

T-Mobile/Sprint
Centerline Communications
Ryan Clark
750 West Center Street, Floor 3
West Bridgewater, MA 02379
203-300-7310
rclark@clinellc.com

June 22, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Notice of Exempt Modification
164 County Road Wolcott, CT 06716
Latitude: 41.576194
Longitude:-72.956111
T-Mobile Site#: CTNH794A

Dear Ms. Bachman,

T-Mobile/Sprint currently maintains three (3) antennas at the 201-foot level of the existing 350- foot monopole tower at 164 County Road Wolcott, CT 06716 . The 350- foot tower and the property is owned by American Tower Corporation. T-Mobile now intends to replace three (3) of its existing antennas with three (3) new 600/700 MHz antenna and add six (6) additional antennas. The new antennas would be installed at the 201-foot level of the tower. A mount assembly kit is to be installed as recommended in the attached Mount Analysis. The proposed modifications will make the site available for 5G at some point in the future.

Planned Modifications:

Remove and Replace:

- (3) RFS-APXVSPP18-C-A20 Antennas **(Remove)** - (3) APXVAALL24_43-U-NA20 MHz Antennas **(Replace)**
- (3) Alcatel-Lucent 1900 **(Remove)** - (3) RRU 4460 B25+B66 **(Replace)**
- (3) Alcatel-Lucent 800MHz RRH **(Remove)** – (3) Ericsson 4480 B71+B85A RRU **(Replace)**
- (3) 1 ¼” Hybrid Cables **(Remove)** – (3) 1 5/8” Fiber Cables **(Replace)**

Install New:

- (3) Commscope VV-65A-R1

(3) Ericsson AIR 6419 B41

Ground:

Add (1) Generator

Replace (3) Cabinets

This facility was approved by the Town of Clinton. The only available documents per the town have been attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Thomas Dunn, Chief Elected Official, Angelo Mastrofrancesco, Chairman of Planning and Zoning, American Tower Corporation as the tower owner and property owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under

R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



🏠 750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379 *Corporate Headquarters*

☎️ 781.713.4725

📠 617.249.0819

Ryan Clark

Mobile: 203-300-7310

Fax: 508-819-3017

Office: 750 West Center Street, Floor 3 West Bridgewater, MA 02379

Email: rclark@clinellc.com

Attachments

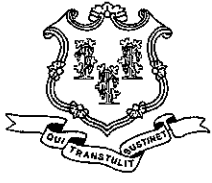
cc: Mayor Thomas Dunn Town of Wolcott-chief elected official

Angelo Mastrofrancesco , Chairman of Planning and Zoning, Town of Wolcott

American Tower Corporation- tower and property owner

Exhibit A

Original Facility Approval



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@po.state.ct.us

www.ct.gov/csc

November 18, 2004

Wendell G. Davis, Esq.
Blackwell, Davis, Spadaccini LLC
158 East Center Street
Manchester, CT 06040

RE: **TS-SPRINT-166-041006** - Sprint Spectrum L.P. request for an order to approve tower sharing at an existing telecommunications facility located at 164 County Road, Wolcott, Connecticut.

Dear Attorney Davis:

At a public meeting held November 17, 2004, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the condition that the reinforcements specified on the supplemental structural letter dated November 10, 2004 and sealed by Donald M. Leffert, P.E. be performed prior to the antenna installation. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated October 5, 2004 and additional information dated November 10, 2004, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

Pamela B. Katz, P.E.
Chairman

PBK/laf

c: The Honorable Thomas G. Dunn, Mayor, Town of Wolcott
George Leggio, Zoning Enforcement Officer, Town of Wolcott
Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
Cox Communications

Exhibit B

Property Card

COUNTY RD

Location COUNTY RD

Mblu 130/ 1/ 25A/ /

Acct# T0546700

Owner INSITE TOWERS LLC

Assessment \$246,230

Appraisal \$351,750

PID 6058

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$19,500	\$332,250	\$351,750

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$13,650	\$232,580	\$246,230

Owner of Record

Owner INSITE TOWERS LLC
Co-Owner
Address 301 N FAIRFAX ST
SUITE 101
ALEXANDRIA, VA 22314

Sale Price \$25,000
Certificate
Book & Page 0453/0541
Sale Date 01/10/2013
Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
INSITE TOWERS LLC	\$25,000		0453/0541	25	01/10/2013
TELESYSTEMS OF CONN INC	\$0		0110/0599	25	05/10/1974

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	Vacant Land
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 Percent	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplace(s)	
% Attic Fin	
LF Dormer	
Foundation	
Bsmt Gar(s)	
Bsmt %	
SF FBM	
SF Rec Rm	
Fin Bsmt Qual	
Bsmt Access	
Fndtn Cndtn	
Basement	

Building Photo



(<https://images.vgsi.com/photos/WolcottCTPhotos/\00\01\11\38.jpg>)

Building Layout

(ParcelSketch.ashx?pid=6058&bid=6058)

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

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land

Land Use

Use Code 202
Description Comm w/OB
Zone R-130
Neighborhood CGEN
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 29.50
Frontage
Depth
Assessed Value \$232,580
Appraised Value \$332,250

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN3	FENCE-6' CHAIN			200.00 L.F.	\$1,500	1
CELL	Cell	SH	Cell Shed	240.00 S.F.	\$18,000	1

Valuation History

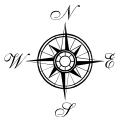
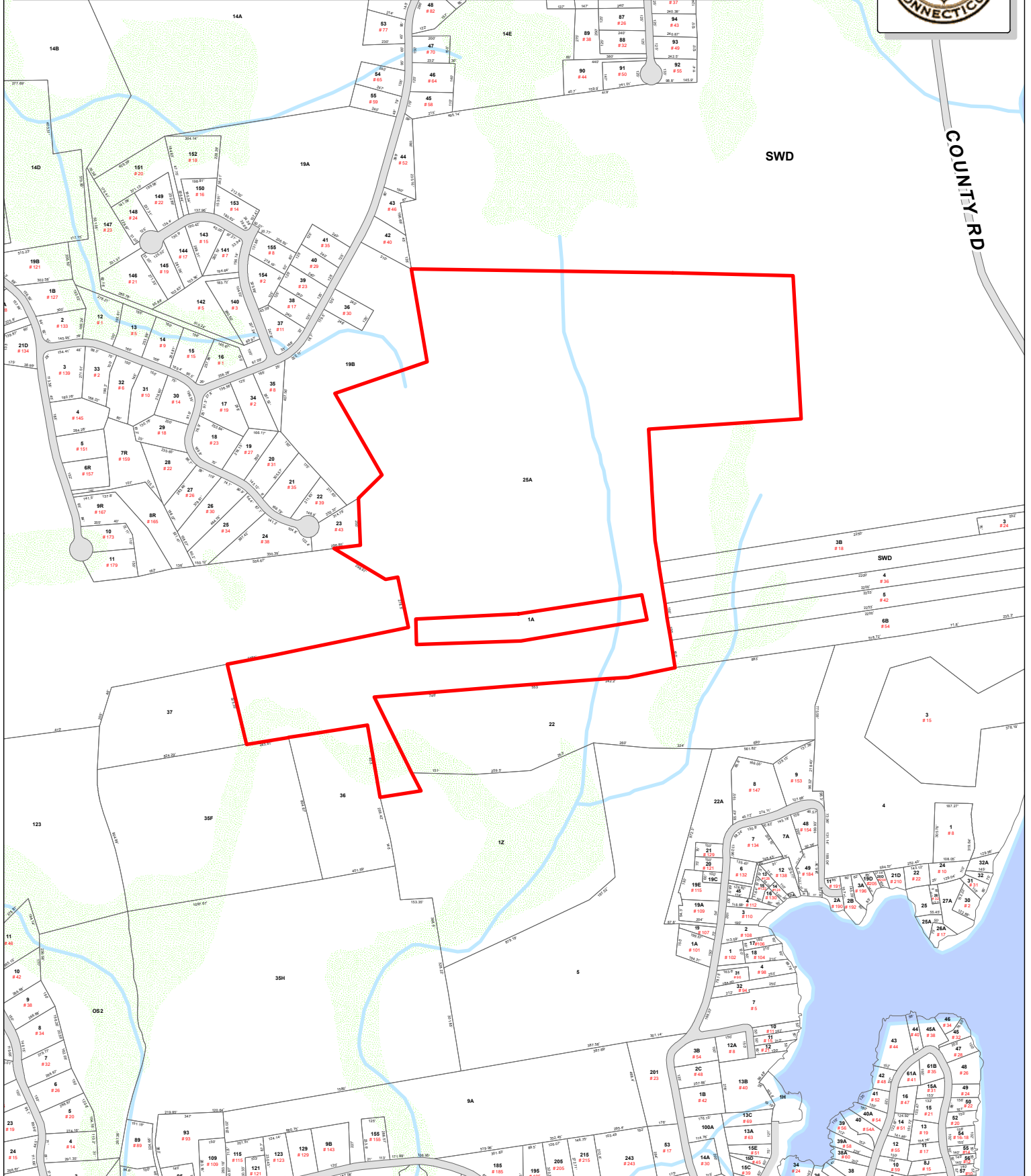
Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$19,500	\$279,550	\$299,050
2019	\$19,500	\$279,550	\$299,050
2018	\$19,500	\$279,550	\$299,050

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$13,650	\$195,690	\$209,340
2019	\$13,650	\$195,690	\$209,340
2018	\$13,650	\$195,690	\$209,340

Town of Wolcott, Connecticut - Assessment Parcel Map

Parcel: T0546700

Address: COUNTY RD



Approximate Scale: 1 inch = 700 feet

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Wolcott and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced Feb 2022

Exhibit C

Construction Drawings

PROJECT INFORMATION

SITE NAME: CT60XC956
 SITE NUMBER: CTNH794A
 SITE ADDRESS: 164 COUNTY RD
 WOLCOTT, CT 06716
 COUNTY: NEW HAVEN
 MUNICIPALITY: TOWN OF WOLCOTT
 ZONING: N/A
 LATITUDE: N 41°34'34.30" (41.576194°) (NAD83)
 LONGITUDE: W 72°57'22.00" (-72.956111°) (NAD83)
 TYPE OF SITE: GUYED TOWER
 STRUCTURE HEIGHT: 350'-0" AGL
 ANTENNA CENTER: 201'-0" AGL
 GROUND ELEVATION: 761' (NAVD 88)
 BUILDING OWNER NAME: COXCOM, INC. COX ENTERPRISES
 BUILDING OWNER ADDRESS: 1400 LAKE HEARN DR, NE
 ATLANTA, GA 30319
 APPLICANT: T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN RD S
 BLOOMFIELD, CONNECTICUT 06002
 APPLICANT PHONE: (860) 692-7100



SITE NAME: CT60XC956
 SITE ID: CTNH794A
 ADDRESS: 164 COUNTY RD
 WOLCOTT, CT 06716

T - Mobile NORTHEAST LLC

TECHNOLOGY: 67E5A998E 6160
 MODIFICATION: NEW BUILD_SPRINT KEEP

T - Mobile NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN RD S
 BLOOMFIELD, CT 026002
 PHONE: (860) 629-1700

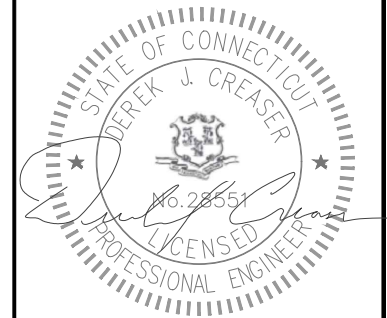


750 W CENTER ST, SUITE 301
 WEST BRIDGEWATER, MA 02379
 PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
2	05/23/22	ISSUED FOR CONSTRUCTION	RL
1	05/13/22	ISSUED FOR CONSTRUCTION	RL
0	01/27/22	ISSUED FOR CONSTRUCTION	SS
A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP	APPROVED BY: WRD
--------------------	---------------------



DATE: 05/23/22

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SITE NAME: CT60XC956
SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN
SHEET TITLE: TITLE SHEET
DRAWING: T-1

PROJECT DIRECTORY

ENGINEERING FIRM:
 CENTERLINE ENGINEERING SERVICES
 750 WEST CENTER ST, SUITE 301
 WEST BRIDGEWATER, MA 02379
 DEREK CREASER (617) 306-3034

CARRIER:
 T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN RD S
 BLOOMFIELD, CT 06002
 PHONE: (860) 692-1700



Know what's below.
 Call before you dig.



VICINITY MAP
 NOT TO SCALE



LOCATION MAP
 NOT TO SCALE

GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SCOPE OF WORK

- REMOVE ALL EXISTING TOWER EQUIPMENT AT 201' ELEVATION
- INSTALL NINE NEW ANTENNAS
- INSTALL SIX NEW RRUS
- INSTALL THREE NEW 6x24 HYBRID CABLES
- REMOVE EXISTING GROUND CABINETS
- INSTALL NEW 6160 EQUIPMENT CABINET
- INSTALL NEW B160 BATTERY CABINET
- INSTALL NEW 25kw GENERATOR ON NEW CONCRETE SLAB

DRAWING INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES, RF NOTES, CABLING NOTES
A-1	COMPOUND PLAN
A-2	EQUIPMENT LAYOUT
A-3	DETAILS
A-4	WEST ELEVATION
A-5	ANTENNA LAYOUT
A-6	10'-6" HEAVY DUTY V-FRAME ASSEMBLY
A-7	DETAILS
A-8	GENERATOR SPEC SHEET
A-9	AUTOMATIC TRANSFER SWITCH SPEC SHEET
SN-1	STRUCTURAL NOTES & SPECIAL INSPECTIONS
S-1	ANTENNA & RRU MOUNTING DETAILS
E-1	ELECTRICAL PLAN
G-1	GROUNDING & ONE LINE DIAGRAM

DRAWING SCALE NOTES:

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34". CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

RF NOTES

- ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
- THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
- RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
- ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
- RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
- THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
- DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
- ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
- 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
- USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
- ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
- CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE & SCHEDULING NOTES

- SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
- TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T-MOBILE ANTENNA CABLE MARKING STANDARD:
 - TOP OF TOWER END OF MAIN COAX
 - BOTTOM OF TOWER END OF MAIN COAX
 - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
 - END OF JUMPERS AT BTS EQUIPMENT
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
- PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - CENTERLINE COMMUNICATIONS
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - T-MOBILE MOBILITY
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE MOBILITY SITES."
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTNING CODE: NFPA 70-2017
- SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

T - Mobile NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD 5
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

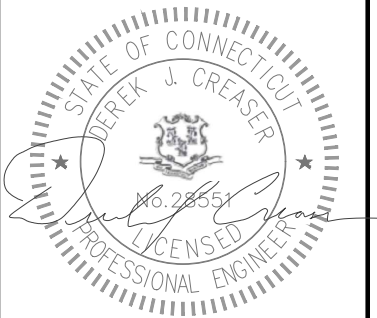


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
2	05/23/22	ISSUED FOR CONSTRUCTION	RL
1	05/13/22	ISSUED FOR CONSTRUCTION	RL
0	01/27/22	ISSUED FOR CONSTRUCTION	SS
A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP	APPROVED BY: WRD
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DATE: 05/23/22

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ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

SITE NAME:
CT60XC956

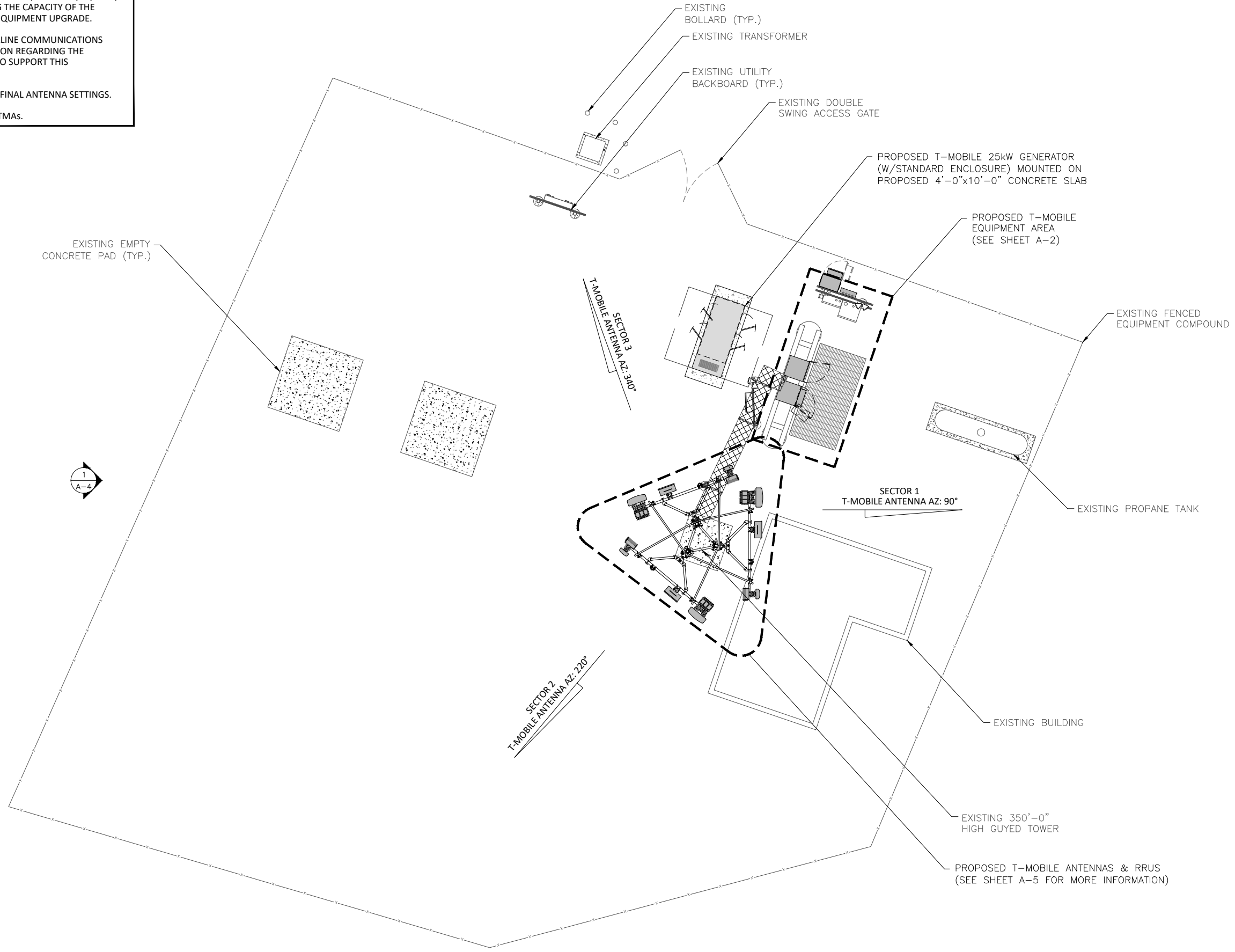
SITE ID:
CTNH794A

SITE ADDRESS:
164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

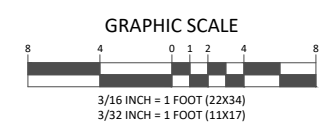
SHEET TITLE:
**GENERAL NOTES, RF NOTES,
CABLING NOTES**

DRAWING:
GN-1

- ANTENNA & CABLE NOTES:**
1. REFERENCE STRUCTURAL ANALYSIS BY TELAMON, DATED 05/06/2022, FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
 2. REFERENCE MOUNT ANALYSIS BY CENTERLINE COMMUNICATIONS DATED 5/4/22. FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
 3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.
 4. REMOVE ALL UNUSED CABLE, RRUs AND TMAs.



1
A-1
COMPOUND PLAN



T-Mobile NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

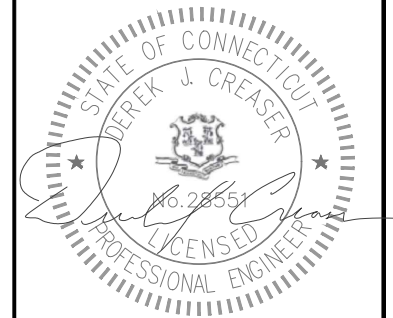


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
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1	05/13/22	ISSUED FOR CONSTRUCTION	RL
0	01/27/22	ISSUED FOR CONSTRUCTION	SS
A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP
APPROVED BY: WRD



DATE: 05/23/22

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SITE ADDRESS:
164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:
COMPOUND PLAN

DRAWING:
A-1



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35 GRIFFIN RD 5
BLOOMFIELD, CT 06002
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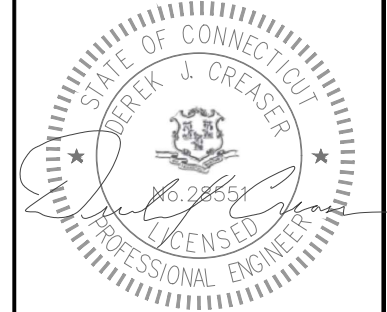


750 W CENTER ST, SUITE 301
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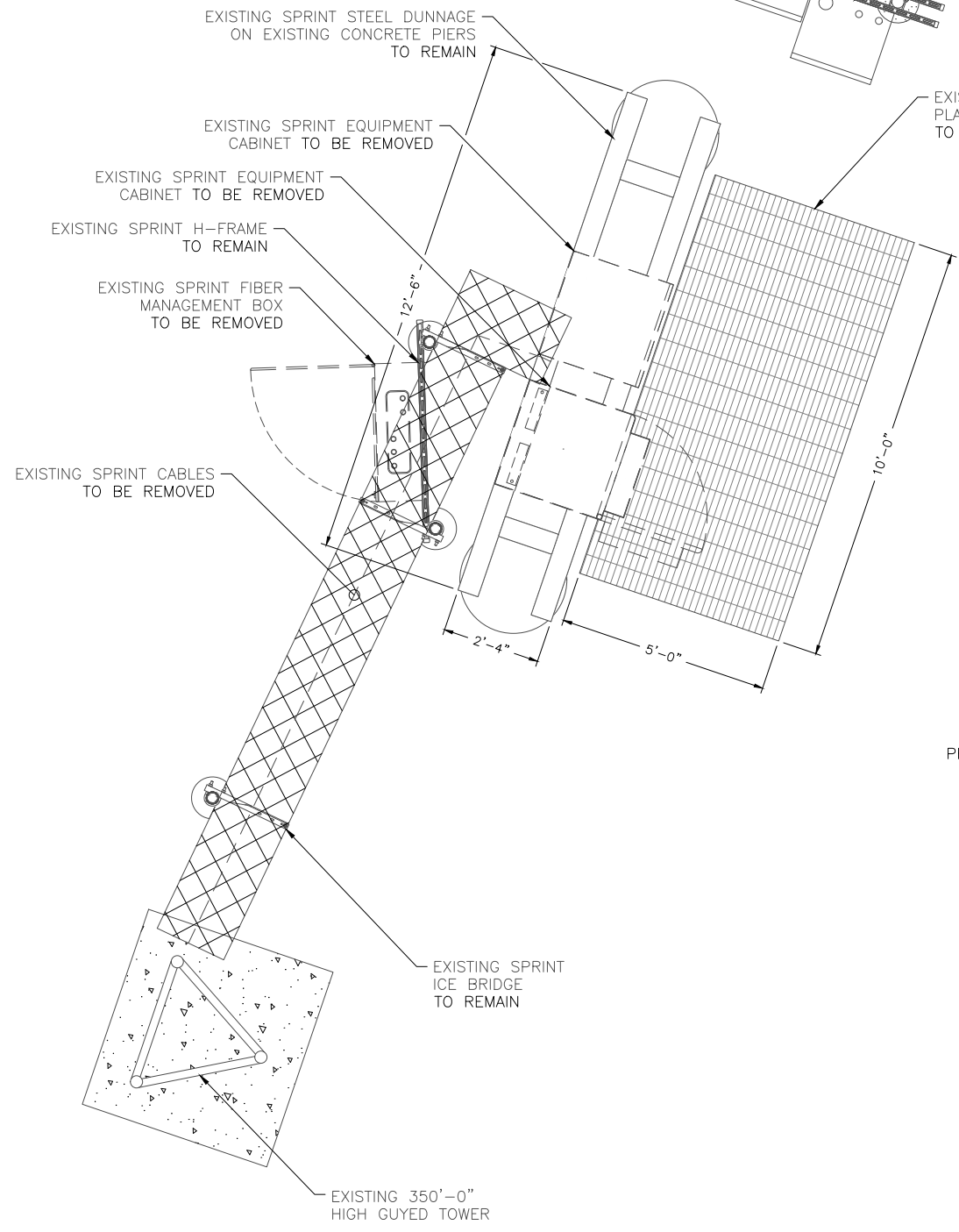
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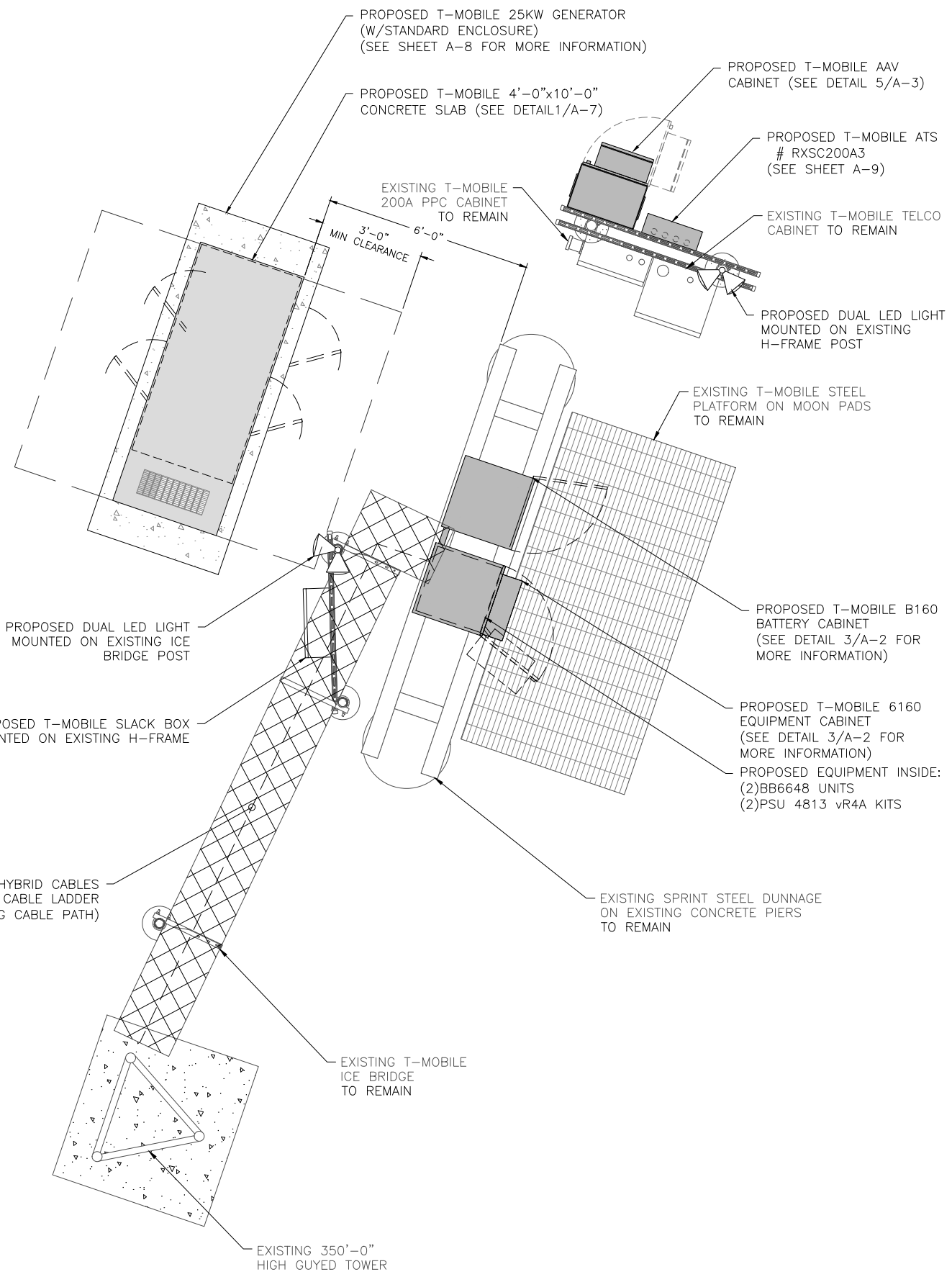
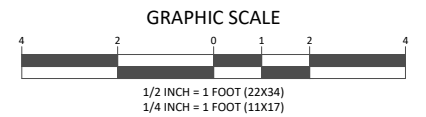
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SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN

SHEET TITLE: EQUIPMENT LAYOUT

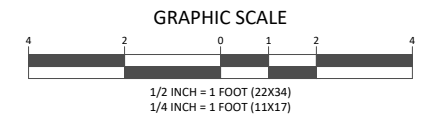
DRAWING: A-2



1 EXISTING EQUIPMENT PLAN
A-2



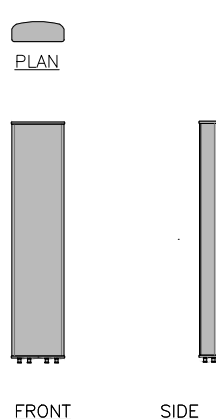
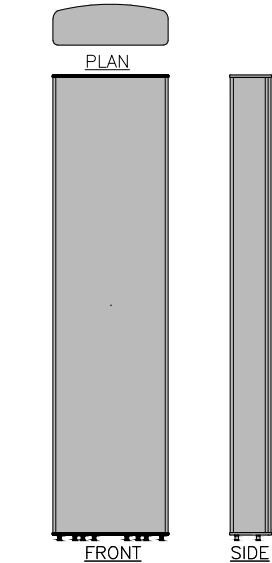
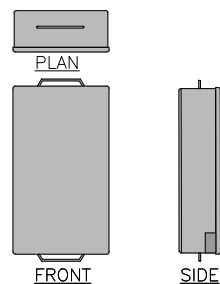
2 PROPOSED EQUIPMENT PLAN
A-2



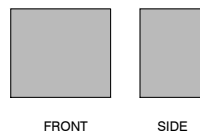
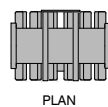
ERICSSON AIR 6419 B41	
MODEL #	AIR 6419 B41
MANUF.	ERICSSON
HEIGHT	36.3"
WIDTH	20.9"
DEPTH	9.0"
WEIGHT	83.3 LBS
FRONT EPA:	5.27 FT ²
SIDE EPA:	2.27 FT ²

RFS APXVAALL24_43-U-NA20	
MODEL #	APXVAALL24_43-U-NA20
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.5"
WEIGHT	128 LBS W/O MTG HARDWARE 153.3LBS W/ MTG HARDWARE
FRONT EPA:	15.98 FT ²
SIDE EPA:	5.66 FT ²

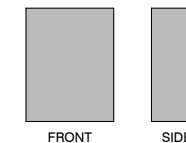
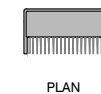
COMMSCOPE VV-65A-R1	
MODEL #	VV-65A-R1
MANUF.	COMMSCOPE
HEIGHT	54.7"
WIDTH	12.1"
DEPTH	4.6"
WEIGHT	23.81 LBS W/O MTG HARDWARE 32.41 LBS W/ MTG HARDWARE
FRONT EPA:	4.06 FT ²
SIDE EPA:	1.75 FT ²



1 ANTENNA DETAILS
A-3

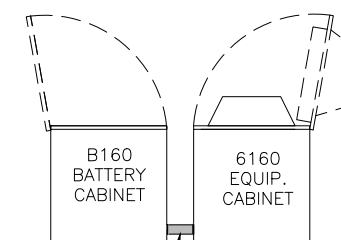


RADIO DIMENSIONS	
MODEL #	RADIO 4460 B25_B66
MANUF.	ERICSSON
HEIGHT	15.1"
WIDTH	17.0"
DEPTH	11.9"
WEIGHT	108 LBS
FRONT EPA:	
SIDE EPA:	



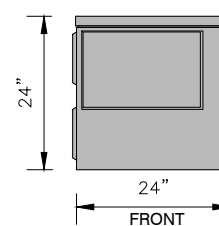
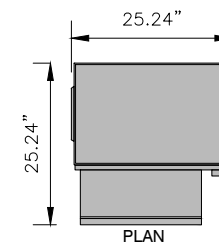
RADIO DIMENSIONS	
MODEL #	RADIO 4480 B71+B85
MANUF.	ERICSSON
HEIGHT	19.5"
WIDTH	15.1"
DEPTH	7.8"
WEIGHT	87 LBS
FRONT EPA:	
SIDE EPA:	

2 RADIO DETAILS
A-3

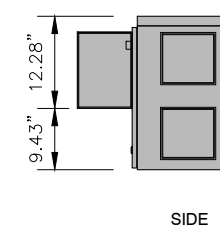


(1) PROPOSED 2"ØX 8" GALV. NIPPLE, (4) 2"Ø LOCK RINGS. & (2) 2"Ø PLASTIC BUSHING (NOT SHOWN)

4 PROPOSED EQUIPMENT CONDUIT DETAIL
A-3



AAV CABINET	
MODEL #	NETXTEND 2416
MANUF.	EMERSON
HEIGHT	24.0"
WIDTH	24.0"
DEPTH	16.67"
WEIGHT	64 LBS/100 LBS with (4) BATTERIES

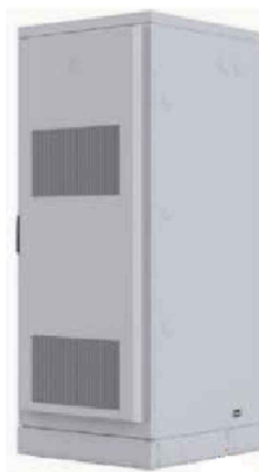


5 AAV CABINET DETAIL
A-3



6160 AC ENCLOSURE

CAPACITY	19U(19" RACK)
RACK SPACE USER EQUIP. HARDWARE CAPABILITIES	POWER AND CPRI SUPPORT FOR MULTI-STANDARD REMOTE RADIOS (RRU OR AIR) ERS BASEBAND AND TRANSPORT UNITS Li-ION BATTERIES 3PP EQUIPMENT ADDITIONAL POWER FEED OPTIONS AVAILABLE
MECHANICAL SPECIFICATIONS	
WEIGHT	320lbs (INCLUDING ACTIVE EQUIPMENT)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MOUNTING POSITION	GROUND
ENCLOSURE MATERIAL	ALUMINUM
COLOR	POWDER PAINT NCS 2002-B
DOOR	FRONT ACCESS
RACK TYPE	19" (IEC 60297-3-100)
LOCK TYPE	CYLINDER/PAD LOCK
POWER SYSTEM	
INPUT VOLTAGE	3P+N+PE 346/200-415/240 VAC 2P+N+PE 208/120-220/127 VAC 1P+N+PE 200-250 VAC



B160 BATTERY ENCLOSURE

CAPACITY	100Ah/150Ah/170Ah/190Ah/210Ah
VRLA12V:	24U 19"/23"
Li-ION	3xFIAMM
SODIUM-NICKEL	
ELECTRICAL SPECIFICATIONS	
DC OUTPUT	-48VDC/200A
BATTERY BREAKERS	2x125/2p
ALARMS	DOOR OPEN, CLIMATE FAILURE, MCB CONNECTION
MECHANICAL SPECIFICATIONS	
WEIGHT	295 lbs (PLUS 3 STRINGS OF RECOMMENDED 190 aHR FOR ADDITIONAL 1588LBS)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MATERIAL	GALVANIZED STEEL (180g/m ²)
COLOR	POWDER PAINT NCS 2002-B
LOCKING TYPE	CYLINDER/PAD LOCK

3 PROPOSED EQUIPMENT CABINET SPECIFICATIONS
A-3

T-Mobile
NORTHEAST LLC

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35 GRIFFIN RD 5
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

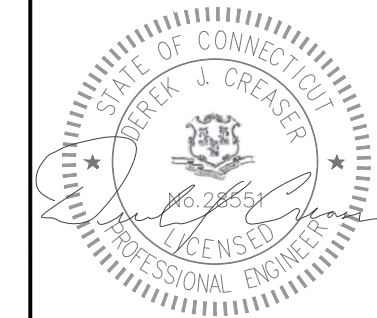


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CT60XC956

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SITE ADDRESS:
164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:
EQUIPMENT DETAILS

DRAWING:
A-3

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BLOOMFIELD, CT 026002
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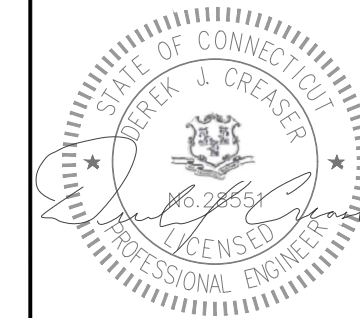


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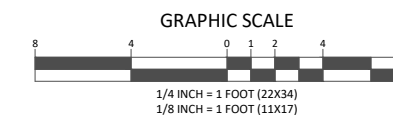
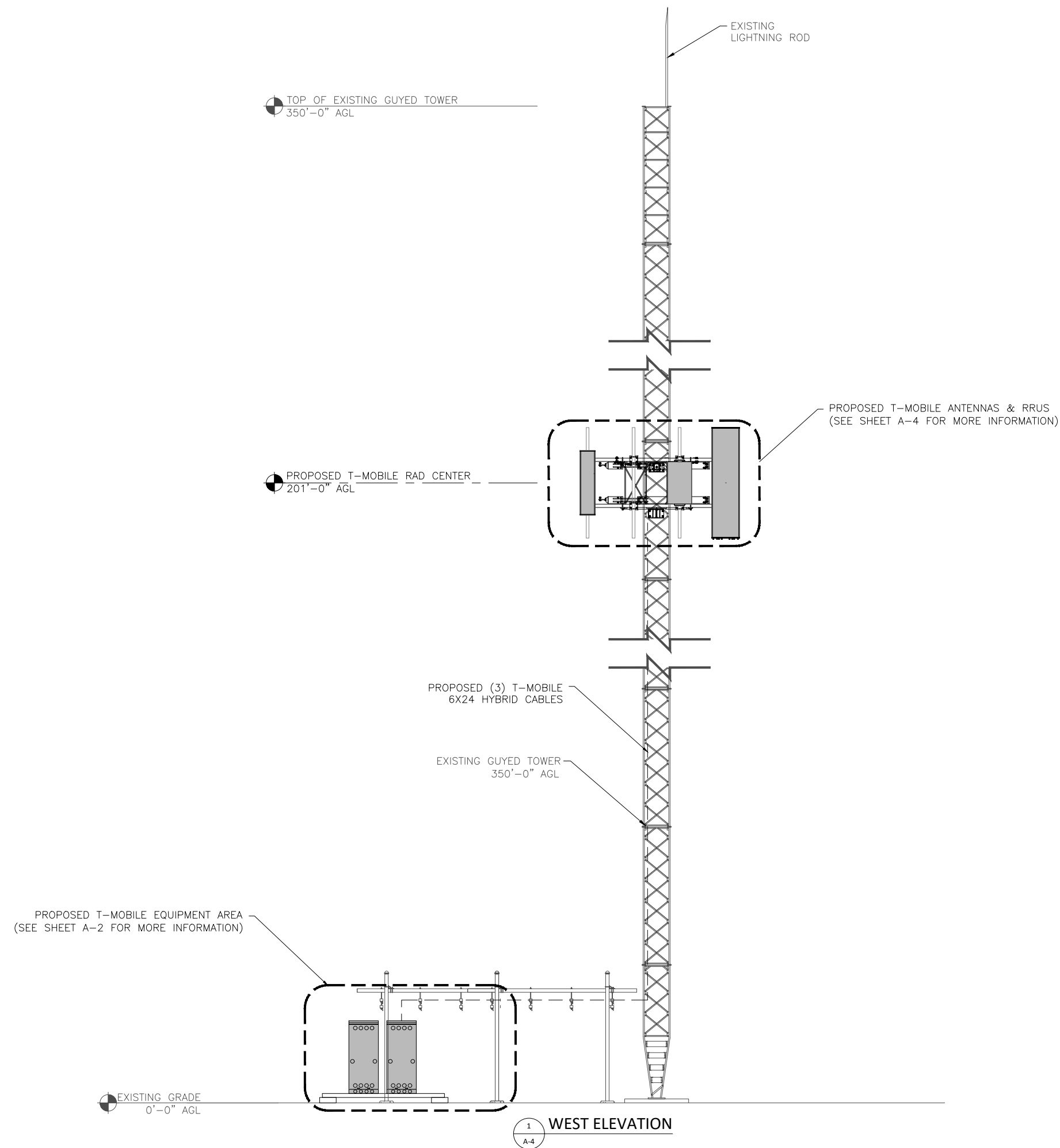
164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:

WEST ELEVATION

DRAWING:

A-4





- ANTENNA & CABLE NOTES:**
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 4. REMOVE ALL UNUSED CABLE, RRUs AND TMAs.

