02
93.50	-16.69	-1.16	0.00	-32.15	0.00	32.15	3,410.51	805.63	2,106	2,011.07	2.15	-0.21	0.02
95.00	-16.19	-1.13	0.00	-30.41	0.00	30.41	3,375.13	797.28	2,062	1,969.22	2.22	-0.22	0.02
97.25	-16.12	-1.13	0.00	-27.86	0.00	27.86	1,102.89	301.46	786	655.89	2.32	-0.22	0.06
98.00	-15.76	-1.12	0.00	-27.01	0.00	27.01	1,099.71	299.89	778	650.58	2.36	-0.22	0.06
100.00	-12.93	-0.97	0.00	-24.78	0.00	24.78	1,091.10	295.71	756	636.43	2.45	-0.23	0.05
102.00	-12.50	-0.95	0.00	-22.83	0.00	22.83	1,082.30	291.53	735	622.32	2.55	-0.24	0.05
105.00	-12.14	-0.94	0.00	-19.97	0.00	19.97	1,068.74	285.27	704	601.22	2.71	-0.25	0.05
110.00	-8.84	-0.74	0.00	-15.29	0.00	15.29	1,045.19	274.82	653	566.30	2.98	-0.27	0.04
115.00	-8.81	-0.74	0.00	-11.60	0.00	11.60	1,020.46	264.37	604	531.74	3.26	-0.28	0.03
115.50	-8.55	-0.72	0.00	-11.23	0.00	11.23	1,017.93	263.33	600	528.30	3.29	-0.28	0.03
120.00	-6.90	-0.60	0.00	-7.99	0.00	7.99	994.55	253.93	558	497.61	3.56	-0.29	0.02
121.00	-6.68	-0.59	0.00	-7.38	0.00	7.38	989.22	251.84	548	490.84	3.62	-0.29	0.02
125.00	-6.66	-0.59	0.00	-5.04	0.00	5.04	967.45	243.48	513	463.98	3.87	-0.30	0.02
125.40	-6.40	-0.56	0.00	-4.80	0.00	4.80	965.23	242.65	509	461.32	3.90	-0.30	0.02
130.00	-5.44	-0.49	0.00	-2.20	0.00	2.20	939.16	233.04	470	430.94	4.19	-0.31	0.01
132.00	-2.12	-0.20	0.00	-1.23	0.00	1.23	927.52	228.86	453	417.90	4.32	-0.31	0.01
135.00	-1.99	-0.19	0.00	-0.64	0.00	0.64	909.69	222.59	428	398.55	4.51	-0.31	0.00
138.00	-0.40	-0.04	0.00	-0.08	0.00	0.08	891.44	216.32	405	379.46	4.70	-0.31	0.00
140.00	0.00	-0.04	0.00	0.00	0.00	0.00	879.04	212.15	389	366.89	4.83	-0.31	0.00

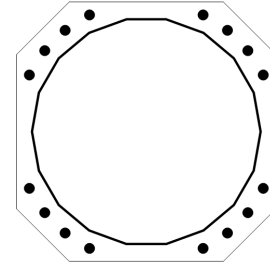
ANALYSIS SUMMARY

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	28.13	0.00	57.70	0.01	0.09	2993.68	97.25	0.79
0.9D + 1.0W Normal	28.11	0.00	43.26	0.01	0.09	2949.87	97.25	0.77
1.2D + 1.0Di + 1.0Wi Normal	7.39	0.00	74.82	0.00	0.02	787.58	97.25	0.23
1.2D + 1.0Ev + 1.0Eh Normal	1.49	0.00	58.19	0.00	0.00	166.18	97.25	0.07
0.9D - 1.0Ev + 1.0Eh Normal	1.47	0.00	39.69	0.00	0.00	163.03	97.25	0.06
1.0D + 1.0W Service Normal	6.50	0.00	48.12	0.00	0.02	686.50	97.25	0.19

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 4059)

Width:	54	in
Shape:	Square	
Thickness:	3.25	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Clip Length:	11	in
Rod Detail Type:	d	
Clear Distance:	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	224	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 6041]	Cluster	16	2.25	54	A615-75	75	100	6	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (16) 2.25"Ø [ID 6041]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	0.452	24.29	11.79	7.980	207.648	154.33	2.81
2	0.674	21.09	16.86	2.402	19.582	154.33	2.95
3	0.897	16.86	21.09	-3.293	36.065	-139.91	2.94
4	1.119	11.79	24.29	-8.827	253.895	-139.91	2.78
5	2.023	-11.79	24.29	-24.417	1937.010	-139.91	0.92
6	2.245	-16.86	21.09	-25.575	2125.077	-139.91	0.28
7	2.467	-21.09	16.86	-25.476	2108.593	-139.91	0.38
8	2.690	-24.29	11.79	-24.123	1890.763	-139.91	1.02
9	3.594	-24.29	-11.79	-7.980	207.649	-139.91	2.81
10	3.816	-21.09	-16.86	-2.402	19.582	-139.91	2.95
11	4.038	-16.86	-21.09	3.293	36.066	154.33	2.94
12	4.260	-11.79	-24.29	8.827	253.895	154.33	2.78
13	5.164	11.79	-24.29	24.417	1937.011	154.33	0.92
14	5.387	16.86	-21.09	25.575	2125.077	154.33	0.28
15	5.609	21.09	-16.86	25.476	2108.594	154.33	0.38
16	5.831	24.29	-11.79	24.123	1890.764	154.33	1.02

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	47.13"Ø x 0.5" (18 Sides)	2993.7	57.70	28.13	1.000
Bolt Group	Original (16) 2.25"Ø	2993.7	-	28.13	1.000
TOTALS		2993.68	57.7	28.13	

ASSET: 310968, WSPT-WESTPORT REBUILD CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 13764586

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	47.13"ø x 0.5" (18 Sides)	72.8749	-	-	19813.12	-
Bolt Group	Original (16) 2.25"ø	3.9761	3.2477	0.8393	17157.27	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 47.26 in
 Point-to-Point Diameter: 47.98 in
 Flat Width: 8.332 in
 Flat Radians: 0.349 rad

PLATE PROPERTIES

Neutral Axis: 224 °
 Bend Line Lower Limit: rad
 Bend Line Upper Limit: -0.147 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment Mu (k-in)	Moment Capacity φMn (k-in)	Ratio
Flat	29.113	0.00	76.875	889.5	3459.4	0.257
Corner	28.384	0.00	74.950	637.4	3372.8	0.189

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity φPn (k)	Ratio
Original	16	2.25	154.4	2.9	243.6	0.658