ANTENNA & CABLE SCHEDULE:

LOCATION	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL NO.	MECH DOWNTILT	ELEC DOWNTILT	CABLES	DIPLEXERS	TMA/RRU	CABLE SIZE	CABLE LENGTH	
ALPHA	A-1	90°	201'-0"	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	N/A	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	6x24 HYBRID	265'
	A-2	90°	201'-0"	PROPOSED	L2500, N2500	AIR6419 B41	0°	N/A	N/A	N/A	N/A	SHARED	N/A
	A-3	90°	201'-0"	PROPOSED	L2100, L1900	VV-65A-R1	0°	N/A	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	SHARED	N/A
BETA	B-1	220°	201'-0"	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	N/A	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	6x24 HYBRID	265'
	B-2	220°	201'-0"	PROPOSED	L2500, N2500	AIR6419 B41	0°	N/A	N/A	N/A	N/A	SHARED	N/A
	B-3	220°	201'-0"	PROPOSED	L2100, L1900	VV-65A-R1	0°	N/A	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	SHARED	N/A
GAMMA	G-1	340°	201'-0"	PROPOSED	L700, L600, N600	APXVAALL24_43-U-NA20	0°	N/A	(2) COAX JUMPER (X2)	N/A	4480 B71+B85	6x24 HYBRID	265'
	G-2	340°	201'-0"	PROPOSED	L2500, N2500	AIR6419 B41	0°	N/A	N/A	N/A	N/A	SHARED	N/A
	G-3	340°	201'-0"	PROPOSED	L2100, L1900	VV-65A-R1	0°	N/A	(2) COAX JUMPER (X2)	N/A	4460 B25+B66	SHARED	N/A
NOTE: DARK TEXT IN TABLE ABOVE DENOTES PROPOSED EQUIPMENT											(3) TOTAL 6x24 HYBRID CABLES	510'	

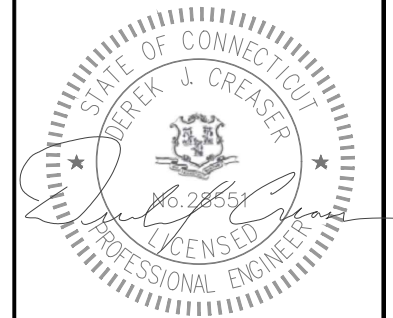
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NORTHEAST LLC
 T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN RD 5
 BLOOMFIELD, CT 026002
 PHONE: (860) 629-1700

CENTERLINE
 ENGINEERING SERVICES, PA
 750 W CENTER ST, SUITE 301
 WEST BRIDGEWATER, MA 02379
 PHONE: 781.713.4725

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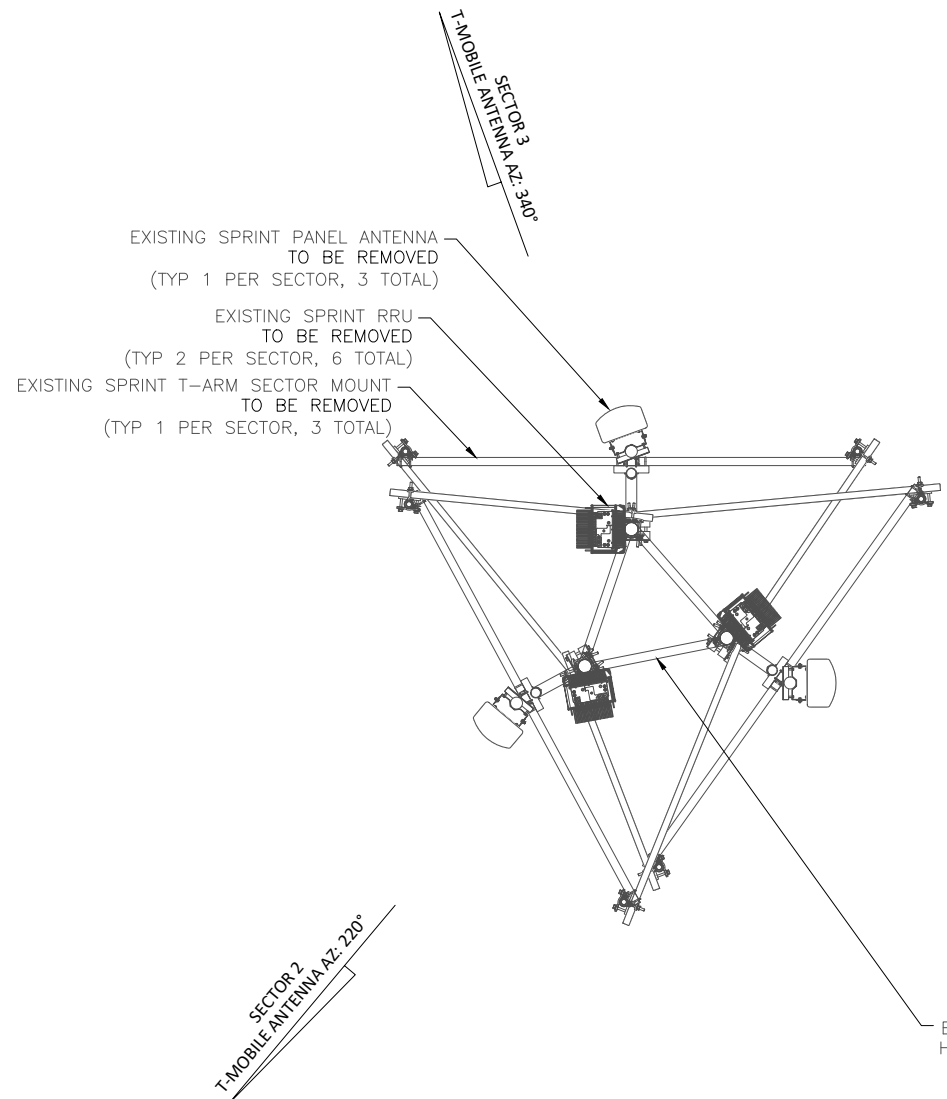
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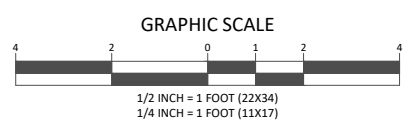
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164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:
ANTENNA PLAN & SCHEDULE

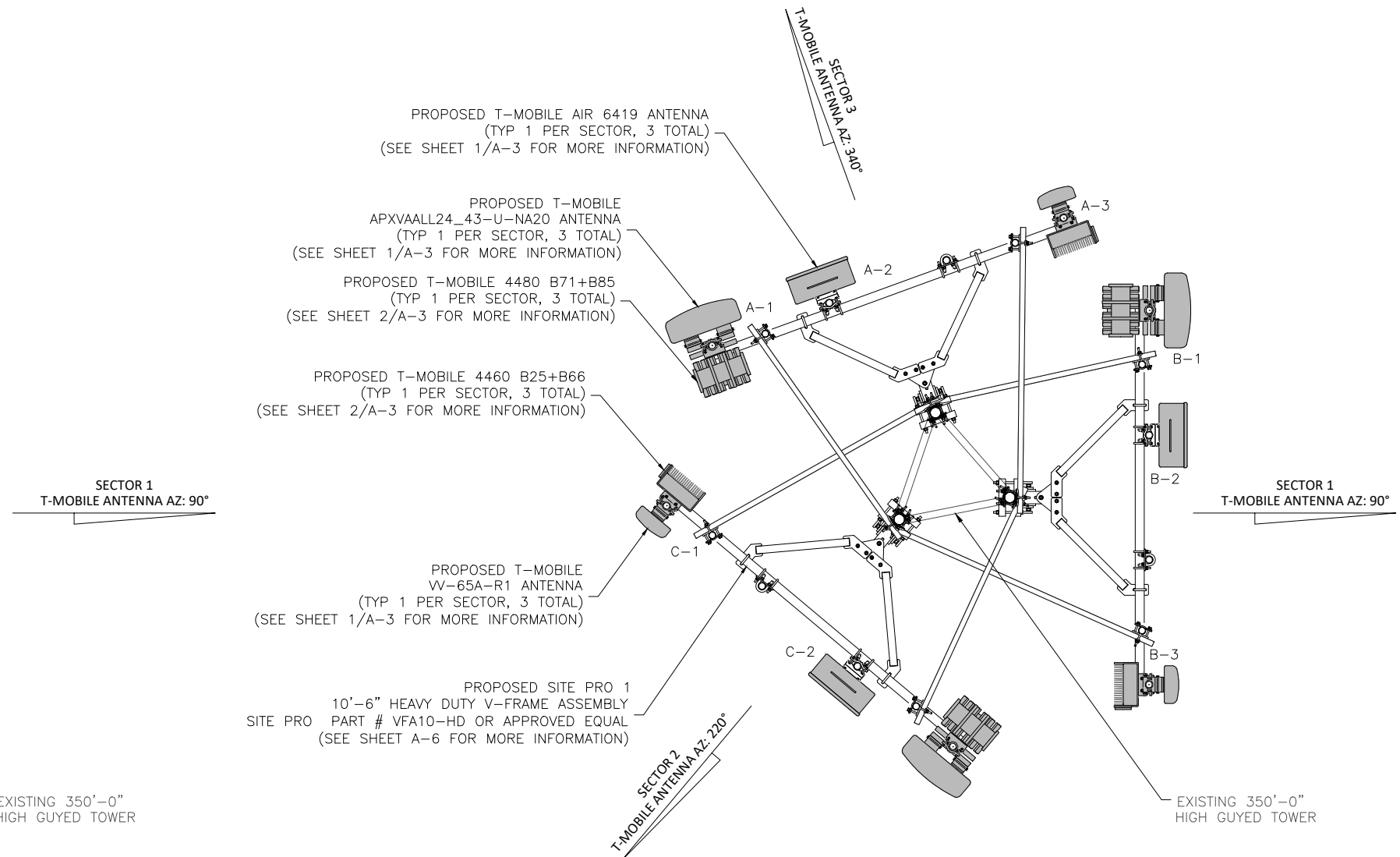
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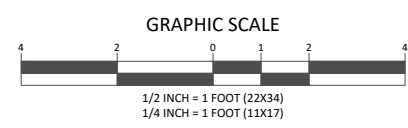
1
EXISTING ANTENNA PLAN
A-5

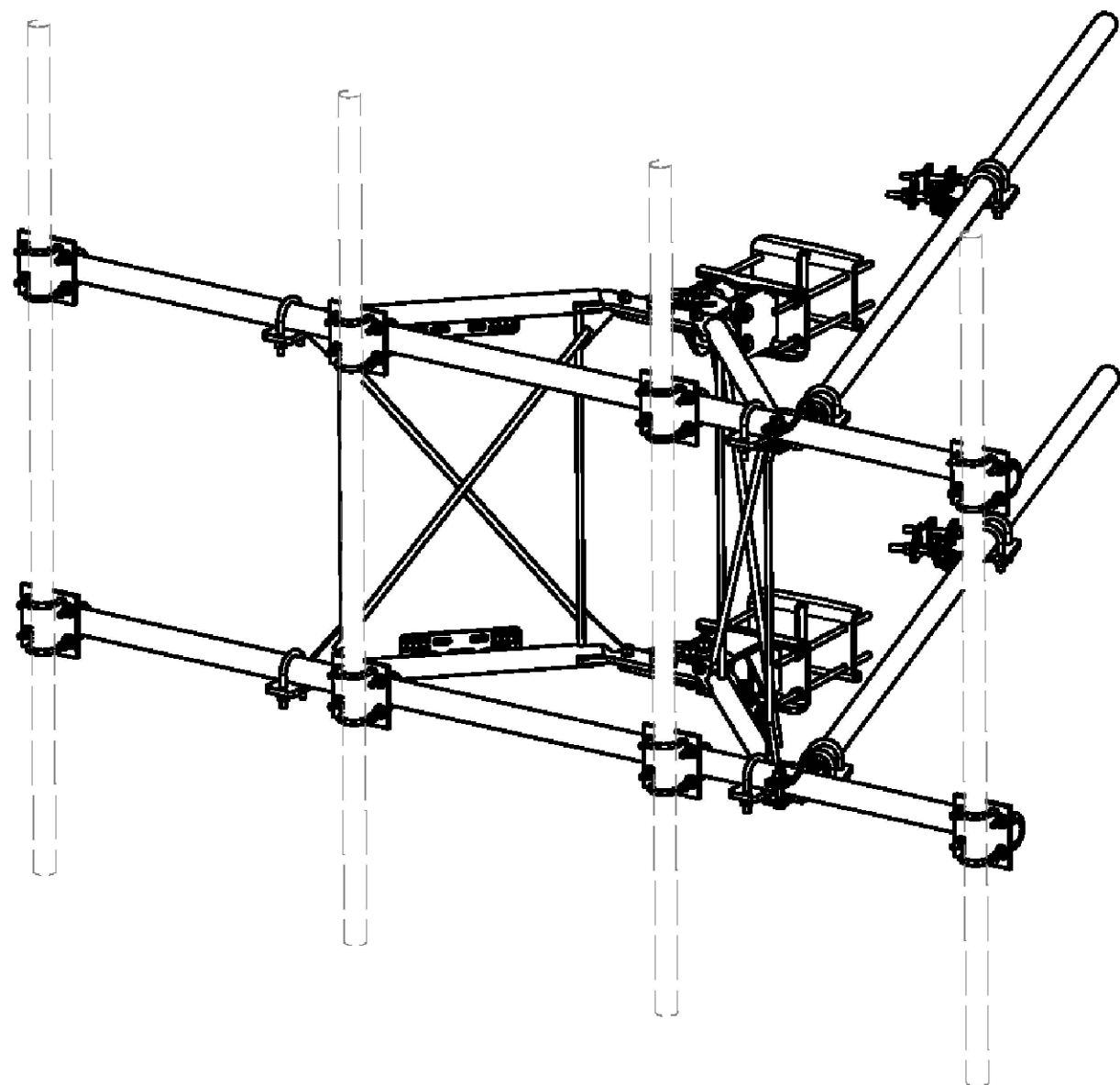


NOTE:
ALL EXISTING EQUIPMENT AT 201'-0" ELEVATION TO BE REMOVED PRIOR TO INSTALLATION OF NEW EQUIPMENT



2
PROPOSED ANTENNA PLAN
A-5





PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30126	2-7/8" O.D. X 126" SCH. 40 PIPE	126 in	64.63	129.25
15	4	A34212	3/4" X 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" X 18" THREADED ROD (HDG.)	18 in	0.40	3.19
20	4	G58R-12	5/8" X 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" X 8" THREADED ROD (HDG.)		0.70	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" X 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" X 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	8	G5804	5/8" X 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" X 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A582114	5/8" X 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
TOTAL WT. #						713.44

REVISIONS

REV	DATE	DESCRIPTION	BY
1	05/13/22	ISSUED FOR CONSTRUCTION	RL
0	01/27/22	ISSUED FOR CONSTRUCTION	SS
A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP APPROVED BY: WRD

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
D	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	6/29/2018
C	UPDATED PIN LEG CONNECTION TO BCAM CONNECTION		CEK	12/14/2017
B	CHANGED TIE-BACK BACK CONNECTION		CEK	7/28/2017
A	CHANGED TIE-BACK FRONT CONNECTION		CEK	2/2/2017

TOLERANCE NOTES
**TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.000"$)**

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
 10' 6" HEAVY DUTY
 V-FRAME ASSEMBLY
 WITH TWO STIFF ARMS

CPD NO. DRAWN BY ENG. APPROVAL
 CEK 1/25/2017

CLASS SUB DRAWING USAGE CHECKED BY
 81 02 CUSTOMER BMC 12/14/2017

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

Engineering Support Team:
 1-888-753-7448

A valmont company

PART NO. **VFA10-HD**
 DWG. NO. **VFA10-HD**

1 OF 5 PAGE

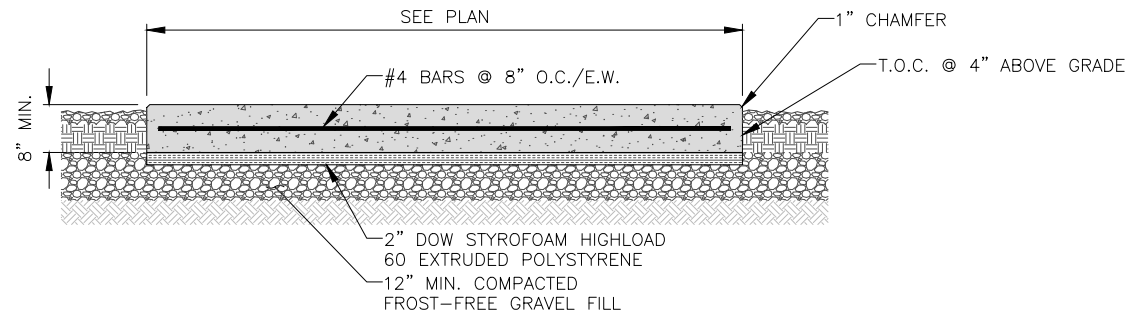
SITE NAME: CT60XC956
 SITE ID: CTNH794A
 SITE ADDRESS:
 164 COUNTY RD
 WOLCOTT, CT 06716
 NEW HAVEN

SHEET TITLE:
**10'-6" HEAVY DUTY
 V-FRAME ASSEMBLY**

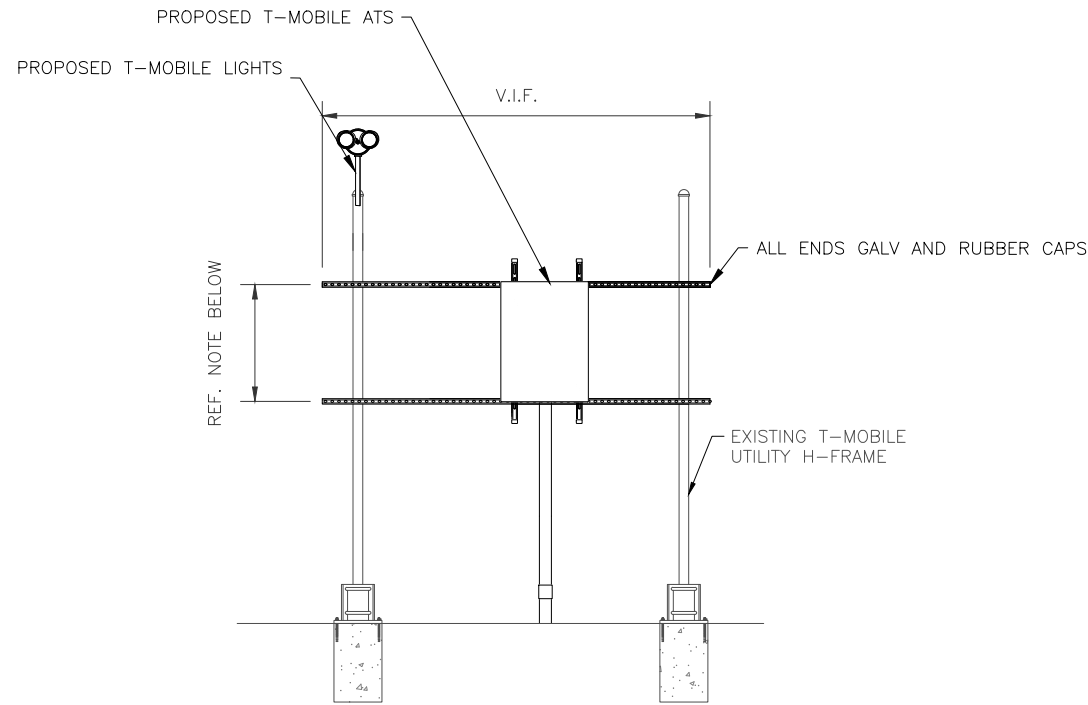
DRAWING:
A-6

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'_c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.
- LEASE AREA IS ON A SLOPE. GRADE LEASE AREA AS REQUIRED TO FACILITATE INSTALLATION OF LEVEL CONCRETE SLAB.
- SLOPE SLAB TO ALLOW FOR WATER DRAINAGE AWAY FROM SITE.



1 CONCRETE SLAB DETAIL
A-7



NOTE:
HORIZONTAL & VERTICAL UNISTRUT TO BE
SPACED SO EQUIPMENT MOUNTING HOLES ALIGN.

2 H-FRAME DETAIL
A-7

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

REVISIONS

REV	DATE	DESCRIPTION	BY
1	05/13/22	ISSUED FOR CONSTRUCTION	RL
0	01/27/22	ISSUED FOR CONSTRUCTION	SS
A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP	APPROVED BY: WRD
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SITE NAME: CT60XC956
SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN

SHEET TITLE: DETAILS

DRAWING: A-7

SD025 | 2.2L | 25 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



SD025 | 2.2L | 25 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



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NORTHEAST LLC

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 35 GRIFFIN RD S
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Standby Power Rating
 25 kW, 32 kVA, 60 Hz

Prime Power Rating*
 23 kW, 28 kVA, 60 Hz

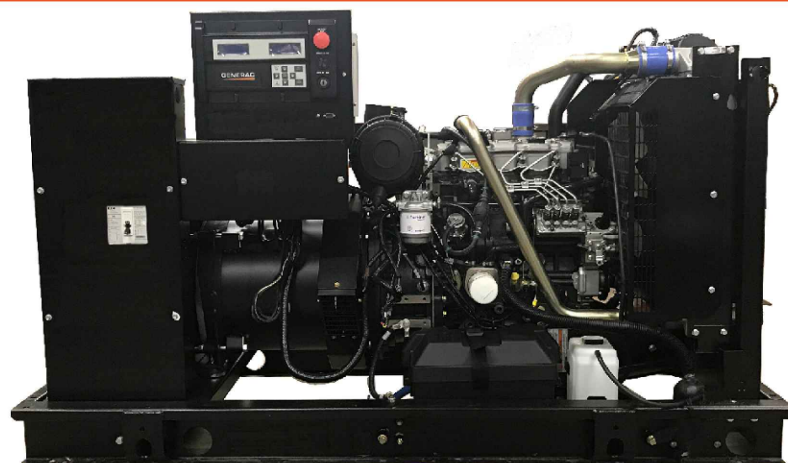
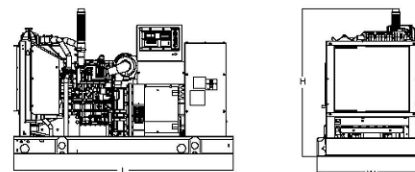


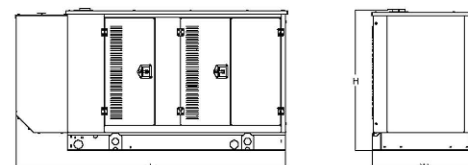
Image used for illustration purposes only

DIMENSIONS AND WEIGHTS*



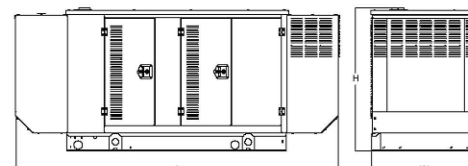
OPEN SET

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)	
			Steel	Aluminum
No Tank	-	76.0 (1,930) x 37.4 (950) x 44.8 (1,138)	1,456	1,641 (661 - 745)
25	54 (204)	76.0 (1,930) x 37.4 (950) x 57.8 (1,468)	1,936	2,121 (879 - 963)
62	132 (500)	76.0 (1,930) x 37.4 (950) x 69.8 (1,773)	2,166	2,351 (983 - 1,067)
90	190 (719)	76.0 (1,930) x 37.4 (950) x 79.3 (2,014)	2,380	2,565 (1,081 - 1,165)
100	211 (799)	76.0 (1,930) x 37.4 (950) x 81.8 (2,078)	2,375	2,560 (1,078 - 1,162)
142	300 (1,136)	92.9 (2,360) x 37.4 (950) x 85.3 (2,167)	2,438	2,623 (1,106 - 1,190)



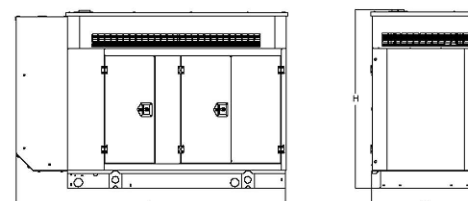
WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)		
25	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	372	241
62	132 (500)	106.0 (2,692) x 38.0 (965) x 84.0 (2,134)	(169)	(109)
90	190 (719)	94.8 (2,409) x 38.0 (965) x 84.0 (2,134)		
100	211 (799)	76.0 (1,930) x 38.0 (965) x 86.5 (2,198)		
142	300 (1,136)	92.9 (2,360) x 38.0 (965) x 90.0 (2,287)		



LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)		
25	54 (204)	112.5 (2,857) x 38.0 (965) x 62.5 (1,588)		
62	132 (500)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)	505	338
90	190 (719)	112.5 (2,857) x 38.0 (965) x 84.0 (2,134)	(229)	(153)
100	211 (799)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
142	300 (1,136)	112.5 (2,857) x 38.0 (965) x 90.0 (2,287)		



LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)		
25	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)		
62	132 (500)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	510	341
90	190 (719)	106.0 (2,692) x 38.0 (965) x 84.0 (2,134)	(231)	(155)
100	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
142	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)		

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489, UL142
- CSA C22.2, ULC S601
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	05/13/22	ISSUED FOR CONSTRUCTION	RL
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A	12/20/21	ISSUE FOR REVIEW	MP

DESIGNED BY: MP	APPROVED BY: WRD
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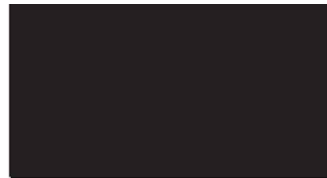
SITE NAME:
CT60XC956

SITE ID:
CTNH794A

SITE ADDRESS:
164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:
GENERATOR SPEC SHEET

DRAWING:
A-8



Automatic Transfer Switches

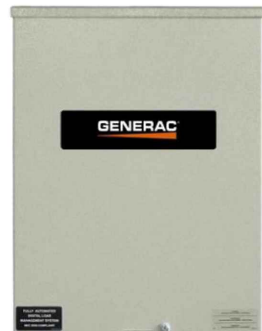


GENERAC®

Service and non-Service rated Automatic Smart Transfer Switches

100 - 400 Amps, Single Phase

Automatic Transfer Switches
1 of 2
Automatic Transfer Switches
2 of 2



*CUL only applies to non-service rated switches

Description

Generac Automatic Transfer Switches are designed for use with single phase generators that utilize an Evolution™ or Nexus™ Controller. The 100, 200, and 400 amp open transition switches are available in single phase in both service equipment rated and non-service equipment rated configurations. The 150 and 300 amp open transition switches are only available in a service rated equipment configuration.

Standard Features

Service rated (RXSW) Generac Automatic Transfer Switches are housed in an aluminum NEMA/UL Type 3R enclosure*, with electrostatically applied and baked powder paint. The Heavy Duty Generac Contactor is a UL recognized device, designed for years of service. The controller at the generator handles all the timing, sensing, exercising functions, and transfer commands. All switches are covered by a 5 year limited warranty.

*Non-service rated (RXSC) switches are housed in a steel enclosure.

DPM Technology

Through the use of digital power technology (DPM), these switches have the capability to manage up to 4 individual HVAC (24 VAC controlled) loads with no additional hardware. When used in tandem with Smart Management Modules, up to 8 more loads can be managed as well, providing the most installation efficient power management options available.



Generac Power Systems, Inc. • 545 W29290 HWY. 59, Waukesha, WI 53189 • generac.com
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100-400 Amps, Single Phase

Automatic Smart Transfer Switches

Functions

All timing and sensing functions originate in the generator controller

Utility voltage drop-out.....	<65%
Timer to generator start.....	10 second factory set, adjustable between 2-1500 seconds by a qualified dealer**
Engine warm up delay.....	5 seconds
Standby voltage sensor.....	65% for 5 seconds
Utility voltage pickup.....	>80%
Re-transfer time delay.....	15 seconds
Engine cool-down timer.....	60 seconds
Exerciser.....	5 or 12 minutes adjustable weekly/Bi-weekly/Monthly**

The transfer switch can be operated manually without power applied.

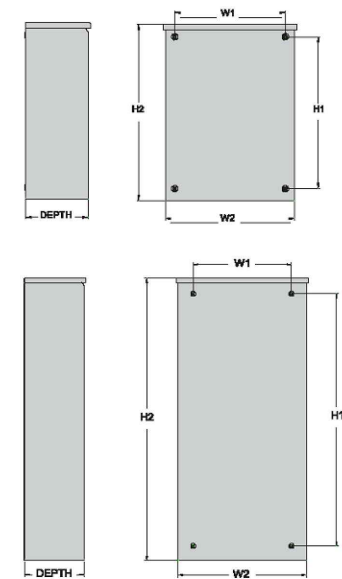
*When used in conjunction with units utilizing Evolution™ controls **Adjustable via the controller

Specifications

Model	RXSC100A3	RXSC200A3
Amps	100	200
Voltage	120/240, 1Ø	120/240, 1Ø
Load Transition Type (Automatic)	Open Transition	Open Transition
Enclosure Type	NEMA/UL3R	NEMA/UL3R
UL Rating	UL/CUL	UL/CUL
Withstand Rating (Amps)	10,000	10,000
Lug Range	1/0 - #14	250 MCM - #6

Dimensions

Model	RXSC100A3	RXSC200A3
Height (in./mm)	H1	17.24/437.9
	H2	20/508
Width (in./mm)	W1	12.5/317.5
	W2	14.6/370.8
Depth (in./mm)	7.09/180.1	7.09/180.1
Weight (lbs./kilos)	20/9.07	20/9.07



T - Mobile NORTHEAST LLC

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35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

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DESIGNED BY: MP	APPROVED BY: WRD
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SITE NAME: CT60XC956
SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN

SHEET TITLE: AUTOMATIC TRANSFER SWITCH SPEC SHEET
DRAWING: A-9

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS ³
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

T - Mobile
NORTHEAST LLC

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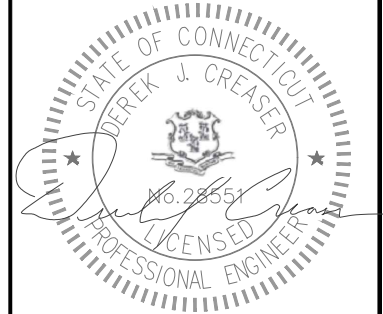


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WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

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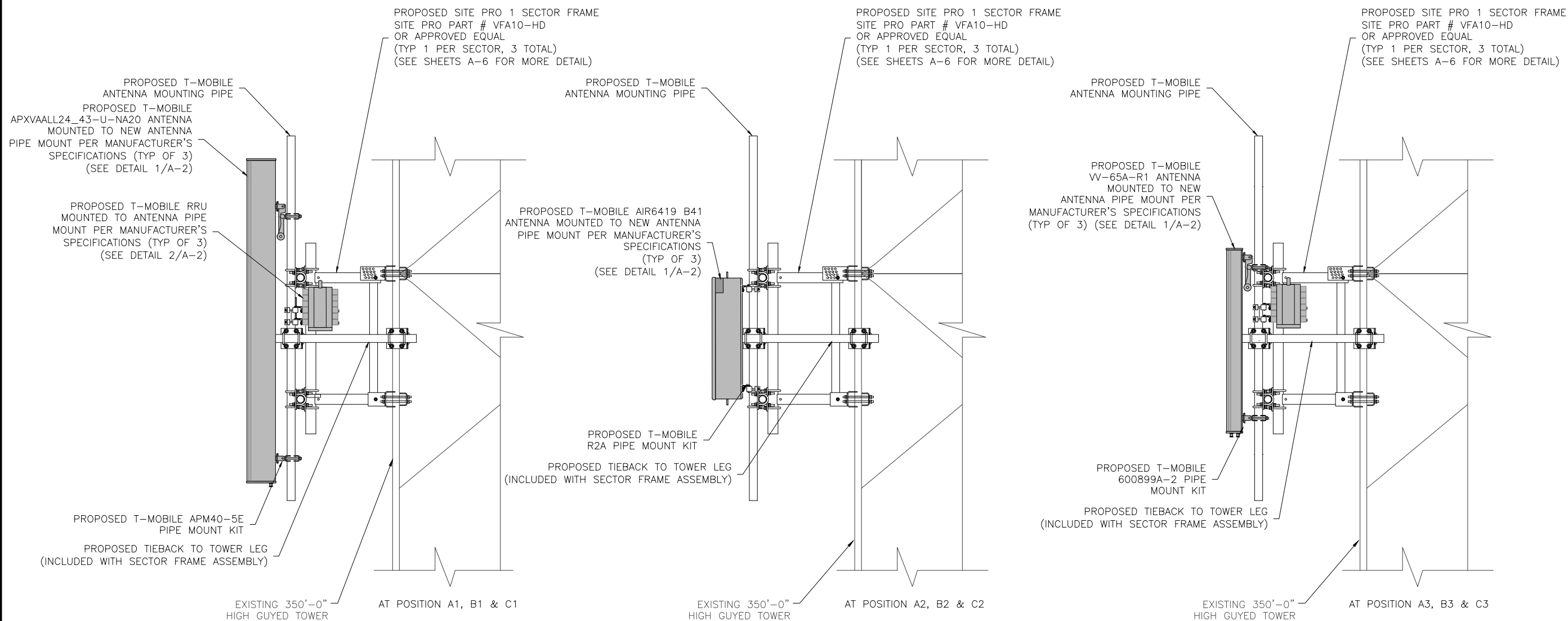
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SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN

SHEET TITLE: STRUCTURAL NOTES & SPECIAL INSPECTIONS
--

DRAWING: SN-1

NOTES FOR ANTENNA MOUNTS:

1. VV-65A-R1: 600899A-2 DOWN TILT PIPE MOUNT KIT
2. AIR6449: ERICSSON R2A PIPE MOUNT KIT
3. APXVAALL24-43-U-NA20: APM40-5E PIPE MOUNT KIT



1 TYPICAL ANTENNA & RRU MOUNTING DETAIL

S-1

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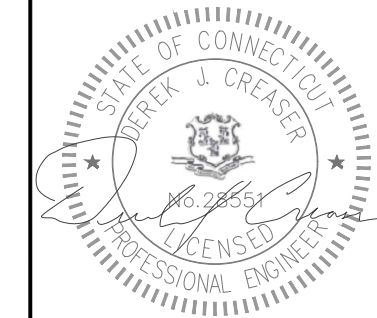


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SITE ID:
CTNH794A

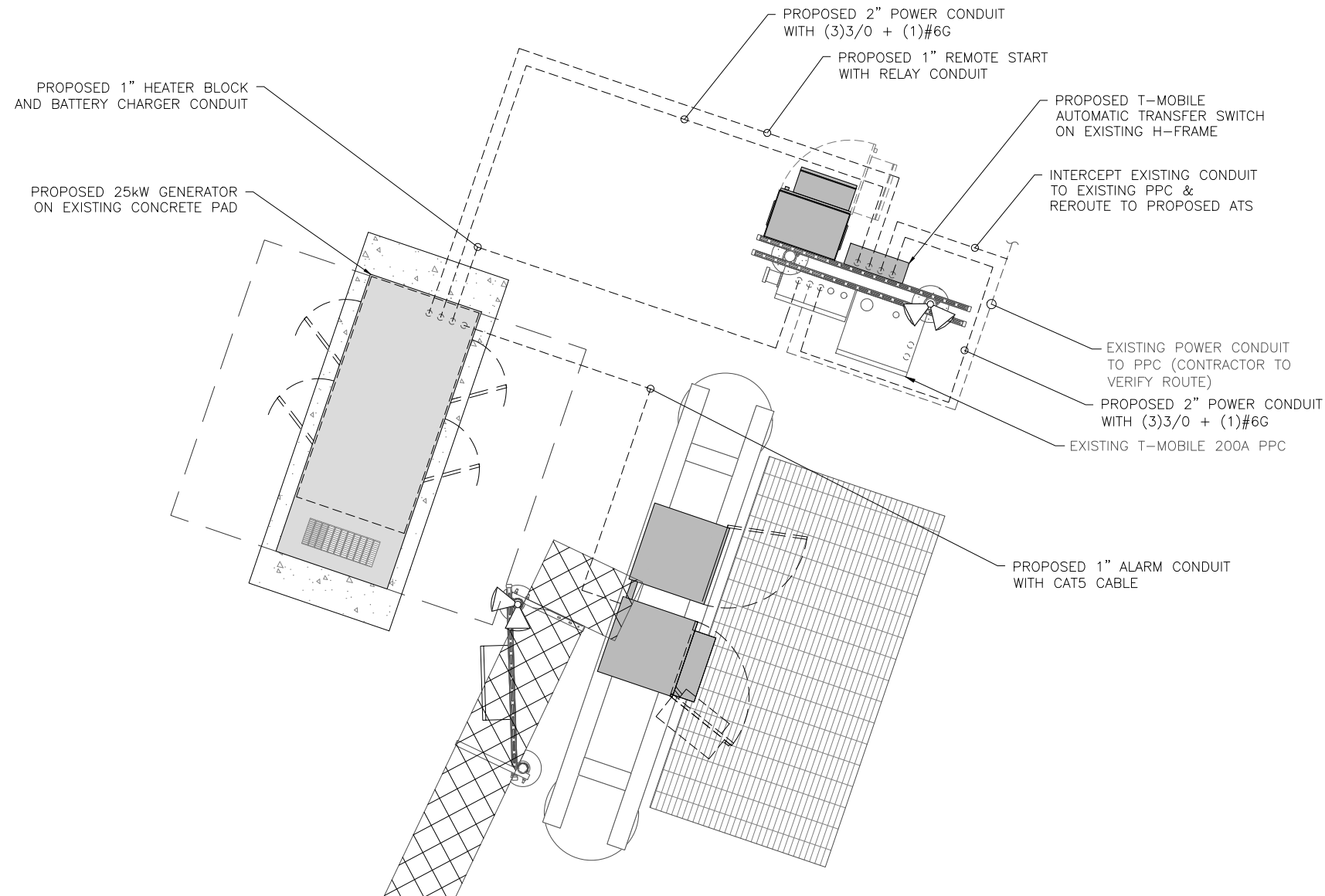
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164 COUNTY RD
WOLCOTT, CT 06716
NEW HAVEN

SHEET TITLE:
ANTENNA & RRU MOUNTING
DETAILS

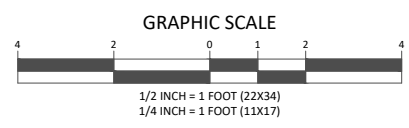
DRAWING:
S-1

ELECTRICAL NOTES

1. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
4. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
5. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
6. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITERS LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
7. ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
8. ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
9. PROPERLY SEAL ALL PENETRATIONS, PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
10. DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
11. ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHW, RATED IN ACCORDANCE WITH NEC 110-14(C).
12. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
13. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
14. CONDUIT:
 - A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
 - B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - C. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
 - D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
 - E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
15. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
16. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
17. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
18. COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
19. VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
20. RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.



5 ELECTRICAL PLAN
E-1



T - Mobile
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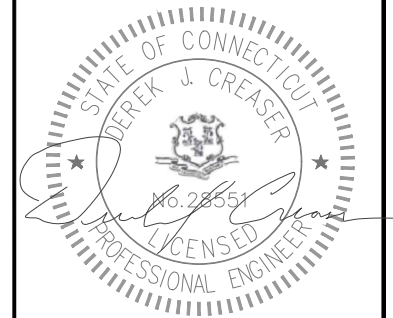
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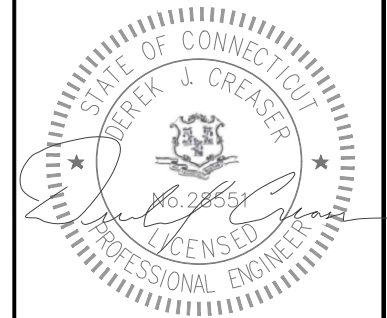
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SITE ID: CTNH794A
SITE ADDRESS: 164 COUNTY RD WOLCOTT, CT 06716 NEW HAVEN

SHEET TITLE: ELECTRICAL PLAN
DRAWING: E-1

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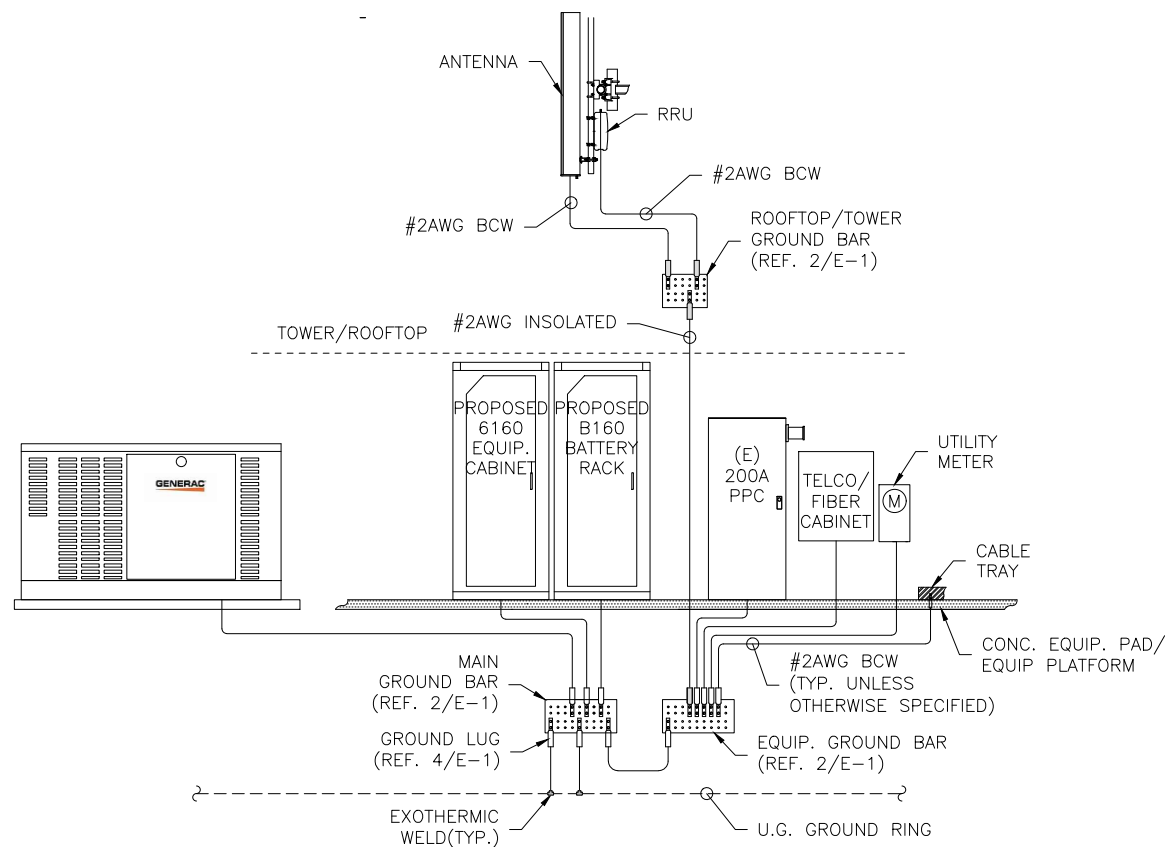
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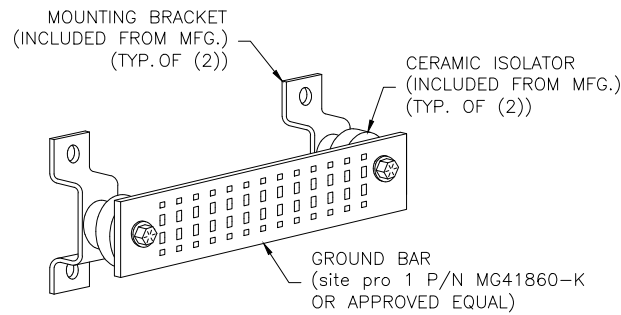
SHEET TITLE:	GROUNDING & ONE LINE DIAGRAM
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DRAWING:	G-1
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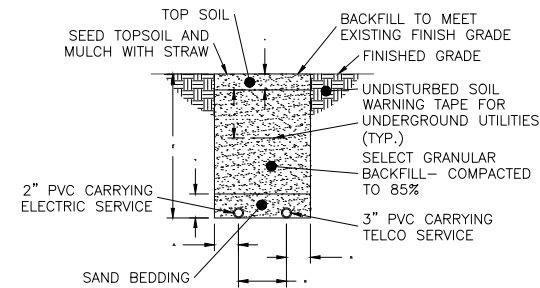


GROUNDING RISER NOTE:
UNLESS OTHERWISE SPECIFIED ALL GROUNDING CONDUCTORS ARE TO BE #2AWG BCW

1 G-1 GROUNDING RISER DIAGRAM



2 G-1 GROUND BAR DETAIL



NOTE:
EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

3 G-1 TYPICAL TRENCH DETAIL

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

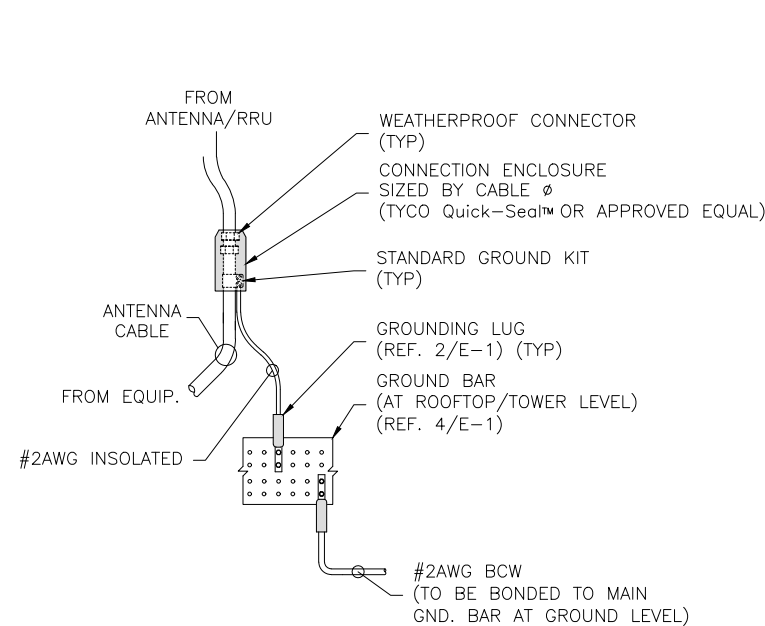
SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

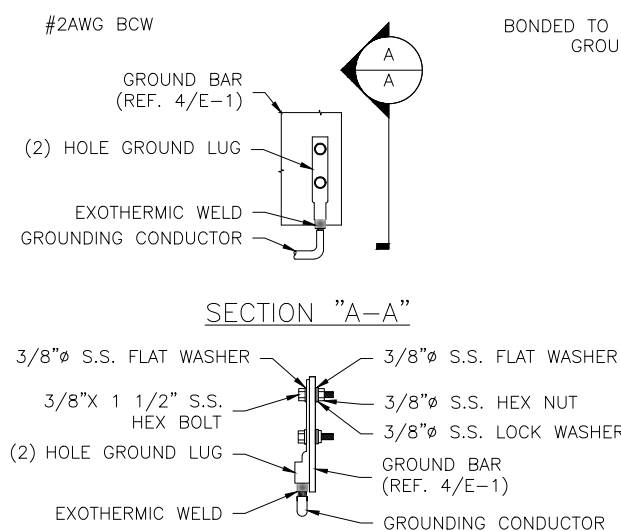
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

4 G-1 GROUND WIRE SCHEDULE



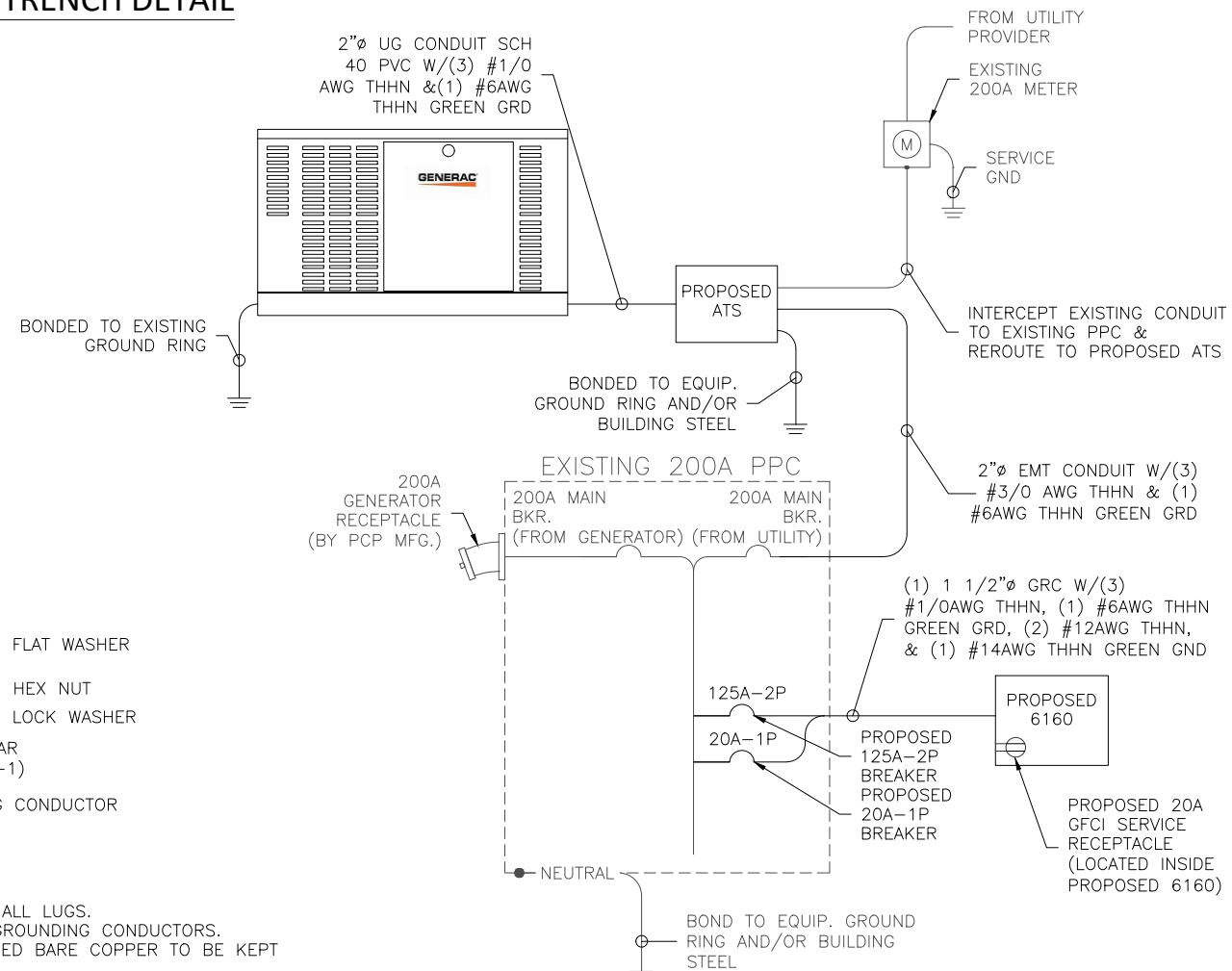
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT BEND IN CABLE.
 - GROUND CABLES DIRECTLY TO CIGBE
 - JUMPER REQUIRED ONLY WHEN CABLE IS 1 1/4" OR LARGER

5 G-1 ANTENNA/RRU GROUNDING DETAIL



- GROUNDING LUG NOTES:**
- DO NOT DOUBLE UP OR STACK LUGS.
 - OXIDE INHIBITING COMPOUND TO BE APPLIED TO ALL LUGS.
 - ALL LUGS ARE TO BE EXOTHERMIC WELDED TO GROUNDING CONDUCTORS.
 - FOR INSULATED GROUNDING CONDUCTORS, EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM.
 - NO INSULATION IS ALLOWED WITHIN THE BARREL OF THE COMPRESSION TERMINAL.

6 G-1 GROUND LUG DETAIL



7 G-1 ONE LINE DIAGRAM

Exhibit D

Structural Analysis Report



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



Structural Analysis Report

Structure : **347 ft Guyed Tower**

ATC Site Name : **Wolcott-Waterbury,CT**

ATC Site Number : **207941**

Engineering Number : **OAA772547_C3_03**

Proposed Carrier : **SPRINT NEXTEL**

Carrier Site Name : **CT60XC956**

Carrier Site Number : **207941**

Site Location : **164 County Road**
Wolcott, CT 06716
41.57621876, -72.95606903

County : **New Haven**

Date : **May 6, 2022**

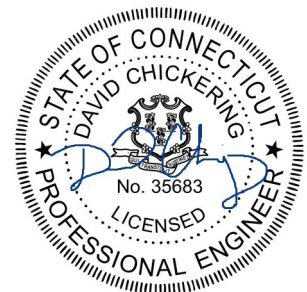
Max Usage : **72%**

Result : **Pass**

Prepared By:

Josh Stone
CLS

Reviewed By:



David Chickering
Telamon Tower Engineering PLLC
PE # 35683 Exp. 01/31/2023

Table of Contents

Introduction3
Supporting Documents3
Analysis3
Conclusion3
Existing and Reserved Equipment.....4
Equipment to be Removed4
Proposed Equipment4
Structure Usages.....5
Foundations5
Deflection, Twist and Sway*5
Standard Conditions6
CalculationsAttached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 347 ft Guyed tower to reflect the change in loading by SPRINT NEXTEL.

Supporting Documents

Tower Drawings	Mapping by TEP Project #259425.491496, dated April 30, 2021
Foundation Drawing	Mapping by Delta Oaks Group Project #BGI21-08509-03, dated May 18, 2021
Geotechnical Report	Delta Oaks Group Project #GEO21-08509-03, dated June 14, 2021
Modifications	Tectonic Project #2850.CT956, dated June 27, 2006 SC Job #121103, dated January 4, 2013

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:	117 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:	$S_s = 0.19$, $S_i = 0.05$
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 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.

Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
306.8	1	Telewave ANT150F6-6	Side Arm	(3) 7/8" Coax	CALAMP WIRELESS NETWORKS CORPORATION
296.6	1	Generic 18' Dipole	Side Arm	-	COX
252.0	-	-	Empty Side Arm	-	OTHER
223.0	3	JMA Wireless MX08FRO665-21	Sector Frame	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	1	Raycap RDIDC-9181-PF-48			
	3	Fujitsu TA08025-B605			
201.0	-	-	Sector Frame	-	SPRINT NEXTEL
182.0	1	Generic 20' Omni	Side Arm	-	COX
70.0	1	PCTEL GPS-TMG-HR-26N	Leg	(1) 1/2" Coax	SPRINT NEXTEL

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
210.0	3	Ericsson 800 MHz Radio Filter	-	(3) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	RFS APXVSP18-C-A20			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	3	Alcatel-Lucent 800MHz RRH			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
201.0	3	Ericsson Radio 4460 B25+B66	Sector Frame	(3) 1 5/8" (1.63"-41.3mm) Fiber	SPRINT NEXTEL
	3	Ericsson Radio 4480 B71+B85A			
	3	Commscope VV-65A-R1			
	3	Ericsson AIR 6419 B41			
	3	RFS APXVAALL24 43-U-NA20			

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

Install proposed lines alongside existing SPRINT NEXTEL lines.

Structure Usage

Structural Component	Controlling Usage	Pass/Fail
Legs	72%	Pass
Diagonals	29%	Pass
Horizontals	56%	Pass
Guys	62%	Pass
Leg Bolts	12%	Pass

Foundations

Reaction Component	Calculated Capacities	Analysis Reactions	% of Usage
Base Axial (kips)	-	51.6	10%
Anchor 1 Uplift (kips)	-	6.7	38%
Anchor 1 Shear (kips)	-	9.2	37%
Anchor 2 Uplift (kips)	220.5	21.0	10%
Anchor 3 Uplift (kips)	220.5	8.7	4%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
201.0	Commscope VV-65A-R1	SPRINT NEXTEL	0.179	0.011	0.073
	Ericsson AIR 6419 B41				
	Ericsson Radio 4460 B25+B66				
	Ericsson Radio 4480 B71+B85A				
	RFS APXVAALL24 43-U-NA20				

*Deflection, Twist 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 A.T. Engineering Service, PLLC 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 A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

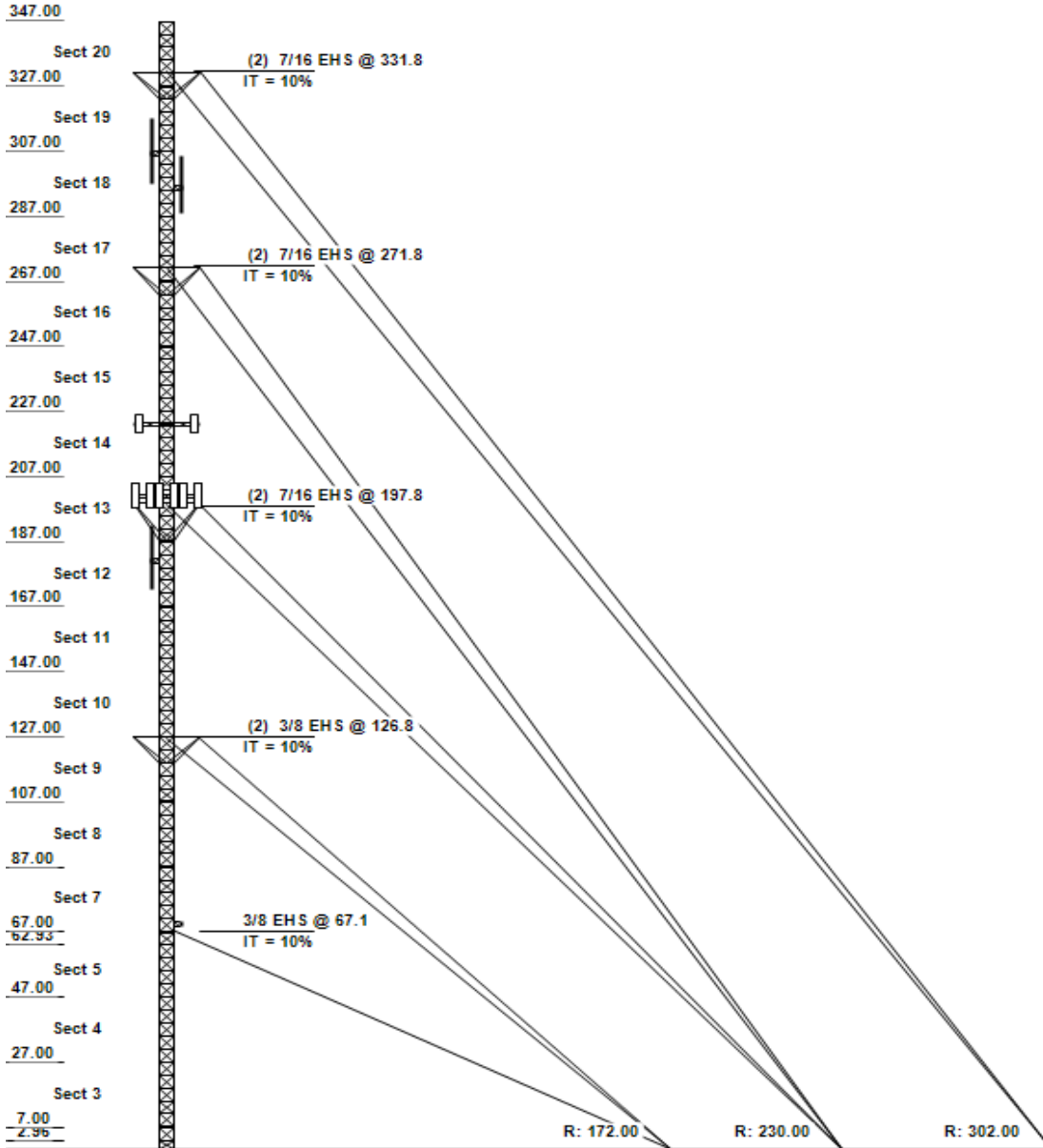
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Asset: 207941, Wolcott-Waterbury
 Client: SPRINT NEXTEL
 Code: ANSI/TIA-222-H

Height : 347 ft
 Base Width : 3 ft
 Shape : Triangle

Quadrant 1



SITE PARAMETERS

Nominal Wind : 117 mph wind with no ice Exposure : B Site Class : D
 Ice Wind: 50 mph wind with 1" radial Topo Method: Method 1 Risk Cat : II
 Service Wind : 60 mph Serviceability Topo Feature : S₃ : 0.194 S₁ : 0.054

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 5	HPS 50 ksi 2.88x0.21	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.1875
6 - 12	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.1875
13	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 3/4" SOLID	SAU 36 ksi 2X1.5X0.1875
14 - 16	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.1875
17	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 7/8" SOLID	SAE 36 ksi 2X2X0.25
18 - 19	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 5/8" SOLID	SAU 36 ksi 2X1.5X0.1875
20	PST 50 ksi 2-1/2" DIA	SOL 36 ksi 7/8" SOLID	SAE 36 ksi 2X2X0.25

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 20	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
332.00	Torque Arm	1	Generic Torque Arm
306.80	OMNI	1	Telewave ANT150F6-6
303.00	Side Arm	1	Generic Round Side Arm
296.60	DIPOLE	1	Generic 18' Dipole
282.00	Side Arm	1	Generic Round Side Arm
272.00	Torque Arm	1	Generic Torque Arm
252.00	Side Arm	1	Generic Flat Side Arm
223.00	BOB/SSB	1	Raycap RDIDC-9181-PF-48
223.00	PANEL	3	JMA Wireless MX08FRO665-21
223.00	RRU/RRH	3	Fujitsu TA08025-B605
223.00	RRU/RRH	3	Fujitsu TA08025-B604
223.00	Sector Frame	3	Generic Round Sector Frame
201.00	PANEL	3	Commscope VV-65A-R1
201.00	PANEL	3	RFS APXVAALL24 43-U-NA20
201.00	PANEL	3	Ericsson AIR 6419 B41
201.00	RRU/RRH	3	Ericsson Radio 4460 B25+B66
201.00	RRU/RRH	3	Ericsson Radio 4480 B71+B85A
201.00	Sector Frame	3	Generic Round Sector Frame
198.00	Torque Arm	1	Generic Torque Arm
182.00	OMNI	1	Generic 20' Omni
172.00	Side Arm	1	Generic Round Side Arm
127.00	Torque Arm	1	Generic Torque Arm
70.00	GPS	1	PCTEL GPS-TMG-HR-26N

LINEAR APPURTENANCE

Elev (ft)	From	To	Qty	Description
	0.00	306.00	3	7/8" Coax
	0.00	223.00	1	1.60" (40.6mm) Hybrid
	0.00	201.00	3	1 5/8" (1.63"-41.3mm) Fiber

Asset: 207941, Wolcott-Waterbury
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Height : 347 ft
 Base Width : 3 ft
 Shape : Triangle

LINEAR APPURTENANCE

Elev (ft)		Qty	Description
From	To		
0.00	70.00	1	1/2" Coax

GLOBAL BASE FOUNDATION DESIGN LOADS

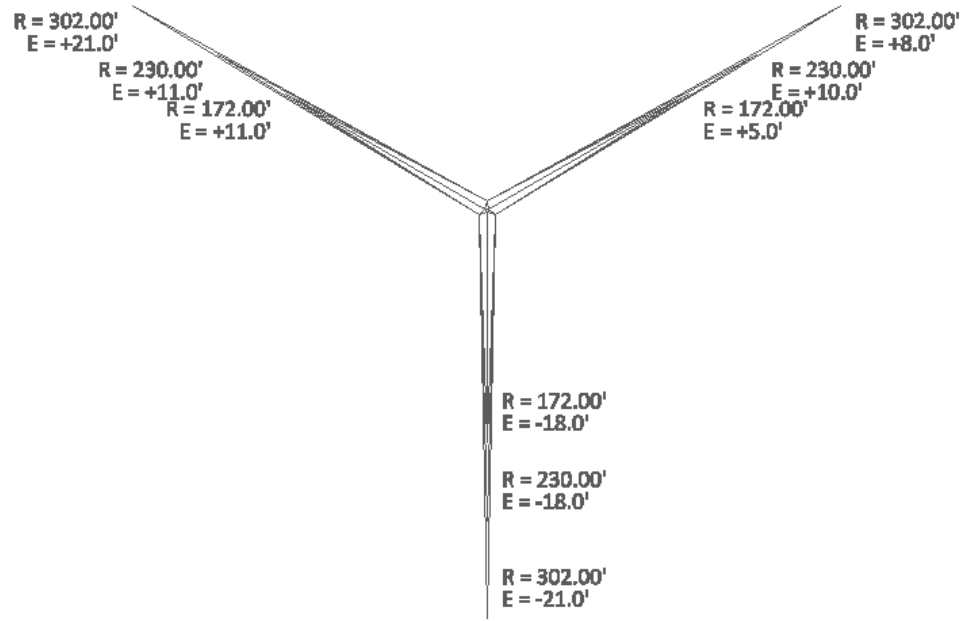
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL+WL	39.79	85.83	1.32
DL+WL+IL	16.31	135.85	0.44

INDIVIDUAL BASE FOUNDATION DESIGN LOADS

Vertical (kip)	Uplift (kip)	Horizontal (kip)
51.56	0.00	3.10

Asset: 207941, Wolcott-Waterbury
 Client: SPRINT NEXTEL
 Code: ANSI/TIA-222-H

Height : 347 ft
 Base Width : 3 ft
 Shape : Triangle



GUY ANCHOR DESIGN LOADS				
Radius (ft)	Drop (ft)	Azimuth (o)	Uplift (kip)	Shear (kip)
172.00	-18.00	0	6.66	9.23
172.00	5.00	120	5.50	9.34
172.00	11.00	240	5.22	9.39
230.00	-18.00	0	21.00	20.15
230.00	10.00	120	18.93	20.40
230.00	11.00	240	18.79	20.34
302.00	-21.00	0	8.68	8.93
302.00	8.00	120	8.05	8.92
302.00	21.00	240	7.81	8.93

ANALYSIS PARAMETERS

Location:	New Haven County, CT	Height:	347 ft
Type and Shape:	Guyed, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Undetermined	Bottom Face Width:	3.00 ft
Kd	0.85	Top Face Width:	3.00 ft
Ke:	0.97		

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	117 mph
Risk Category:	II	Design Wind Speed with Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	Flat	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	765 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	0.89
T_L (sec):	6	P:	1.3
S_s:	0.194	S₁:	0.054
F_a:	1.600	F_v:	2.400
S_{ds}:	0.207	S_{d1}:	0.086
		C_s:	0.032
		C_{s, Max}:	0.032
		C_{s, Min}:	0.030

LOAD CASES

1.2D + 1.0W Normal	117 mph wind with no ice
1.2D + 1.0W 60°	117 mph wind with no ice
1.2D + 1.0W 90°	117 mph wind with no ice
1.2D + 1.0W 120°	117 mph wind with no ice
1.2D + 1.0W 180°	117 mph wind with no ice
1.2D + 1.0W 210°	117 mph wind with no ice
1.2D + 1.0W 240°	117 mph wind with no ice
1.2D + 1.0W 300°	117 mph wind with no ice
1.2D + 1.0W 330°	117 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 60°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 90°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 120°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 180°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 210°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 240°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 300°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 330°	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
1.2D + 1.0Ev + 1.0Eh 120°	Seismic
1.2D + 1.0Ev + 1.0Eh 180°	Seismic
1.2D + 1.0Ev + 1.0Eh 210°	Seismic
1.2D + 1.0Ev + 1.0Eh 240°	Seismic
1.2D + 1.0Ev + 1.0Eh 300°	Seismic
1.2D + 1.0Ev + 1.0Eh 330°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 120°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 180°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 210°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 240°	Seismic (Reduced DL)

LOAD CASES

0.9D - 1.0Ev + 1.0Eh 300°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 330°	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice
1.0D + 1.0W Service 120°	60 mph Wind with No Ice
1.0D + 1.0W Service 180°	60 mph Wind with No Ice
1.0D + 1.0W Service 210°	60 mph Wind with No Ice
1.0D + 1.0W Service 240°	60 mph Wind with No Ice
1.0D + 1.0W Service 300°	60 mph Wind with No Ice
1.0D + 1.0W Service 330°	60 mph Wind with No Ice

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
332.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	40.34	514	600
306.8	Telewave ANT150F6-6	1	41	5.5	20.3	2.7	2.7	1.00	1.00	0.0	0.00	39.44	184	49
303.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	39.30	174	225
296.6	Generic 18' Dipole	1	55	6.8	18.0	3.0	3.0	1.00	1.00	0.0	0.00	39.06	225	66
282.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	38.50	170	225
272.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	38.11	486	600
252.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	37.29	200	225
223.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	36.01	23	26
223.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	36.01	72	230
223.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	36.01	72	270
223.0	JMA Wireless MX08FRO665-21	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.00	36.01	587	232
223.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	36.01	744	1080
201.0	Ericsson Radio 4460 B25+B66	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	34.95	91	392
201.0	Ericsson Radio 4480 B71+B85A	3	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	34.95	102	302
201.0	Commscope VV-65A-R1	3	24	5.9	4.6	12.1	4.6	0.80	0.63	0.0	0.00	34.95	266	86
201.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	34.95	284	300
201.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.95	645	1080
201.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	34.95	909	442
198.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	34.80	444	600
182.0	Generic 20' Omni	1	55	6.0	20.0	3.0	3.0	1.00	1.00	0.0	0.00	33.98	173	66
172.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	33.43	148	225
127.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.66	391	600
70.0	PCTEL GPS-TMG-HR-26N	1	1	0.1	0.4	3.2	3.2	1.00	0.50	0.0	0.00	25.86	1	1
Totals		43	6,602	351.5									6,905	7,923

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
332.0	Generic Torque Arm	1	752	22.6	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.37	141	852
306.8	Telewave ANT150F6-6	1	142	10.5	20.3	2.7	2.7	1.00	1.00	0.0	0.00	7.20	65	151
303.0	Generic Round Side Arm	1	253	7.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.18	44	290
296.6	Generic 18' Dipole	1	198	14.4	18.0	3.0	3.0	1.00	1.00	0.0	0.00	7.13	87	209
282.0	Generic Round Side Arm	1	252	7.1	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.03	43	290
272.0	Generic Torque Arm	1	747	22.4	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.96	133	847
252.0	Generic Flat Side Arm	1	281	8.5	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.81	49	319
223.0	Raycap RDIDC-9181-PF-48	1	61	2.5	1.3	14.0	8.0	0.80	0.50	0.0	0.00	6.58	6	66
223.0	Fujitsu TA08025-B604	3	104	2.6	1.3	15.0	7.9	0.80	0.50	0.0	0.00	6.58	17	351
223.0	Fujitsu TA08025-B605	3	118	2.6	1.3	15.0	9.1	0.80	0.50	0.0	0.00	6.58	17	400
223.0	JMA Wireless MX08FRO665-21	3	243	14.4	6.0	20.0	8.0	0.80	0.64	0.0	0.00	6.58	124	767
223.0	Generic Round Sector Frame	3	555	25.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.58	244	1845
201.0	Ericsson Radio 4460 B25+B66	3	170	3.3	1.6	15.7	12.1	0.80	0.50	0.0	0.00	6.38	21	574
201.0	Ericsson Radio 4480 B71+B85A	3	136	3.6	1.8	15.7	7.5	0.80	0.50	0.0	0.00	6.38	24	458
201.0	Commscope VV-65A-R1	3	104	7.4	4.6	12.1	4.6	0.80	0.63	0.0	0.00	6.38	61	328
201.0	Ericsson AIR 6419 B41	3	187	7.5	3.0	20.9	9.0	0.80	0.63	0.0	0.00	6.38	61	612
201.0	Generic Round Sector Frame	3	553	25.8	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.38	211	1838
201.0	RFS APXVAALL24 43-U-NA20	3	390	22.8	8.0	24.0	8.5	0.80	0.63	0.0	0.00	6.38	187	1244
198.0	Generic Torque Arm	1	739	22.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.36	120	839
182.0	Generic 20' Omni	1	157	10.8	20.0	3.0	3.0	1.00	1.00	0.0	0.00	6.20	57	168
172.0	Generic Round Side Arm	1	250	7.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.11	37	287
127.0	Generic Torque Arm	1	727	21.8	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.60	104	827
70.0	PCTEL GPS-TMG-HR-26N	1	4	0.2	0.4	3.2	3.2	1.00	0.50	0.0	0.00	4.72	0	4
Totals		43	12,245	504.7									1852	13,566

TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
332.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.61	135	500
306.8	Telewave ANT150F6-6	1	41	5.5	20.3	2.7	2.7	1.00	1.00	0.0	0.00	10.37	48	41
303.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.34	46	188
296.6	Generic 18' Dipole	1	55	6.8	18.0	3.0	3.0	1.00	1.00	0.0	0.00	10.27	59	55
282.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.13	45	188
272.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	10.02	128	500
252.0	Generic Flat Side Arm	1	188	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.81	53	188
223.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	0.50	0.0	0.00	9.47	6	22
223.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	9.47	19	192
223.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	9.47	19	225
223.0	JMA Wireless MX08FRO665-21	3	65	12.5	6.0	20.0	8.0	0.80	0.64	0.0	0.00	9.47	154	194
223.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	9.47	196	900
201.0	Ericsson Radio 4460 B25+B66	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	9.19	24	327
201.0	Ericsson Radio 4480 B71+B85A	3	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	9.19	27	252
201.0	Commscope VV-65A-R1	3	24	5.9	4.6	12.1	4.6	0.80	0.63	0.0	0.00	9.19	70	71
201.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	9.19	75	250
201.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.19	170	900
201.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	9.19	239	368
198.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.15	117	500
182.0	Generic 20' Omni	1	55	6.0	20.0	3.0	3.0	1.00	1.00	0.0	0.00	8.94	46	55
172.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.79	39	188
127.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.06	103	500
70.0	PCTEL GPS-TMG-HR-26N	1	1	0.1	0.4	3.2	3.2	1.00	0.50	0.0	0.00	6.80	0	1
Totals		43	6,602	351.5									1,816	6,602

ASSET: # 207941, Wolcott-Waterbury
 CUSTOMER SPRINT NEXTEL

STANDARD ANSI/TIA-222-H
 ENG NO.: OAA772547_C3_03

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K _a Override
0.0	306.0	7/8" Coax	1	1.09	0.33	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	306.0	7/8" Coax	2	1.09	0.33	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	223.0	1.60" (40.6mm) Hybrid	1	1.60	2.34	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	201.0	1 5/8" (1.63"-41.3mm) Fiber	3	1.63	1.61	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	70.0	1/2" Coax	1	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	989	0	885	0	885
19	317	39.81	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	741	0	832	0	832
18	297	39.08	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	763	0	816	124	940
17	277	38.31	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	1013	0	837	128	965
16	257	37.50	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	783	125	908
15	237	36.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	765	122	888
14	217	35.73	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	809	0	746	166	912
13	197	34.75	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	984	0	743	294	1037
12	177	33.71	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	704	336	1040
11	157	32.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	681	324	1005
10	137	31.33	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	655	312	966
9	117	29.95	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	626	298	924
8	97	28.38	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	593	283	876
7	77	26.57	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	956	0	569	267	836
6	65	25.31	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	186	0	103	55	157
5	55	24.13	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	755	0	442	204	646
4	37	21.55	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	491	228	719
3	17	20.28	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	462	215	677
2	5	20.28	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	185	0	90	43	133
1	1	20.28	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.98	0.00	168	0	86	32	118
														15,640	0			15,464

1.2D + 1.0W 60°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	989	0	838	0	838
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	741	0	785	0	785
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	763	0	771	124	894
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	1013	0	793	128	921
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	739	125	864
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	722	122	845
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	809	0	704	166	870
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	984	0	702	294	996
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	665	336	1000
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	642	324	967
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	618	312	930
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	590	298	889
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	560	283	842
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	956	0	535	267	802
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	186	0	98	55	152
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	755	0	420	204	623
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	467	228	695
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	439	215	654
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	185	0	86	43	129
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	168	0	79	32	111
														15,640	0			14,808

1.2D + 1.0W 90°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	989	0	850	0	850
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	741	0	797	0	797
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	763	0	782	124	906
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	1013	0	804	128	932
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	750	125	875
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	733	122	855
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	809	0	715	166	881
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	984	0	712	294	1006
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	675	336	1010
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	652	324	976
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	627	312	939
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	599	298	897
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	568	283	851
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	956	0	543	267	810
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	186	0	99	55	154
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	755	0	425	204	629
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	473	228	701
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	445	215	660
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	185	0	87	43	130
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	168	0	81	32	113
														15,640	0			14,972

1.2D + 1.0W 120°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	989	0	885	0	885
19	317	39.81	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	741	0	832	0	832
18	297	39.08	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	763	0	816	124	940
17	277	38.31	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	1013	0	837	128	965
16	257	37.50	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	783	125	908
15	237	36.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	765	122	888
14	217	35.73	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	809	0	746	166	912
13	197	34.75	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	984	0	743	294	1037
12	177	33.71	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	704	336	1040
11	157	32.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	681	324	1005
10	137	31.33	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	655	312	966
9	117	29.95	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	626	298	924
8	97	28.38	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	593	283	876
7	77	26.57	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	956	0	569	267	836
6	65	25.31	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	186	0	103	55	157
5	55	24.13	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	755	0	442	204	646
4	37	21.55	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	491	228	719
3	17	20.28	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	462	215	677
2	5	20.28	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	185	0	90	43	133
1	1	20.28	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.99	0.00	168	0	86	32	118
														15,640	0			15,464

1.2D + 1.0W 180°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	989	0	838	0	838
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	741	0	785	0	785
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	763	0	771	124	894
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	1013	0	793	128	921
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	739	125	864

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	722	122	845
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	809	0	704	166	870
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	984	0	702	294	996
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	665	336	1000
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	642	324	967
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	618	312	930
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	590	298	889
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	560	283	842
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	956	0	535	267	802
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	186	0	98	55	152
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	755	0	420	204	623
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	467	228	695
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	439	215	654
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	185	0	86	43	129
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	168	0	79	32	111
														15,640	0			14,808

1.2D + 1.0W 210°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	989	0	850	0	850
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	741	0	797	0	797
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	763	0	782	124	906
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	1013	0	804	128	932
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	750	125	875
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	733	122	855
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	809	0	715	166	881
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	984	0	712	294	1006
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	675	336	1010
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	652	324	976
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	627	312	939
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	599	298	897
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	568	283	851
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	956	0	543	267	810
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	186	0	99	55	154
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	755	0	425	204	629
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	473	228	701
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	445	215	660
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	185	0	87	43	130
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	168	0	81	32	113
														15,640	0			14,972

1.2D + 1.0W 240°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	989	0	885	0	885
19	317	39.81	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	741	0	832	0	832
18	297	39.08	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	763	0	816	124	940
17	277	38.31	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	1013	0	837	128	965
16	257	37.50	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	783	125	908
15	237	36.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	764	0	765	122	888
14	217	35.73	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	809	0	746	166	912
13	197	34.75	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	984	0	743	294	1037
12	177	33.71	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	704	336	1040
11	157	32.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	681	324	1005

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	137	31.33	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	655	312	966
9	117	29.95	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	626	298	924
8	97	28.38	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	937	0	593	283	876
7	77	26.57	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	956	0	569	267	836
6	65	25.31	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	186	0	103	55	157
5	55	24.13	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	755	0	442	204	646
4	37	21.55	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	491	228	719
3	17	20.28	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	941	0	462	215	677
2	5	20.28	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	185	0	90	43	133
1	1	20.28	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.99	0.00	168	0	86	32	118
														15,640	0			15,464

1.2D + 1.0W 300°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	989	0	838	0	838
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	741	0	785	0	785
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	763	0	771	124	894
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	1013	0	793	128	921
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	739	125	864
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	764	0	722	122	845
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	809	0	704	166	870
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	984	0	702	294	996
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	665	336	1000
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	642	324	967
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	618	312	930
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	590	298	889
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	937	0	560	283	842
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	956	0	535	267	802
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	186	0	98	55	152
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	755	0	420	204	623
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	467	228	695
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	941	0	439	215	654
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	185	0	86	43	129
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	168	0	79	32	111
														15,640	0			14,808

1.2D + 1.0W 330°
117 mph wind with no ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	40.51	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	989	0	850	0	850
19	317	39.81	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	741	0	797	0	797
18	297	39.08	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	763	0	782	124	906
17	277	38.31	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	1013	0	804	128	932
16	257	37.50	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	750	125	875
15	237	36.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	764	0	733	122	855
14	217	35.73	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	809	0	715	166	881
13	197	34.75	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	984	0	712	294	1006
12	177	33.71	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	675	336	1010
11	157	32.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	652	324	976
10	137	31.33	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	627	312	939
9	117	29.95	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	599	298	897
8	97	28.38	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	937	0	568	283	851
7	77	26.57	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	956	0	543	267	810
6	65	25.31	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	186	0	99	55	154

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
5	55	24.13	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	755	0	425	204	629
4	37	21.55	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	473	228	701
3	17	20.28	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	941	0	445	215	660
2	5	20.28	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	185	0	87	43	130
1	1	20.28	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	168	0	81	32	113
														15,640	0			14,972

1.2D + 1.0Di + 1.0Wi Normal
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	1.00	1.00	1.3	28.45	52.27	22.62	2140	1151	329	0	329
19	317	7.27	2.760	34.528	22.49	0.541	1.85	1.00	1.00	1.3	27.29	50.56	22.49	1799	1058	312	0	312
18	297	7.14	2.760	34.382	22.34	0.539	1.85	1.00	1.00	1.2	27.14	50.35	22.34	2014	1251	305	57	363
17	277	7.00	2.760	35.210	22.19	0.551	1.84	1.00	1.00	1.2	28.02	51.63	22.19	2344	1331	307	57	364
16	257	6.85	2.760	34.061	22.02	0.534	1.86	1.00	1.00	1.2	26.84	49.89	22.02	2000	1235	290	58	348
15	237	6.69	2.760	33.884	21.84	0.532	1.86	1.00	1.00	1.2	26.67	49.64	21.84	1985	1221	282	56	339
14	217	6.52	2.760	33.692	21.65	0.530	1.86	1.00	1.00	1.2	26.48	49.37	21.65	2081	1272	274	72	345
13	197	6.35	2.760	33.975	21.44	0.534	1.86	1.00	1.00	1.2	26.78	49.81	21.44	2455	1471	269	115	384
12	177	6.16	2.760	33.255	21.21	0.524	1.87	1.00	1.00	1.2	26.07	48.77	21.21	2431	1495	255	131	386
11	157	5.95	2.760	33.002	20.96	0.521	1.87	1.00	1.00	1.2	25.83	48.42	20.96	2406	1469	245	127	371
10	137	5.72	2.760	32.719	20.68	0.517	1.88	1.00	1.00	1.2	25.56	48.03	20.68	2377	1441	234	122	355
9	117	5.47	2.760	32.395	20.35	0.513	1.88	1.00	1.00	1.1	25.26	47.59	20.35	2345	1409	221	116	337
8	97	5.18	2.760	32.017	19.98	0.508	1.89	1.00	1.00	1.1	24.91	47.09	19.98	2308	1371	207	110	317
7	77	4.85	3.050	31.561	19.52	0.506	1.89	1.00	1.00	1.1	24.86	47.04	19.52	2255	1299	194	104	298
6	65	4.62	0.460	6.199	3.76	0.479	1.93	1.00	1.00	1.1	4.66	8.98	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	1.00	1.00	1.1	20.71	38.86	15.18	1844	1089	146	78	224
4	37	3.94	2.708	32.238	18.14	0.505	1.89	1.00	1.00	1.0	24.98	47.31	18.14	2225	1284	158	88	246
3	17	3.70	2.708	30.881	16.78	0.487	1.92	1.00	1.00	0.9	23.75	45.54	16.78	2094	1153	143	82	225
2	5	3.70	0.451	5.732	2.89	0.446	1.98	1.00	1.00	0.8	4.24	8.39	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	1.00	1.00	0.7	4.18	7.73	2.46	318	150	24	9	34
														38,246	22,605			5,680

1.2D + 1.0Di + 1.0Wi 60°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.80	1.00	1.3	27.90	51.26	22.62	2140	1151	322	0	322
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.80	1.00	1.3	26.73	49.53	22.49	1799	1058	306	0	306
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.80	1.00	1.2	26.59	49.32	22.34	2014	1251	299	57	356
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.80	1.00	1.2	27.47	50.61	22.19	2344	1331	301	57	358
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.80	1.00	1.2	26.28	48.87	22.02	2000	1235	284	58	342
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.80	1.00	1.2	26.11	48.61	21.84	1985	1221	276	56	333
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.80	1.00	1.2	25.93	48.34	21.65	2081	1272	268	72	340
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.80	1.00	1.2	26.23	48.78	21.44	2455	1471	263	115	378
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.80	1.00	1.2	25.52	47.73	21.21	2431	1495	250	131	381
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.80	1.00	1.2	25.28	47.38	20.96	2406	1469	240	127	366
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.80	1.00	1.2	25.01	47.00	20.68	2377	1441	229	122	350
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.80	1.00	1.1	24.71	46.55	20.35	2345	1409	216	116	333
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.80	1.00	1.1	24.36	46.05	19.98	2308	1371	203	110	313
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.80	1.00	1.1	24.25	45.89	19.52	2255	1299	189	104	293
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.80	1.00	1.1	4.56	8.80	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.80	1.00	1.1	20.26	38.01	15.18	1844	1089	142	78	221
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.80	1.00	1.0	24.44	46.28	18.14	2225	1284	155	88	243
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.80	1.00	0.9	23.21	44.50	16.78	2094	1153	140	82	222
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.80	1.00	0.8	4.15	8.21	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.80	1.00	0.7	4.00	7.40	2.46	318	150	23	9	33

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
															38,246	22,605			5,590

1.2D + 1.0Di + 1.0Wi 90° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
 50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.85	1.00	1.3	28.04	51.51	22.62	2140	1151	324	0	324	
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.85	1.00	1.3	26.87	49.79	22.49	1799	1058	308	0	308	
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.85	1.00	1.2	26.73	49.58	22.34	2014	1251	301	57	358	
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.85	1.00	1.2	27.60	50.86	22.19	2344	1331	302	57	360	
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.85	1.00	1.2	26.42	49.12	22.02	2000	1235	286	58	344	
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.85	1.00	1.2	26.25	48.87	21.84	1985	1221	278	56	334	
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.85	1.00	1.2	26.07	48.60	21.65	2081	1272	270	72	341	
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.85	1.00	1.2	26.37	49.04	21.44	2455	1471	265	115	380	
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.85	1.00	1.2	25.65	47.99	21.21	2431	1495	251	131	382	
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.85	1.00	1.2	25.42	47.64	20.96	2406	1469	241	127	368	
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.85	1.00	1.2	25.15	47.25	20.68	2377	1441	230	122	352	
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.85	1.00	1.1	24.85	46.81	20.35	2345	1409	218	116	334	
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.85	1.00	1.1	24.50	46.31	19.98	2308	1371	204	110	314	
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.85	1.00	1.1	24.40	46.17	19.52	2255	1299	190	104	294	
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.85	1.00	1.1	4.59	8.85	3.76	450	264	35	23	58	
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.85	1.00	1.1	20.37	38.23	15.18	1844	1089	143	78	221	
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.85	1.00	1.0	24.58	46.54	18.14	2225	1284	156	88	244	
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.85	1.00	0.9	23.35	44.76	16.78	2094	1153	141	82	223	
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.85	1.00	0.8	4.17	8.26	2.89	376	191	26	17	43	
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.85	1.00	0.7	4.04	7.48	2.46	318	150	24	9	33	
															38,246	22,605			5,612

1.2D + 1.0Di + 1.0Wi 120° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
 50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
20	337	7.40	2.760	35.650	22.62	0.557	1.84	1.00	1.00	1.3	28.45	52.27	22.62	2140	1151	329	0	329	
19	317	7.27	2.760	34.528	22.49	0.541	1.85	1.00	1.00	1.3	27.29	50.56	22.49	1799	1058	312	0	312	
18	297	7.14	2.760	34.382	22.34	0.539	1.85	1.00	1.00	1.2	27.14	50.35	22.34	2014	1251	305	57	363	
17	277	7.00	2.760	35.210	22.19	0.551	1.84	1.00	1.00	1.2	28.02	51.63	22.19	2344	1331	307	57	364	
16	257	6.85	2.760	34.061	22.02	0.534	1.86	1.00	1.00	1.2	26.84	49.89	22.02	2000	1235	290	58	348	
15	237	6.69	2.760	33.884	21.84	0.532	1.86	1.00	1.00	1.2	26.67	49.64	21.84	1985	1221	282	56	339	
14	217	6.52	2.760	33.692	21.65	0.530	1.86	1.00	1.00	1.2	26.48	49.37	21.65	2081	1272	274	72	345	
13	197	6.35	2.760	33.975	21.44	0.534	1.86	1.00	1.00	1.2	26.78	49.81	21.44	2455	1471	269	115	384	
12	177	6.16	2.760	33.255	21.21	0.524	1.87	1.00	1.00	1.2	26.07	48.77	21.21	2431	1495	255	131	386	
11	157	5.95	2.760	33.002	20.96	0.521	1.87	1.00	1.00	1.2	25.83	48.42	20.96	2406	1469	245	127	371	
10	137	5.72	2.760	32.719	20.68	0.517	1.88	1.00	1.00	1.2	25.56	48.03	20.68	2377	1441	234	122	355	
9	117	5.47	2.760	32.395	20.35	0.513	1.88	1.00	1.00	1.1	25.26	47.59	20.35	2345	1409	221	116	337	
8	97	5.18	2.760	32.017	19.98	0.508	1.89	1.00	1.00	1.1	24.91	47.09	19.98	2308	1371	207	110	317	
7	77	4.85	3.050	31.561	19.52	0.506	1.89	1.00	1.00	1.1	24.86	47.04	19.52	2255	1299	194	104	298	
6	65	4.62	0.460	6.199	3.76	0.479	1.93	1.00	1.00	1.1	4.66	8.98	3.76	450	264	35	23	58	
5	55	4.41	2.257	26.411	15.18	0.519	1.88	1.00	1.00	1.1	20.71	38.86	15.18	1844	1089	146	78	224	
4	37	3.94	2.708	32.238	18.14	0.505	1.89	1.00	1.00	1.0	24.98	47.31	18.14	2225	1284	158	88	246	
3	17	3.70	2.708	30.881	16.78	0.487	1.92	1.00	1.00	0.9	23.75	45.54	16.78	2094	1153	143	82	225	
2	5	3.70	0.451	5.732	2.89	0.446	1.98	1.00	1.00	0.8	4.24	8.39	2.89	376	191	26	17	43	
1	1	3.70	0.903	4.589	2.46	0.544	1.85	1.00	1.00	0.7	4.18	7.73	2.46	318	150	24	9	34	
															38,246	22,605			5,680

1.2D + 1.0Di + 1.0Wi 180° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
 50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.80	1.00	1.3	27.90	51.26	22.62	2140	1151	322	0	322
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.80	1.00	1.3	26.73	49.53	22.49	1799	1058	306	0	306
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.80	1.00	1.2	26.59	49.32	22.34	2014	1251	299	57	356
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.80	1.00	1.2	27.47	50.61	22.19	2344	1331	301	57	358
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.80	1.00	1.2	26.28	48.87	22.02	2000	1235	284	58	342
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.80	1.00	1.2	26.11	48.61	21.84	1985	1221	276	56	333
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.80	1.00	1.2	25.93	48.34	21.65	2081	1272	268	72	340
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.80	1.00	1.2	26.23	48.78	21.44	2455	1471	263	115	378
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.80	1.00	1.2	25.52	47.73	21.21	2431	1495	250	131	381
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.80	1.00	1.2	25.28	47.38	20.96	2406	1469	240	127	366
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.80	1.00	1.2	25.01	47.00	20.68	2377	1441	229	122	350
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.80	1.00	1.1	24.71	46.55	20.35	2345	1409	216	116	333
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.80	1.00	1.1	24.36	46.05	19.98	2308	1371	203	110	313
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.80	1.00	1.1	24.25	45.89	19.52	2255	1299	189	104	293
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.80	1.00	1.1	4.56	8.80	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.80	1.00	1.1	20.26	38.01	15.18	1844	1089	142	78	221
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.80	1.00	1.0	24.44	46.28	18.14	2225	1284	155	88	243
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.80	1.00	0.9	23.21	44.50	16.78	2094	1153	140	82	222
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.80	1.00	0.8	4.15	8.21	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.80	1.00	0.7	4.00	7.40	2.46	318	150	23	9	33
														38,246	22,605			5,590

1.2D + 1.0Di + 1.0Wi 210°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.85	1.00	1.3	28.04	51.51	22.62	2140	1151	324	0	324
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.85	1.00	1.3	26.87	49.79	22.49	1799	1058	308	0	308
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.85	1.00	1.2	26.73	49.58	22.34	2014	1251	301	57	358
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.85	1.00	1.2	27.60	50.86	22.19	2344	1331	302	57	360
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.85	1.00	1.2	26.42	49.12	22.02	2000	1235	286	58	344
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.85	1.00	1.2	26.25	48.87	21.84	1985	1221	278	56	334
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.85	1.00	1.2	26.07	48.60	21.65	2081	1272	270	72	341
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.85	1.00	1.2	26.37	49.04	21.44	2455	1471	265	115	380
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.85	1.00	1.2	25.65	47.99	21.21	2431	1495	251	131	382
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.85	1.00	1.2	25.42	47.64	20.96	2406	1469	241	127	368
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.85	1.00	1.2	25.15	47.25	20.68	2377	1441	230	122	352
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.85	1.00	1.1	24.85	46.81	20.35	2345	1409	218	116	334
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.85	1.00	1.1	24.50	46.31	19.98	2308	1371	204	110	314
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.85	1.00	1.1	24.40	46.17	19.52	2255	1299	190	104	294
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.85	1.00	1.1	4.59	8.85	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.85	1.00	1.1	20.37	38.23	15.18	1844	1089	143	78	221
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.85	1.00	1.0	24.58	46.54	18.14	2225	1284	156	88	244
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.85	1.00	0.9	23.35	44.76	16.78	2094	1153	141	82	223
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.85	1.00	0.8	4.17	8.26	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.85	1.00	0.7	4.04	7.48	2.46	318	150	24	9	33
														38,246	22,605			5,612

1.2D + 1.0Di + 1.0Wi 240°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	1.00	1.00	1.3	28.45	52.27	22.62	2140	1151	329	0	329
19	317	7.27	2.760	34.528	22.49	0.541	1.85	1.00	1.00	1.3	27.29	50.56	22.49	1799	1058	312	0	312
18	297	7.14	2.760	34.382	22.34	0.539	1.85	1.00	1.00	1.2	27.14	50.35	22.34	2014	1251	305	57	363
17	277	7.00	2.760	35.210	22.19	0.551	1.84	1.00	1.00	1.2	28.02	51.63	22.19	2344	1331	307	57	364
16	257	6.85	2.760	34.061	22.02	0.534	1.86	1.00	1.00	1.2	26.84	49.89	22.02	2000	1235	290	58	348

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	237	6.69	2.760	33.884	21.84	0.532	1.86	1.00	1.00	1.2	26.67	49.64	21.84	1985	1221	282	56	339
14	217	6.52	2.760	33.692	21.65	0.530	1.86	1.00	1.00	1.2	26.48	49.37	21.65	2081	1272	274	72	345
13	197	6.35	2.760	33.975	21.44	0.534	1.86	1.00	1.00	1.2	26.78	49.81	21.44	2455	1471	269	115	384
12	177	6.16	2.760	33.255	21.21	0.524	1.87	1.00	1.00	1.2	26.07	48.77	21.21	2431	1495	255	131	386
11	157	5.95	2.760	33.002	20.96	0.521	1.87	1.00	1.00	1.2	25.83	48.42	20.96	2406	1469	245	127	371
10	137	5.72	2.760	32.719	20.68	0.517	1.88	1.00	1.00	1.2	25.56	48.03	20.68	2377	1441	234	122	355
9	117	5.47	2.760	32.395	20.35	0.513	1.88	1.00	1.00	1.1	25.26	47.59	20.35	2345	1409	221	116	337
8	97	5.18	2.760	32.017	19.98	0.508	1.89	1.00	1.00	1.1	24.91	47.09	19.98	2308	1371	207	110	317
7	77	4.85	3.050	31.561	19.52	0.506	1.89	1.00	1.00	1.1	24.86	47.04	19.52	2255	1299	194	104	298
6	65	4.62	0.460	6.199	3.76	0.479	1.93	1.00	1.00	1.1	4.66	8.98	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	1.00	1.00	1.1	20.71	38.86	15.18	1844	1089	146	78	224
4	37	3.94	2.708	32.238	18.14	0.505	1.89	1.00	1.00	1.0	24.98	47.31	18.14	2225	1284	158	88	246
3	17	3.70	2.708	30.881	16.78	0.487	1.92	1.00	1.00	0.9	23.75	45.54	16.78	2094	1153	143	82	225
2	5	3.70	0.451	5.732	2.89	0.446	1.98	1.00	1.00	0.8	4.24	8.39	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	1.00	1.00	0.7	4.18	7.73	2.46	318	150	24	9	34
														38,246	22,605			5,680

1.2D + 1.0Di + 1.0Wi 300°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.80	1.00	1.3	27.90	51.26	22.62	2140	1151	322	0	322
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.80	1.00	1.3	26.73	49.53	22.49	1799	1058	306	0	306
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.80	1.00	1.2	26.59	49.32	22.34	2014	1251	299	57	356
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.80	1.00	1.2	27.47	50.61	22.19	2344	1331	301	57	358
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.80	1.00	1.2	26.28	48.87	22.02	2000	1235	284	58	342
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.80	1.00	1.2	26.11	48.61	21.84	1985	1221	276	56	333
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.80	1.00	1.2	25.93	48.34	21.65	2081	1272	268	72	340
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.80	1.00	1.2	26.23	48.78	21.44	2455	1471	263	115	378
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.80	1.00	1.2	25.52	47.73	21.21	2431	1495	250	131	381
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.80	1.00	1.2	25.28	47.38	20.96	2406	1469	240	127	366
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.80	1.00	1.2	25.01	47.00	20.68	2377	1441	229	122	350
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.80	1.00	1.1	24.71	46.55	20.35	2345	1409	216	116	333
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.80	1.00	1.1	24.36	46.05	19.98	2308	1371	203	110	313
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.80	1.00	1.1	24.25	45.89	19.52	2255	1299	189	104	293
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.80	1.00	1.1	4.56	8.80	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.80	1.00	1.1	20.26	38.01	15.18	1844	1089	142	78	221
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.80	1.00	1.0	24.44	46.28	18.14	2225	1284	155	88	243
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.80	1.00	0.9	23.21	44.50	16.78	2094	1153	140	82	222
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.80	1.00	0.8	4.15	8.21	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.80	1.00	0.7	4.00	7.40	2.46	318	150	23	9	33
														38,246	22,605			5,590

1.2D + 1.0Di + 1.0Wi 330°
50 mph wind with 1" radial ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00
Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	7.40	2.760	35.650	22.62	0.557	1.84	0.85	1.00	1.3	28.04	51.51	22.62	2140	1151	324	0	324
19	317	7.27	2.760	34.528	22.49	0.541	1.85	0.85	1.00	1.3	26.87	49.79	22.49	1799	1058	308	0	308
18	297	7.14	2.760	34.382	22.34	0.539	1.85	0.85	1.00	1.2	26.73	49.58	22.34	2014	1251	301	57	358
17	277	7.00	2.760	35.210	22.19	0.551	1.84	0.85	1.00	1.2	27.60	50.86	22.19	2344	1331	302	57	360
16	257	6.85	2.760	34.061	22.02	0.534	1.86	0.85	1.00	1.2	26.42	49.12	22.02	2000	1235	286	58	344
15	237	6.69	2.760	33.884	21.84	0.532	1.86	0.85	1.00	1.2	26.25	48.87	21.84	1985	1221	278	56	334
14	217	6.52	2.760	33.692	21.65	0.530	1.86	0.85	1.00	1.2	26.07	48.60	21.65	2081	1272	270	72	341
13	197	6.35	2.760	33.975	21.44	0.534	1.86	0.85	1.00	1.2	26.37	49.04	21.44	2455	1471	265	115	380
12	177	6.16	2.760	33.255	21.21	0.524	1.87	0.85	1.00	1.2	25.65	47.99	21.21	2431	1495	251	131	382
11	157	5.95	2.760	33.002	20.96	0.521	1.87	0.85	1.00	1.2	25.42	47.64	20.96	2406	1469	241	127	368

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	137	5.72	2.760	32.719	20.68	0.517	1.88	0.85	1.00	1.2	25.15	47.25	20.68	2377	1441	230	122	352
9	117	5.47	2.760	32.395	20.35	0.513	1.88	0.85	1.00	1.1	24.85	46.81	20.35	2345	1409	218	116	334
8	97	5.18	2.760	32.017	19.98	0.508	1.89	0.85	1.00	1.1	24.50	46.31	19.98	2308	1371	204	110	314
7	77	4.85	3.050	31.561	19.52	0.506	1.89	0.85	1.00	1.1	24.40	46.17	19.52	2255	1299	190	104	294
6	65	4.62	0.460	6.199	3.76	0.479	1.93	0.85	1.00	1.1	4.59	8.85	3.76	450	264	35	23	58
5	55	4.41	2.257	26.411	15.18	0.519	1.88	0.85	1.00	1.1	20.37	38.23	15.18	1844	1089	143	78	221
4	37	3.94	2.708	32.238	18.14	0.505	1.89	0.85	1.00	1.0	24.58	46.54	18.14	2225	1284	156	88	244
3	17	3.70	2.708	30.881	16.78	0.487	1.92	0.85	1.00	0.9	23.35	44.76	16.78	2094	1153	141	82	223
2	5	3.70	0.451	5.732	2.89	0.446	1.98	0.85	1.00	0.8	4.17	8.26	2.89	376	191	26	17	43
1	1	3.70	0.903	4.589	2.46	0.544	1.85	0.85	1.00	0.7	4.04	7.48	2.46	318	150	24	9	33
														38,246	22,605			5,612

1.0D + 1.0W Service Normal
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	824	0	233	0	233
19	317	10.47	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	617	0	219	0	219
18	297	10.28	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	636	0	215	33	247
17	277	10.07	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	844	0	220	34	254
16	257	9.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	206	33	239
15	237	9.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	201	32	233
14	217	9.40	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	674	0	196	44	240
13	197	9.14	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	820	0	195	77	273
12	177	8.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	185	88	273
11	157	8.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	179	85	264
10	137	8.24	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	172	82	254
9	117	7.88	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	165	78	243
8	97	7.46	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	156	74	230
7	77	6.99	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	796	0	150	70	220
6	65	6.66	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	155	0	27	14	41
5	55	6.35	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	629	0	116	54	170
4	37	5.67	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	129	60	189
3	17	5.33	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	121	57	178
2	5	5.33	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	154	0	24	11	35
1	1	5.33	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.99	0.00	140	0	23	8	31
														13,034	0			4,067

1.0D + 1.0W Service 60°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	824	0	220	0	220
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	617	0	206	0	206
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	636	0	203	33	235
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	844	0	208	34	242
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	194	33	227
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	190	32	222
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	674	0	185	44	229
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	820	0	185	77	262
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	175	88	263
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	169	85	254
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	162	82	244
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	155	78	234
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	147	74	222
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	796	0	141	70	211
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	155	0	26	14	40

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	629	0	110	54	164	
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	123	60	183	
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	116	57	172	
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	154	0	23	11	34	
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	140	0	21	8	29	
															13,034	0			3,894

1.0D + 1.0W Service 90°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	824	0	224	0	224	
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	617	0	210	0	210	
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	636	0	206	33	238	
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	844	0	211	34	245	
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	197	33	230	
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	193	32	225	
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	674	0	188	44	232	
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	820	0	187	77	265	
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	177	88	266	
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	171	85	257	
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	165	82	247	
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	158	78	236	
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	149	74	224	
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	796	0	143	70	213	
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	155	0	26	14	40	
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	629	0	112	54	165	
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	124	60	184	
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	117	57	174	
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	154	0	23	11	34	
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	140	0	21	8	30	
															13,034	0			3,937

1.0D + 1.0W Service 120°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	824	0	233	0	233
19	317	10.47	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	617	0	219	0	219
18	297	10.28	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	636	0	215	33	247
17	277	10.07	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	844	0	220	34	254
16	257	9.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	206	33	239
15	237	9.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	201	32	233
14	217	9.40	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	674	0	196	44	240
13	197	9.14	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	820	0	195	77	273
12	177	8.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	185	88	273
11	157	8.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	179	85	264
10	137	8.24	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	172	82	254
9	117	7.88	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	165	78	243
8	97	7.46	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	156	74	230
7	77	6.99	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	796	0	150	70	220
6	65	6.66	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	155	0	27	14	41
5	55	6.35	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	629	0	116	54	170
4	37	5.67	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	129	60	189
3	17	5.33	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	121	57	178
2	5	5.33	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	154	0	24	11	35
1	1	5.33	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.99	0.00	140	0	23	8	31

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
														13,034	0			4,067

1.0D + 1.0W Service 180°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	824	0	220	0	220
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	617	0	206	0	206
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	636	0	203	33	235
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	844	0	208	34	242
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	194	33	227
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	190	32	222
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	674	0	185	44	229
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	820	0	185	77	262
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	175	88	263
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	169	85	254
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	162	82	244
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	155	78	234
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	147	74	222
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	796	0	141	70	211
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	155	0	26	14	40
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	629	0	110	54	164
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	123	60	183
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	116	57	172
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	154	0	23	11	34
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	140	0	21	8	29
														13,034	0			3,894

1.0D + 1.0W Service 210°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	824	0	224	0	224
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	617	0	210	0	210
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	636	0	206	33	238
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	844	0	211	34	245
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	197	33	230
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	193	32	225
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	674	0	188	44	232
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	820	0	187	77	265
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	177	88	266
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	171	85	257
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	165	82	247
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	158	78	236
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	149	74	224
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	796	0	143	70	213
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	155	0	26	14	40
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	629	0	112	54	165
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	124	60	184
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	117	57	174
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	154	0	23	11	34
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	140	0	21	8	30
														13,034	0			3,937

1.0D + 1.0W Service 240°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	824	0	233	0	233
19	317	10.47	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	617	0	219	0	219
18	297	10.28	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	636	0	215	33	247
17	277	10.07	2.760	13.025	0.00	0.244	2.46	1.00	1.00	0.0	10.46	25.70	0.00	844	0	220	34	254
16	257	9.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	206	33	239
15	237	9.64	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	637	0	201	32	233
14	217	9.40	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	674	0	196	44	240
13	197	9.14	2.760	12.534	0.00	0.236	2.48	1.00	1.00	0.0	10.14	25.14	0.00	820	0	195	77	273
12	177	8.86	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	185	88	273
11	157	8.57	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	179	85	264
10	137	8.24	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	172	82	254
9	117	7.88	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	165	78	243
8	97	7.46	2.760	12.042	0.00	0.228	2.50	1.00	1.00	0.0	9.82	24.58	0.00	780	0	156	74	230
7	77	6.99	3.050	12.042	0.00	0.233	2.49	1.00	1.00	0.0	10.12	25.19	0.00	796	0	150	70	220
6	65	6.66	0.460	2.442	0.00	0.220	2.53	1.00	1.00	0.0	1.89	4.78	0.00	155	0	27	14	41
5	55	6.35	2.257	11.235	0.00	0.257	2.42	1.00	1.00	0.0	8.92	21.55	0.00	629	0	116	54	170
4	37	5.67	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	129	60	189
3	17	5.33	2.708	14.098	0.00	0.255	2.42	1.00	1.00	0.0	11.06	26.79	0.00	784	0	121	57	178
2	5	5.33	0.451	2.841	0.00	0.248	2.44	1.00	1.00	0.0	2.13	5.21	0.00	154	0	24	11	35
1	1	5.33	0.903	2.125	0.00	0.311	2.27	1.00	1.00	0.0	2.20	4.99	0.00	140	0	23	8	31
														13,034	0			4,067

1.0D + 1.0W Service 300°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	824	0	220	0	220
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	617	0	206	0	206
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	636	0	203	33	235
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.80	1.00	0.0	9.91	24.35	0.00	844	0	208	34	242
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	194	33	227
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	637	0	190	32	222
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	674	0	185	44	229
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.80	1.00	0.0	9.59	23.77	0.00	820	0	185	77	262
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	175	88	263
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	169	85	254
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	162	82	244
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	155	78	234
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.80	1.00	0.0	9.27	23.20	0.00	780	0	147	74	222
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.80	1.00	0.0	9.51	23.68	0.00	796	0	141	70	211
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.80	1.00	0.0	1.80	4.54	0.00	155	0	26	14	40
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.80	1.00	0.0	8.47	20.46	0.00	629	0	110	54	164
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	123	60	183
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.80	1.00	0.0	10.52	25.48	0.00	784	0	116	57	172
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.80	1.00	0.0	2.04	4.99	0.00	154	0	23	11	34
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.80	1.00	0.0	2.02	4.58	0.00	140	0	21	8	29
														13,034	0			3,894

1.0D + 1.0W Service 330°
60 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
20	337	10.65	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	824	0	224	0	224
19	317	10.47	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	617	0	210	0	210
18	297	10.28	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	636	0	206	33	238
17	277	10.07	2.760	13.025	0.00	0.244	2.46	0.85	1.00	0.0	10.05	24.69	0.00	844	0	211	34	245
16	257	9.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	197	33	230

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	237	9.64	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	637	0	193	32	225
14	217	9.40	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	674	0	188	44	232
13	197	9.14	2.760	12.534	0.00	0.236	2.48	0.85	1.00	0.0	9.72	24.12	0.00	820	0	187	77	265
12	177	8.86	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	177	88	266
11	157	8.57	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	171	85	257
10	137	8.24	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	165	82	247
9	117	7.88	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	158	78	236
8	97	7.46	2.760	12.042	0.00	0.228	2.50	0.85	1.00	0.0	9.40	23.54	0.00	780	0	149	74	224
7	77	6.99	3.050	12.042	0.00	0.233	2.49	0.85	1.00	0.0	9.66	24.06	0.00	796	0	143	70	213
6	65	6.66	0.460	2.442	0.00	0.220	2.53	0.85	1.00	0.0	1.82	4.60	0.00	155	0	26	14	40
5	55	6.35	2.257	11.235	0.00	0.257	2.42	0.85	1.00	0.0	8.58	20.73	0.00	629	0	112	54	165
4	37	5.67	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	124	60	184
3	17	5.33	2.708	14.098	0.00	0.255	2.42	0.85	1.00	0.0	10.66	25.81	0.00	784	0	117	57	174
2	5	5.33	0.451	2.841	0.00	0.248	2.44	0.85	1.00	0.0	2.06	5.04	0.00	154	0	23	11	34
1	1	5.33	0.903	2.125	0.00	0.311	2.27	0.85	1.00	0.0	2.07	4.68	0.00	140	0	21	8	30
														13,034	0			3,937

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s :	0.03
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.89
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.19
Total Unfactored Dead Load:	19.64 k
Seismic Base Shear (E):	0.83 k

SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
20	337.00	824	861,154	0.082	68	708
19	317.00	617	599,522	0.057	47	530
18	297.00	636	571,527	0.055	45	546
17	277.00	844	697,727	0.067	55	725
16	257.00	637	481,586	0.046	38	547
15	237.00	637	437,167	0.042	35	547
14	217.00	674	416,598	0.040	33	579
13	197.00	820	451,105	0.043	36	704
12	177.00	780	377,917	0.036	30	670
11	157.00	780	327,490	0.031	26	670
10	137.00	780	278,300	0.027	22	670
9	117.00	780	230,490	0.022	18	670
8	97.00	780	184,250	0.018	15	670
7	77.00	796	142,677	0.014	11	684
6	64.96	155	22,634	0.002	2	133
5	54.96	629	75,358	0.007	6	540
4	37.00	784	58,533	0.006	5	673
3	17.00	784	23,119	0.002	2	673
2	4.98	154	1,047	0.000	0	132
1	1.48	140	224	0.000	0	120
Generic Torque Arm	332.00	500	513,228	0.049	41	429
Telewave ANT150F6-6	306.80	41	38,298	0.004	3	35
Generic Round Side Arm	303.00	188	172,555	0.016	14	161
Generic 18' Dipole	296.60	55	49,342	0.005	4	47
Generic Round Side Arm	282.00	188	158,369	0.015	13	161
Generic Torque Arm	272.00	500	404,491	0.039	32	429
Generic Flat Side Arm	252.00	188	138,460	0.013	11	161
Raycap RDIDC-9181-PF-48	223.00	22	13,975	0.001	1	19
Fujitsu TA08025-B604	223.00	192	122,328	0.012	10	165
Fujitsu TA08025-B605	223.00	225	143,577	0.014	11	193
JMA Wireless MX08FRO665-21	223.00	194	123,476	0.012	10	166

Generic Round Sector Frame	223.00	900	574,308	0.055	45	773
Ericsson Radio 4460 B25+B66	201.00	327	184,319	0.018	15	281
Ericsson Radio 4480 B71+B85A	201.00	252	142,044	0.014	11	216
Commscope VV-65A-R1	201.00	71	40,246	0.004	3	61
Ericsson AIR 6419 B41	201.00	250	140,860	0.014	11	215
Generic Round Sector Frame	201.00	900	507,300	0.048	40	773
RFS APXVAALL24 43-U-NA20	201.00	368	207,655	0.020	16	316
Generic Torque Arm	198.00	500	276,817	0.026	22	429
Generic 20' Omni	182.00	55	27,534	0.003	2	47
Generic Round Side Arm	172.00	188	87,740	0.008	7	161
Generic Torque Arm	127.00	500	162,866	0.016	13	429
PCTEL GPS-TMG-HR-26N	70.00	1	96	0.000	0	1

Totals 19,636 10,468,313 1.000 827 16,860

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
20	337.00	824	861,154	0.082	68	1,023
19	317.00	617	599,522	0.057	47	766
18	297.00	636	571,527	0.055	45	790
17	277.00	844	697,727	0.067	55	1,048
16	257.00	637	481,586	0.046	38	791
15	237.00	637	437,167	0.042	35	791
14	217.00	674	416,598	0.040	33	837
13	197.00	820	451,105	0.043	36	1,018
12	177.00	780	377,917	0.036	30	969
11	157.00	780	327,490	0.031	26	969
10	137.00	780	278,300	0.027	22	969
9	117.00	780	230,490	0.022	18	969
8	97.00	780	184,250	0.018	15	969
7	77.00	796	142,677	0.014	11	988
6	64.96	155	22,634	0.002	2	192
5	54.96	629	75,358	0.007	6	781
4	37.00	784	58,533	0.006	5	973
3	17.00	784	23,119	0.002	2	973
2	4.98	154	1,047	0.000	0	191
1	1.48	140	224	0.000	0	174
Generic Torque Arm	332.00	500	513,228	0.049	41	621
Telewave ANT150F6-6	306.80	41	38,298	0.004	3	51
Generic Round Side Arm	303.00	188	172,555	0.016	14	233
Generic 18' Dipole	296.60	55	49,342	0.005	4	68
Generic Round Side Arm	282.00	188	158,369	0.015	13	233
Generic Torque Arm	272.00	500	404,491	0.039	32	621
Generic Flat Side Arm	252.00	188	138,460	0.013	11	233
Raycap RDIDC-9181-PF-48	223.00	22	13,975	0.001	1	27
Fujitsu TA08025-B604	223.00	192	122,328	0.012	10	238
Fujitsu TA08025-B605	223.00	225	143,577	0.014	11	279
JMA Wireless MX08FRO665-21	223.00	194	123,476	0.012	10	240
Generic Round Sector Frame	223.00	900	574,308	0.055	45	1,117
Ericsson Radio 4460 B25+B66	201.00	327	184,319	0.018	15	406
Ericsson Radio 4480 B71+B85A	201.00	252	142,044	0.014	11	313
Commscope VV-65A-R1	201.00	71	40,246	0.004	3	89
Ericsson AIR 6419 B41	201.00	250	140,860	0.014	11	310
Generic Round Sector Frame	201.00	900	507,300	0.048	40	1,117
RFS APXVAALL24 43-U-NA20	201.00	368	207,655	0.020	16	457
Generic Torque Arm	198.00	500	276,817	0.026	22	621
Generic 20' Omni	182.00	55	27,534	0.003	2	68
Generic Round Side Arm	172.00	188	87,740	0.008	7	233
Generic Torque Arm	127.00	500	162,866	0.016	13	621
PCTEL GPS-TMG-HR-26N	70.00	1	96	0.000	0	1
Totals	19,636	10,468,313	1.000	827	24,376	

FORCE/STRESS SUMMARY

Section 1 – Base 0.0 (ft) and Height 2.96 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use % Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)											
L HPS - 2.88x0.21 + HP3X	-51.52	1.2D + 1.0Di + 1.0Wi 12	0.125	100	100	100	1.19	50.0	76.68	0.00	0.00	0	0	67	Member X	
D SOL - 5/8" SOLID	-2.66	1.2D + 1.0W N	4.126	50	50	50	142.83	36.0	3.40	0.00	0.00	0	0	0	Member X	

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case										
H SAU - 2X1.5X0.1875	3.13	1.2D + 1.0Di + 1.0Wi N	36.0	58	20.09	0.00	0.00	0.00	0	0	15	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Compression	51.52	1.2D + 1.0Di + 1.0Wi 120°	0.00	0	0	

Section 2 – Base 3.0 (ft) and Height 4.04 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use % Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)											
L HPS - 2.88x0.21 + HP3X	-50.42	1.2D + 1.0Di + 1.0Wi 12	3.917	100	100	100	37.22	50.0	69.30	0.00	0.00	0	0	72	Member X	
H SAU - 2X1.5X0.1875	-0.38	1.2D + 1.0W 180°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	2	Member Z	
D SOL - 5/8" SOLID	-2.07	1.2D + 1.0W N	4.934	50	50	50	170.79	36.0	2.38	0.00	0.00	0	0	0	Member X	

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case										
H SAU - 2X1.5X0.1875	1.39	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	6	Member
D SOL - 5/8" SOLID	1.42	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	14	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type

Section 3 – Base 7.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use % Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)											
L HPS - 2.88x0.21 + HP3X	-49.64	1.2D + 1.0Di + 1.0Wi 12	3.95	100	100	100	37.53	50.0	69.18	0.00	0.00	0	0	71	Member X	
H SAU - 2X1.5X0.1875	-0.78	1.2D + 1.0W 90°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	4	Member Z	
D SOL - 5/8" SOLID	-2.32	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	Member X	

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use % Controls	
	(kip)	Load Case										
H SAU - 2X1.5X0.1875	2.71	1.2D + 1.0W 240°	36.0	58	20.09	0.00	0.00	0.00	0	0	13	Member
D SOL - 5/8" SOLID	1.50	1.2D + 1.0W 180°	36.0	58	9.94	0.00	0.00	0.00	0	0	15	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type

Section 4 – Base 27.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use % Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)											
L HPS - 2.88x0.21 + HP3X	-45.00	1.2D + 1.0Di + 1.0Wi 18	3.95	100	100	100	37.53	50.0	69.18	0.00	0.00	0	0	65	Member X	
H SAU - 2X1.5X0.1875	-0.45	1.2D + 1.0W 60°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	2	Member Z	
D SOL - 5/8" SOLID	-0.49	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	Member X	

FORCE/STRESS SUMMARY

	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
Max Tension Member												
H SAU - 2X1.5X0.1875	1.81	1.2D + 1.0Ev + 1.0Eh N	36.0	58	20.09	0.00	0.00	0.00	0	0	9	Member
D SOL - 5/8" SOLID	0.84	1.2D + 1.0W 60°	36.0	58	9.94	0.00	0.00	0.00	0	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 5 – Base 47.0 (ft) and Height 15.93 (ft)

	Pu		Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)					Φ _{R_n} (kip)
Max Compression														
L HPS - 2.88x0.21 + HP3X	-44.47	1.2D + 1.0Di + 1.0Wi 21	3.95	100	100	100	37.53	50.0	69.18	0.00	0.00	0	64	Member X
H SAU - 2X1.5X0.1875	-0.59	1.2D + 1.0W N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	3	Member Z
D SOL - 5/8" SOLID	-0.23	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	Member X

	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
Max Tension Member												
H SAU - 2X1.5X0.1875	1.78	1.2D + 1.0Ev + 1.0Eh N	36.0	58	20.09	0.00	0.00	0.00	0	0	8	Member
D SOL - 5/8" SOLID	1.08	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	10	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 6 – Base 62.9 (ft) and Height 4.07 (ft)

	Pu		Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)					Φ _{R_n} (kip)
Max Compression														
L PST - 2-1/2" DIA PIPE	-43.47	1.2D + 1.0Di + 1.0Wi 60	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	68	Member X
H SAU - 2X1.5X0.1875	-0.13	1.2D + 1.0W N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	Member Z
D SOL - 5/8" SOLID	-0.34	1.2D + 1.0W N	4.96	50	50	50	171.69	36.0	2.35	0.00	0.00	0	0	Member X

	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
Max Tension Member												
H SAU - 2X1.5X0.1875	0.91	1.2D + 1.0Ev + 1.0Eh N	36.0	58	20.09	0.00	0.00	0.00	0	0	4	Member
D SOL - 5/8" SOLID	0.95	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	9	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 7 – Base 67.0 (ft) and Height 20.00 (ft)

	Pu		Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)					Φ _{R_n} (kip)
Max Compression														
L PST - 2-1/2" DIA PIPE	-42.21	1.2D + 1.0Di + 1.0Wi 18	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	66	Member X
H SAU - 2X1.5X0.1875	-0.61	1.2D + 1.0W 210°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	3	Member Z
D SOL - 5/8" SOLID	-2.11	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	Member X

	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
Max Tension Member												
H SAU - 2X1.5X0.1875	2.64	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	13	Member
D SOL - 5/8" SOLID	1.11	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	11	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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FORCE/STRESS SUMMARY

Section 8 – Base 87.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)												
L PST - 2-1/2" DIA PIPE	-42.38	1.2D + 1.0Di + 1.0Wi 24	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	0	0	66	Member X
H SAU - 2X1.5X0.1875	-0.22	1.2D + 1.0W N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	0	0	1	Member Z
D SOL - 5/8" SOLID	-0.43	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	0	0	Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear		Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)							
H SAU - 2X1.5X0.1875	2.67	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0.00	0.00	0	0	0	13	Member
D SOL - 5/8" SOLID	0.81	1.2D + 1.0W 60°	36.0	58	9.94	0.00	0.00	0.00	0.00	0.00	0	0	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 9 – Base 107.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)												
L PST - 2-1/2" DIA PIPE	-41.79	1.2D + 1.0Di + 1.0Wi 60	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	0	0	65	Member X
H SAU - 2X1.5X0.1875	-2.06	1.2D + 1.0Di + 1.0Wi N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	0	0	11	Member Z
D SOL - 5/8" SOLID	-2.09	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	0	0	Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear		Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)							
H SAU - 2X1.5X0.1875	2.87	1.2D + 1.0W 60°	36.0	58	20.09	0.00	0.00	0.00	0.00	0.00	0	0	0	14	Member
D SOL - 5/8" SOLID	2.18	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0.00	0.00	0	0	0	21	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 10 – Base 127.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)												
L PST - 2-1/2" DIA PIPE	-40.01	1.2D + 1.0W 120°	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	0	0	62	Member X
H SAU - 2X1.5X0.1875	-1.51	1.2D + 1.0W 210°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	0	0	8	Member Z
D SOL - 5/8" SOLID	-1.52	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	0	0	Member X

Max Tension Member	Pu		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear		Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)							
H SAU - 2X1.5X0.1875	2.35	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0.00	0.00	0	0	0	11	Member
D SOL - 5/8" SOLID	2.67	1.2D + 1.0W 240°	36.0	58	9.94	0.00	0.00	0.00	0.00	0.00	0	0	0	26	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 11 – Base 147.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear		Bear		# Bolt	# Hole	Use %	Controls
	(kip)	Load Case		Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)												
L PST - 2-1/2" DIA PIPE	-36.44	1.2D + 1.0Di + 1.0Wi 12	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	0	0	57	Member X
H SAU - 2X1.5X0.1875	-1.14	1.2D + 1.0W 240°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	0	0	6	Member Z
D SOL - 5/8" SOLID	-2.13	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	0	0	Member X

FORCE/STRESS SUMMARY

Max Tension Member	Pu		Fy	Fu	ΦcPn	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				ΦRnv	ΦRn	Φt Pn				
H SAU - 2X1.5X0.1875	2.61	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	13	Member
D SOL - 5/8" SOLID	1.97	1.2D + 1.0W 240°	36.0	58	9.94	0.00	0.00	0.00	0	0	19	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
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Section 12 – Base 167.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			Fy (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		ΦRnv	ΦRn	KL/R									
L PST - 2-1/2" DIA PIPE	-36.44	1.2D + 1.0Di + 1.0Wi 12	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	57	Member X
H SAU - 2X1.5X0.1875	-0.42	1.2D + 1.0Di + 1.0Wi 90	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	2	Member Z
D SOL - 5/8" SOLID	-1.93	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu		Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				ΦRnv	ΦRn	Φt Pn				
H SAU - 2X1.5X0.1875	2.48	1.2D + 1.0W 180°	36.0	58	20.09	0.00	0.00	0.00	0	0	12	Member
D SOL - 5/8" SOLID	0.90	1.2D + 1.0Di + 1.0Wi 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	9	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
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Section 13 – Base 187.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			Fy (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		ΦRnv	ΦRn	KL/R									
L PST - 2-1/2" DIA PIPE	-35.37	1.2D + 1.0Di + 1.0Wi 12	0.125	100	100	100	1.58	50.0	76.67	0.00	0.00	0	0	46	Member X
H SAU - 2X1.5X0.1875	-4.62	1.2D + 1.0W N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	24	Member Z
D SOL - 3/4" SOLID	-0.80	1.2D + 1.0W N	4.96	50	50	50	142.85	36.0	4.89	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu		Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				ΦRnv	ΦRn	Φt Pn				
H SAU - 2X1.5X0.1875	11.34	1.2D + 1.0W 180°	36.0	58	20.09	0.00	0.00	0.00	0	0	56	Member
D SOL - 3/4" SOLID	1.51	1.2D + 1.0W 90°	36.0	58	14.31	0.00	0.00	0.00	0	0	10	Member

Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type
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Section 14 – Base 207.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Len (ft)	Bracing %			Fy (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)	Load Case		ΦRnv	ΦRn	KL/R									
L PST - 2-1/2" DIA PIPE	-29.81	1.2D + 1.0W 180°	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	46	Member X
H SAU - 2X1.5X0.1875	-1.68	1.2D + 1.0W 90°	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	9	Member Z
D SOL - 5/8" SOLID	-1.90	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu		Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)	Load Case				ΦRnv	ΦRn	Φt Pn				
L PST - 2-1/2" DIA PIPE	10.90	1.2D + 1.0W 120°	50.0	65	76.68	0.00	0.00	0.00	0	0	14	Member
H SAU - 2X1.5X0.1875	2.94	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	14	Member
D SOL - 5/8" SOLID	2.89	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	29	Member

FORCE/STRESS SUMMARY

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	10.76	1.2D + 1.0W 240°	0.00	0	0	

Section 15 – Base 227.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %	F'_y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-28.86	1.2D + 1.0W 210°	3.95	100 100 100	50.05	50.0	63.85	0.00	0.00	0	0	45 Member X
H SAU - 2X1.5X0.1875	-0.01	1.2D + 1.0W 210°	3	100 100 100	72.67	36.0	18.61	0.00	0.00	0	0	0 Member Z
D SOL - 5/8" SOLID	-0.74	1.2D + 1.0W N	4.96	50 50 50	171.70	36.0	2.35	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	11.60	1.2D + 1.0W 120°	50.0	65	76.68	0.00	0.00		0	0	15	Member
H SAU - 2X1.5X0.1875	2.74	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	13	Member
D SOL - 5/8" SOLID	0.03	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	0	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	9.84	1.2D + 1.0W 240°	0.00	0	0	
Bot Tension	10.76	1.2D + 1.0W 240°	90.30	12	3	0.75" A325

Section 16 – Base 247.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %	F'_y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-25.94	1.2D + 1.0W 180°	3.95	100 100 100	50.05	50.0	63.85	0.00	0.00	0	0	40 Member X
H SAU - 2X1.5X0.1875	-0.19	1.2D + 1.0W N	3	100 100 100	72.67	36.0	18.61	0.00	0.00	0	0	1 Member Z
D SOL - 5/8" SOLID	-0.23	1.2D + 1.0W N	4.96	50 50 50	171.70	36.0	2.35	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	10.17	1.2D + 1.0W 240°	50.0	65	76.68	0.00	0.00		0	0	13	Member
H SAU - 2X1.5X0.1875	2.63	1.2D + 1.0W 240°	36.0	58	20.09	0.00	0.00	0.00	0	0	13	Member
D SOL - 5/8" SOLID	1.03	1.2D + 1.0W 210°	36.0	58	9.94	0.00	0.00	0.00	0	0	10	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	9.84	1.2D + 1.0W 240°	90.30	11	3	0.75" A325

Section 17 – Base 267.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %	F'_y (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-12.19	1.2D + 1.0Di + 1.0Wi 24	3.95	100 100 100	50.05	50.0	63.85	0.00	0.00	0	0	19 Member X
H SAE - 2X2X0.25	-1.33	1.2D + 1.0W N	3	100 100 100	59.85	36.0	30.03	0.00	0.00	0	0	4 Member Z
D SOL - 7/8" SOLID	-1.56	1.2D + 1.0W N	4.96	50 50 50	122.47	36.0	8.85	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	ΦR_{nv} (kip)	ΦR_n (kip)	$\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	4.01	1.2D + 1.0W 240°	50.0	65	76.68	0.00	0.00		0	0	5	Member
H SAE - 2X2X0.25	7.37	1.2D + 1.0W 60°	36.0	58	30.46	0.00	0.00	0.00	0	0	24	Member
D SOL - 7/8" SOLID	1.07	1.2D + 1.0W 210°	36.0	58	19.48	0.00	0.00	0.00	0	0	5	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
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FORCE/STRESS SUMMARY

Top Tension 4.15 1.2D + 1.0W 240° 0.00 0 0

Section 18 – Base 287.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)									
L PST - 2-1/2" DIA PIPE	-15.12	1.2D + 1.0W 180°	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	23 Member X
D SOL - 5/8" SOLID	-0.75	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
L PST - 2-1/2" DIA PIPE	7.08	1.2D + 1.0W 120°	50.0	65	76.68	0.00	0.00		0	0	9	Member
H SAU - 2X1.5X0.1875	1.43	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	7	Member
D SOL - 5/8" SOLID	0.11	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	1	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	7.01	1.2D + 1.0W 240°	0.00	0	0	
Bot Tension	4.15	1.2D + 1.0W 240°	90.30	5	3	0.75" A325

Section 19 – Base 307.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)									
L PST - 2-1/2" DIA PIPE	-14.98	1.2D + 1.0W 180°	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	23 Member X
H SAU - 2X1.5X0.1875	-0.65	1.2D + 1.0W N	3	100	100	100	72.67	36.0	18.61	0.00	0.00	0	0	3 Member Z
D SOL - 5/8" SOLID	-1.02	1.2D + 1.0W N	4.96	50	50	50	171.70	36.0	2.35	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
L PST - 2-1/2" DIA PIPE	7.05	1.2D + 1.0W 240°	50.0	65	76.68	0.00	0.00		0	0	9	Member
H SAU - 2X1.5X0.1875	1.28	1.2D + 1.0W N	36.0	58	20.09	0.00	0.00	0.00	0	0	6	Member
D SOL - 5/8" SOLID	0.81	1.2D + 1.0W 120°	36.0	58	9.94	0.00	0.00	0.00	0	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.15	1.2D + 1.0W 240°	0.00	0	0	
Bot Tension	7.01	1.2D + 1.0W 240°	90.30	8	3	0.75" A325

Section 20 – Base 327.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)									
L PST - 2-1/2" DIA PIPE	-2.55	1.2D + 1.0W N	3.95	100	100	100	50.05	50.0	63.85	0.00	0.00	0	0	3 Member X
H SAE - 2X2X0.25	-1.70	1.2D + 1.0W N	3	100	100	100	59.85	36.0	30.03	0.00	0.00	0	0	5 Member Z
D SOL - 7/8" SOLID	-0.17	1.2D + 1.0W N	4.96	50	50	50	122.47	36.0	8.85	0.00	0.00	0	0	0 Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
L PST - 2-1/2" DIA PIPE	1.79	1.2D + 1.0W 60°	50.0	65	76.68	0.00	0.00		0	0	2	Member
H SAE - 2X2X0.25	3.59	1.2D + 1.0W 60°	36.0	58	30.46	0.00	0.00	0.00	0	0	11	Member
D SOL - 7/8" SOLID	1.18	1.2D + 1.0W 210°	36.0	58	19.48	0.00	0.00	0.00	0	0	6	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	0.15	1.2D + 1.0W 240°	90.30	0	3	0.75" A325

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0W Normal	1.73	0.00	0	1	-0.04	39.15	-3.03
	1.73	0.00	120	1a	-1.36	21.95	0.95
	1.73	0.00	240	1b	1.43	22.90	0.92
	172.00	-18.00	0	A1	0.00	-0.45	0.56
	172.00	5.00	120	A1a	6.28	-4.37	-3.89
	172.00	11.00	240	A1b	-6.32	-4.13	-3.91
	230.00	-18.00	0	A2	0.00	-2.40	1.61
	230.00	10.00	120	A2a	13.62	-15.02	-8.77
	230.00	11.00	240	A2b	-13.58	-14.90	-8.75
	302.00	-21.00	0	A3	0.00	-2.84	2.04
	302.00	8.00	120	A3a	5.39	-6.56	-3.75
	302.00	21.00	240	A3b	-5.42	-6.32	-3.76
1.2D + 1.0W 60°	1.73	0.00	0	1	0.05	34.98	-2.69
	1.73	0.00	120	1a	-2.22	34.65	1.37
	1.73	0.00	240	1b	1.05	14.55	0.65
	172.00	-18.00	0	A1	-0.23	-2.27	3.10
	172.00	5.00	120	A1a	2.58	-1.84	-1.75
	172.00	11.00	240	A1b	-8.13	-5.22	-4.69
	230.00	-18.00	0	A2	-0.76	-6.63	5.70
	230.00	10.00	120	A2a	4.59	-5.89	-3.50
	230.00	11.00	240	A2b	-17.62	-18.79	-10.17
	302.00	-21.00	0	A3	-0.57	-4.95	4.03
	302.00	8.00	120	A3a	3.26	-4.58	-2.52
	302.00	21.00	240	A3b	-7.09	-7.81	-4.09
1.2D + 1.0W 90°	1.73	0.00	0	1	0.11	29.03	-2.24
	1.73	0.00	120	1a	-2.53	38.31	1.47
	1.73	0.00	240	1b	1.22	17.07	0.66
	172.00	-18.00	0	A1	-0.29	-3.81	5.25
	172.00	5.00	120	A1a	1.01	-0.73	-0.70
	172.00	11.00	240	A1b	-7.66	-4.87	-4.31
	230.00	-18.00	0	A2	-0.96	-11.35	10.56
	230.00	10.00	120	A2a	1.97	-2.92	-1.55
	230.00	11.00	240	A2b	-16.79	-17.64	-9.23
	302.00	-21.00	0	A3	-0.69	-5.97	5.22
	302.00	8.00	120	A3a	2.19	-3.24	-1.58
	302.00	21.00	240	A3b	-6.70	-7.21	-3.56
1.2D + 1.0W 120°	1.73	0.00	0	1	0.11	21.70	-1.66
	1.73	0.00	120	1a	-2.68	40.73	1.55
	1.73	0.00	240	1b	1.53	22.34	0.69
	172.00	-18.00	0	A1	-0.23	-5.30	7.34
	172.00	5.00	120	A1a	0.40	-0.25	-0.23
	172.00	11.00	240	A1b	-6.41	-4.04	-3.43
	230.00	-18.00	0	A2	-0.81	-16.40	15.72
	230.00	10.00	120	A2a	1.09	-1.74	-0.63
	230.00	11.00	240	A2b	-13.95	-14.42	-7.14
	302.00	-21.00	0	A3	-0.57	-6.93	6.36
	302.00	8.00	120	A3a	1.64	-2.41	-0.95
	302.00	21.00	240	A3b	-5.80	-6.13	-2.71
1.2D + 1.0W 180°	1.73	0.00	0	1	-0.06	13.31	-1.23
	1.73	0.00	120	1a	-2.36	35.66	1.29
	1.73	0.00	240	1b	2.45	36.86	1.26
	172.00	-18.00	0	A1	0.00	-6.66	9.23
	172.00	5.00	120	A1a	2.61	-1.69	-1.24
	172.00	11.00	240	A1b	-2.66	-1.62	-1.27
	230.00	-18.00	0	A2	0.00	-21.00	20.15
	230.00	10.00	120	A2a	5.06	-5.58	-2.06
	230.00	11.00	240	A2b	-5.03	-5.53	-2.05
	302.00	-21.00	0	A3	0.00	-8.68	8.06
	302.00	8.00	120	A3a	3.68	-4.42	-1.48
	302.00	21.00	240	A3b	-3.70	-4.27	-1.51
1.2D + 1.0W 210°	1.73	0.00	0	1	0.00	16.26	-1.40
	1.73	0.00	120	1a	-2.08	30.36	0.99
	1.73	0.00	240	1b	2.57	39.24	1.49
	172.00	-18.00	0	A1	0.11	-6.33	8.77
	172.00	5.00	120	A1a	4.60	-3.04	-2.32
	172.00	11.00	240	A1b	-1.03	-0.62	-0.48
	230.00	-18.00	0	A2	0.42	-19.92	19.16
	230.00	10.00	120	A2a	9.52	-9.95	-4.41

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.2D + 1.0W 240°	230.00	11.00	240	A2b	-2.23	-2.79	-0.88	
	302.00	-21.00	0	A3	0.29	-8.04	7.48	
	302.00	8.00	120	A3a	4.79	-5.38	-1.98	
	302.00	21.00	240	A3b	-2.38	-3.00	-1.06	
	1.73	0.00	0	1	-0.10	21.62	-1.67	
	1.73	0.00	120	1a	-1.54	22.40	0.69	
	1.73	0.00	240	1b	2.67	40.84	1.57	
	172.00	-18.00	0	A1	0.23	-5.27	7.30	
	172.00	5.00	120	A1a	6.38	-4.26	-3.42	
	172.00	11.00	240	A1b	-0.38	-0.20	-0.22	
	230.00	-18.00	0	A2	0.81	-16.37	15.70	
	230.00	10.00	120	A2a	13.97	-14.51	-7.15	
	230.00	11.00	240	A2b	-1.08	-1.72	-0.63	
	302.00	-21.00	0	A3	0.57	-6.84	6.29	
1.2D + 1.0W 300°	302.00	8.00	120	A3a	5.72	-6.28	-2.66	
	302.00	21.00	240	A3b	-1.60	-2.24	-0.92	
	1.73	0.00	0	1	-0.11	34.48	-2.61	
	1.73	0.00	120	1a	-1.08	14.36	0.59	
	1.73	0.00	240	1b	2.33	35.57	1.39	
	172.00	-18.00	0	A1	0.23	-2.23	3.05	
	172.00	5.00	120	A1a	8.09	-5.50	-4.67	
	172.00	11.00	240	A1b	-2.57	-1.72	-1.74	
	230.00	-18.00	0	A2	0.76	-6.62	5.70	
	230.00	10.00	120	A2a	17.67	-18.93	-10.20	
	230.00	11.00	240	A2b	-4.57	-5.84	-3.49	
	302.00	-21.00	0	A3	0.57	-4.91	3.99	
	302.00	8.00	120	A3a	7.02	-8.05	-4.05	
	302.00	21.00	240	A3b	-3.25	-4.38	-2.51	
1.2D + 1.0W 330°	1.73	0.00	0	1	-0.02	37.98	-2.91	
	1.73	0.00	120	1a	-1.18	16.50	0.70	
	1.73	0.00	240	1b	1.90	29.96	1.24	
	172.00	-18.00	0	A1	0.10	-1.02	1.34	
	172.00	5.00	120	A1a	7.66	-5.24	-4.54	
	172.00	11.00	240	A1b	-4.50	-2.99	-2.93	
	230.00	-18.00	0	A2	0.37	-3.58	2.71	
	230.00	10.00	120	A2a	16.74	-18.11	-10.13	
	230.00	11.00	240	A2b	-8.93	-10.30	-6.24	
	302.00	-21.00	0	A3	0.29	-3.60	2.72	
	302.00	8.00	120	A3a	6.49	-7.58	-4.06	
	302.00	21.00	240	A3b	-4.31	-5.40	-3.26	
	1.2D + 1.0Di + 1.0Wi Normal	1.73	0.00	0	1	-0.02	49.86	1.48
		1.73	0.00	120	1a	1.86	42.03	-0.96
1.73		0.00	240	1b	-1.84	42.22	-0.96	
172.00		-18.00	0	A1	0.00	-3.23	5.21	
172.00		5.00	120	A1a	6.98	-4.16	-4.34	
172.00		11.00	240	A1b	-6.98	-3.88	-4.34	
230.00		-18.00	0	A2	0.00	-6.95	7.09	
230.00		10.00	120	A2a	11.73	-11.68	-7.69	
230.00		11.00	240	A2b	-11.70	-11.58	-7.67	
302.00		-21.00	0	A3	0.00	-5.45	5.08	
302.00		8.00	120	A3a	6.59	-7.07	-4.51	
302.00		21.00	240	A3b	-6.62	-6.79	-4.51	
1.2D + 1.0Di + 1.0Wi 60°		1.73	0.00	0	1	0.10	46.59	1.72
		1.73	0.00	120	1a	1.48	47.69	-0.78
	1.73	0.00	240	1b	-1.91	40.46	-1.10	
	172.00	-18.00	0	A1	-0.27	-3.89	6.13	
	172.00	5.00	120	A1a	5.23	-3.10	-3.33	
	172.00	11.00	240	A1b	-7.76	-4.31	-4.48	
	230.00	-18.00	0	A2	-0.83	-9.44	9.58	
	230.00	10.00	120	A2a	7.92	-8.31	-5.50	
	230.00	11.00	240	A2b	-14.20	-13.70	-8.19	
	302.00	-21.00	0	A3	-0.63	-6.26	5.97	
	302.00	8.00	120	A3a	4.93	-5.76	-3.56	
	302.00	21.00	240	A3b	-7.74	-7.56	-4.46	
	1.2D + 1.0Di + 1.0Wi 90°	1.73	0.00	0	1	0.10	44.47	1.99
		1.73	0.00	120	1a	1.25	50.43	-0.77
1.73		0.00	240	1b	-1.78	40.30	-1.19	
172.00		-18.00	0	A1	-0.34	-4.59	7.22	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0Di + 1.0Wi 120°	172.00	5.00	120	A1a	4.68	-2.67	-2.84
	172.00	11.00	240	A1b	-7.65	-4.18	-4.28
	230.00	-18.00	0	A2	-1.02	-11.33	11.79
	230.00	10.00	120	A2a	6.65	-6.82	-4.29
	230.00	11.00	240	A2b	-13.79	-13.06	-7.51
	302.00	-21.00	0	A3	-0.77	-6.99	6.96
	302.00	8.00	120	A3a	4.53	-5.26	-2.97
	302.00	21.00	240	A3b	-7.68	-7.35	-4.10
	1.73	0.00	0	1	0.11	41.95	2.04
	1.73	0.00	120	1a	1.22	51.56	-0.70
	1.73	0.00	240	1b	-1.72	42.35	-1.14
	172.00	-18.00	0	A1	-0.27	-5.24	8.25
	172.00	5.00	120	A1a	4.56	-2.53	-2.63
	172.00	11.00	240	A1b	-7.25	-3.89	-3.88
	230.00	-18.00	0	A2	-0.83	-13.33	14.11
230.00	10.00	120	A2a	6.24	-6.13	-3.60	
230.00	11.00	240	A2b	-12.49	-11.58	-6.29	
302.00	-21.00	0	A3	-0.63	-7.76	7.98	
302.00	8.00	120	A3a	4.52	-5.08	-2.61	
302.00	21.00	240	A3b	-7.25	-6.83	-3.49	
1.2D + 1.0Di + 1.0Wi 180°	1.73	0.00	0	1	0.01	40.41	2.18
	1.73	0.00	120	1a	1.41	47.05	-0.96
	1.73	0.00	240	1b	-1.36	48.76	-0.87
	172.00	-18.00	0	A1	0.00	-5.77	8.98
	172.00	5.00	120	A1a	5.42	-3.05	-2.82
	172.00	11.00	240	A1b	-5.50	-2.88	-2.87
	230.00	-18.00	0	A2	0.00	-15.66	16.52
	230.00	10.00	120	A2a	8.66	-8.23	-4.06
	230.00	11.00	240	A2b	-8.60	-8.13	-4.03
	302.00	-21.00	0	A3	0.00	-8.60	8.93
	302.00	8.00	120	A3a	5.54	-5.75	-2.48
	302.00	21.00	240	A3b	-5.57	-5.55	-2.51
	1.73	0.00	0	1	-0.04	40.91	2.13
	1.73	0.00	120	1a	1.55	44.89	-1.10
	1.73	0.00	240	1b	-1.26	50.40	-0.75
172.00	-18.00	0	A1	0.12	-5.63	8.83	
172.00	5.00	120	A1a	6.39	-3.62	-3.29	
172.00	11.00	240	A1b	-4.79	-2.49	-2.63	
230.00	-18.00	0	A2	0.41	-14.96	15.84	
230.00	10.00	120	A2a	10.64	-9.91	-4.99	
230.00	11.00	240	A2b	-6.93	-6.66	-3.54	
302.00	-21.00	0	A3	0.31	-8.36	8.69	
302.00	8.00	120	A3a	6.45	-6.43	-2.85	
302.00	21.00	240	A3b	-4.89	-5.08	-2.47	
1.2D + 1.0Di + 1.0Wi 240°	1.73	0.00	0	1	-0.10	42.07	2.03
	1.73	0.00	120	1a	1.70	42.61	-1.14
	1.73	0.00	240	1b	-1.23	51.51	-0.68
	172.00	-18.00	0	A1	0.27	-5.24	8.25
	172.00	5.00	120	A1a	7.27	-4.17	-3.88
	172.00	11.00	240	A1b	-4.58	-2.35	-2.64
	230.00	-18.00	0	A2	0.83	-13.33	14.10
	230.00	10.00	120	A2a	12.53	-11.68	-6.31
	230.00	11.00	240	A2b	-6.20	-6.05	-3.57
	302.00	-21.00	0	A3	0.63	-7.78	8.00
	302.00	8.00	120	A3a	7.25	-7.13	-3.48
	302.00	21.00	240	A3b	-4.60	-4.93	-2.65
	1.73	0.00	0	1	-0.11	46.71	1.71
	1.73	0.00	120	1a	1.91	40.23	-1.12
	1.73	0.00	240	1b	-1.47	48.06	-0.76
172.00	-18.00	0	A1	0.27	-3.89	6.14	
172.00	5.00	120	A1a	7.76	-4.61	-4.48	
172.00	11.00	240	A1b	-5.23	-2.88	-3.33	
230.00	-18.00	0	A2	0.83	-9.43	9.57	
230.00	10.00	120	A2a	14.25	-13.83	-8.22	
230.00	11.00	240	A2b	-7.89	-8.22	-5.48	
302.00	-21.00	0	A3	0.64	-6.26	5.97	
302.00	8.00	120	A3a	7.73	-7.88	-4.46	
302.00	21.00	240	A3b	-4.97	-5.55	-3.57	
1.2D + 1.0Di + 1.0Wi 300°	1.73	0.00	0	1	-0.11	46.71	1.71
	1.73	0.00	120	1a	1.91	40.23	-1.12
	1.73	0.00	240	1b	-1.47	48.06	-0.76
	172.00	-18.00	0	A1	0.27	-3.89	6.14
	172.00	5.00	120	A1a	7.76	-4.61	-4.48
	172.00	11.00	240	A1b	-5.23	-2.88	-3.33
	230.00	-18.00	0	A2	0.83	-9.43	9.57
	230.00	10.00	120	A2a	14.25	-13.83	-8.22
	230.00	11.00	240	A2b	-7.89	-8.22	-5.48
	302.00	-21.00	0	A3	0.64	-6.26	5.97
	302.00	8.00	120	A3a	7.73	-7.88	-4.46
	302.00	21.00	240	A3b	-4.97	-5.55	-3.57

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.2D + 1.0Di + 1.0Wi 330°	1.73	0.00	0	1	-0.05	49.34	1.50	
	1.73	0.00	120	1a	1.96	39.41	-1.05	
	1.73	0.00	240	1b	-1.70	45.65	-0.86	
	172.00	-18.00	0	A1	0.12	-3.42	5.47	
	172.00	5.00	120	A1a	7.50	-4.46	-4.46	
	172.00	11.00	240	A1b	-6.09	-3.40	-3.91	
	230.00	-18.00	0	A2	0.42	-7.72	7.80	
	230.00	10.00	120	A2a	13.48	-13.20	-8.23	
	230.00	11.00	240	A2b	-9.66	-9.87	-6.72	
	302.00	-21.00	0	A3	0.32	-5.67	5.29	
	302.00	8.00	120	A3a	7.35	-7.62	-4.59	
	302.00	21.00	240	A3b	-5.70	-6.16	-4.15	
	1.2D + 1.0Ev + 1.0Eh Normal	1.73	0.00	0	1	0.00	18.31	-1.31
		1.73	0.00	120	1a	-1.15	18.64	0.66
1.73		0.00	240	1b	1.15	18.75	0.66	
172.00		-18.00	0	A1	0.00	-2.35	3.39	
172.00		5.00	120	A1a	3.07	-1.99	-1.77	
172.00		11.00	240	A1b	-3.09	-1.88	-1.78	
230.00		-18.00	0	A2	0.00	-4.92	4.70	
230.00		10.00	120	A2a	4.43	-4.74	-2.56	
230.00		11.00	240	A2b	-4.43	-4.72	-2.56	
302.00		-21.00	0	A3	0.00	-2.62	2.37	
302.00		8.00	120	A3a	2.18	-2.56	-1.26	
302.00		21.00	240	A3b	-2.21	-2.48	-1.28	
1.2D + 1.0Ev + 1.0Eh 60°		1.73	0.00	0	1	0.00	18.20	-1.31
		1.73	0.00	120	1a	-1.15	18.73	0.66
	1.73	0.00	240	1b	1.15	18.77	0.66	
	172.00	-18.00	0	A1	0.00	-2.39	3.44	
	172.00	5.00	120	A1a	3.01	-1.94	-1.74	
	172.00	11.00	240	A1b	-3.11	-1.90	-1.79	
	230.00	-18.00	0	A2	0.00	-5.01	4.79	
	230.00	10.00	120	A2a	4.22	-4.51	-2.44	
	230.00	11.00	240	A2b	-4.55	-4.86	-2.63	
	302.00	-21.00	0	A3	0.00	-2.65	2.40	
	302.00	8.00	120	A3a	2.12	-2.48	-1.23	
	302.00	21.00	240	A3b	-2.25	-2.52	-1.30	
	1.2D + 1.0Ev + 1.0Eh 90°	1.73	0.00	0	1	0.00	18.16	-1.31
		1.73	0.00	120	1a	-1.15	18.75	0.66
1.73		0.00	240	1b	1.16	18.79	0.66	
172.00		-18.00	0	A1	0.00	-2.42	3.48	
172.00		5.00	120	A1a	2.98	-1.92	-1.72	
172.00		11.00	240	A1b	-3.10	-1.89	-1.79	
230.00		-18.00	0	A2	0.00	-5.15	4.92	
230.00		10.00	120	A2a	4.12	-4.40	-2.38	
230.00		11.00	240	A2b	-4.52	-4.83	-2.61	
302.00		-21.00	0	A3	0.00	-2.70	2.44	
302.00		8.00	120	A3a	2.09	-2.44	-1.21	
302.00		21.00	240	A3b	-2.24	-2.51	-1.29	
1.2D + 1.0Ev + 1.0Eh 120°		1.73	0.00	0	1	0.00	18.12	-1.30
		1.73	0.00	120	1a	-1.15	18.76	0.66
	1.73	0.00	240	1b	1.16	18.82	0.66	
	172.00	-18.00	0	A1	0.00	-2.45	3.52	
	172.00	5.00	120	A1a	2.96	-1.91	-1.71	
	172.00	11.00	240	A1b	-3.07	-1.87	-1.77	
	230.00	-18.00	0	A2	0.00	-5.31	5.07	
	230.00	10.00	120	A2a	4.06	-4.34	-2.34	
	230.00	11.00	240	A2b	-4.43	-4.73	-2.56	
	302.00	-21.00	0	A3	0.00	-2.76	2.49	
	302.00	8.00	120	A3a	2.07	-2.42	-1.20	
	302.00	21.00	240	A3b	-2.21	-2.48	-1.27	
	1.2D + 1.0Ev + 1.0Eh 180°	1.73	0.00	0	1	0.00	18.08	-1.30
		1.73	0.00	120	1a	-1.15	18.74	0.66
1.73		0.00	240	1b	1.16	18.88	0.66	
172.00		-18.00	0	A1	0.00	-2.49	3.57	
172.00		5.00	120	A1a	2.99	-1.93	-1.72	
172.00		11.00	240	A1b	-2.99	-1.81	-1.73	
230.00		-18.00	0	A2	0.00	-5.51	5.25	
230.00		10.00	120	A2a	4.16	-4.45	-2.40	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0Ev + 1.0Eh 210°	230.00	11.00	240	A2b	-4.15	-4.42	-2.40
	302.00	-21.00	0	A3	0.00	-2.83	2.55
	302.00	8.00	120	A3a	2.10	-2.46	-1.21
	302.00	21.00	240	A3b	-2.12	-2.37	-1.22
	1.73	0.00	0	1	0.00	18.09	-1.30
	1.73	0.00	120	1a	-1.15	18.71	0.66
	1.73	0.00	240	1b	1.16	18.90	0.66
	172.00	-18.00	0	A1	0.00	-2.48	3.55
	172.00	5.00	120	A1a	3.03	-1.96	-1.75
	172.00	11.00	240	A1b	-2.97	-1.80	-1.71
	230.00	-18.00	0	A2	0.00	-5.44	5.19
	230.00	10.00	120	A2a	4.31	-4.61	-2.48
	230.00	11.00	240	A2b	-4.07	-4.32	-2.35
	302.00	-21.00	0	A3	0.00	-2.80	2.53
	1.2D + 1.0Ev + 1.0Eh 240°	302.00	8.00	120	A3a	2.15	-2.51
302.00		21.00	240	A3b	-2.09	-2.33	-1.21
1.73		0.00	0	1	0.00	18.12	-1.30
1.73		0.00	120	1a	-1.15	18.68	0.66
1.73		0.00	240	1b	1.16	18.91	0.66
172.00		-18.00	0	A1	0.00	-2.45	3.52
172.00		5.00	120	A1a	3.06	-1.99	-1.77
172.00		11.00	240	A1b	-2.97	-1.79	-1.71
230.00		-18.00	0	A2	0.00	-5.31	5.07
230.00		10.00	120	A2a	4.44	-4.76	-2.56
230.00		11.00	240	A2b	-4.06	-4.31	-2.34
302.00		-21.00	0	A3	0.00	-2.75	2.49
302.00		8.00	120	A3a	2.19	-2.56	-1.26
302.00		21.00	240	A3b	-2.08	-2.33	-1.20
1.2D + 1.0Ev + 1.0Eh 300°		1.73	0.00	0	1	0.00	18.19
	1.73	0.00	120	1a	-1.15	18.64	0.66
	1.73	0.00	240	1b	1.16	18.87	0.66
	172.00	-18.00	0	A1	0.00	-2.39	3.44
	172.00	5.00	120	A1a	3.10	-2.02	-1.79
	172.00	11.00	240	A1b	-3.01	-1.82	-1.74
	230.00	-18.00	0	A2	0.00	-5.01	4.79
	230.00	10.00	120	A2a	4.57	-4.90	-2.64
	230.00	11.00	240	A2b	-4.20	-4.47	-2.43
	302.00	-21.00	0	A3	0.00	-2.65	2.40
	302.00	8.00	120	A3a	2.23	-2.61	-1.29
	302.00	21.00	240	A3b	-2.13	-2.39	-1.23
	1.73	0.00	0	1	0.00	18.25	-1.31
	1.73	0.00	120	1a	-1.15	18.64	0.66
	1.73	0.00	240	1b	1.16	18.82	0.66
1.2D + 1.0Ev + 1.0Eh 330°	172.00	-18.00	0	A1	0.00	-2.36	3.41
	172.00	5.00	120	A1a	3.09	-2.01	-1.78
	172.00	11.00	240	A1b	-3.05	-1.85	-1.76
	230.00	-18.00	0	A2	0.00	-4.93	4.71
	230.00	10.00	120	A2a	4.51	-4.84	-2.60
	230.00	11.00	240	A2b	-4.33	-4.62	-2.50
	302.00	-21.00	0	A3	0.00	-2.62	2.38
	302.00	8.00	120	A3a	2.21	-2.59	-1.28
	302.00	21.00	240	A3b	-2.18	-2.44	-1.26
	1.73	0.00	0	1	0.00	15.98	-1.15
	1.73	0.00	120	1a	-1.01	16.30	0.58
	1.73	0.00	240	1b	1.01	16.41	0.58
	172.00	-18.00	0	A1	0.00	-2.39	3.44
	172.00	5.00	120	A1a	3.11	-2.02	-1.80
	172.00	11.00	240	A1b	-3.13	-1.91	-1.80
0.9D - 1.0Ev + 1.0Eh Normal	230.00	-18.00	0	A2	0.00	-5.01	4.79
	230.00	10.00	120	A2a	4.51	-4.83	-2.60
	230.00	11.00	240	A2b	-4.51	-4.81	-2.60
	302.00	-21.00	0	A3	0.00	-2.65	2.41
	302.00	8.00	120	A3a	2.21	-2.59	-1.28
	302.00	21.00	240	A3b	-2.24	-2.52	-1.29
	1.73	0.00	0	1	0.00	15.87	-1.14
	1.73	0.00	120	1a	-1.01	16.39	0.58
	1.73	0.00	240	1b	1.01	16.42	0.58
	172.00	-18.00	0	A1	0.00	-2.42	3.48

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
0.9D - 1.0Ev + 1.0Eh 90°	172.00	5.00	120	A1a	3.04	-1.97	-1.76
	172.00	11.00	240	A1b	-3.15	-1.92	-1.82
	230.00	-18.00	0	A2	0.00	-5.11	4.88
	230.00	10.00	120	A2a	4.30	-4.60	-2.48
	230.00	11.00	240	A2b	-4.63	-4.95	-2.67
	302.00	-21.00	0	A3	0.00	-2.69	2.44
	302.00	8.00	120	A3a	2.15	-2.51	-1.24
	302.00	21.00	240	A3b	-2.27	-2.56	-1.31
	1.73	0.00	0	1	0.00	15.82	-1.14
	1.73	0.00	120	1a	-1.01	16.41	0.58
	1.73	0.00	240	1b	1.01	16.44	0.58
	172.00	-18.00	0	A1	0.00	-2.45	3.52
	172.00	5.00	120	A1a	3.01	-1.95	-1.74
	172.00	11.00	240	A1b	-3.14	-1.92	-1.81
	0.9D - 1.0Ev + 1.0Eh 120°	230.00	-18.00	0	A2	0.00	-5.25
230.00		10.00	120	A2a	4.19	-4.49	-2.42
230.00		11.00	240	A2b	-4.60	-4.92	-2.66
302.00		-21.00	0	A3	0.00	-2.74	2.48
302.00		8.00	120	A3a	2.12	-2.47	-1.22
302.00		21.00	240	A3b	-2.27	-2.55	-1.31
1.73		0.00	0	1	0.00	15.78	-1.14
1.73		0.00	120	1a	-1.01	16.42	0.58
1.73		0.00	240	1b	1.01	16.47	0.58
172.00		-18.00	0	A1	0.00	-2.49	3.56
172.00		5.00	120	A1a	3.00	-1.94	-1.73
172.00		11.00	240	A1b	-3.11	-1.90	-1.79
230.00		-18.00	0	A2	0.00	-5.41	5.16
230.00		10.00	120	A2a	4.14	-4.43	-2.39
230.00		11.00	240	A2b	-4.51	-4.82	-2.60
0.9D - 1.0Ev + 1.0Eh 180°	302.00	-21.00	0	A3	0.00	-2.80	2.52
	302.00	8.00	120	A3a	2.10	-2.45	-1.21
	302.00	21.00	240	A3b	-2.24	-2.51	-1.29
	1.73	0.00	0	1	0.00	15.74	-1.14
	1.73	0.00	120	1a	-1.01	16.39	0.58
	1.73	0.00	240	1b	1.01	16.53	0.58
	172.00	-18.00	0	A1	0.00	-2.52	3.60
	172.00	5.00	120	A1a	3.03	-1.96	-1.75
	172.00	11.00	240	A1b	-3.03	-1.84	-1.75
	230.00	-18.00	0	A2	0.00	-5.59	5.32
	230.00	10.00	120	A2a	4.25	-4.55	-2.45
	230.00	11.00	240	A2b	-4.24	-4.52	-2.45
	302.00	-21.00	0	A3	0.00	-2.86	2.58
	302.00	8.00	120	A3a	2.14	-2.49	-1.23
	302.00	21.00	240	A3b	-2.15	-2.41	-1.24
0.9D - 1.0Ev + 1.0Eh 210°	1.73	0.00	0	1	0.00	15.75	-1.14
	1.73	0.00	120	1a	-1.01	16.37	0.58
	1.73	0.00	240	1b	1.02	16.56	0.58
	172.00	-18.00	0	A1	0.00	-2.51	3.59
	172.00	5.00	120	A1a	3.06	-1.99	-1.77
	172.00	11.00	240	A1b	-3.01	-1.82	-1.74
	230.00	-18.00	0	A2	0.00	-5.54	5.28
	230.00	10.00	120	A2a	4.38	-4.70	-2.53
	230.00	11.00	240	A2b	-4.15	-4.41	-2.39
	302.00	-21.00	0	A3	0.00	-2.84	2.56
	302.00	8.00	120	A3a	2.18	-2.55	-1.26
	302.00	21.00	240	A3b	-2.12	-2.37	-1.22
	1.73	0.00	0	1	0.00	15.78	-1.14
	1.73	0.00	120	1a	-1.01	16.33	0.58
	1.73	0.00	240	1b	1.02	16.56	0.58
0.9D - 1.0Ev + 1.0Eh 240°	172.00	-18.00	0	A1	0.00	-2.49	3.56
	172.00	5.00	120	A1a	3.10	-2.02	-1.79
	172.00	11.00	240	A1b	-3.00	-1.82	-1.73
	230.00	-18.00	0	A2	0.00	-5.41	5.15
	230.00	10.00	120	A2a	4.52	-4.85	-2.61
	230.00	11.00	240	A2b	-4.13	-4.40	-2.39
	302.00	-21.00	0	A3	0.00	-2.79	2.52
	302.00	8.00	120	A3a	2.22	-2.60	-1.28
	302.00	21.00	240	A3b	-2.11	-2.36	-1.22

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
0.9D - 1.0Ev + 1.0Eh 300°	1.73	0.00	0	1	0.00	15.86	-1.14	
	1.73	0.00	120	1a	-1.01	16.30	0.58	
	1.73	0.00	240	1b	1.01	16.53	0.58	
	172.00	-18.00	0	A1	0.00	-2.42	3.48	
	172.00	5.00	120	A1a	3.14	-2.04	-1.81	
	172.00	11.00	240	A1b	-3.05	-1.85	-1.76	
	230.00	-18.00	0	A2	0.00	-5.11	4.88	
	230.00	10.00	120	A2a	4.64	-4.99	-2.68	
	230.00	11.00	240	A2b	-4.28	-4.56	-2.47	
	302.00	-21.00	0	A3	0.00	-2.69	2.44	
	302.00	8.00	120	A3a	2.26	-2.65	-1.30	
	302.00	21.00	240	A3b	-2.16	-2.42	-1.25	
	0.9D - 1.0Ev + 1.0Eh 330°	1.73	0.00	0	1	0.00	15.91	-1.14
		1.73	0.00	120	1a	-1.01	16.29	0.58
1.73		0.00	240	1b	1.01	16.47	0.58	
172.00		-18.00	0	A1	0.00	-2.40	3.45	
172.00		5.00	120	A1a	3.13	-2.04	-1.81	
172.00		11.00	240	A1b	-3.09	-1.88	-1.78	
230.00		-18.00	0	A2	0.00	-5.02	4.80	
230.00		10.00	120	A2a	4.59	-4.93	-2.65	
230.00		11.00	240	A2b	-4.41	-4.71	-2.55	
302.00		-21.00	0	A3	0.00	-2.66	2.41	
302.00		8.00	120	A3a	2.24	-2.63	-1.29	
302.00		21.00	240	A3b	-2.21	-2.47	-1.27	
1.0D + 1.0W Service Normal		1.73	0.00	0	1	0.00	21.07	-1.52
		1.73	0.00	120	1a	-0.99	16.11	0.56
	1.73	0.00	240	1b	1.00	16.28	0.57	
	172.00	-18.00	0	A1	0.00	-1.71	2.50	
	172.00	5.00	120	A1a	3.63	-2.39	-2.16	
	172.00	11.00	240	A1b	-3.64	-2.26	-2.17	
	230.00	-18.00	0	A2	0.00	-3.16	2.89	
	230.00	10.00	120	A2a	5.69	-6.17	-3.50	
	230.00	11.00	240	A2b	-5.67	-6.12	-3.49	
	302.00	-21.00	0	A3	0.00	-2.44	2.09	
	302.00	8.00	120	A3a	2.73	-3.24	-1.74	
	302.00	21.00	240	A3b	-2.75	-3.13	-1.75	
	1.0D + 1.0W Service 60°	1.73	0.00	0	1	-0.01	19.45	-1.40
		1.73	0.00	120	1a	-1.23	19.96	0.70
1.73		0.00	240	1b	0.91	14.83	0.52	
172.00		-18.00	0	A1	-0.06	-2.14	3.08	
172.00		5.00	120	A1a	2.64	-1.73	-1.59	
172.00		11.00	240	A1b	-4.12	-2.56	-2.38	
230.00		-18.00	0	A2	-0.20	-4.66	4.33	
230.00		10.00	120	A2a	3.66	-4.14	-2.34	
230.00		11.00	240	A2b	-6.94	-7.37	-4.01	
302.00		-21.00	0	A3	-0.15	-2.88	2.52	
302.00		8.00	120	A3a	2.13	-2.66	-1.39	
302.00		21.00	240	A3b	-3.13	-3.45	-1.81	
1.0D + 1.0W Service 90°		1.73	0.00	0	1	-0.01	17.65	-1.27
		1.73	0.00	120	1a	-1.31	21.10	0.75
	1.73	0.00	240	1b	0.93	15.22	0.53	
	172.00	-18.00	0	A1	-0.08	-2.52	3.61	
	172.00	5.00	120	A1a	2.27	-1.45	-1.34	
	172.00	11.00	240	A1b	-3.98	-2.46	-2.27	
	230.00	-18.00	0	A2	-0.24	-5.75	5.45	
	230.00	10.00	120	A2a	2.81	-3.18	-1.73	
	230.00	11.00	240	A2b	-6.58	-6.93	-3.69	
	302.00	-21.00	0	A3	-0.18	-3.21	2.88	
	302.00	8.00	120	A3a	1.90	-2.38	-1.18	
	302.00	21.00	240	A3b	-3.06	-3.34	-1.69	
	1.0D + 1.0W Service 120°	1.73	0.00	0	1	-0.01	15.62	-1.12
		1.73	0.00	120	1a	-1.34	21.67	0.77
1.73		0.00	240	1b	1.00	16.47	0.58	
172.00		-18.00	0	A1	-0.06	-2.91	4.15	
172.00		5.00	120	A1a	2.11	-1.32	-1.22	
172.00		11.00	240	A1b	-3.64	-2.21	-2.03	
230.00		-18.00	0	A2	-0.20	-6.82	6.55	
230.00		10.00	120	A2a	2.45	-2.71	-1.41	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down			
					*Fx (kip)	*Fy (kip)	*Fz (kip)	
1.0D + 1.0W Service 180°	230.00	11.00	240	A2b	-5.78	-6.03	-3.12	
	302.00	-21.00	0	A3	-0.15	-3.51	3.21	
	302.00	8.00	120	A3a	1.83	-2.25	-1.06	
	302.00	21.00	240	A3b	-2.88	-3.12	-1.50	
	1.73	0.00	0	1	0.00	14.07	-1.02	
	1.73	0.00	120	1a	-1.24	20.15	0.71	
	1.73	0.00	240	1b	1.24	20.28	0.71	
	172.00	-18.00	0	A1	0.00	-3.29	4.67	
	172.00	5.00	120	A1a	2.62	-1.67	-1.44	
	172.00	11.00	240	A1b	-2.63	-1.57	-1.45	
	230.00	-18.00	0	A2	0.00	-8.24	7.92	
	230.00	10.00	120	A2a	3.74	-4.02	-1.94	
	230.00	11.00	240	A2b	-3.73	-3.98	-1.93	
	302.00	-21.00	0	A3	0.00	-3.87	3.58	
1.0D + 1.0W Service 210°	302.00	8.00	120	A3a	2.25	-2.64	-1.13	
	302.00	21.00	240	A3b	-2.27	-2.55	-1.14	
	1.73	0.00	0	1	0.00	14.43	-1.04	
	1.73	0.00	120	1a	-1.12	18.39	0.65	
	1.73	0.00	240	1b	1.32	21.34	0.75	
	172.00	-18.00	0	A1	0.03	-3.18	4.53	
	172.00	5.00	120	A1a	3.12	-2.00	-1.71	
	172.00	11.00	240	A1b	-2.24	-1.32	-1.26	
	230.00	-18.00	0	A2	0.10	-7.82	7.52	
	230.00	10.00	120	A2a	4.78	-5.03	-2.48	
	230.00	11.00	240	A2b	-2.80	-3.05	-1.51	
	302.00	-21.00	0	A3	0.07	-3.76	3.47	
	302.00	8.00	120	A3a	2.58	-2.94	-1.29	
	302.00	21.00	240	A3b	-1.98	-2.29	-1.06	
1.0D + 1.0W Service 240°	1.73	0.00	0	1	0.01	15.67	-1.13	
	1.73	0.00	120	1a	-1.00	16.34	0.58	
	1.73	0.00	240	1b	1.35	21.83	0.77	
	172.00	-18.00	0	A1	0.06	-2.90	4.14	
	172.00	5.00	120	A1a	3.62	-2.34	-2.02	
	172.00	11.00	240	A1b	-2.10	-1.24	-1.21	
	230.00	-18.00	0	A2	0.20	-6.81	6.54	
	230.00	10.00	120	A2a	5.79	-6.08	-3.12	
	230.00	11.00	240	A2b	-2.42	-2.67	-1.40	
	302.00	-21.00	0	A3	0.15	-3.51	3.21	
	302.00	8.00	120	A3a	2.87	-3.23	-1.49	
	302.00	21.00	240	A3b	-1.86	-2.18	-1.07	
	1.0D + 1.0W Service 300°	1.73	0.00	0	1	0.00	19.50	-1.40
		1.73	0.00	120	1a	-0.90	14.67	0.52
1.73		0.00	240	1b	1.24	20.13	0.71	
172.00		-18.00	0	A1	0.06	-2.13	3.06	
172.00		5.00	120	A1a	4.10	-2.71	-2.37	
172.00		11.00	240	A1b	-2.64	-1.62	-1.59	
230.00		-18.00	0	A2	0.20	-4.66	4.32	
230.00		10.00	120	A2a	6.96	-7.43	-4.02	
230.00		11.00	240	A2b	-3.64	-4.09	-2.32	
302.00		-21.00	0	A3	0.15	-2.88	2.51	
302.00		8.00	120	A3a	3.11	-3.57	-1.80	
302.00		21.00	240	A3b	-2.14	-2.57	-1.40	
1.0D + 1.0W Service 330°		1.73	0.00	0	1	0.00	20.59	-1.48
		1.73	0.00	120	1a	-0.92	14.95	0.52
	1.73	0.00	240	1b	1.12	18.33	0.64	
	172.00	-18.00	0	A1	0.03	-1.83	2.65	
	172.00	5.00	120	A1a	3.98	-2.63	-2.33	
	172.00	11.00	240	A1b	-3.13	-1.94	-1.90	
	230.00	-18.00	0	A2	0.10	-3.64	3.33	
	230.00	10.00	120	A2a	6.59	-7.07	-3.91	
	230.00	11.00	240	A2b	-4.64	-5.11	-2.95	
	302.00	-21.00	0	A3	0.07	-2.58	2.21	
	302.00	8.00	120	A3a	2.99	-3.47	-1.81	
	302.00	21.00	240	A3b	-2.44	-2.86	-1.61	

GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
172.00	-18.00	0	6.66	9.23
172.00	5.00	120	5.50	9.34
172.00	11.00	240	5.22	9.39
230.00	-18.00	0	21.00	20.15
230.00	10.00	120	18.93	20.40
230.00	11.00	240	18.79	20.34
302.00	-21.00	0	8.68	8.93
302.00	8.00	120	8.05	8.92
302.00	21.00	240	7.81	8.93

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W Normal	67.12	3/8 EHS	A1	27	9.24	0.25	3
		3/8 EHS	A1a	27a	9.24	2.39	26
		3/8 EHS	A1b	27b	9.24	2.4	26
	126.87	3/8 EHS	A1a	T2	9.24	3.11	34
			A1	T2	9.24	0.29	3
			A1a	T2a	9.24	3.24	35
		3/8 EHS	A1b	T2a	9.24	3.2	35
			A1	T2b	9.24	0.29	3
			A1b	T2b	9.24	3.05	33
	198.97	7/16 EHS	A2a	T3	12.48	5.91	47
			A2	T3	12.48	0.49	4
			A2b	T3a	12.48	5.96	48
		7/16 EHS	A2a	T3a	12.48	5.99	48
			A2	T3b	12.48	0.49	4
			A2b	T3b	12.48	5.89	47
	271.07	7/16 EHS	A2a	T4	12.48	5.56	45
			A2	T4	12.48	1.16	9
			A2b	T4a	12.48	5.05	40
		7/16 EHS	A2a	T4a	12.48	5.06	41
			A2b	T4b	12.48	5.5	44
			A2	T4b	12.48	1.16	9
	331.07	7/16 EHS	A3a	T5	12.48	4.94	40
			A3	T5	12.48	1.88	15
			A3b	T5a	12.48	4.54	36
7/16 EHS		A3a	T5a	12.48	4.6	37	
		A3b	T5b	12.48	4.84	39	
		A3	T5b	12.48	1.89	15	
1.2D + 1.0W 60°	67.12	3/8 EHS	A1	27	9.24	1.31	14
		3/8 EHS	A1a	27a	9.24	1.21	13
		3/8 EHS	A1b	27b	9.24	3.11	34
	126.87	3/8 EHS	A1a	T2	9.24	1.28	14
			A1	T2	9.24	1.36	15
			A1b	T2a	9.24	3.9	42
		3/8 EHS	A1a	T2a	9.24	1.25	13
			A1b	T2b	9.24	3.9	42
			A1	T2b	9.24	1.32	14
	198.97	7/16 EHS	A2a	T3	12.48	1.92	15
			A2	T3	12.48	2.04	16
			A2a	T3a	12.48	1.87	15
		7/16 EHS	A2b	T3a	12.48	7.3	59
			A2	T3b	12.48	2	16
			A2b	T3b	12.48	7.32	59
	271.07	7/16 EHS	A2	T4	12.48	2.65	21
			A2a	T4	12.48	2.5	20
			A2b	T4a	12.48	6.76	54
		7/16 EHS	A2a	T4a	12.48	2.35	19
			A2b	T4b	12.48	6.75	54
			A2	T4b	12.48	2.52	20
	331.07	7/16 EHS	A3	T5	12.48	3.42	27
			A3a	T5	12.48	3.28	26
			A3a	T5a	12.48	3.13	25
7/16 EHS		A3b	T5a	12.48	5.79	46	
		A3b	T5b	12.48	5.77	46	
		A3	T5b	12.48	3.27	26	
1.2D + 1.0W 90°	67.12	3/8 EHS	A1	27	9.24	1.91	21
		3/8 EHS	A1a	27a	9.24	0.55	6
		3/8 EHS	A1b	27b	9.24	2.88	31
	126.87	3/8 EHS	A1a	T2	9.24	0.52	6
			A1	T2	9.24	2.34	25
			A1a	T2a	9.24	0.46	5
		3/8 EHS	A1b	T2a	9.24	3.59	39
			A1b	T2b	9.24	3.75	41
			A1	T2b	9.24	2.39	26
	198.97	7/16 EHS	A2	T3	12.48	4.05	32
			A2a	T3	12.48	0.77	6
			A2a	T3a	12.48	0.72	6

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0W 120°	271.07	7/16 EHS	A2b	T3a	12.48	6.9	55	
		7/16 EHS	A2	T3b	12.48	4.05	32	
		7/16 EHS	A2b	T3b	12.48	7.01	56	
		7/16 EHS	A2a	T4	12.48	1.39	11	
		7/16 EHS	A2	T4	12.48	4.12	33	
		7/16 EHS	A2b	T4a	12.48	6.42	51	
		7/16 EHS	A2a	T4a	12.48	1.34	11	
		7/16 EHS	A2b	T4b	12.48	6.15	49	
		7/16 EHS	A2	T4b	12.48	3.75	30	
		331.07	7/16 EHS	A3a	T5	12.48	2.26	18
			7/16 EHS	A3	T5	12.48	4.26	34
			7/16 EHS	A3a	T5a	12.48	2.22	18
			7/16 EHS	A3b	T5a	12.48	5.46	44
			7/16 EHS	A3	T5b	12.48	3.98	32
	7/16 EHS		A3b	T5b	12.48	5.26	42	
	67.12		3/8 EHS	A1	27	9.24	2.53	27
			3/8 EHS	A1a	27a	9.24	0.31	3
			3/8 EHS	A1b	27b	9.24	2.35	25
			126.87	3/8 EHS	A1a	T2	9.24	0.16
		3/8 EHS		A1	T2	9.24	3.26	35
		3/8 EHS		A1a	T2a	9.24	0.16	2
		3/8 EHS		A1b	T2a	9.24	2.98	32
		3/8 EHS		A1	T2b	9.24	3.42	37
		3/8 EHS		A1b	T2b	9.24	3.13	34
		198.97	7/16 EHS	A2	T3	12.48	6.11	49
			7/16 EHS	A2a	T3	12.48	0.32	3
			7/16 EHS	A2b	T3a	12.48	5.74	46
			7/16 EHS	A2a	T3a	12.48	0.32	3
7/16 EHS			A2b	T3b	12.48	5.78	46	
7/16 EHS	A2		T3b	12.48	6.21	50		
271.07	7/16 EHS		A2a	T4	12.48	0.93	7	
	7/16 EHS		A2	T4	12.48	5.69	46	
	7/16 EHS		A2a	T4a	12.48	0.94	8	
	7/16 EHS		A2b	T4a	12.48	5.34	43	
	7/16 EHS		A2b	T4b	12.48	4.85	39	
	7/16 EHS		A2	T4b	12.48	5.18	42	
	331.07		7/16 EHS	A3a	T5	12.48	1.66	13
			7/16 EHS	A3	T5	12.48	5.03	40
		7/16 EHS	A3a	T5a	12.48	1.67	13	
		7/16 EHS	A3b	T5a	12.48	4.72	38	
		7/16 EHS	A3	T5b	12.48	4.68	38	
		7/16 EHS	A3b	T5b	12.48	4.39	35	
		67.12	3/8 EHS	A1	27	9.24	3.23	35
			3/8 EHS	A1a	27a	9.24	1.17	13
3/8 EHS			A1b	27b	9.24	1.18	13	
126.87			3/8 EHS	A1a	T2	9.24	1.13	12
	3/8 EHS		A1	T2	9.24	4.14	45	
	3/8 EHS		A1b	T2a	9.24	1.18	13	
	3/8 EHS		A1a	T2a	9.24	1.16	13	
	3/8 EHS		A1	T2b	9.24	4.18	45	
	3/8 EHS		A1b	T2b	9.24	1.12	12	
198.97	7/16 EHS		A2a	T3	12.48	1.76	14	
	7/16 EHS		A2	T3	12.48	7.71	62	
	7/16 EHS		A2a	T3a	12.48	1.82	15	
	7/16 EHS		A2b	T3a	12.48	1.8	14	
	7/16 EHS		A2b	T3b	12.48	1.74	14	
	7/16 EHS	A2	T3b	12.48	7.7	62		
	271.07	7/16 EHS	A2	T4	12.48	7.1	57	
		7/16 EHS	A2a	T4	12.48	2.24	18	
		7/16 EHS	A2b	T4a	12.48	2.36	19	
		7/16 EHS	A2a	T4a	12.48	2.39	19	
		7/16 EHS	A2	T4b	12.48	7.07	57	
		7/16 EHS	A2b	T4b	12.48	2.23	18	
		331.07	7/16 EHS	A3	T5	12.48	6.07	49
			7/16 EHS	A3a	T5	12.48	3.02	24
7/16 EHS			A3b	T5a	12.48	3.12	25	
7/16 EHS			A3a	T5a	12.48	3.18	26	
7/16 EHS			A3	T5b	12.48	6.05	48	
67.12			3/8 EHS	A1	27	9.24	3.23	35
			3/8 EHS	A1a	27a	9.24	1.17	13
			3/8 EHS	A1b	27b	9.24	1.18	13
	126.87	3/8 EHS	A1a	T2	9.24	1.13	12	
		3/8 EHS	A1	T2	9.24	4.14	45	
		3/8 EHS	A1b	T2a	9.24	1.18	13	
		3/8 EHS	A1a	T2a	9.24	1.16	13	
		3/8 EHS	A1	T2b	9.24	4.18	45	
		3/8 EHS	A1b	T2b	9.24	1.12	12	
	198.97	7/16 EHS	A2a	T3	12.48	1.76	14	
		7/16 EHS	A2	T3	12.48	7.71	62	
		7/16 EHS	A2a	T3a	12.48	1.82	15	
		7/16 EHS	A2b	T3a	12.48	1.8	14	
		7/16 EHS	A2b	T3b	12.48	1.74	14	
7/16 EHS		A2	T3b	12.48	7.7	62		
271.07		7/16 EHS	A2	T4	12.48	7.1	57	
		7/16 EHS	A2a	T4	12.48	2.24	18	
		7/16 EHS	A2b	T4a	12.48	2.36	19	
		7/16 EHS	A2a	T4a	12.48	2.39	19	
		7/16 EHS	A2	T4b	12.48	7.07	57	
		7/16 EHS	A2b	T4b	12.48	2.23	18	
		331.07	7/16 EHS	A3	T5	12.48	6.07	49
			7/16 EHS	A3a	T5	12.48	3.02	24
	7/16 EHS		A3b	T5a	12.48	3.12	25	
	7/16 EHS		A3a	T5a	12.48	3.18	26	
	7/16 EHS		A3	T5b	12.48	6.05	48	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%			
1.2D + 1.0W 210°	67.12	7/16 EHS	A3b	T5b	12.48	2.97	24			
		3/8 EHS	A1	27	9.24	3.03	33			
		3/8 EHS	A1a	27a	9.24	1.77	19			
	126.87	3/8 EHS	A1b	27b	9.24	0.52	6			
			3/8 EHS	A1a	T2	9.24	2.19	24		
			3/8 EHS	A1	T2	9.24	4.06	44		
		3/8 EHS	A1b	T2a	9.24	0.46	5			
			3/8 EHS	A1a	T2a	9.24	2.15	23		
			3/8 EHS	A1b	T2b	9.24	0.41	4		
	198.97	3/8 EHS	A1	T2b	9.24	3.89	42			
			7/16 EHS	A2a	T3	12.48	3.77	30		
			7/16 EHS	A2	T3	12.48	7.47	60		
		7/16 EHS	A2a	T3a	12.48	3.8	30			
			A2b	T3a	12.48	0.74	6			
			A2b	T3b	12.48	0.68	5			
		271.07	7/16 EHS	A2	T3b	12.48	7.36	59		
				A2	T4	12.48	6.51	52		
				A2a	T4	12.48	3.43	28		
			7/16 EHS	A2b	T4a	12.48	1.33	11		
				A2a	T4a	12.48	3.86	31		
				A2	T4b	12.48	6.77	54		
	331.07	7/16 EHS	A2b	T4b	12.48	1.29	10			
			A3a	T5	12.48	3.71	30			
			A3	T5	12.48	5.53	44			
		7/16 EHS	A3a	T5a	12.48	4.02	32			
			A3b	T5a	12.48	2.13	17			
			A3	T5b	12.48	5.73	46			
		7/16 EHS	A3b	T5b	12.48	2.09	17			
			1.2D + 1.0W 240°	67.12	3/8 EHS	A1	27	9.24	2.53	27
					3/8 EHS	A1a	27a	9.24	2.39	26
3/8 EHS		A1b			27b	9.24	0.32	3		
126.87		3/8 EHS		A1a	T2	9.24	3.17	34		
				3/8 EHS	A1	T2	9.24	3.38	37	
	3/8 EHS			A1b	T2a	9.24	0.13	1		
	3/8 EHS	A1a		T2a	9.24	2.98	32			
		3/8 EHS		A1b	T2b	9.24	0.13	1		
		3/8 EHS		A1	T2b	9.24	3.26	35		
198.97	7/16 EHS	A2a		T3	12.48	5.81	47			
		A2		T3	12.48	6.21	50			
		A2a		T3a	12.48	5.76	46			
	7/16 EHS	A2b		T3a	12.48	0.32	3			
		A2		T3b	12.48	6.12	49			
		A2b		T3b	12.48	0.32	3			
	271.07	7/16 EHS		A2	T4	12.48	5.18	41		
				A2a	T4	12.48	4.83	39		
				A2b	T4a	12.48	0.93	7		
		7/16 EHS		A2a	T4a	12.48	5.39	43		
				A2b	T4b	12.48	0.93	7		
				A2	T4b	12.48	5.65	45		
331.07	7/16 EHS	A3		T5	12.48	4.63	37			
		A3a		T5	12.48	4.4	35			
		A3b		T5a	12.48	1.58	13			
	7/16 EHS	A3a		T5a	12.48	4.75	38			
		A3		T5b	12.48	4.96	40			
		A3b		T5b	12.48	1.57	13			
	1.2D + 1.0W 300°	67.12		3/8 EHS	A1	27	9.24	1.27	14	
				3/8 EHS	A1a	27a	9.24	3.17	34	
				3/8 EHS	A1b	27b	9.24	1.21	13	
		126.87	3/8 EHS	A1	T2	9.24	1.3	14		
				3/8 EHS	A1a	T2	9.24	3.91	42	
				3/8 EHS	A1b	T2a	9.24	1.2	13	
3/8 EHS			A1a	T2a	9.24	3.93	43			
			3/8 EHS	A1	T2b	9.24	1.34	15		
			3/8 EHS	A1b	T2b	9.24	1.25	14		
198.97		7/16 EHS	A2	T3	12.48	2	16			
			A2a	T3	12.48	7.33	59			
			A2b	T3a	12.48	1.86	15			
		7/16 EHS	A2a	T3a	12.48	7.33	59			

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0W 330°	271.07	7/16 EHS	A2b	T3b	12.48	1.91	15	
		7/16 EHS	A2	T3b	12.48	2.04	16	
		7/16 EHS	A2a	T4	12.48	6.81	55	
		7/16 EHS	A2	T4	12.48	2.51	20	
		7/16 EHS	A2a	T4a	12.48	6.8	55	
		7/16 EHS	A2b	T4a	12.48	2.34	19	
		7/16 EHS	A2	T4b	12.48	2.65	21	
		7/16 EHS	A2b	T4b	12.48	2.47	20	
	331.07	7/16 EHS	A3	T5	12.48	3.24	26	
		7/16 EHS	A3a	T5	12.48	5.85	47	
		7/16 EHS	A3a	T5a	12.48	5.84	47	
		7/16 EHS	A3b	T5a	12.48	3.06	24	
		7/16 EHS	A3	T5b	12.48	3.39	27	
		7/16 EHS	A3b	T5b	12.48	3.19	26	
		67.12	3/8 EHS	A1	27	9.24	0.6	7
			3/8 EHS	A1a	27a	9.24	2.96	32
	3/8 EHS		A1b	27b	9.24	1.83	20	
	126.87		3/8 EHS	A1	T2	9.24	0.57	6
			3/8 EHS	A1a	T2	9.24	3.7	40
			3/8 EHS	A1b	T2a	9.24	2.24	24
			3/8 EHS	A1a	T2a	9.24	3.84	42
	198.97		3/8 EHS	A1	T2b	9.24	0.63	7
		3/8 EHS	A1b	T2b	9.24	2.21	24	
		7/16 EHS	A2	T3	12.48	0.87	7	
		7/16 EHS	A2a	T3	12.48	7.04	56	
		7/16 EHS	A2b	T3a	12.48	3.9	31	
		7/16 EHS	A2a	T3a	12.48	7.16	57	
		7/16 EHS	A2b	T3b	12.48	3.93	31	
271.07		7/16 EHS	A2	T3b	12.48	0.92	7	
	7/16 EHS	A2	T4	12.48	1.54	12		
	7/16 EHS	A2a	T4	12.48	6.6	53		
	7/16 EHS	A2b	T4a	12.48	3.6	29		
	331.07	7/16 EHS	A2a	T4a	12.48	6.31	51	
		7/16 EHS	A2b	T4b	12.48	3.96	32	
		7/16 EHS	A2	T4b	12.48	1.59	13	
		7/16 EHS	A3a	T5	12.48	5.62	45	
7/16 EHS		A3	T5	12.48	2.38	19		
7/16 EHS		A3b	T5a	12.48	3.81	31		
7/16 EHS		A3a	T5a	12.48	5.41	43		
7/16 EHS		A3b	T5b	12.48	4.07	33		
1.2D + 1.0Di + 1.0Wi Normal	67.12	7/16 EHS	A3	T5b	12.48	2.42	19	
		3/8 EHS	A1	27	9.24	2.46	27	
		3/8 EHS	A1a	27a	9.24	3.22	35	
		3/8 EHS	A1b	27b	9.24	3.19	34	
		126.87	3/8 EHS	A1a	T2	9.24	3.37	36
			3/8 EHS	A1	T2	9.24	2.25	24
			3/8 EHS	A1b	T2a	9.24	3.28	35
			3/8 EHS	A1a	T2a	9.24	3.34	36
	198.97	3/8 EHS	A1	T2b	9.24	2.25	24	
		3/8 EHS	A1b	T2b	9.24	3.31	36	
		7/16 EHS	A2	T3	12.48	3.1	25	
		7/16 EHS	A2a	T3	12.48	5.08	41	
		7/16 EHS	A2b	T3a	12.48	5.01	40	
		7/16 EHS	A2a	T3a	12.48	5.02	40	
		7/16 EHS	A2b	T3b	12.48	5.06	41	
		7/16 EHS	A2	T3b	12.48	3.1	25	
	271.07	7/16 EHS	A2	T4	12.48	3.18	26	
		7/16 EHS	A2a	T4	12.48	5.34	43	
		7/16 EHS	A2b	T4a	12.48	5.17	41	
		7/16 EHS	A2a	T4a	12.48	5.2	42	
		7/16 EHS	A2b	T4b	12.48	5.29	42	
		7/16 EHS	A2	T4b	12.48	3.19	26	
		331.07	7/16 EHS	A3a	T5	12.48	6.26	50
			7/16 EHS	A3	T5	12.48	4.68	37
	7/16 EHS		A3a	T5a	12.48	6.16	49	
	7/16 EHS		A3b	T5a	12.48	6.04	48	
	7/16 EHS		A3	T5b	12.48	4.68	38	
	7/16 EHS		A3b	T5b	12.48	6.14	49	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 60°	67.12	3/8 EHS	A1	27	9.24	2.73	30
		3/8 EHS	A1a	27a	9.24	2.62	28
		3/8 EHS	A1b	27b	9.24	3.35	36
	126.87	3/8 EHS	A1a	T2	9.24	2.54	27
			A1	T2	9.24	2.72	29
			A1b	T2a	9.24	3.64	39
		7/16 EHS	A1a	T2a	9.24	2.48	27
			A1b	T2b	9.24	3.64	39
			A1	T2b	9.24	2.66	29
	198.97	7/16 EHS	A2a	T3	12.48	3.65	29
			A2	T3	12.48	3.92	31
			A2a	T3a	12.48	3.59	29
		7/16 EHS	A2b	T3a	12.48	5.8	46
			A2	T3b	12.48	3.83	31
			A2b	T3b	12.48	5.81	47
	271.07	7/16 EHS	A2	T4	12.48	4.28	34
			A2a	T4	12.48	4.01	32
			A2b	T4a	12.48	6.07	49
		7/16 EHS	A2a	T4a	12.48	3.85	31
			A2b	T4b	12.48	6.06	49
			A2	T4b	12.48	4.1	33
	331.07	7/16 EHS	A3	T5	12.48	5.38	43
			A3a	T5	12.48	5.14	41
			A3a	T5a	12.48	4.98	40
7/16 EHS		A3b	T5a	12.48	6.69	54	
		A3b	T5b	12.48	6.69	54	
		A3	T5b	12.48	5.2	42	
1.2D + 1.0Di + 1.0Wi 90°	67.12	3/8 EHS	A1	27	9.24	3.05	33
		3/8 EHS	A1a	27a	9.24	2.44	26
		3/8 EHS	A1b	27b	9.24	3.31	36
	126.87	3/8 EHS	A1a	T2	9.24	2.19	24
			A1	T2	9.24	3.18	34
			A1b	T2a	9.24	3.59	39
		7/16 EHS	A1a	T2a	9.24	2.16	23
			A1b	T2b	9.24	3.5	38
			A1	T2b	9.24	3.18	34
	198.97	7/16 EHS	A2a	T3	12.48	3.07	25
			A2	T3	12.48	4.7	38
			A2a	T3a	12.48	3.13	25
		7/16 EHS	A2b	T3a	12.48	5.53	44
			A2	T3b	12.48	4.57	37
			A2b	T3b	12.48	5.6	45
	271.07	7/16 EHS	A2	T4	12.48	4.99	40
			A2a	T4	12.48	3.34	27
			A2b	T4a	12.48	5.85	47
		7/16 EHS	A2a	T4a	12.48	3.28	26
			A2b	T4b	12.48	5.82	47
			A2	T4b	12.48	4.78	38
	331.07	7/16 EHS	A3	T5	12.48	5.99	48
			A3a	T5	12.48	4.67	37
			A3a	T5a	12.48	4.62	37
7/16 EHS		A3b	T5a	12.48	6.54	52	
		A3b	T5b	12.48	6.52	52	
		A3	T5b	12.48	5.81	47	
1.2D + 1.0Di + 1.0Wi 120°	67.12	3/8 EHS	A1	27	9.24	3.41	37
		3/8 EHS	A1a	27a	9.24	2.36	26
		3/8 EHS	A1b	27b	9.24	3.17	34
	126.87	3/8 EHS	A1a	T2	9.24	2.08	23
			A1	T2	9.24	3.62	39
			A1a	T2a	9.24	2.1	23
		7/16 EHS	A1b	T2a	9.24	3.33	36
			A1b	T2b	9.24	3.29	36
			A1	T2b	9.24	3.6	39
	198.97	7/16 EHS	A2a	T3	12.48	2.91	23
			A2	T3	12.48	5.46	44
			A2b	T3a	12.48	5.06	41
		7/16 EHS	A2a	T3a	12.48	2.92	23
			A2	T3b	12.48	5.39	43

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Di + 1.0Wi 180°	271.07	7/16 EHS	A2b	T3b	12.48	4.99	40	
		7/16 EHS	A2a	T4	12.48	2.99	24	
		7/16 EHS	A2	T4	12.48	5.69	46	
		7/16 EHS	A2b	T4a	12.48	5.31	43	
		7/16 EHS	A2a	T4a	12.48	3	24	
		7/16 EHS	A2b	T4b	12.48	5.17	41	
	331.07	7/16 EHS	A2	T4b	12.48	5.54	44	
		7/16 EHS	A3a	T5	12.48	4.51	36	
		7/16 EHS	A3	T5	12.48	6.58	53	
		7/16 EHS	A3b	T5a	12.48	6.17	49	
		7/16 EHS	A3a	T5a	12.48	4.52	36	
		7/16 EHS	A3b	T5b	12.48	6.06	49	
	1.2D + 1.0Di + 1.0Wi 180°	67.12	3/8 EHS	A1	T27	9.24	3.57	39
			3/8 EHS	A1a	T27a	9.24	2.58	28
			3/8 EHS	A1b	T27b	9.24	2.61	28
		126.87	3/8 EHS	A1a	T2	9.24	2.43	26
			3/8 EHS	A1	T2	9.24	4	43
			3/8 EHS	A1a	T2a	9.24	2.52	27
			3/8 EHS	A1b	T2a	9.24	2.48	27
			3/8 EHS	A1b	T2b	9.24	2.43	26
			3/8 EHS	A1	T2b	9.24	3.96	43
		198.97	7/16 EHS	A2	T3	12.48	6.21	50
			7/16 EHS	A2a	T3	12.48	3.56	29
			7/16 EHS	A2b	T3a	12.48	3.62	29
7/16 EHS	A2a		T3a	12.48	3.63	29		
7/16 EHS	A2		T3b	12.48	6.24	50		
7/16 EHS	A2b		T3b	12.48	3.52	28		
1.2D + 1.0Di + 1.0Wi 210°	271.07	7/16 EHS	A2a	T4	12.48	3.81	31	
		7/16 EHS	A2	T4	12.48	6.49	52	
		7/16 EHS	A2b	T4a	12.48	3.95	32	
		7/16 EHS	A2a	T4a	12.48	3.99	32	
		7/16 EHS	A2b	T4b	12.48	3.78	30	
		7/16 EHS	A2	T4b	12.48	6.48	52	
	331.07	7/16 EHS	A3a	T5	12.48	4.97	40	
		7/16 EHS	A3	T5	12.48	7.16	57	
		7/16 EHS	A3a	T5a	12.48	5.15	41	
		7/16 EHS	A3b	T5a	12.48	5.05	40	
		7/16 EHS	A3b	T5b	12.48	4.88	39	
		7/16 EHS	A3	T5b	12.48	7.15	57	
1.2D + 1.0Di + 1.0Wi 210°	67.12	3/8 EHS	A1	T27	9.24	3.6	39	
		3/8 EHS	A1a	T27a	9.24	2.88	31	
		3/8 EHS	A1b	T27b	9.24	2.37	26	
	126.87	3/8 EHS	A1	T2	9.24	3.85	42	
		3/8 EHS	A1a	T2	9.24	2.9	31	
		3/8 EHS	A1a	T2a	9.24	2.98	32	
		3/8 EHS	A1b	T2a	9.24	2.17	24	
		3/8 EHS	A1b	T2b	9.24	2.13	23	
		3/8 EHS	A1	T2b	9.24	3.88	42	
	198.97	7/16 EHS	A2	T3	12.48	6	48	
		7/16 EHS	A2a	T3	12.48	4.24	34	
		7/16 EHS	A2a	T3a	12.48	4.36	35	
7/16 EHS		A2b	T3a	12.48	3.06	25		
7/16 EHS		A2b	T3b	12.48	3.05	24		
7/16 EHS		A2	T3b	12.48	6	48		
271.07	7/16 EHS	A2	T4	12.48	6.21	50		
	7/16 EHS	A2a	T4	12.48	4.47	36		
	7/16 EHS	A2a	T4a	12.48	4.67	37		
	7/16 EHS	A2b	T4a	12.48	3.28	26		
	7/16 EHS	A2b	T4b	12.48	3.21	26		
	7/16 EHS	A2	T4b	12.48	6.24	50		
331.07	7/16 EHS	A3	T5	12.48	6.97	56		
	7/16 EHS	A3a	T5	12.48	5.55	45		
	7/16 EHS	A3b	T5a	12.48	4.61	37		
	7/16 EHS	A3a	T5a	12.48	5.74	46		
	7/16 EHS	A3	T5b	12.48	6.99	56		
	7/16 EHS	A3b	T5b	12.48	4.54	36		
1.2D + 1.0Di + 1.0Wi 240°	67.12	3/8 EHS	A1	T27	9.24	3.37	37	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Di + 1.0Wi 300°	126.87	3/8 EHS	A1a	27a	9.24	3.22	35	
		3/8 EHS	A1b	27b	9.24	2.35	25	
		3/8 EHS	A1	T2	9.24	3.61	39	
		3/8 EHS	A1a	T2	9.24	3.33	36	
		3/8 EHS	A1a	T2a	9.24	3.41	37	
		3/8 EHS	A1b	T2a	9.24	2.05	22	
	198.97	3/8 EHS	A1b	T2b	9.24	2.05	22	
		3/8 EHS	A1	T2b	9.24	3.65	39	
		7/16 EHS	A2	T3	12.48	5.38	43	
		7/16 EHS	A2a	T3	12.48	5.01	40	
		7/16 EHS	A2a	T3a	12.48	5.07	41	
		7/16 EHS	A2b	T3a	12.48	2.92	23	
	271.07	7/16 EHS	A2b	T3b	12.48	2.9	23	
		7/16 EHS	A2	T3b	12.48	5.46	44	
		7/16 EHS	A2a	T4	12.48	5.21	42	
		7/16 EHS	A2	T4	12.48	5.55	44	
		7/16 EHS	A2b	T4a	12.48	2.96	24	
		7/16 EHS	A2a	T4a	12.48	5.34	43	
	331.07	7/16 EHS	A2	T4b	12.48	5.69	46	
		7/16 EHS	A2b	T4b	12.48	2.95	24	
		7/16 EHS	A3	T5	12.48	6.49	52	
		7/16 EHS	A3a	T5	12.48	6.2	50	
		7/16 EHS	A3b	T5a	12.48	4.47	36	
		7/16 EHS	A3a	T5a	12.48	6.3	50	
	1.2D + 1.0Di + 1.0Wi 330°	67.12	3/8 EHS	A3	T5b	12.48	6.59	53
			3/8 EHS	A3b	T5b	12.48	4.46	36
			3/8 EHS	A1	27	9.24	2.74	30
			3/8 EHS	A1a	27a	9.24	3.39	37
			3/8 EHS	A1b	27b	9.24	2.58	28
			3/8 EHS	A1	T2	9.24	2.65	29
126.87		3/8 EHS	A1a	T2	9.24	3.71	40	
		3/8 EHS	A1a	T2a	9.24	3.7	40	
		3/8 EHS	A1b	T2a	9.24	2.44	26	
		3/8 EHS	A1	T2b	9.24	2.72	29	
		3/8 EHS	A1b	T2b	9.24	2.49	27	
		7/16 EHS	A2a	T3	12.48	5.81	47	
198.97		7/16 EHS	A2	T3	12.48	3.83	31	
		7/16 EHS	A2a	T3a	12.48	5.82	47	
		7/16 EHS	A2b	T3a	12.48	3.58	29	
		7/16 EHS	A2b	T3b	12.48	3.65	29	
		7/16 EHS	A2	T3b	12.48	3.9	31	
		7/16 EHS	A2	T4	12.48	4.1	33	
271.07		7/16 EHS	A2a	T4	12.48	6.12	49	
		7/16 EHS	A2a	T4a	12.48	6.12	49	
		7/16 EHS	A2b	T4a	12.48	3.81	31	
		7/16 EHS	A2b	T4b	12.48	3.97	32	
		7/16 EHS	A2	T4b	12.48	4.27	34	
		7/16 EHS	A3	T5	12.48	5.2	42	
331.07		7/16 EHS	A3a	T5	12.48	6.83	55	
		7/16 EHS	A3a	T5a	12.48	6.82	55	
		7/16 EHS	A3b	T5a	12.48	4.9	39	
		7/16 EHS	A3b	T5b	12.48	5.05	40	
		7/16 EHS	A3	T5b	12.48	5.38	43	
		3/8 EHS	A1	27	9.24	2.56	28	
1.2D + 1.0Di + 1.0Wi 330°	67.12	3/8 EHS	A1a	27a	9.24	3.33	36	
		3/8 EHS	A1b	27b	9.24	2.88	31	
		3/8 EHS	A1	T2	9.24	2.38	26	
		3/8 EHS	A1a	T2	9.24	3.56	39	
		3/8 EHS	A1a	T2a	9.24	3.64	39	
		3/8 EHS	A1b	T2a	9.24	2.84	31	
	126.87	3/8 EHS	A1b	T2b	9.24	2.95	32	
		3/8 EHS	A1	T2b	9.24	2.35	25	
		7/16 EHS	A2	T3	12.48	3.26	26	
		7/16 EHS	A2a	T3	12.48	5.64	45	
		7/16 EHS	A2b	T3a	12.48	4.29	34	
		7/16 EHS	A2a	T3a	12.48	5.58	45	
	198.97	7/16 EHS	A2b	T3b	12.48	4.33	35	
		7/16 EHS	A2	T3b	12.48	3.32	27	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Ev + 1.0Eh Normal	271.07	7/16 EHS	A2	T4	12.48	3.49	28	
		7/16 EHS	A2a	T4	12.48	5.89	47	
		7/16 EHS	A2a	T4a	12.48	5.85	47	
		7/16 EHS	A2b	T4a	12.48	4.46	36	
		7/16 EHS	A2b	T4b	12.48	4.64	37	
		7/16 EHS	A2	T4b	12.48	3.57	29	
	331.07	7/16 EHS	A3	T5	12.48	4.8	38	
		7/16 EHS	A3a	T5	12.48	6.66	53	
		7/16 EHS	A3a	T5a	12.48	6.63	53	
		7/16 EHS	A3b	T5a	12.48	5.44	44	
		7/16 EHS	A3b	T5b	12.48	5.6	45	
		7/16 EHS	A3	T5b	12.48	4.88	39	
	67.12	3/8 EHS	A1	27	9.24	1.49	16	
		3/8 EHS	A1a	27a	9.24	1.46	16	
		3/8 EHS	A1b	27b	9.24	1.45	16	
		126.87	3/8 EHS	A1a	T2	9.24	1.36	15
			3/8 EHS	A1	T2	9.24	1.38	15
			3/8 EHS	A1b	T2a	9.24	1.35	15
			3/8 EHS	A1a	T2a	9.24	1.37	15
			3/8 EHS	A1b	T2b	9.24	1.35	15
			3/8 EHS	A1	T2b	9.24	1.38	15
		198.97	7/16 EHS	A2a	T3	12.48	1.86	15
			7/16 EHS	A2	T3	12.48	1.82	15
			7/16 EHS	A2a	T3a	12.48	1.86	15
7/16 EHS	A2b		T3a	12.48	1.86	15		
7/16 EHS	A2		T3b	12.48	1.82	15		
7/16 EHS	A2b		T3b	12.48	1.86	15		
271.07	7/16 EHS	A2	T4	12.48	1.8	14		
	7/16 EHS	A2a	T4	12.48	1.82	15		
	7/16 EHS	A2b	T4a	12.48	1.81	14		
	7/16 EHS	A2a	T4a	12.48	1.81	15		
	7/16 EHS	A2b	T4b	12.48	1.81	15		
	7/16 EHS	A2	T4b	12.48	1.79	14		
331.07	7/16 EHS	A3	T5	12.48	1.91	15		
	7/16 EHS	A3a	T5	12.48	1.92	15		
	7/16 EHS	A3a	T5a	12.48	1.92	15		
	7/16 EHS	A3b	T5a	12.48	1.9	15		
	7/16 EHS	A3b	T5b	12.48	1.9	15		
	7/16 EHS	A3	T5b	12.48	1.91	15		
67.12	3/8 EHS	A1	27	9.24	1.51	16		
	3/8 EHS	A1a	27a	9.24	1.45	16		
	3/8 EHS	A1b	27b	9.24	1.45	16		
	126.87	3/8 EHS	A1	T2	9.24	1.4	15	
		3/8 EHS	A1a	T2	9.24	1.32	14	
		3/8 EHS	A1a	T2a	9.24	1.33	14	
		3/8 EHS	A1b	T2a	9.24	1.36	15	
		3/8 EHS	A1b	T2b	9.24	1.36	15	
		3/8 EHS	A1	T2b	9.24	1.41	15	
	198.97	7/16 EHS	A2	T3	12.48	1.85	15	
		7/16 EHS	A2a	T3	12.48	1.77	14	
		7/16 EHS	A2a	T3a	12.48	1.77	14	
7/16 EHS		A2b	T3a	12.48	1.91	15		
7/16 EHS		A2	T3b	12.48	1.86	15		
7/16 EHS		A2b	T3b	12.48	1.91	15		
271.07	7/16 EHS	A2	T4	12.48	1.82	15		
	7/16 EHS	A2a	T4	12.48	1.75	14		
	7/16 EHS	A2b	T4a	12.48	1.86	15		
	7/16 EHS	A2a	T4a	12.48	1.74	14		
	7/16 EHS	A2b	T4b	12.48	1.85	15		
	7/16 EHS	A2	T4b	12.48	1.82	15		
331.07	7/16 EHS	A3	T5	12.48	1.93	15		
	7/16 EHS	A3a	T5	12.48	1.87	15		
	7/16 EHS	A3a	T5a	12.48	1.87	15		
	7/16 EHS	A3b	T5a	12.48	1.93	15		
	7/16 EHS	A3b	T5b	12.48	1.93	15		
	7/16 EHS	A3	T5b	12.48	1.93	15		
67.12	3/8 EHS	A1	27	9.24	1.51	16		
	3/8 EHS	A1a	27a	9.24	1.44	16		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Ev + 1.0Eh 120°	126.87	3/8 EHS	A1b	27b	9.24	1.45	16	
		3/8 EHS	A1a	T2	9.24	1.3	14	
		3/8 EHS	A1	T2	9.24	1.42	15	
		3/8 EHS	A1a	T2a	9.24	1.31	14	
		3/8 EHS	A1b	T2a	9.24	1.36	15	
		3/8 EHS	A1b	T2b	9.24	1.36	15	
	198.97	3/8 EHS	A1	T2b	9.24	1.43	15	
		7/16 EHS	A2	T3	12.48	1.91	15	
		7/16 EHS	A2a	T3	12.48	1.72	14	
		7/16 EHS	A2a	T3a	12.48	1.73	14	
		7/16 EHS	A2b	T3a	12.48	1.9	15	
		7/16 EHS	A2b	T3b	12.48	1.9	15	
	271.07	7/16 EHS	A2	T3b	12.48	1.91	15	
		7/16 EHS	A2a	T4	12.48	1.71	14	
		7/16 EHS	A2	T4	12.48	1.87	15	
		7/16 EHS	A2b	T4a	12.48	1.85	15	
		7/16 EHS	A2a	T4a	12.48	1.7	14	
		7/16 EHS	A2b	T4b	12.48	1.84	15	
	331.07	7/16 EHS	A2	T4b	12.48	1.86	15	
		7/16 EHS	A3a	T5	12.48	1.84	15	
		7/16 EHS	A3	T5	12.48	1.96	16	
		7/16 EHS	A3a	T5a	12.48	1.84	15	
		7/16 EHS	A3b	T5a	12.48	1.93	15	
		7/16 EHS	A3b	T5b	12.48	1.92	15	
	1.2D + 1.0Ev + 1.0Eh 180°	67.12	3/8 EHS	A3	T5b	12.48	1.96	16
			3/8 EHS	A1	27	9.24	1.52	16
			3/8 EHS	A1a	27a	9.24	1.44	16
			3/8 EHS	A1b	27b	9.24	1.44	16
3/8 EHS			A1a	T2	9.24	1.29	14	
3/8 EHS			A1	T2	9.24	1.45	16	
126.87		3/8 EHS	A1b	T2a	9.24	1.34	15	
		3/8 EHS	A1a	T2a	9.24	1.3	14	
		3/8 EHS	A1	T2b	9.24	1.45	16	
		3/8 EHS	A1b	T2b	9.24	1.34	15	
		7/16 EHS	A2	T3	12.48	1.96	16	
		7/16 EHS	A2a	T3	12.48	1.7	14	
198.97		7/16 EHS	A2b	T3a	12.48	1.86	15	
		7/16 EHS	A2a	T3a	12.48	1.7	14	
		7/16 EHS	A2	T3b	12.48	1.97	16	
		7/16 EHS	A2b	T3b	12.48	1.86	15	
		7/16 EHS	A2	T4	12.48	1.92	15	
		7/16 EHS	A2a	T4	12.48	1.68	13	
271.07		7/16 EHS	A2a	T4a	12.48	1.68	13	
		7/16 EHS	A2b	T4a	12.48	1.82	15	
		7/16 EHS	A2b	T4b	12.48	1.81	14	
		7/16 EHS	A2	T4b	12.48	1.91	15	
		7/16 EHS	A3	T5	12.48	2	16	
		7/16 EHS	A3a	T5	12.48	1.83	15	
331.07		7/16 EHS	A3a	T5a	12.48	1.83	15	
		7/16 EHS	A3b	T5a	12.48	1.9	15	
		7/16 EHS	A3	T5b	12.48	2	16	
		7/16 EHS	A3b	T5b	12.48	1.9	15	
	3/8 EHS	A1	27	9.24	1.53	17		
	3/8 EHS	A1a	27a	9.24	1.45	16		
126.87	3/8 EHS	A1b	27b	9.24	1.43	15		
	3/8 EHS	A1a	T2	9.24	1.31	14		
	3/8 EHS	A1	T2	9.24	1.47	16		
	3/8 EHS	A1b	T2a	9.24	1.29	14		
	3/8 EHS	A1a	T2a	9.24	1.31	14		
	3/8 EHS	A1b	T2b	9.24	1.3	14		
198.97	3/8 EHS	A1	T2b	9.24	1.48	16		
	7/16 EHS	A2	T3	12.48	2.03	16		
	7/16 EHS	A2a	T3	12.48	1.75	14		
	7/16 EHS	A2a	T3a	12.48	1.75	14		
	7/16 EHS	A2b	T3a	12.48	1.74	14		
	7/16 EHS	A2b	T3b	12.48	1.74	14		
271.07	7/16 EHS	A2	T3b	12.48	2.04	16		
	7/16 EHS	A2a	T4	12.48	1.72	14		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%		
1.2D + 1.0Ev + 1.0Eh 210°	331.07	7/16 EHS	A2	T4	12.48	1.98	16		
		7/16 EHS	A2a	T4a	12.48	1.72	14		
		7/16 EHS	A2b	T4a	12.48	1.71	14		
		7/16 EHS	A2	T4b	12.48	1.98	16		
		7/16 EHS	A2b	T4b	12.48	1.7	14		
		7/16 EHS	A3	T5	12.48	2.04	16		
		7/16 EHS	A3a	T5	12.48	1.85	15		
		7/16 EHS	A3b	T5a	12.48	1.83	15		
		7/16 EHS	A3a	T5a	12.48	1.86	15		
		7/16 EHS	A3b	T5b	12.48	1.82	15		
		7/16 EHS	A3	T5b	12.48	2.04	16		
		67.12	3/8 EHS	A1	27	9.24	1.53	17	
	126.87	3/8 EHS	A1a	27a	9.24	1.45	16		
		3/8 EHS	A1b	27b	9.24	1.43	15		
		3/8 EHS	A1	T2	9.24	1.47	16		
		3/8 EHS	A1a	T2	9.24	1.34	14		
		3/8 EHS	A1b	T2a	9.24	1.28	14		
		3/8 EHS	A1a	T2a	9.24	1.34	14		
		3/8 EHS	A1b	T2b	9.24	1.28	14		
		3/8 EHS	A1	T2b	9.24	1.47	16		
		198.97	7/16 EHS	A2a	T3	12.48	1.81	14	
			7/16 EHS	A2	T3	12.48	2.01	16	
			7/16 EHS	A2b	T3a	12.48	1.71	14	
			7/16 EHS	A2a	T3a	12.48	1.81	14	
7/16 EHS	A2		T3b	12.48	2.01	16			
7/16 EHS	A2b		T3b	12.48	1.7	14			
271.07	7/16 EHS		A2	T4	12.48	1.96	16		
	7/16 EHS		A2a	T4	12.48	1.77	14		
	7/16 EHS		A2b	T4a	12.48	1.68	13		
	7/16 EHS		A2a	T4a	12.48	1.78	14		
	7/16 EHS		A2b	T4b	12.48	1.67	13		
	7/16 EHS		A2	T4b	12.48	1.96	16		
	331.07	7/16 EHS	A3	T5	12.48	2.03	16		
		7/16 EHS	A3a	T5	12.48	1.89	15		
		7/16 EHS	A3a	T5a	12.48	1.9	15		
		7/16 EHS	A3b	T5a	12.48	1.8	14		
		7/16 EHS	A3	T5b	12.48	2.03	16		
		7/16 EHS	A3b	T5b	12.48	1.8	14		
1.2D + 1.0Ev + 1.0Eh 240°		67.12	3/8 EHS	A1	27	9.24	1.52	16	
			3/8 EHS	A1a	27a	9.24	1.46	16	
			3/8 EHS	A1b	27b	9.24	1.42	15	
			126.87	3/8 EHS	A1a	T2	9.24	1.36	15
				3/8 EHS	A1	T2	9.24	1.45	16
				3/8 EHS	A1b	T2a	9.24	1.28	14
	3/8 EHS	A1a		T2a	9.24	1.36	15		
	3/8 EHS	A1b		T2b	9.24	1.28	14		
	3/8 EHS	A1		T2b	9.24	1.45	16		
	198.97	7/16 EHS	A2	T3	12.48	1.97	16		
		7/16 EHS	A2a	T3	12.48	1.86	15		
		7/16 EHS	A2b	T3a	12.48	1.7	14		
7/16 EHS		A2a	T3a	12.48	1.87	15			
7/16 EHS		A2b	T3b	12.48	1.7	14			
7/16 EHS		A2	T3b	12.48	1.96	16			
271.07		7/16 EHS	A2	T4	12.48	1.91	15		
		7/16 EHS	A2a	T4	12.48	1.82	15		
		7/16 EHS	A2b	T4a	12.48	1.67	13		
		7/16 EHS	A2a	T4a	12.48	1.83	15		
		7/16 EHS	A2	T4b	12.48	1.92	15		
		7/16 EHS	A2b	T4b	12.48	1.67	13		
	331.07	7/16 EHS	A3	T5	12.48	2	16		
		7/16 EHS	A3a	T5	12.48	1.93	15		
		7/16 EHS	A3b	T5a	12.48	1.8	14		
		7/16 EHS	A3a	T5a	12.48	1.93	15		
		7/16 EHS	A3	T5b	12.48	2	16		
		7/16 EHS	A3b	T5b	12.48	1.8	14		
1.2D + 1.0Ev + 1.0Eh 300°		67.12	3/8 EHS	A1	27	9.24	1.51	16	
			3/8 EHS	A1a	27a	9.24	1.47	16	
			3/8 EHS	A1b	27b	9.24	1.43	16	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.2D + 1.0Ev + 1.0Eh 330°	126.87	3/8 EHS	A1	T2	9.24	1.41	15	
		3/8 EHS	A1a	T2	9.24	1.38	15	
		3/8 EHS	A1b	T2a	9.24	1.31	14	
		3/8 EHS	A1a	T2a	9.24	1.38	15	
		3/8 EHS	A1	T2b	9.24	1.41	15	
		3/8 EHS	A1b	T2b	9.24	1.3	14	
	198.97	7/16 EHS	A2a	T3	12.48	1.92	15	
			A2	T3	12.48	1.86	15	
			A2a	T3a	12.48	1.92	15	
			A2b	T3a	12.48	1.76	14	
			A2	T3b	12.48	1.86	15	
			A2b	T3b	12.48	1.76	14	
	271.07	7/16 EHS	A2a	T4	12.48	1.87	15	
			A2	T4	12.48	1.82	15	
			A2a	T4a	12.48	1.87	15	
			A2b	T4a	12.48	1.73	14	
			A2	T4b	12.48	1.82	15	
			A2b	T4b	12.48	1.73	14	
	331.07	7/16 EHS	A3a	T5	12.48	1.96	16	
			A3	T5	12.48	1.93	15	
			A3a	T5a	12.48	1.96	16	
			A3b	T5a	12.48	1.84	15	
			A3	T5b	12.48	1.93	15	
			A3b	T5b	12.48	1.84	15	
0.9D - 1.0Ev + 1.0Eh Normal	67.12	3/8 EHS	A1	27	9.24	1.5	16	
		3/8 EHS	A1a	27a	9.24	1.47	16	
		3/8 EHS	A1b	27b	9.24	1.44	16	
		126.87	3/8 EHS	A1	T2	9.24	1.39	15
				A1a	T2	9.24	1.37	15
				A1b	T2a	9.24	1.33	14
	A1a			T2a	9.24	1.38	15	
	A1			T2b	9.24	1.39	15	
	A1b			T2b	9.24	1.32	14	
	198.97	7/16 EHS	A2	T3	12.48	1.82	15	
			A2a	T3	12.48	1.9	15	
			A2b	T3a	12.48	1.82	15	
			A2a	T3a	12.48	1.9	15	
			A2	T3b	12.48	1.82	15	
			A2b	T3b	12.48	1.82	15	
	271.07	7/16 EHS	A2	T4	12.48	1.8	14	
			A2a	T4	12.48	1.85	15	
			A2b	T4a	12.48	1.78	14	
			A2a	T4a	12.48	1.85	15	
			A2b	T4b	12.48	1.78	14	
			A2	T4b	12.48	1.8	14	
	331.07	7/16 EHS	A3	T5	12.48	1.91	15	
			A3a	T5	12.48	1.95	16	
			A3a	T5a	12.48	1.95	16	
A3b			T5a	12.48	1.88	15		
A3b			T5b	12.48	1.88	15		
A3			T5b	12.48	1.91	15		
0.9D - 1.0Ev + 1.0Eh Normal	67.12	3/8 EHS	A1	27	9.24	1.5	16	
		3/8 EHS	A1a	27a	9.24	1.47	16	
		3/8 EHS	A1b	27b	9.24	1.46	16	
		126.87	3/8 EHS	A1a	T2	9.24	1.38	15
				A1	T2	9.24	1.41	15
				A1b	T2a	9.24	1.37	15
	A1a			T2a	9.24	1.39	15	
	A1			T2b	9.24	1.41	15	
	A1b			T2b	9.24	1.37	15	
	198.97	7/16 EHS	A2	T3	12.48	1.85	15	
			A2a	T3	12.48	1.89	15	
			A2b	T3a	12.48	1.89	15	
			A2a	T3a	12.48	1.89	15	
			A2b	T3b	12.48	1.89	15	
			A2	T3b	12.48	1.85	15	
	271.07	7/16 EHS	A2	T4	12.48	1.83	15	
			A2a	T4	12.48	1.85	15	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
0.9D - 1.0Ev + 1.0Eh 60°	331.07	7/16 EHS	A2a	T4a	12.48	1.85	15	
		7/16 EHS	A2b	T4a	12.48	1.84	15	
		7/16 EHS	A2b	T4b	12.48	1.85	15	
		7/16 EHS	A2	T4b	12.48	1.83	15	
		7/16 EHS	A3a	T5	12.48	1.95	16	
		7/16 EHS	A3	T5	12.48	1.93	15	
		7/16 EHS	A3b	T5a	12.48	1.93	15	
		7/16 EHS	A3a	T5a	12.48	1.95	16	
		7/16 EHS	A3b	T5b	12.48	1.93	15	
		7/16 EHS	A3	T5b	12.48	1.93	15	
	67.12	3/8 EHS	A1	27	9.24	1.52	16	
		3/8 EHS	A1a	27a	9.24	1.46	16	
		3/8 EHS	A1b	27b	9.24	1.46	16	
		126.87	3/8 EHS	A1	T2	9.24	1.43	15
			3/8 EHS	A1a	T2	9.24	1.34	15
			3/8 EHS	A1a	T2a	9.24	1.35	15
			3/8 EHS	A1b	T2a	9.24	1.39	15
		3/8 EHS	A1b	T2b	9.24	1.38	15	
		3/8 EHS	A1	T2b	9.24	1.43	15	
		198.97	7/16 EHS	A2	T3	12.48	1.89	15
7/16 EHS	A2a		T3	12.48	1.79	14		
7/16 EHS	A2a		T3a	12.48	1.8	14		
7/16 EHS	A2b		T3a	12.48	1.94	16		
7/16 EHS	A2		T3b	12.48	1.89	15		
271.07	7/16 EHS		A2b	T3b	12.48	1.94	16	
	7/16 EHS		A2	T4	12.48	1.86	15	
	7/16 EHS		A2a	T4	12.48	1.78	14	
	7/16 EHS		A2b	T4a	12.48	1.89	15	
	7/16 EHS		A2a	T4a	12.48	1.77	14	
	7/16 EHS	A2	T4b	12.48	1.85	15		
331.07	7/16 EHS	A2b	T4b	12.48	1.89	15		
	7/16 EHS	A3	T5	12.48	1.96	16		
	7/16 EHS	A3a	T5	12.48	1.9	15		
	7/16 EHS	A3a	T5a	12.48	1.89	15		
	7/16 EHS	A3b	T5a	12.48	1.96	16		
	7/16 EHS	A3	T5b	12.48	1.95	16		
	7/16 EHS	A3b	T5b	12.48	1.96	16		
	67.12	3/8 EHS	A1	27	9.24	1.52	17	
		3/8 EHS	A1a	27a	9.24	1.45	16	
		3/8 EHS	A1b	27b	9.24	1.46	16	
126.87		3/8 EHS	A1a	T2	9.24	1.32	14	
		3/8 EHS	A1	T2	9.24	1.45	16	
		3/8 EHS	A1b	T2a	9.24	1.38	15	
		3/8 EHS	A1a	T2a	9.24	1.33	14	
3/8 EHS		A1	T2b	9.24	1.45	16		
3/8 EHS		A1b	T2b	9.24	1.38	15		
198.97		7/16 EHS	A2	T3	12.48	1.94	16	
	7/16 EHS	A2a	T3	12.48	1.75	14		
	7/16 EHS	A2b	T3a	12.48	1.93	15		
	7/16 EHS	A2a	T3a	12.48	1.76	14		
	7/16 EHS	A2	T3b	12.48	1.94	16		
	271.07	7/16 EHS	A2b	T3b	12.48	1.93	15	
		7/16 EHS	A2	T4	12.48	1.9	15	
		7/16 EHS	A2a	T4	12.48	1.74	14	
		7/16 EHS	A2b	T4a	12.48	1.88	15	
		7/16 EHS	A2a	T4a	12.48	1.74	14	
7/16 EHS		A2	T4b	12.48	1.9	15		
331.07	7/16 EHS	A2b	T4b	12.48	1.88	15		
	7/16 EHS	A3	T5	12.48	1.99	16		
	7/16 EHS	A3a	T5	12.48	1.87	15		
	7/16 EHS	A3a	T5a	12.48	1.87	15		
	7/16 EHS	A3b	T5a	12.48	1.95	16		
	7/16 EHS	A3b	T5b	12.48	1.95	16		
	7/16 EHS	A3	T5b	12.48	1.98	16		
	67.12	3/8 EHS	A1	27	9.24	1.53	17	
		3/8 EHS	A1a	27a	9.24	1.45	16	
		3/8 EHS	A1b	27b	9.24	1.45	16	
126.87		3/8 EHS	A1a	T2	9.24	1.32	14	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
0.9D - 1.0Ev + 1.0Eh 180°	198.97	3/8 EHS	A1	T2	9.24	1.47	16
		3/8 EHS	A1a	T2a	9.24	1.32	14
		3/8 EHS	A1b	T2a	9.24	1.36	15
		3/8 EHS	A1	T2b	9.24	1.48	16
		3/8 EHS	A1b	T2b	9.24	1.36	15
		7/16 EHS	A2	T3	12.48	2	16
	271.07	7/16 EHS	A2a	T3	12.48	1.73	14
		7/16 EHS	A2b	T3a	12.48	1.89	15
		7/16 EHS	A2a	T3a	12.48	1.73	14
		7/16 EHS	A2b	T3b	12.48	1.89	15
		7/16 EHS	A2	T3b	12.48	2	16
		7/16 EHS	A2a	T4	12.48	1.72	14
	331.07	7/16 EHS	A2	T4	12.48	1.96	16
		7/16 EHS	A2a	T4a	12.48	1.72	14
		7/16 EHS	A2b	T4a	12.48	1.85	15
		7/16 EHS	A2b	T4b	12.48	1.84	15
		7/16 EHS	A2	T4b	12.48	1.95	16
		7/16 EHS	A3	T5	12.48	2.03	16
	67.12	7/16 EHS	A3a	T5	12.48	1.85	15
		7/16 EHS	A3b	T5a	12.48	1.93	15
		7/16 EHS	A3a	T5a	12.48	1.85	15
		7/16 EHS	A3b	T5b	12.48	1.92	15
		7/16 EHS	A3	T5b	12.48	2.02	16
		3/8 EHS	A1	27	9.24	1.54	17
	126.87	3/8 EHS	A1a	27a	9.24	1.46	16
		3/8 EHS	A1b	27b	9.24	1.44	16
		3/8 EHS	A1a	T2	9.24	1.34	14
		3/8 EHS	A1	T2	9.24	1.5	16
		3/8 EHS	A1b	T2a	9.24	1.32	14
		3/8 EHS	A1a	T2a	9.24	1.34	14
198.97	3/8 EHS	A1	T2b	9.24	1.5	16	
	3/8 EHS	A1b	T2b	9.24	1.32	14	
	7/16 EHS	A2a	T3	12.48	1.78	14	
	7/16 EHS	A2	T3	12.48	2.06	17	
	7/16 EHS	A2a	T3a	12.48	1.78	14	
	7/16 EHS	A2b	T3a	12.48	1.78	14	
271.07	7/16 EHS	A2b	T3b	12.48	1.78	14	
	7/16 EHS	A2	T3b	12.48	2.06	17	
	7/16 EHS	A2	T4	12.48	2.01	16	
	7/16 EHS	A2a	T4	12.48	1.75	14	
	7/16 EHS	A2b	T4a	12.48	1.75	14	
	7/16 EHS	A2a	T4a	12.48	1.76	14	
331.07	7/16 EHS	A2	T4b	12.48	2.01	16	
	7/16 EHS	A2b	T4b	12.48	1.74	14	
	7/16 EHS	A3	T5	12.48	2.06	17	
	7/16 EHS	A3a	T5	12.48	1.88	15	
	7/16 EHS	A3b	T5a	12.48	1.85	15	
	7/16 EHS	A3a	T5a	12.48	1.89	15	
67.12	7/16 EHS	A3	T5b	12.48	2.06	17	
	7/16 EHS	A3b	T5b	12.48	1.85	15	
	3/8 EHS	A1	27	9.24	1.54	17	
	3/8 EHS	A1a	27a	9.24	1.46	16	
	3/8 EHS	A1b	27b	9.24	1.43	16	
	3/8 EHS	A1	T2	9.24	1.49	16	
126.87	3/8 EHS	A1a	T2	9.24	1.36	15	
	3/8 EHS	A1a	T2a	9.24	1.36	15	
	3/8 EHS	A1b	T2a	9.24	1.3	14	
	3/8 EHS	A1	T2b	9.24	1.49	16	
	3/8 EHS	A1b	T2b	9.24	1.3	14	
	7/16 EHS	A2	T3	12.48	2.05	16	
198.97	7/16 EHS	A2a	T3	12.48	1.84	15	
	7/16 EHS	A2b	T3a	12.48	1.74	14	
	7/16 EHS	A2a	T3a	12.48	1.84	15	
	7/16 EHS	A2	T3b	12.48	2.04	16	
	7/16 EHS	A2b	T3b	12.48	1.73	14	
	7/16 EHS	A2a	T4	12.48	1.8	14	
271.07	7/16 EHS	A2	T4	12.48	1.99	16	
	7/16 EHS	A2b	T4a	12.48	1.71	14	

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
0.9D - 1.0Ev + 1.0Eh 240°	331.07	7/16 EHS	A2a	T4a	12.48	1.81	15	
		7/16 EHS	A2b	T4b	12.48	1.71	14	
		7/16 EHS	A2	T4b	12.48	2	16	
		7/16 EHS	A3a	T5	12.48	1.92	15	
		7/16 EHS	A3	T5	12.48	2.05	16	
		7/16 EHS	A3a	T5a	12.48	1.92	15	
		7/16 EHS	A3b	T5a	12.48	1.83	15	
		7/16 EHS	A3b	T5b	12.48	1.82	15	
		7/16 EHS	A3	T5b	12.48	2.05	16	
	67.12	3/8 EHS	A1	27	9.24	1.53	17	
		3/8 EHS	A1a	27a	9.24	1.47	16	
		3/8 EHS	A1b	27b	9.24	1.43	16	
		126.87	3/8 EHS	A1a	T2	9.24	1.38	15
			3/8 EHS	A1	T2	9.24	1.47	16
			3/8 EHS	A1b	T2a	9.24	1.3	14
			3/8 EHS	A1a	T2a	9.24	1.38	15
			3/8 EHS	A1b	T2b	9.24	1.3	14
			3/8 EHS	A1	T2b	9.24	1.47	16
198.97	7/16 EHS	A2a	T3	12.48	1.89	15		
	7/16 EHS	A2	T3	12.48	2	16		
	7/16 EHS	A2a	T3a	12.48	1.9	15		
	7/16 EHS	A2b	T3a	12.48	1.73	14		
	7/16 EHS	A2	T3b	12.48	2	16		
	7/16 EHS	A2b	T3b	12.48	1.73	14		
	271.07	7/16 EHS	A2	T4	12.48	1.95	16	
		7/16 EHS	A2a	T4	12.48	1.85	15	
		7/16 EHS	A2b	T4a	12.48	1.71	14	
7/16 EHS		A2a	T4a	12.48	1.86	15		
7/16 EHS		A2b	T4b	12.48	1.7	14		
7/16 EHS		A2	T4b	12.48	1.95	16		
0.9D - 1.0Ev + 1.0Eh 300°	331.07	7/16 EHS	A3	T5	12.48	2.02	16	
		7/16 EHS	A3a	T5	12.48	1.95	16	
		7/16 EHS	A3a	T5a	12.48	1.96	16	
		7/16 EHS	A3b	T5a	12.48	1.82	15	
		7/16 EHS	A3b	T5b	12.48	1.82	15	
		7/16 EHS	A3	T5b	12.48	2.02	16	
		67.12	3/8 EHS	A1	27	9.24	1.52	16
			3/8 EHS	A1a	27a	9.24	1.48	16
			3/8 EHS	A1b	27b	9.24	1.44	16
	126.87		3/8 EHS	A1	T2	9.24	1.43	15
			3/8 EHS	A1a	T2	9.24	1.4	15
			3/8 EHS	A1b	T2a	9.24	1.33	14
			3/8 EHS	A1a	T2a	9.24	1.41	15
			3/8 EHS	A1b	T2b	9.24	1.32	14
			3/8 EHS	A1	T2b	9.24	1.43	15
	198.97	7/16 EHS	A2a	T3	12.48	1.95	16	
		7/16 EHS	A2	T3	12.48	1.89	15	
		7/16 EHS	A2a	T3a	12.48	1.95	16	
7/16 EHS		A2b	T3a	12.48	1.79	14		
7/16 EHS		A2	T3b	12.48	1.89	15		
7/16 EHS		A2b	T3b	12.48	1.79	14		
271.07		7/16 EHS	A2	T4	12.48	1.86	15	
		7/16 EHS	A2a	T4	12.48	1.9	15	
		7/16 EHS	A2b	T4a	12.48	1.76	14	
	7/16 EHS	A2a	T4a	12.48	1.9	15		
	7/16 EHS	A2	T4b	12.48	1.86	15		
	7/16 EHS	A2b	T4b	12.48	1.76	14		
0.9D - 1.0Ev + 1.0Eh 330°	331.07	7/16 EHS	A3	T5	12.48	1.95	16	
		7/16 EHS	A3a	T5	12.48	1.99	16	
		7/16 EHS	A3b	T5a	12.48	1.86	15	
		7/16 EHS	A3a	T5a	12.48	1.99	16	
		7/16 EHS	A3b	T5b	12.48	1.86	15	
		7/16 EHS	A3	T5b	12.48	1.96	16	
		67.12	3/8 EHS	A1	27	9.24	1.51	16
			3/8 EHS	A1a	27a	9.24	1.47	16
			3/8 EHS	A1b	27b	9.24	1.45	16
	126.87		3/8 EHS	A1	T2	9.24	1.41	15
			3/8 EHS	A1a	T2	9.24	1.39	15

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.0D + 1.0W Service Normal	198.97	3/8 EHS	A1b	T2a	9.24	1.35	15	
		3/8 EHS	A1a	T2a	9.24	1.4	15	
		3/8 EHS	A1	T2b	9.24	1.41	15	
		3/8 EHS	A1b	T2b	9.24	1.35	15	
		7/16 EHS	A2	T3	12.48	1.85	15	
		7/16 EHS	A2a	T3	12.48	1.93	15	
		7/16 EHS	A2b	T3a	12.48	1.85	15	
		7/16 EHS	A2a	T3a	12.48	1.93	15	
	271.07	7/16 EHS	A2b	T3b	12.48	1.84	15	
		7/16 EHS	A2	T3b	12.48	1.85	15	
		7/16 EHS	A2	T4	12.48	1.83	15	
		7/16 EHS	A2a	T4	12.48	1.88	15	
		7/16 EHS	A2b	T4a	12.48	1.81	14	
		7/16 EHS	A2a	T4a	12.48	1.88	15	
		7/16 EHS	A2b	T4b	12.48	1.81	15	
		7/16 EHS	A2	T4b	12.48	1.83	15	
	331.07	7/16 EHS	A3a	T5	12.48	1.97	16	
		7/16 EHS	A3	T5	12.48	1.93	16	
		7/16 EHS	A3a	T5a	12.48	1.97	16	
		7/16 EHS	A3b	T5a	12.48	1.9	15	
		7/16 EHS	A3	T5b	12.48	1.93	16	
		7/16 EHS	A3b	T5b	12.48	1.9	15	
		67.12	3/8 EHS	A1	27	9.24	1.2	13
			3/8 EHS	A1a	27a	9.24	1.67	18
	3/8 EHS		A1b	27b	9.24	1.65	18	
	126.87		3/8 EHS	A1	T2	9.24	0.98	11
			3/8 EHS	A1a	T2	9.24	1.65	18
			3/8 EHS	A1a	T2a	9.24	1.66	18
3/8 EHS			A1b	T2a	9.24	1.64	18	
3/8 EHS			A1b	T2b	9.24	1.64	18	
3/8 EHS			A1	T2b	9.24	0.98	11	
198.97	7/16 EHS		A2	T3	12.48	1.08	9	
	7/16 EHS		A2a	T3	12.48	2.4	19	
	7/16 EHS		A2b	T3a	12.48	2.38	19	
	7/16 EHS	A2a	T3a	12.48	2.4	19		
	7/16 EHS	A2	T3b	12.48	1.08	9		
	7/16 EHS	A2b	T3b	12.48	2.39	19		
	271.07	7/16 EHS	A2a	T4	12.48	2.38	19	
		7/16 EHS	A2	T4	12.48	1.27	10	
7/16 EHS		A2b	T4a	12.48	2.29	18		
7/16 EHS		A2a	T4a	12.48	2.3	18		
7/16 EHS		A2b	T4b	12.48	2.36	19		
7/16 EHS		A2	T4b	12.48	1.28	10		
331.07	7/16 EHS	A3a	T5	12.48	2.45	20		
	7/16 EHS	A3	T5	12.48	1.74	14		
	7/16 EHS	A3b	T5a	12.48	2.36	19		
	7/16 EHS	A3a	T5a	12.48	2.39	19		
	7/16 EHS	A3b	T5b	12.48	2.41	19		
	7/16 EHS	A3	T5b	12.48	1.75	14		
	67.12	3/8 EHS	A1	27	9.24	1.38	15	
		3/8 EHS	A1a	27a	9.24	1.32	14	
3/8 EHS		A1b	27b	9.24	1.79	19		
126.87		3/8 EHS	A1a	T2	9.24	1.17	13	
		3/8 EHS	A1	T2	9.24	1.25	14	
		3/8 EHS	A1b	T2a	9.24	1.88	20	
		3/8 EHS	A1a	T2a	9.24	1.17	13	
		3/8 EHS	A1b	T2b	9.24	1.87	20	
		3/8 EHS	A1	T2b	9.24	1.25	14	
198.97		7/16 EHS	A2a	T3	12.48	1.54	12	
		7/16 EHS	A2	T3	12.48	1.64	13	
		7/16 EHS	A2b	T3a	12.48	2.89	23	
	7/16 EHS	A2a	T3a	12.48	1.52	12		
	7/16 EHS	A2b	T3b	12.48	2.89	23		
	7/16 EHS	A2	T3b	12.48	1.61	13		
	271.07	7/16 EHS	A2a	T4	12.48	1.71	14	
		7/16 EHS	A2	T4	12.48	1.81	15	
7/16 EHS		A2a	T4a	12.48	1.62	13		
7/16 EHS		A2b	T4a	12.48	2.75	22		
1.0D + 1.0W Service 60°		67.12	3/8 EHS	A1	27	9.24	1.38	15
			3/8 EHS	A1a	27a	9.24	1.32	14
	3/8 EHS		A1b	27b	9.24	1.79	19	
	3/8 EHS		A1a	T2	9.24	1.17	13	
	126.87	3/8 EHS	A1	T2	9.24	1.25	14	
		3/8 EHS	A1b	T2a	9.24	1.88	20	
		3/8 EHS	A1a	T2a	9.24	1.17	13	
		3/8 EHS	A1b	T2b	9.24	1.87	20	
198.97	3/8 EHS	A1	T2b	9.24	1.25	14		
	7/16 EHS	A2a	T3	12.48	1.54	12		
	7/16 EHS	A2	T3	12.48	1.64	13		
	7/16 EHS	A2b	T3a	12.48	2.89	23		
	7/16 EHS	A2a	T3a	12.48	1.52	12		
	7/16 EHS	A2b	T3b	12.48	2.89	23		
	7/16 EHS	A2	T3b	12.48	1.61	13		
	7/16 EHS	A2	T4	12.48	1.71	14		
271.07	7/16 EHS	A2a	T4	12.48	1.81	15		
	7/16 EHS	A2a	T4a	12.48	1.62	13		
	7/16 EHS	A2b	T4a	12.48	2.75	22		
	7/16 EHS	A2b	T4a	12.48	2.75	22		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%			
1.0D + 1.0W Service 90°	331.07	7/16 EHS	A2	T4b	12.48	1.72	14			
		7/16 EHS	A2b	T4b	12.48	2.75	22			
		7/16 EHS	A3	T5	12.48	2.09	17			
		7/16 EHS	A3a	T5	12.48	2.01	16			
		7/16 EHS	A3b	T5a	12.48	2.62	21			
		7/16 EHS	A3a	T5a	12.48	1.93	15			
	67.12	126.87	7/16 EHS	A3	T5b	12.48	2.02	16		
			7/16 EHS	A3b	T5b	12.48	2.62	21		
			3/8 EHS	A1	27	9.24	1.55	17		
		198.97	271.07	3/8 EHS	A1a	27a	9.24	1.19	13	
				3/8 EHS	A1b	27b	9.24	1.74	19	
				3/8 EHS	A1a	T2	9.24	0.96	10	
			331.07	67.12	3/8 EHS	A1	T2	9.24	1.49	16
					3/8 EHS	A1b	T2a	9.24	1.79	19
					3/8 EHS	A1a	T2a	9.24	0.97	10
		271.07		126.87	3/8 EHS	A1b	T2b	9.24	1.8	19
					3/8 EHS	A1	T2b	9.24	1.49	16
					7/16 EHS	A2a	T3	12.48	1.15	9
			331.07	67.12	7/16 EHS	A2	T3	12.48	2.08	17
					7/16 EHS	A2a	T3a	12.48	1.14	9
					7/16 EHS	A2b	T3a	12.48	2.71	22
67.12	126.87	7/16 EHS		A2	T3b	12.48	2.06	16		
		7/16 EHS		A2b	T3b	12.48	2.72	22		
		7/16 EHS		A2	T4	12.48	2.16	17		
	198.97	271.07	7/16 EHS	A2a	T4	12.48	1.36	11		
			7/16 EHS	A2b	T4a	12.48	2.62	21		
			7/16 EHS	A2a	T4a	12.48	1.31	11		
67.12		126.87	7/16 EHS	A2b	T4b	12.48	2.58	21		
			7/16 EHS	A2	T4b	12.48	2.06	16		
			7/16 EHS	A3	T5	12.48	2.34	19		
	198.97	271.07	7/16 EHS	A3a	T5	12.48	1.78	14		
			7/16 EHS	A3a	T5a	12.48	1.74	14		
			7/16 EHS	A3b	T5a	12.48	2.56	20		
67.12		126.87	7/16 EHS	A3b	T5b	12.48	2.53	20		
			7/16 EHS	A3	T5b	12.48	2.26	18		
			3/8 EHS	A1	27	9.24	1.72	19		
	198.97	271.07	3/8 EHS	A1a	27a	9.24	1.14	12		
			3/8 EHS	A1b	27b	9.24	1.63	18		
			3/8 EHS	A1a	T2	9.24	0.87	9		
67.12		126.87	3/8 EHS	A1	T2	9.24	1.74	19		
			3/8 EHS	A1b	T2a	9.24	1.61	17		
			3/8 EHS	A1a	T2a	9.24	0.87	9		
	198.97	271.07	3/8 EHS	A1b	T2b	9.24	1.61	17		
			3/8 EHS	A1	T2b	9.24	1.74	19		
			7/16 EHS	A2	T3	12.48	2.5	20		
67.12		126.87	7/16 EHS	A2a	T3	12.48	0.99	8		
			7/16 EHS	A2b	T3a	12.48	2.36	19		
			7/16 EHS	A2a	T3a	12.48	0.99	8		
	198.97	271.07	7/16 EHS	A2b	T3b	12.48	2.34	19		
			7/16 EHS	A2	T3b	12.48	2.5	20		
			7/16 EHS	A2a	T4	12.48	1.15	9		
67.12		126.87	7/16 EHS	A2	T4	12.48	2.48	20		
			7/16 EHS	A2a	T4a	12.48	1.16	9		
			7/16 EHS	A2b	T4a	12.48	2.34	19		
	198.97	271.07	7/16 EHS	A2b	T4b	12.48	2.26	18		
			7/16 EHS	A2	T4b	12.48	2.4	19		
			7/16 EHS	A3a	T5	12.48	1.67	13		
67.12		126.87	7/16 EHS	A3	T5	12.48	2.55	20		
			7/16 EHS	A3b	T5a	12.48	2.41	19		
			7/16 EHS	A3a	T5a	12.48	1.68	13		
	198.97	271.07	7/16 EHS	A3	T5b	12.48	2.49	20		
			7/16 EHS	A3b	T5b	12.48	2.35	19		
			3/8 EHS	A1	27	9.24	1.87	20		
67.12		126.87	3/8 EHS	A1a	27a	9.24	1.3	14		
			3/8 EHS	A1b	27b	9.24	1.29	14		
			3/8 EHS	A1	T2	9.24	1.99	22		
	198.97	271.07	3/8 EHS	A1a	T2	9.24	1.11	12		
			3/8 EHS	A1a	T2a	9.24	1.13	12		

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%		
1.0D + 1.0W Service 210°	198.97	3/8 EHS	A1b	T2a	9.24	1.11	12		
		3/8 EHS	A1b	T2b	9.24	1.1	12		
		3/8 EHS	A1	T2b	9.24	1.99	22		
		7/16 EHS	A2	T3	12.48	3.03	24		
		7/16 EHS	A2a	T3	12.48	1.46	12		
		7/16 EHS	A2a	T3a	12.48	1.49	12		
		7/16 EHS	A2b	T3a	12.48	1.48	12		
		7/16 EHS	A2b	T3b	12.48	1.46	12		
	271.07	7/16 EHS	A2	T3b	12.48	3.03	24		
		7/16 EHS	A2a	T4	12.48	1.58	13		
		7/16 EHS	A2	T4	12.48	2.9	23		
		7/16 EHS	A2b	T4a	12.48	1.65	13		
		7/16 EHS	A2a	T4a	12.48	1.67	13		
		7/16 EHS	A2b	T4b	12.48	1.57	13		
		7/16 EHS	A2	T4b	12.48	2.89	23		
		7/16 EHS	A3	T5	12.48	2.78	22		
	331.07	7/16 EHS	A3a	T5	12.48	1.91	15		
		7/16 EHS	A3a	T5a	12.48	2	16		
		7/16 EHS	A3b	T5a	12.48	1.96	16		
		7/16 EHS	A3b	T5b	12.48	1.88	15		
		7/16 EHS	A3	T5b	12.48	2.77	22		
		67.12	3/8 EHS	A1	27	9.24	1.83	20	
			3/8 EHS	A1a	27a	9.24	1.47	16	
			3/8 EHS	A1b	27b	9.24	1.16	13	
			126.87	3/8 EHS	A1	T2	9.24	1.93	21
				3/8 EHS	A1a	T2	9.24	1.36	15
				3/8 EHS	A1b	T2a	9.24	0.92	10
				3/8 EHS	A1a	T2a	9.24	1.37	15
198.97	3/8 EHS		A1b	T2b	9.24	0.92	10		
	3/8 EHS		A1	T2b	9.24	1.92	21		
	7/16 EHS		A2	T3	12.48	2.88	23		
	7/16 EHS		A2a	T3	12.48	1.9	15		
	7/16 EHS		A2a	T3a	12.48	1.93	15		
	7/16 EHS	A2b	T3a	12.48	1.11	9			
	7/16 EHS	A2	T3b	12.48	2.87	23			
	7/16 EHS	A2b	T3b	12.48	1.1	9			
271.07	7/16 EHS	A2	T4	12.48	2.74	22			
	7/16 EHS	A2a	T4	12.48	1.91	15			
	7/16 EHS	A2a	T4a	12.48	2.02	16			
	7/16 EHS	A2b	T4a	12.48	1.31	11			
	7/16 EHS	A2	T4b	12.48	2.78	22			
	7/16 EHS	A2b	T4b	12.48	1.26	10			
	331.07	7/16 EHS	A3	T5	12.48	2.69	22		
		7/16 EHS	A3a	T5	12.48	2.14	17		
7/16 EHS		A3a	T5a	12.48	2.23	18			
7/16 EHS		A3b	T5a	12.48	1.75	14			
7/16 EHS		A3b	T5b	12.48	1.71	14			
7/16 EHS		A3	T5b	12.48	2.71	22			
67.12		3/8 EHS	A1	27	9.24	1.72	19		
		3/8 EHS	A1a	27a	9.24	1.64	18		
	3/8 EHS	A1b	27b	9.24	1.12	12			
	126.87	3/8 EHS	A1	T2	9.24	1.74	19		
		3/8 EHS	A1a	T2	9.24	1.62	18		
		3/8 EHS	A1a	T2a	9.24	1.62	18		
		3/8 EHS	A1b	T2a	9.24	0.86	9		
	198.97	3/8 EHS	A1b	T2b	9.24	0.85	9		
		3/8 EHS	A1	T2b	9.24	1.73	19		
		7/16 EHS	A2	T3	12.48	2.49	20		
		7/16 EHS	A2a	T3	12.48	2.35	19		
		7/16 EHS	A2a	T3a	12.48	2.37	19		
7/16 EHS		A2b	T3a	12.48	0.99	8			
7/16 EHS		A2	T3b	12.48	2.5	20			
7/16 EHS		A2b	T3b	12.48	0.98	8			
271.07	7/16 EHS	A2	T4	12.48	2.4	19			
	7/16 EHS	A2a	T4	12.48	2.27	18			
	7/16 EHS	A2b	T4a	12.48	1.14	9			
	7/16 EHS	A2a	T4a	12.48	2.36	19			
	7/16 EHS	A2	T4b	12.48	2.48	20			

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%	
1.0D + 1.0W Service 300°	331.07	7/16 EHS	A2b	T4b	12.48	1.13	9	
		7/16 EHS	A3	T5	12.48	2.49	20	
		7/16 EHS	A3a	T5	12.48	2.39	19	
		7/16 EHS	A3b	T5a	12.48	1.65	13	
		7/16 EHS	A3a	T5a	12.48	2.45	20	
		7/16 EHS	A3b	T5b	12.48	1.65	13	
	67.12	7/16 EHS	A3	T5b	12.48	2.55	20	
		3/8 EHS	A1	T27	9.24	1.37	15	
		3/8 EHS	A1a	T27a	9.24	1.8	20	
		3/8 EHS	A1b	T27b	9.24	1.3	14	
		126.87	3/8 EHS	A1	T2	9.24	1.24	13
			3/8 EHS	A1a	T2	9.24	1.89	20
	3/8 EHS		A1b	T2a	9.24	1.14	12	
	3/8 EHS		A1a	T2a	9.24	1.89	20	
	3/8 EHS		A1	T2b	9.24	1.25	13	
	3/8 EHS		A1b	T2b	9.24	1.15	12	
	198.97	7/16 EHS	A2a	T3	12.48	2.9	23	
		7/16 EHS	A2	T3	12.48	1.61	13	
7/16 EHS		A2b	T3a	12.48	1.51	12		
7/16 EHS		A2a	T3a	12.48	2.9	23		
7/16 EHS		A2	T3b	12.48	1.63	13		
7/16 EHS		A2b	T3b	12.48	1.53	12		
271.07	7/16 EHS	A2	T4	12.48	1.72	14		
	7/16 EHS	A2a	T4	12.48	2.77	22		
	7/16 EHS	A2b	T4a	12.48	1.6	13		
	7/16 EHS	A2a	T4a	12.48	2.77	22		
	7/16 EHS	A2	T4b	12.48	1.81	15		
	7/16 EHS	A2b	T4b	12.48	1.69	14		
331.07	7/16 EHS	A3	T5	12.48	2.01	16		
	7/16 EHS	A3a	T5	12.48	2.66	21		
	7/16 EHS	A3b	T5a	12.48	1.9	15		
	7/16 EHS	A3a	T5a	12.48	2.66	21		
	7/16 EHS	A3b	T5b	12.48	1.97	16		
	7/16 EHS	A3	T5b	12.48	2.09	17		
1.0D + 1.0W Service 330°	67.12	3/8 EHS	A1	T27	9.24	1.25	13	
		3/8 EHS	A1a	T27a	9.24	1.77	19	
		3/8 EHS	A1b	T27b	9.24	1.48	16	
		126.87	3/8 EHS	A1a	T2	9.24	1.83	20
			3/8 EHS	A1	T2	9.24	1.05	11
			3/8 EHS	A1b	T2a	9.24	1.39	15
	3/8 EHS		A1a	T2a	9.24	1.84	20	
	3/8 EHS		A1b	T2b	9.24	1.39	15	
	3/8 EHS		A1	T2b	9.24	1.05	11	
	198.97	7/16 EHS	A2a	T3	12.48	2.75	22	
		7/16 EHS	A2	T3	12.48	1.23	10	
		7/16 EHS	A2b	T3a	12.48	1.95	16	
		7/16 EHS	A2a	T3a	12.48	2.77	22	
		7/16 EHS	A2b	T3b	12.48	1.97	16	
		7/16 EHS	A2	T3b	12.48	1.24	10	
	271.07	7/16 EHS	A2	T4	12.48	1.42	11	
		7/16 EHS	A2a	T4	12.48	2.67	21	
		7/16 EHS	A2b	T4a	12.48	1.94	16	
7/16 EHS		A2a	T4a	12.48	2.62	21		
7/16 EHS		A2b	T4b	12.48	2.04	16		
7/16 EHS		A2	T4b	12.48	1.47	12		
331.07	7/16 EHS	A3a	T5	12.48	2.61	21		
	7/16 EHS	A3	T5	12.48	1.82	15		
	7/16 EHS	A3b	T5a	12.48	2.13	17		
	7/16 EHS	A3a	T5a	12.48	2.58	21		
	7/16 EHS	A3b	T5b	12.48	2.21	18		
	7/16 EHS	A3	T5b	12.48	1.86	15		

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension	Applied Tension	Use (%)
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					(kip)	(kip)	
1.2D + 1.0Di + 1.0Wi 180°	67.12	3/8 EHS	A1	T2	9.24	3.57	39
1.2D + 1.0W 180°	126.87	3/8 EHS	A1	T2	9.24	4.14	45
1.2D + 1.0W 180°	198.97	7/16 EHS	A2	T3	12.48	7.71	62
1.2D + 1.0W 180°	271.07	7/16 EHS	A2	T4	12.48	7.10	57
1.2D + 1.0Di + 1.0Wi 180°	331.07	7/16 EHS	A3	T5	12.48	7.16	57

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression %	Tension %
1.2D + 1.0W Normal	67.30	PL 3 x 0.375	Horiz	0	6
1.2D + 1.0Di + 1.0Wi 210°	126.80	3X3X0.25	Lower Kicker	24	0
1.2D + 1.0W 60°	126.80	3X3X0.25	Torque Arm	0	10
1.2D + 1.0W 90°	197.80	3X3X0.25	Torque Arm	0	21
1.2D + 1.0W 210°	197.80	3X3X0.25	Lower Kicker	43	0
1.2D + 1.0W 300°	271.80	3X3X0.25	Torque Arm	0	16
1.2D + 1.0W 210°	271.80	3X3X0.25	Lower Kicker	32	0
1.2D + 1.0Di + 1.0Wi 180°	331.80	3X3X0.25	Lower Kicker	30	0
1.2D + 1.0Di + 1.0Wi 60°	331.80	3X3X0.25	Torque Arm	0	13

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 117 mph wind with no ice	71.07	0.1663	-0.1527	0.2720	0.308
1.2D + 1.0W Normal 117 mph wind with no ice	127.00	0.4129	-0.0118	0.4911	0.4912
1.2D + 1.0W Normal 117 mph wind with no ice	171.07	0.8651	0.1182	0.5007	0.5145
1.2D + 1.0W Normal 117 mph wind with no ice	182.92	0.9519	0.0629	0.4122	0.4169
1.2D + 1.0W Normal 117 mph wind with no ice	198.97	1.0502	0.0117	0.3866	0.3867
1.2D + 1.0W Normal 117 mph wind with no ice	202.92	1.0776	-0.0022	0.4030	0.4031
1.2D + 1.0W Normal 117 mph wind with no ice	222.92	1.1999	-0.0131	0.2299	0.2303
1.2D + 1.0W Normal 117 mph wind with no ice	251.07	1.2048	-0.0257	0.2007	0.2017
1.2D + 1.0W Normal 117 mph wind with no ice	271.07	1.0982	-0.0334	0.3434	0.345
1.2D + 1.0W Normal 117 mph wind with no ice	282.92	1.0263	-0.0394	0.3730	0.3751
1.2D + 1.0W Normal 117 mph wind with no ice	295.02	0.9402	-0.0447	0.4535	0.4555
1.2D + 1.0W Normal 117 mph wind with no ice	302.92	0.8733	-0.0472	0.5191	0.5212
1.2D + 1.0W Normal 117 mph wind with no ice	306.87	0.8361	-0.0443	0.5612	0.5629
1.2D + 1.0W Normal 117 mph wind with no ice	331.07	0.569	-0.0368	0.6536	0.6546
1.2D + 1.0W 60° 117 mph wind with no ice	71.07	0.1753	0.0995	0.2226	0.2434
1.2D + 1.0W 60° 117 mph wind with no ice	127.00	0.3251	0.0132	0.3253	0.3256
1.2D + 1.0W 60° 117 mph wind with no ice	171.07	0.6209	0.0269	0.2890	0.2903
1.2D + 1.0W 60° 117 mph wind with no ice	182.92	0.6771	0.0206	0.2314	0.2322
1.2D + 1.0W 60° 117 mph wind with no ice	198.97	0.7436	0.0270	0.3135	0.3142
1.2D + 1.0W 60° 117 mph wind with no ice	202.92	0.7675	0.0168	0.3526	0.353
1.2D + 1.0W 60° 117 mph wind with no ice	222.92	0.8952	-0.0010	0.2833	0.2833
1.2D + 1.0W 60° 117 mph wind with no ice	251.07	0.9502	-0.0144	0.0220	0.0255
1.2D + 1.0W 60° 117 mph wind with no ice	271.07	0.923	-0.0240	0.0631	0.0676
1.2D + 1.0W 60° 117 mph wind with no ice	282.92	0.9153	-0.0270	0.0348	0.044
1.2D + 1.0W 60° 117 mph wind with no ice	295.02	0.9064	-0.0314	0.0630	0.0697
1.2D + 1.0W 60° 117 mph wind with no ice	302.92	0.8951	-0.0331	0.1032	0.1084
1.2D + 1.0W 60° 117 mph wind with no ice	306.87	0.8871	-0.0299	0.1311	0.1345
1.2D + 1.0W 60° 117 mph wind with no ice	331.07	0.8091	-0.0169	0.1981	0.1988
1.2D + 1.0W 90° 117 mph wind with no ice	71.07	0.1801	0.2712	0.2850	0.3932
1.2D + 1.0W 90° 117 mph wind with no ice	127.00	0.3878	0.0430	0.4316	0.4334
1.2D + 1.0W 90° 117 mph wind with no ice	171.07	0.7796	0.2682	0.4189	0.4974
1.2D + 1.0W 90° 117 mph wind with no ice	182.92	0.8624	0.1139	0.3433	0.3617
1.2D + 1.0W 90° 117 mph wind with no ice	198.97	0.9447	0.0657	0.3468	0.3518
1.2D + 1.0W 90° 117 mph wind with no ice	202.92	0.9711	0.0621	0.3798	0.384
1.2D + 1.0W 90° 117 mph wind with no ice	222.92	1.0905	0.1020	0.2749	0.2924
1.2D + 1.0W 90° 117 mph wind with no ice	251.07	1.1026	0.1657	0.1881	0.2499
1.2D + 1.0W 90° 117 mph wind with no ice	271.07	1.019	0.1741	0.2954	0.3407
1.2D + 1.0W 90° 117 mph wind with no ice	282.92	0.9627	0.1697	0.3151	0.3578
1.2D + 1.0W 90° 117 mph wind with no ice	295.02	0.9151	0.1750	0.3714	0.4098
1.2D + 1.0W 90° 117 mph wind with no ice	302.92	0.8645	0.1778	0.4201	0.4562
1.2D + 1.0W 90° 117 mph wind with no ice	306.87	0.8493	0.1830	0.4542	0.4894
1.2D + 1.0W 90° 117 mph wind with no ice	331.07	0.6834	0.2041	0.5304	0.5679

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 120° 117 mph wind with no ice	71.07	0.188	-0.1034	0.2894	0.3073
1.2D + 1.0W 120° 117 mph wind with no ice	127.00	0.4622	0.0161	0.5174	0.5176
1.2D + 1.0W 120° 117 mph wind with no ice	171.07	0.9458	-0.2322	0.4870	0.5395
1.2D + 1.0W 120° 117 mph wind with no ice	182.92	1.0314	-0.0690	0.4234	0.429
1.2D + 1.0W 120° 117 mph wind with no ice	198.97	1.1298	0.0123	0.3839	0.384
1.2D + 1.0W 120° 117 mph wind with no ice	202.92	1.157	0.0041	0.3979	0.3979
1.2D + 1.0W 120° 117 mph wind with no ice	222.92	1.2755	0.0147	0.2126	0.2131
1.2D + 1.0W 120° 117 mph wind with no ice	251.07	1.2671	0.0251	0.2383	0.2391
1.2D + 1.0W 120° 117 mph wind with no ice	271.07	1.1448	0.0311	0.3935	0.3947
1.2D + 1.0W 120° 117 mph wind with no ice	282.92	1.0612	0.0271	0.4299	0.4307
1.2D + 1.0W 120° 117 mph wind with no ice	295.02	0.9636	0.0277	0.5131	0.5138
1.2D + 1.0W 120° 117 mph wind with no ice	302.92	0.8875	0.0269	0.5821	0.5827
1.2D + 1.0W 120° 117 mph wind with no ice	306.87	0.8469	0.0268	0.6261	0.6266
1.2D + 1.0W 120° 117 mph wind with no ice	331.07	0.5507	0.0314	0.7279	0.7285
1.2D + 1.0W 180° 117 mph wind with no ice	71.07	0.2115	-0.0330	0.2821	0.284
1.2D + 1.0W 180° 117 mph wind with no ice	127.00	0.4202	-0.0466	0.3879	0.3899
1.2D + 1.0W 180° 117 mph wind with no ice	171.07	0.7576	0.0007	0.3319	0.3319
1.2D + 1.0W 180° 117 mph wind with no ice	182.92	0.8219	0.0042	0.2686	0.2686
1.2D + 1.0W 180° 117 mph wind with no ice	198.97	0.8975	0.0175	0.3441	0.3441
1.2D + 1.0W 180° 117 mph wind with no ice	202.92	0.9233	0.0093	0.3849	0.3849
1.2D + 1.0W 180° 117 mph wind with no ice	222.92	1.0633	0.0216	0.3143	0.315
1.2D + 1.0W 180° 117 mph wind with no ice	251.07	1.1296	0.0370	0.0107	0.0381
1.2D + 1.0W 180° 117 mph wind with no ice	271.07	1.1033	0.0470	0.0663	0.0813
1.2D + 1.0W 180° 117 mph wind with no ice	282.92	1.0947	0.0507	0.0407	0.065
1.2D + 1.0W 180° 117 mph wind with no ice	295.02	1.0843	0.0561	0.0738	0.0919
1.2D + 1.0W 180° 117 mph wind with no ice	302.92	1.0713	0.0586	0.1187	0.1324
1.2D + 1.0W 180° 117 mph wind with no ice	306.87	1.0621	0.0558	0.1488	0.1589
1.2D + 1.0W 180° 117 mph wind with no ice	331.07	0.972	0.0441	0.2337	0.2377
1.2D + 1.0W 210° 117 mph wind with no ice	71.07	0.2063	0.1446	0.3226	0.3533
1.2D + 1.0W 210° 117 mph wind with no ice	127.00	0.4634	0.0170	0.4685	0.4686
1.2D + 1.0W 210° 117 mph wind with no ice	171.07	0.8923	0.2520	0.4405	0.5075
1.2D + 1.0W 210° 117 mph wind with no ice	182.92	0.9791	0.1061	0.3753	0.39
1.2D + 1.0W 210° 117 mph wind with no ice	198.97	1.0686	0.0509	0.3719	0.3744
1.2D + 1.0W 210° 117 mph wind with no ice	202.92	1.097	0.0473	0.4052	0.4074
1.2D + 1.0W 210° 117 mph wind with no ice	222.92	1.2266	0.0952	0.2970	0.3111
1.2D + 1.0W 210° 117 mph wind with no ice	251.07	1.247	0.2148	0.2053	0.2964
1.2D + 1.0W 210° 117 mph wind with no ice	271.07	1.1613	0.2248	0.3234	0.3926
1.2D + 1.0W 210° 117 mph wind with no ice	282.92	1.1107	0.2356	0.3467	0.4192
1.2D + 1.0W 210° 117 mph wind with no ice	295.02	1.0535	0.2484	0.4121	0.4802
1.2D + 1.0W 210° 117 mph wind with no ice	302.92	1.0095	0.2561	0.4622	0.5284
1.2D + 1.0W 210° 117 mph wind with no ice	306.87	0.9849	0.2553	0.4964	0.5582
1.2D + 1.0W 210° 117 mph wind with no ice	331.07	0.8113	0.2536	0.5818	0.6338
1.2D + 1.0W 240° 117 mph wind with no ice	71.07	0.1926	0.0499	0.2928	0.2963
1.2D + 1.0W 240° 117 mph wind with no ice	127.00	0.4672	-0.0394	0.5174	0.5188
1.2D + 1.0W 240° 117 mph wind with no ice	171.07	0.9415	-0.0613	0.4926	0.4964
1.2D + 1.0W 240° 117 mph wind with no ice	182.92	1.0345	-0.0415	0.4254	0.4274
1.2D + 1.0W 240° 117 mph wind with no ice	198.97	1.135	-0.0128	0.3886	0.3887
1.2D + 1.0W 240° 117 mph wind with no ice	202.92	1.1624	-0.0066	0.4031	0.4031
1.2D + 1.0W 240° 117 mph wind with no ice	222.92	1.2855	-0.0741	0.2234	0.2344
1.2D + 1.0W 240° 117 mph wind with no ice	251.07	1.2727	0.0453	0.2516	0.2556
1.2D + 1.0W 240° 117 mph wind with no ice	271.07	1.1444	0.0335	0.4121	0.4135
1.2D + 1.0W 240° 117 mph wind with no ice	282.92	1.0574	0.0379	0.4502	0.4518
1.2D + 1.0W 240° 117 mph wind with no ice	295.02	0.9542	0.0403	0.5383	0.5397
1.2D + 1.0W 240° 117 mph wind with no ice	302.92	0.8751	0.0405	0.6098	0.6111
1.2D + 1.0W 240° 117 mph wind with no ice	306.87	0.8317	0.0366	0.6547	0.6557
1.2D + 1.0W 240° 117 mph wind with no ice	331.07	0.5223	0.0253	0.7578	0.758
1.2D + 1.0W 300° 117 mph wind with no ice	71.07	0.1888	-0.1874	0.2348	0.2996
1.2D + 1.0W 300° 117 mph wind with no ice	127.00	0.3384	-0.0159	0.3012	0.3013
1.2D + 1.0W 300° 117 mph wind with no ice	171.07	0.6305	0.0115	0.2779	0.2781
1.2D + 1.0W 300° 117 mph wind with no ice	182.92	0.6843	0.0042	0.2246	0.2247
1.2D + 1.0W 300° 117 mph wind with no ice	198.97	0.7494	-0.0141	0.3088	0.3088
1.2D + 1.0W 300° 117 mph wind with no ice	202.92	0.7727	-0.0054	0.3487	0.3487
1.2D + 1.0W 300° 117 mph wind with no ice	222.92	0.9004	-0.0068	0.2843	0.2844
1.2D + 1.0W 300° 117 mph wind with no ice	251.07	0.9582	-0.0137	0.0116	0.0175
1.2D + 1.0W 300° 117 mph wind with no ice	271.07	0.9356	-0.0202	0.0457	0.0499
1.2D + 1.0W 300° 117 mph wind with no ice	282.92	0.9311	-0.0154	0.0157	0.022
1.2D + 1.0W 300° 117 mph wind with no ice	295.02	0.9274	-0.0179	0.0386	0.0422
1.2D + 1.0W 300° 117 mph wind with no ice	302.92	0.9189	-0.0180	0.0776	0.0796

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 300° 117 mph wind with no ice	306.87	0.9133	-0.0196	0.1035	0.105
1.2D + 1.0W 300° 117 mph wind with no ice	331.07	0.8461	-0.0235	0.1750	0.1765
1.2D + 1.0W 330° 117 mph wind with no ice	71.07	0.1833	0.2604	0.2865	0.3869
1.2D + 1.0W 330° 117 mph wind with no ice	127.00	0.3867	0.0235	0.4259	0.4264
1.2D + 1.0W 330° 117 mph wind with no ice	171.07	0.7847	0.2914	0.3640	0.4662
1.2D + 1.0W 330° 117 mph wind with no ice	182.92	0.8514	0.1193	0.3429	0.3631
1.2D + 1.0W 330° 117 mph wind with no ice	198.97	0.9331	0.0596	0.3477	0.3522
1.2D + 1.0W 330° 117 mph wind with no ice	202.92	0.9597	0.0548	0.3822	0.3854
1.2D + 1.0W 330° 117 mph wind with no ice	222.92	1.0826	0.0807	0.2830	0.2936
1.2D + 1.0W 330° 117 mph wind with no ice	251.07	1.1044	0.1316	0.1667	0.2124
1.2D + 1.0W 330° 117 mph wind with no ice	271.07	1.0314	0.1354	0.2680	0.2978
1.2D + 1.0W 330° 117 mph wind with no ice	282.92	0.984	0.1288	0.2876	0.3151
1.2D + 1.0W 330° 117 mph wind with no ice	295.02	0.9438	0.1341	0.3424	0.3671
1.2D + 1.0W 330° 117 mph wind with no ice	302.92	0.9012	0.1356	0.3896	0.4125
1.2D + 1.0W 330° 117 mph wind with no ice	306.87	0.8869	0.1406	0.4204	0.4431
1.2D + 1.0W 330° 117 mph wind with no ice	331.07	0.7397	0.1592	0.4889	0.5135
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	71.07	0.0593	-0.0184	0.1072	0.1086
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	127.00	0.0437	0.0127	0.0903	0.0911
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	171.07	0.111	0.0896	0.0873	0.1251
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	182.92	0.0956	-0.0592	0.0675	0.0898
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	198.97	0.0669	-0.0154	0.0742	0.0751
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	202.92	0.0623	-0.0120	0.0744	0.0753
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	222.92	0.0381	-0.0126	0.1240	0.1245
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	251.07	0.0602	-0.0121	0.2690	0.2693
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	271.07	0.1655	-0.0140	0.3055	0.3059
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	282.92	0.2267	-0.0134	0.3015	0.3018
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	295.02	0.2925	-0.0145	0.3196	0.3199
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	302.92	0.3371	-0.0148	0.3394	0.3397
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	306.87	0.3617	-0.0139	0.3519	0.3521
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	331.07	0.5216	-0.0122	0.3885	0.3887
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	71.07	0.0758	0.1074	0.1552	0.1886
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	127.00	0.1253	-0.0132	0.1806	0.1808
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	171.07	0.2332	-0.2629	0.1389	0.2974
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	182.92	0.2508	0.0370	0.0924	0.0996
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	198.97	0.2655	0.0208	0.0823	0.0839
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	202.92	0.272	0.0175	0.0938	0.0952
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	222.92	0.3146	0.0120	0.0789	0.0798
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	251.07	0.3124	0.0073	0.0661	0.0665
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	271.07	0.2798	0.0065	0.0995	0.0996
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	282.92	0.2603	0.0023	0.0991	0.0992
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	295.02	0.239	0.0022	0.1194	0.1194
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	302.92	0.2216	0.0006	0.1405	0.1405
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	306.87	0.2123	0.0025	0.1536	0.1536
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	331.07	0.1403	0.0065	0.1906	0.1906
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	71.07	0.0761	-0.1174	0.1637	0.2011
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	127.00	0.1084	-0.0654	0.1092	0.1273
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	171.07	0.1894	0.1370	0.1322	0.1904
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	182.92	0.2009	0.2140	0.1187	0.2432
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	198.97	0.2004	0.1302	0.0891	0.1575
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	202.92	0.2046	0.1274	0.0950	0.1589
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	222.92	0.2345	0.1520	0.0967	0.1801
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	251.07	0.2156	0.1312	0.1834	0.2255
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	271.07	0.1914	0.1235	0.2216	0.2531
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	282.92	0.1857	0.1209	0.2204	0.2514
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	295.02	0.2025	0.1215	0.2390	0.2678
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	302.92	0.2092	0.1208	0.2604	0.2871
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	306.87	0.2239	0.1221	0.2731	0.299
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	331.07	0.3064	0.1257	0.3173	0.341
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	71.07	0.0977	0.1878	0.1931	0.2693
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	127.00	0.1208	0.0052	0.1199	0.12
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	171.07	0.1966	0.0301	0.0610	0.0681
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	182.92	0.1998	0.0474	0.1063	0.116
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	198.97	0.1765	0.0044	0.0619	0.0619
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	202.92	0.1728	0.0010	0.0604	0.0604
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	222.92	0.156	0.0022	0.1070	0.107
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	251.07	0.086	0.0032	0.2534	0.2534
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	271.07	0.0835	0.0057	0.2908	0.2908
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	282.92	0.127	0.0031	0.2845	0.2845

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	295.02	0.1816	0.0036	0.3007	0.3007
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	302.92	0.2219	0.0036	0.3223	0.3223
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	306.87	0.2435	0.0037	0.3348	0.3348
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1" radial ice	331.07	0.3945	0.0057	0.3828	0.3828
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	71.07	0.1144	0.2125	0.0977	0.2335
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	127.00	0.2022	0.0289	0.0399	0.0493
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	171.07	0.3265	-0.3217	0.1454	0.3531
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	182.92	0.3488	-0.1069	0.1722	0.2023
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	198.97	0.3695	-0.0310	0.0949	0.0987
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	202.92	0.3771	-0.0267	0.1112	0.1143
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	222.92	0.4282	-0.0169	0.1316	0.1323
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	251.07	0.439	-0.0023	0.0485	0.0485
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	271.07	0.41	0.0055	0.0891	0.0893
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	282.92	0.3927	0.0067	0.0865	0.0867
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	295.02	0.373	0.0095	0.1085	0.1088
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	302.92	0.3565	0.0110	0.1335	0.134
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	306.87	0.3469	0.0107	0.1483	0.1487
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1" radial ice	331.07	0.2675	0.0098	0.2060	0.2062
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	71.07	0.122	0.2918	0.1395	0.3227
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	127.00	0.1692	-0.0173	0.0603	0.0627
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	171.07	0.2724	0.0746	0.1763	0.1914
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	182.92	0.2945	0.0172	0.1440	0.145
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	198.97	0.3018	0.0579	0.0782	0.0973
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	202.92	0.306	0.0556	0.0883	0.1043
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	222.92	0.3429	0.1463	0.1219	0.1894
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	251.07	0.342	0.1340	0.1751	0.2205
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	271.07	0.3234	0.1294	0.2076	0.2443
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	282.92	0.3201	0.1308	0.2019	0.2406
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	295.02	0.3229	0.1331	0.2192	0.2559
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	302.92	0.3246	0.1342	0.2400	0.275
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	306.87	0.3293	0.1335	0.2529	0.2859
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1" radial ice	331.07	0.3632	0.1313	0.3044	0.331
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	71.07	0.1022	0.2536	0.1393	0.2894
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	127.00	0.1389	0.0159	0.0905	0.0919
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	171.07	0.2055	-0.0766	0.1026	0.1281
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	182.92	0.2054	-0.0745	0.1255	0.1455
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	198.97	0.179	-0.0196	0.0689	0.0707
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	202.92	0.1749	-0.0154	0.0657	0.0674
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	222.92	0.1574	-0.0099	0.1030	0.1034
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	251.07	0.0868	-0.0024	0.2366	0.2366
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	271.07	0.068	0.0040	0.2654	0.2654
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	282.92	0.1029	0.0036	0.2533	0.2534
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	295.02	0.1508	0.0055	0.2671	0.2671
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	302.92	0.1859	0.0064	0.2871	0.2872
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	306.87	0.2056	0.0058	0.2994	0.2994
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1" radial ice	331.07	0.3425	0.0048	0.3490	0.349
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	71.07	0.0895	-0.3056	0.1364	0.3345
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	127.00	0.1396	-0.0238	0.0674	0.0715
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	171.07	0.2464	0.4546	0.0867	0.4628
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	182.92	0.2505	0.0045	0.1066	0.1067
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	198.97	0.2684	0.0136	0.0906	0.091
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	202.92	0.2754	0.0098	0.1035	0.104
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	222.92	0.3221	0.0041	0.0914	0.0915
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	251.07	0.3265	-0.0058	0.0546	0.0549
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	271.07	0.2994	-0.0100	0.0858	0.0863
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	282.92	0.2839	-0.0089	0.0849	0.0854
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	295.02	0.2665	-0.0109	0.1043	0.1047
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	302.92	0.2519	-0.0112	0.1251	0.1256
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	306.87	0.2438	-0.0124	0.1384	0.1389
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1" radial ice	331.07	0.1791	-0.0151	0.1799	0.1805
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	71.07	0.0718	-0.2758	0.1803	0.329
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	127.00	0.1027	0.0864	0.0754	0.1145
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	171.07	0.1958	0.3581	0.0785	0.3666
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	182.92	0.1971	-0.0841	0.1116	0.1397
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	198.97	0.2051	-0.0440	0.0779	0.0885
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	202.92	0.2097	-0.0401	0.0870	0.095
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	222.92	0.2446	0.0698	0.1365	0.1529
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	251.07	0.2602	0.1027	0.2019	0.2266

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	271.07	0.2764	0.0993	0.2371	0.2563
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	282.92	0.2972	0.0974	0.2382	0.2573
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	295.02	0.3255	0.0984	0.2570	0.2749
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	302.92	0.3476	0.0986	0.2758	0.2929
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	306.87	0.3599	0.0997	0.2877	0.3043
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1" radial ice	331.07	0.4518	0.1042	0.3221	0.3381
1.2D + 1.0Ev + 1.0Eh Normal Seismic	71.07	0.0043	0.0000	0.0032	0.0032
1.2D + 1.0Ev + 1.0Eh Normal Seismic	127.00	0.0039	0.0001	0.0096	0.0096
1.2D + 1.0Ev + 1.0Eh Normal Seismic	171.07	0.0024	0.0000	0.0065	0.0065
1.2D + 1.0Ev + 1.0Eh Normal Seismic	182.92	0.0038	0.0000	0.0062	0.0062
1.2D + 1.0Ev + 1.0Eh Normal Seismic	198.97	0.0055	0.0003	0.0069	0.0069
1.2D + 1.0Ev + 1.0Eh Normal Seismic	202.92	0.0059	-0.0001	0.0077	0.0077
1.2D + 1.0Ev + 1.0Eh Normal Seismic	222.92	0.0077	0.0001	0.0026	0.0026
1.2D + 1.0Ev + 1.0Eh Normal Seismic	251.07	0.007	0.0000	0.0041	0.0041
1.2D + 1.0Ev + 1.0Eh Normal Seismic	271.07	0.0058	0.0002	0.0028	0.0028
1.2D + 1.0Ev + 1.0Eh Normal Seismic	282.92	0.0055	0.0000	0.0025	0.0025
1.2D + 1.0Ev + 1.0Eh Normal Seismic	295.02	0.0055	0.0000	0.0032	0.0032
1.2D + 1.0Ev + 1.0Eh Normal Seismic	302.92	0.0053	0.0000	0.0036	0.0036
1.2D + 1.0Ev + 1.0Eh Normal Seismic	306.87	0.0053	0.0000	0.0040	0.004
1.2D + 1.0Ev + 1.0Eh Normal Seismic	331.07	0.0053	0.0002	0.0023	0.0023
1.2D + 1.0Ev + 1.0Eh 60° Seismic	71.07	0.0058	0.0001	0.0052	0.0052
1.2D + 1.0Ev + 1.0Eh 60° Seismic	127.00	0.0077	0.0002	0.0120	0.012
1.2D + 1.0Ev + 1.0Eh 60° Seismic	171.07	0.0111	0.0001	0.0092	0.0092
1.2D + 1.0Ev + 1.0Eh 60° Seismic	182.92	0.0127	0.0002	0.0087	0.0087
1.2D + 1.0Ev + 1.0Eh 60° Seismic	198.97	0.0144	0.0005	0.0090	0.009
1.2D + 1.0Ev + 1.0Eh 60° Seismic	202.92	0.0149	0.0002	0.0100	0.01
1.2D + 1.0Ev + 1.0Eh 60° Seismic	222.92	0.0171	0.0002	0.0051	0.0051
1.2D + 1.0Ev + 1.0Eh 60° Seismic	251.07	0.0174	0.0002	0.0042	0.0042
1.2D + 1.0Ev + 1.0Eh 60° Seismic	271.07	0.0162	0.0004	0.0038	0.0038
1.2D + 1.0Ev + 1.0Eh 60° Seismic	282.92	0.0158	0.0002	0.0029	0.003
1.2D + 1.0Ev + 1.0Eh 60° Seismic	295.02	0.0154	0.0002	0.0041	0.0041
1.2D + 1.0Ev + 1.0Eh 60° Seismic	302.92	0.015	0.0002	0.0048	0.0048
1.2D + 1.0Ev + 1.0Eh 60° Seismic	306.87	0.0148	0.0002	0.0055	0.0055
1.2D + 1.0Ev + 1.0Eh 60° Seismic	331.07	0.0135	0.0004	0.0033	0.0033
1.2D + 1.0Ev + 1.0Eh 90° Seismic	71.07	0.0068	0.0001	0.0069	0.0069
1.2D + 1.0Ev + 1.0Eh 90° Seismic	127.00	0.0112	0.0002	0.0126	0.0126
1.2D + 1.0Ev + 1.0Eh 90° Seismic	171.07	0.0174	0.0002	0.0107	0.0107
1.2D + 1.0Ev + 1.0Eh 90° Seismic	182.92	0.0193	0.0003	0.0095	0.0095
1.2D + 1.0Ev + 1.0Eh 90° Seismic	198.97	0.0212	0.0004	0.0095	0.0095
1.2D + 1.0Ev + 1.0Eh 90° Seismic	202.92	0.0218	0.0003	0.0107	0.0107
1.2D + 1.0Ev + 1.0Eh 90° Seismic	222.92	0.0244	0.0003	0.0064	0.0064
1.2D + 1.0Ev + 1.0Eh 90° Seismic	251.07	0.0254	0.0003	0.0038	0.0038
1.2D + 1.0Ev + 1.0Eh 90° Seismic	271.07	0.0247	0.0004	0.0038	0.0038
1.2D + 1.0Ev + 1.0Eh 90° Seismic	282.92	0.0245	0.0002	0.0034	0.0034
1.2D + 1.0Ev + 1.0Eh 90° Seismic	295.02	0.0245	0.0003	0.0045	0.0045
1.2D + 1.0Ev + 1.0Eh 90° Seismic	302.92	0.0244	0.0002	0.0051	0.0051
1.2D + 1.0Ev + 1.0Eh 90° Seismic	306.87	0.0243	0.0003	0.0057	0.0057
1.2D + 1.0Ev + 1.0Eh 90° Seismic	331.07	0.0234	0.0004	0.0039	0.0039
1.2D + 1.0Ev + 1.0Eh 120° Seismic	71.07	0.0078	0.0001	0.0085	0.0085
1.2D + 1.0Ev + 1.0Eh 120° Seismic	127.00	0.0145	0.0003	0.0132	0.0132
1.2D + 1.0Ev + 1.0Eh 120° Seismic	171.07	0.0232	0.0002	0.0123	0.0123
1.2D + 1.0Ev + 1.0Eh 120° Seismic	182.92	0.0255	0.0003	0.0103	0.0103
1.2D + 1.0Ev + 1.0Eh 120° Seismic	198.97	0.0277	0.0006	0.0102	0.0102
1.2D + 1.0Ev + 1.0Eh 120° Seismic	202.92	0.0284	0.0003	0.0118	0.0118
1.2D + 1.0Ev + 1.0Eh 120° Seismic	222.92	0.0317	0.0003	0.0081	0.0081
1.2D + 1.0Ev + 1.0Eh 120° Seismic	251.07	0.0335	0.0003	0.0034	0.0034
1.2D + 1.0Ev + 1.0Eh 120° Seismic	271.07	0.0331	0.0005	0.0037	0.0037
1.2D + 1.0Ev + 1.0Eh 120° Seismic	282.92	0.0333	0.0002	0.0040	0.004
1.2D + 1.0Ev + 1.0Eh 120° Seismic	295.02	0.0336	0.0003	0.0049	0.0049
1.2D + 1.0Ev + 1.0Eh 120° Seismic	302.92	0.0338	0.0003	0.0051	0.0051
1.2D + 1.0Ev + 1.0Eh 120° Seismic	306.87	0.0338	0.0003	0.0055	0.0055
1.2D + 1.0Ev + 1.0Eh 120° Seismic	331.07	0.0331	0.0004	0.0041	0.0041
1.2D + 1.0Ev + 1.0Eh 180° Seismic	71.07	0.0089	0.0000	0.0103	0.0103
1.2D + 1.0Ev + 1.0Eh 180° Seismic	127.00	0.0181	0.0002	0.0148	0.0148
1.2D + 1.0Ev + 1.0Eh 180° Seismic	171.07	0.0297	0.0000	0.0144	0.0144
1.2D + 1.0Ev + 1.0Eh 180° Seismic	182.92	0.0323	0.0001	0.0115	0.0115
1.2D + 1.0Ev + 1.0Eh 180° Seismic	198.97	0.035	0.0005	0.0115	0.0115
1.2D + 1.0Ev + 1.0Eh 180° Seismic	202.92	0.0359	0.0001	0.0136	0.0136

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 180° Seismic	222.92	0.0404	0.0001	0.0115	0.0115
1.2D + 1.0Ev + 1.0Eh 180° Seismic	251.07	0.0438	-0.0001	0.0034	0.0034
1.2D + 1.0Ev + 1.0Eh 180° Seismic	271.07	0.044	0.0003	0.0036	0.0036
1.2D + 1.0Ev + 1.0Eh 180° Seismic	282.92	0.0447	0.0000	0.0054	0.0054
1.2D + 1.0Ev + 1.0Eh 180° Seismic	295.02	0.0457	0.0000	0.0053	0.0053
1.2D + 1.0Ev + 1.0Eh 180° Seismic	302.92	0.0461	0.0001	0.0044	0.0044
1.2D + 1.0Ev + 1.0Eh 180° Seismic	306.87	0.0463	0.0000	0.0041	0.0041
1.2D + 1.0Ev + 1.0Eh 180° Seismic	331.07	0.0458	0.0002	0.0036	0.0036
1.2D + 1.0Ev + 1.0Eh 210° Seismic	71.07	0.0087	0.0000	0.0101	0.0101
1.2D + 1.0Ev + 1.0Eh 210° Seismic	127.00	0.0174	-0.0002	0.0137	0.0137
1.2D + 1.0Ev + 1.0Eh 210° Seismic	171.07	0.028	-0.0001	0.0132	0.0132
1.2D + 1.0Ev + 1.0Eh 210° Seismic	182.92	0.0304	-0.0002	0.0103	0.0103
1.2D + 1.0Ev + 1.0Eh 210° Seismic	198.97	0.0328	-0.0006	0.0103	0.0103
1.2D + 1.0Ev + 1.0Eh 210° Seismic	202.92	0.0335	-0.0003	0.0123	0.0123
1.2D + 1.0Ev + 1.0Eh 210° Seismic	222.92	0.0375	-0.0002	0.0102	0.0102
1.2D + 1.0Ev + 1.0Eh 210° Seismic	251.07	0.0404	-0.0002	0.0029	0.0029
1.2D + 1.0Ev + 1.0Eh 210° Seismic	271.07	0.0408	-0.0005	0.0033	0.0033
1.2D + 1.0Ev + 1.0Eh 210° Seismic	282.92	0.0415	-0.0002	0.0055	0.0055
1.2D + 1.0Ev + 1.0Eh 210° Seismic	295.02	0.0427	-0.0002	0.0054	0.0054
1.2D + 1.0Ev + 1.0Eh 210° Seismic	302.92	0.0432	-0.0001	0.0043	0.0043
1.2D + 1.0Ev + 1.0Eh 210° Seismic	306.87	0.0434	-0.0002	0.0037	0.0037
1.2D + 1.0Ev + 1.0Eh 210° Seismic	331.07	0.0435	-0.0003	0.0025	0.0025
1.2D + 1.0Ev + 1.0Eh 240° Seismic	71.07	0.0081	-0.0001	0.0092	0.0092
1.2D + 1.0Ev + 1.0Eh 240° Seismic	127.00	0.0154	-0.0002	0.0119	0.0119
1.2D + 1.0Ev + 1.0Eh 240° Seismic	171.07	0.0241	-0.0002	0.0115	0.0115
1.2D + 1.0Ev + 1.0Eh 240° Seismic	182.92	0.0261	-0.0002	0.0088	0.0088
1.2D + 1.0Ev + 1.0Eh 240° Seismic	198.97	0.0281	-0.0006	0.0090	0.009
1.2D + 1.0Ev + 1.0Eh 240° Seismic	202.92	0.0287	-0.0003	0.0109	0.0109
1.2D + 1.0Ev + 1.0Eh 240° Seismic	222.92	0.0319	-0.0003	0.0083	0.0083
1.2D + 1.0Ev + 1.0Eh 240° Seismic	251.07	0.0342	-0.0003	0.0025	0.0025
1.2D + 1.0Ev + 1.0Eh 240° Seismic	271.07	0.0346	-0.0005	0.0030	0.0031
1.2D + 1.0Ev + 1.0Eh 240° Seismic	282.92	0.0354	-0.0003	0.0053	0.0053
1.2D + 1.0Ev + 1.0Eh 240° Seismic	295.02	0.0366	-0.0002	0.0053	0.0053
1.2D + 1.0Ev + 1.0Eh 240° Seismic	302.92	0.0372	-0.0002	0.0044	0.0044
1.2D + 1.0Ev + 1.0Eh 240° Seismic	306.87	0.0375	-0.0002	0.0039	0.0039
1.2D + 1.0Ev + 1.0Eh 240° Seismic	331.07	0.0381	-0.0003	0.0020	0.002
1.2D + 1.0Ev + 1.0Eh 300° Seismic	71.07	0.0066	-0.0001	0.0065	0.0065
1.2D + 1.0Ev + 1.0Eh 300° Seismic	127.00	0.0098	-0.0002	0.0108	0.0108
1.2D + 1.0Ev + 1.0Eh 300° Seismic	171.07	0.0134	-0.0002	0.0088	0.0088
1.2D + 1.0Ev + 1.0Eh 300° Seismic	182.92	0.0146	-0.0002	0.0076	0.0076
1.2D + 1.0Ev + 1.0Eh 300° Seismic	198.97	0.0159	-0.0005	0.0085	0.0085
1.2D + 1.0Ev + 1.0Eh 300° Seismic	202.92	0.0164	-0.0003	0.0097	0.0097
1.2D + 1.0Ev + 1.0Eh 300° Seismic	222.92	0.0187	-0.0002	0.0060	0.006
1.2D + 1.0Ev + 1.0Eh 300° Seismic	251.07	0.0199	-0.0002	0.0032	0.0032
1.2D + 1.0Ev + 1.0Eh 300° Seismic	271.07	0.02	-0.0004	0.0032	0.0032
1.2D + 1.0Ev + 1.0Eh 300° Seismic	282.92	0.0207	-0.0002	0.0046	0.0046
1.2D + 1.0Ev + 1.0Eh 300° Seismic	295.02	0.0217	-0.0002	0.0051	0.0051
1.2D + 1.0Ev + 1.0Eh 300° Seismic	302.92	0.0222	-0.0002	0.0048	0.0048
1.2D + 1.0Ev + 1.0Eh 300° Seismic	306.87	0.0225	-0.0002	0.0048	0.0048
1.2D + 1.0Ev + 1.0Eh 300° Seismic	331.07	0.0236	-0.0003	0.0027	0.0028
1.2D + 1.0Ev + 1.0Eh 330° Seismic	71.07	0.0054	0.0000	0.0047	0.0047
1.2D + 1.0Ev + 1.0Eh 330° Seismic	127.00	0.0062	-0.0002	0.0103	0.0103
1.2D + 1.0Ev + 1.0Eh 330° Seismic	171.07	0.0069	-0.0001	0.0077	0.0077
1.2D + 1.0Ev + 1.0Eh 330° Seismic	182.92	0.0078	-0.0001	0.0070	0.007
1.2D + 1.0Ev + 1.0Eh 330° Seismic	198.97	0.0091	-0.0005	0.0078	0.0078
1.2D + 1.0Ev + 1.0Eh 330° Seismic	202.92	0.0095	-0.0002	0.0087	0.0087
1.2D + 1.0Ev + 1.0Eh 330° Seismic	222.92	0.0115	-0.0001	0.0040	0.0041
1.2D + 1.0Ev + 1.0Eh 330° Seismic	251.07	0.0116	-0.0001	0.0037	0.0037
1.2D + 1.0Ev + 1.0Eh 330° Seismic	271.07	0.0111	-0.0003	0.0031	0.0031
1.2D + 1.0Ev + 1.0Eh 330° Seismic	282.92	0.0114	-0.0001	0.0036	0.0036
1.2D + 1.0Ev + 1.0Eh 330° Seismic	295.02	0.012	-0.0001	0.0043	0.0043
1.2D + 1.0Ev + 1.0Eh 330° Seismic	302.92	0.0123	-0.0001	0.0045	0.0045
1.2D + 1.0Ev + 1.0Eh 330° Seismic	306.87	0.0125	-0.0001	0.0048	0.0048
1.2D + 1.0Ev + 1.0Eh 330° Seismic	331.07	0.0133	-0.0003	0.0031	0.0031
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	71.07	0.0042	0.0000	0.0030	0.003
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	127.00	0.0039	0.0001	0.0095	0.0095
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	171.07	0.0023	0.0000	0.0064	0.0064
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	182.92	0.0037	0.0000	0.0061	0.0061

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	198.97	0.0053	0.0003	0.0068	0.0068
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	202.92	0.0058	-0.0001	0.0076	0.0076
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	222.92	0.0075	0.0001	0.0025	0.0025
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	251.07	0.0068	0.0000	0.0041	0.0041
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	271.07	0.0056	0.0002	0.0028	0.0028
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	282.92	0.0053	0.0000	0.0025	0.0025
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	295.02	0.0053	0.0000	0.0032	0.0032
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	302.92	0.0051	0.0000	0.0036	0.0036
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	306.87	0.0051	0.0000	0.0040	0.004
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	331.07	0.0052	0.0002	0.0023	0.0023
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	71.07	0.0057	0.0001	0.0050	0.005
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	127.00	0.0077	0.0002	0.0119	0.0119
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	171.07	0.011	0.0001	0.0091	0.0091
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	182.92	0.0126	0.0002	0.0085	0.0085
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	198.97	0.0143	0.0005	0.0089	0.0089
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	202.92	0.0147	0.0002	0.0099	0.0099
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	222.92	0.0169	0.0002	0.0051	0.0051
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	251.07	0.0172	0.0002	0.0042	0.0042
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	271.07	0.0161	0.0004	0.0037	0.0037
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	282.92	0.0157	0.0002	0.0029	0.0029
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	295.02	0.0153	0.0002	0.0040	0.0041
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	302.92	0.0149	0.0002	0.0048	0.0048
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	306.87	0.0147	0.0002	0.0055	0.0055
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	331.07	0.0134	0.0004	0.0033	0.0033
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	71.07	0.0067	0.0001	0.0067	0.0067
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	127.00	0.0112	0.0002	0.0125	0.0125
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	171.07	0.0174	0.0002	0.0106	0.0106
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	182.92	0.0192	0.0002	0.0092	0.0092
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	198.97	0.0211	0.0004	0.0094	0.0095
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	202.92	0.0216	0.0003	0.0106	0.0106
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	222.92	0.0243	0.0003	0.0064	0.0064
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	251.07	0.0253	0.0003	0.0038	0.0038
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	271.07	0.0246	0.0004	0.0037	0.0038
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	282.92	0.0245	0.0002	0.0033	0.0034
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	295.02	0.0244	0.0003	0.0044	0.0045
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	302.92	0.0243	0.0002	0.0051	0.0051
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	306.87	0.0242	0.0003	0.0057	0.0057
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	331.07	0.0233	0.0004	0.0038	0.0039
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	71.07	0.0077	0.0001	0.0083	0.0083
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	127.00	0.0144	0.0003	0.0131	0.0131
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	171.07	0.0231	0.0002	0.0122	0.0122
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	182.92	0.0254	0.0002	0.0101	0.0101
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	198.97	0.0276	0.0006	0.0101	0.0101
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	202.92	0.0282	0.0003	0.0117	0.0117
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	222.92	0.0315	0.0003	0.0081	0.0081
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	251.07	0.0334	0.0003	0.0035	0.0035
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	271.07	0.033	0.0005	0.0037	0.0037
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	282.92	0.0332	0.0002	0.0040	0.004
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	295.02	0.0336	0.0003	0.0048	0.0048
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	302.92	0.0337	0.0003	0.0051	0.0051
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	306.87	0.0337	0.0003	0.0055	0.0055
0.9D - 1.0Ev + 1.0Eh 120° Seismic (Reduced DL)	331.07	0.033	0.0004	0.0041	0.0041
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	71.07	0.0087	0.0000	0.0099	0.0099
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	127.00	0.0176	0.0002	0.0143	0.0143
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	171.07	0.0287	0.0000	0.0136	0.0136
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	182.92	0.0312	0.0001	0.0106	0.0106
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	198.97	0.0337	0.0004	0.0105	0.0105
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	202.92	0.0345	0.0001	0.0125	0.0125
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	222.92	0.0386	0.0001	0.0104	0.0104
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	251.07	0.0415	-0.0001	0.0030	0.003
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	271.07	0.0417	-0.0003	0.0034	0.0034
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	282.92	0.0424	0.0000	0.0053	0.0053
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	295.02	0.0433	0.0000	0.0053	0.0053
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	302.92	0.0438	0.0001	0.0045	0.0045
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	306.87	0.0439	0.0001	0.0041	0.0041
0.9D - 1.0Ev + 1.0Eh 180° Seismic (Reduced DL)	331.07	0.0436	0.0002	0.0033	0.0033
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	71.07	0.0086	0.0000	0.0098	0.0098
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	127.00	0.0173	-0.0002	0.0137	0.0137

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	171.07	0.0279	-0.0001	0.0131	0.0131
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	182.92	0.0302	-0.0001	0.0101	0.0101
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	198.97	0.0326	-0.0006	0.0102	0.0102
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	202.92	0.0334	-0.0003	0.0123	0.0123
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	222.92	0.0373	-0.0002	0.0102	0.0102
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	251.07	0.0403	-0.0002	0.0029	0.0029
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	271.07	0.0407	-0.0005	0.0033	0.0033
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	282.92	0.0415	-0.0002	0.0055	0.0055
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	295.02	0.0426	-0.0002	0.0054	0.0054
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	302.92	0.0431	-0.0001	0.0043	0.0043
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	306.87	0.0434	-0.0002	0.0036	0.0037
0.9D - 1.0Ev + 1.0Eh 210° Seismic (Reduced DL)	331.07	0.0434	-0.0003	0.0025	0.0025
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	71.07	0.0081	-0.0001	0.0089	0.0089
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	127.00	0.0154	-0.0002	0.0119	0.0119
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	171.07	0.024	-0.0002	0.0114	0.0114
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	182.92	0.0259	-0.0002	0.0086	0.0086
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	198.97	0.0279	-0.0006	0.0090	0.009
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	202.92	0.0285	-0.0003	0.0109	0.0109
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	222.92	0.0318	-0.0003	0.0083	0.0083
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	251.07	0.0341	-0.0003	0.0026	0.0026
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	271.07	0.0345	-0.0005	0.0031	0.0031
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	282.92	0.0353	-0.0003	0.0054	0.0054
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	295.02	0.0365	-0.0002	0.0054	0.0054
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	302.92	0.0371	-0.0002	0.0044	0.0044
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	306.87	0.0374	-0.0002	0.0039	0.0039
0.9D - 1.0Ev + 1.0Eh 240° Seismic (Reduced DL)	331.07	0.038	-0.0003	0.0020	0.002
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	71.07	0.0064	-0.0001	0.0062	0.0062
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	127.00	0.0097	-0.0002	0.0107	0.0107
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	171.07	0.0134	-0.0002	0.0086	0.0086
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	182.92	0.0145	-0.0002	0.0073	0.0073
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	198.97	0.0158	-0.0005	0.0083	0.0084
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	202.92	0.0162	-0.0003	0.0095	0.0095
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	222.92	0.0185	-0.0002	0.0059	0.0059
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	251.07	0.0197	-0.0002	0.0032	0.0032
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	271.07	0.0199	-0.0004	0.0032	0.0032
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	282.92	0.0205	-0.0002	0.0047	0.0047
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	295.02	0.0216	-0.0002	0.0051	0.0051
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	302.92	0.0221	-0.0002	0.0048	0.0048
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	306.87	0.0224	-0.0002	0.0048	0.0048
0.9D - 1.0Ev + 1.0Eh 300° Seismic (Reduced DL)	331.07	0.0235	-0.0004	0.0027	0.0027
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	71.07	0.0053	0.0000	0.0044	0.0044
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	127.00	0.0062	-0.0002	0.0102	0.0102
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	171.07	0.0068	-0.0001	0.0075	0.0075
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	182.92	0.0077	-0.0001	0.0068	0.0068
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	198.97	0.009	-0.0005	0.0077	0.0077
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	202.92	0.0094	-0.0002	0.0086	0.0086
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	222.92	0.0113	-0.0001	0.0039	0.0039
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	251.07	0.0114	-0.0001	0.0037	0.0037
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	271.07	0.0109	-0.0003	0.0031	0.0031
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	282.92	0.0112	-0.0001	0.0036	0.0036
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	295.02	0.0118	-0.0001	0.0043	0.0043
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	302.92	0.0121	-0.0001	0.0045	0.0045
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	306.87	0.0123	-0.0001	0.0048	0.0048
0.9D - 1.0Ev + 1.0Eh 330° Seismic (Reduced DL)	331.07	0.0132	-0.0003	0.0031	0.0031
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	71.07	0.029	0.0004	0.0269	0.0269
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	127.00	0.0486	0.0019	0.0473	0.0473
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	171.07	0.0863	0.0043	0.0312	0.0315
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	182.92	0.0913	0.0021	0.0172	0.0173
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	198.97	0.0953	0.0038	0.0255	0.0258
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	202.92	0.0973	0.0012	0.0345	0.0345
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	222.92	0.1051	-0.0022	0.0023	0.0032
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	251.07	0.0851	-0.0053	0.0797	0.0799
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	271.07	0.0517	-0.0078	0.0958	0.0961
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	282.92	0.0328	-0.0089	0.0923	0.0928
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	295.02	0.0127	-0.0102	0.1032	0.1037
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	302.92	0.0041	-0.0108	0.1152	0.1157
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	306.87	0.0118	-0.0101	0.1233	0.1237
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	331.07	0.0694	-0.0073	0.1408	0.1409

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	71.07	0.0317	0.0010	0.0312	0.0313
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	127.00	0.0605	0.0029	0.0589	0.0589
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	171.07	0.1136	0.0015	0.0564	0.0564
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	182.92	0.1243	0.0017	0.0459	0.0459
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	198.97	0.1365	0.0044	0.0578	0.058
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	202.92	0.1411	0.0019	0.0667	0.0667
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	222.92	0.1613	-0.0008	0.0406	0.0406
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	251.07	0.1625	-0.0028	0.0323	0.0324
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	271.07	0.1465	-0.0048	0.0429	0.0432
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	282.92	0.1389	-0.0058	0.0371	0.0375
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	295.02	0.1307	0.0070	0.0450	0.0455
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	302.92	0.1239	-0.0075	0.0550	0.0555
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	306.87	0.1199	-0.0067	0.0621	0.0625
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	331.07	0.0889	-0.0034	0.0770	0.0771
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	71.07	0.0327	0.0042	0.0307	0.031
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	127.00	0.0571	0.0050	0.0559	0.056
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	171.07	0.1027	0.0062	0.0452	0.0456
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	182.92	0.1111	0.0089	0.0338	0.035
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	198.97	0.119	0.0116	0.0439	0.0451
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	202.92	0.1227	0.0107	0.0535	0.0543
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	222.92	0.1373	0.0144	0.0268	0.0299
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	251.07	0.1297	0.0193	0.0588	0.0616
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	271.07	0.1078	0.0217	0.0726	0.0754
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	282.92	0.0963	0.0203	0.0682	0.0712
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	295.02	0.0873	0.0212	0.0767	0.0795
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	302.92	0.0793	0.0214	0.0877	0.0903
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	306.87	0.077	0.0227	0.0952	0.0978
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	331.07	0.0652	0.0270	0.1141	0.1171
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	71.07	0.038	-0.0001	0.0351	0.0351
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	127.00	0.0628	-0.0015	0.0504	0.0504
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	171.07	0.1036	-0.0041	0.0349	0.0352
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	182.92	0.1091	-0.0021	0.0187	0.0188
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	198.97	0.113	-0.0037	0.0248	0.0251
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	202.92	0.115	-0.0014	0.0338	0.0338
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	222.92	0.1226	-0.0009	0.0033	0.0033
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	251.07	0.1032	0.0010	0.0790	0.079
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	271.07	0.071	0.0024	0.0929	0.0929
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	282.92	0.054	0.0009	0.0869	0.087
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	295.02	0.0375	0.0011	0.0954	0.0954
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	302.92	0.0271	0.0008	0.1071	0.1071
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	306.87	0.0231	0.0010	0.1148	0.1148
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	331.07	0.0503	0.0015	0.1363	0.1364
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	71.07	0.0467	-0.0002	0.0472	0.0472
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	127.00	0.0877	-0.0017	0.0669	0.0669
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	171.07	0.1489	-0.0041	0.0670	0.0671
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	182.92	0.161	-0.0020	0.0523	0.0523
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	198.97	0.1745	-0.0038	0.0626	0.0627
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	202.92	0.1794	-0.0011	0.0728	0.0728
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	222.92	0.2022	0.0026	0.0483	0.0483
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	251.07	0.2066	0.0062	0.0278	0.0284
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	271.07	0.1912	0.0089	0.0421	0.043
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	282.92	0.1838	0.0099	0.0355	0.0369
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	295.02	0.1758	0.0115	0.0441	0.0454
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	302.92	0.169	0.0122	0.0556	0.057
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	306.87	0.1649	0.0115	0.0634	0.0644
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	331.07	0.1309	0.0087	0.0860	0.0865
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	71.07	0.0437	0.0037	0.0428	0.043
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	127.00	0.0783	0.0043	0.0621	0.0621
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	171.07	0.1311	0.0061	0.0550	0.0553
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	182.92	0.141	0.0090	0.0401	0.0411
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	198.97	0.1507	0.0119	0.0488	0.0498
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	202.92	0.1548	0.0114	0.0597	0.0605
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	222.92	0.1724	0.0181	0.0352	0.0392
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	251.07	0.1697	0.0278	0.0581	0.064
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	271.07	0.1508	0.0325	0.0729	0.0798
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	282.92	0.1423	0.0352	0.0681	0.0767
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	295.02	0.1341	0.0381	0.0777	0.0863
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	302.92	0.1283	0.0398	0.0889	0.0974

DEFLECTIONS AND ROTATIONS

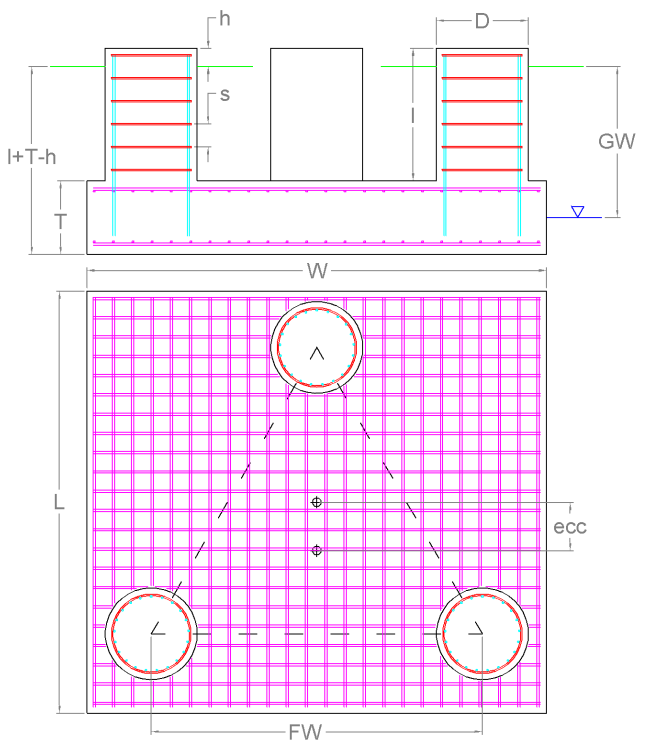
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	306.87	0.1251	0.0395	0.0966	0.1044
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	331.07	0.1076	0.0378	0.1189	0.1246
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	71.07	0.0394	-0.0004	0.0360	0.036
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	127.00	0.0642	-0.0018	0.0488	0.0489
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	171.07	0.1045	-0.0002	0.0361	0.0361
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	182.92	0.11	-0.0004	0.0185	0.0185
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	198.97	0.114	-0.0030	0.0250	0.0251
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	202.92	0.116	0.0007	0.0343	0.0343
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	222.92	0.1238	0.0024	0.0033	0.0039
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	251.07	0.1051	0.0047	0.0769	0.077
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	271.07	0.0734	0.0070	0.0898	0.0901
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	282.92	0.0569	0.0078	0.0825	0.0828
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	295.02	0.0402	0.0093	0.0908	0.0912
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	302.92	0.0289	0.0100	0.1024	0.1028
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	306.87	0.0235	0.0092	0.1101	0.1105
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	331.07	0.0417	0.0064	0.1318	0.1319
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	71.07	0.0348	-0.0008	0.0342	0.0342
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	127.00	0.0646	-0.0025	0.0570	0.0571
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	171.07	0.1165	0.0025	0.0566	0.0567
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	182.92	0.1268	0.0004	0.0449	0.0449
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	198.97	0.1388	-0.0037	0.0574	0.0575
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	202.92	0.1433	-0.0015	0.0668	0.0668
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	222.92	0.1639	-0.0024	0.0420	0.042
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	251.07	0.166	-0.0036	0.0298	0.0299
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	271.07	0.1511	-0.0051	0.0395	0.0399
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	282.92	0.144	-0.0039	0.0339	0.0341
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	295.02	0.1369	-0.0045	0.0408	0.041
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	302.92	0.1305	-0.0044	0.0507	0.0509
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	306.87	0.1271	-0.0048	0.0573	0.0575
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	331.07	0.0978	-0.0057	0.0739	0.0741
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	71.07	0.0315	0.0036	0.0307	0.0309
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	127.00	0.0569	0.0041	0.0558	0.0558
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	171.07	0.1028	0.0119	0.0462	0.0477
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	182.92	0.1109	0.0106	0.0342	0.0357
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	198.97	0.1194	0.0116	0.0450	0.0463
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	202.92	0.1232	0.0105	0.0550	0.0558
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	222.92	0.1389	0.0127	0.0309	0.033
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	251.07	0.134	0.0155	0.0613	0.063
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	271.07	0.1159	0.0171	0.0764	0.0778
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	282.92	0.1079	0.0154	0.0744	0.076
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	295.02	0.1022	0.0162	0.0842	0.0857
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	302.92	0.0985	0.0163	0.0950	0.0964
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	306.87	0.0971	0.0175	0.1022	0.1037
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	331.07	0.0973	0.0216	0.1180	0.1197

Monolithic Mat Foundation Analysis (ANSI/TIA-222-H)

Foundation & Tower Parameters			
Ignore Mat Rebar?		Y	
Foundation has Pier(s)?		N	
Mat Base Depth	$l+T-h$	3.8	ft
Mat Length	L	9	ft
Mat Width	W	9	ft
Mat Thickness	T	5	ft
Unit Weight of Concrete		150	pcf
Tower Eccentricity	ecc	0	ft
Tower Face Width	FW	3	ft
Tower Leg Count		3	

Reactions		
Moment, M_u	39.79	k-ft
Shear, V_u	1.32	k
Axial, P_u	51.56	k
Uplift, T_u	51.56	k
Tower Weight	85.83	k
Tower Dead Load Factor	0.9	
Shear/Leg in Compression, v_{cu}	1.3	k
Shear/Leg in Tension, v_{tu}	1.3	k

Soil Parameters			
Water Table Depth [BGL]	GW	1	ft
Unit Weight of Soil		105	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Shear Friction Coefficient		0.35	
Ultimate Bearing Pressure		30,000	psf
Bearing Pressure Type		Net	
Conical Failure Angle		15	°
Capacity Increase (Transient Loads)		1.00	
Soil Strength Reduction Factor, ϕ_s		0.6	
Dead Load Factor		1.2	



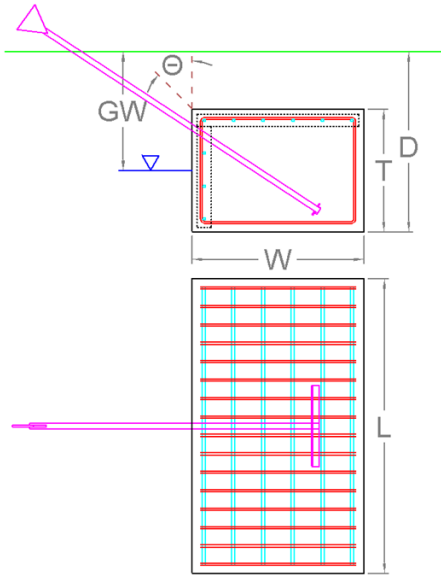
Soil Capacities		
Design Moment, M_u	46.39	k-ft
Nominal Moment Capacity, $\phi_m M_n$	479.53	k-ft
$M_u / \phi_s M_n$	9.7%	
Net Bearing Pressure	1,365	k
Nominal Bearing Capacity, $\phi_b P_n$	18,239	k
Bearing Pressure Controlling Load Direction	Parallel to Pad Edge	
$P_u / \phi_s P_n$	7.5%	
Ultimate Friction Resistance	39.22	k
Ultimate Passive Pressure Resistance	5.3	k
Nominal Shear Capacity, $\phi_s V_n$	26.71	k
$V_u / \phi_s V_n$	5.0%	



Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters			
Include Berm?		N	
Analyze Anchor Rod?		Y	
Ignore Rebar?		Y	
Base Depth	<i>D</i>	6.5	ft
Width	<i>W</i>	4.0	ft
Length	<i>L</i>	8.0	ft
Thickness	<i>T</i>	6.0	ft
Water Table Depth [BGL]	<i>GW</i>	1	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		105.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		42.6	pcf
Friction Angle		29	°
Cohesion		0	psf
Ultimate Skin Friction		0	psf
Coefficient of Shear Friction		0.35	
Conical Failure Angle	Θ	30	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions		
Uplift, T_u	6.7	k
Shear, V_u	9.2	k
Anchor Radius	172	ft
Node	A1	-



Soil Uplift Capacity		
Uplift Resistance from Skin Friction and Soil Shear	0.0	k
Nominal Uplift Resistance, $\phi_u T_n$	17.7	k
$T_u / \phi_u T_n$	37.7%	

Soil Shear Capacity		
Shear Resistance from Skin Friction	0.0	k
Shear Friction Resistance Due to Normal Force	3.8	k
Passive Pressure	610	psf
Passive Pressure Resistance	29.3	k
Nominal Shear Resistance, $\phi_v V_n$	24.8	k
$V_u / \phi_v V_n$	37.2%	



Anchor Rod Capacity

Anchor Rod Shape	Solid Rod	
Quantity of Rods	1	
Gross Area (Individual)	1.23	in ²
Net Area (Individual)	1.23	in ²
Yield Strength, F_y	36	ksi
Tensile Strength, F_u	58	ksi
Yield Strength Reduction Factor, ϕ_y	0.80	
Tensile Strength Reduction Factor, ϕ_t	0.65	
Resultant Tensile Load, T_u	11.4	k
Tensile Resistance, ϕT_n	35.4	k
$T_u / \phi T_n$:	32.1%	



Exhibit E

Mount Analysis

Revised Mount Analysis Report

Site Address	164 County Rd Wolcott, CT 06716
Site Name	CT60XC956
Site ID	CTNH794A
Project Name	Sprint Retain
Design Codes	2015 International Building Code ASCE 7-10 TIA-222-G Standards 2018 CT State Building Code

	Stress Ratio	Overall Result
Proposed Mounts	72%	PASS

Client:

T - Mobile
NORTHEAST, LLC
15 Commerce Way, Suite B
Norton, MA 02766

Date: 5/19/2022 (Rev. 1)
5/4/2022 (Rev. 0)

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the proposed antenna mounts to determine their capacity to support the proposed T-Mobile equipment listed in this report. These mounts were analyzed using RISA 3D v17.0.4.

Final Appurtenances Configuration:

Elevation (ft)	Position ¹	Azimuth (degrees)	Quantity	Appurtenance	Sector
201	MP1	90	1	APXVAALL24_43-U-NA20 Antenna	Sector 1
201	MP2	90	1	AIR 6419 B41 Antenna	
201	MP4	90	1	VV-65A-R1 Antenna	
201	MP1	90	1	4480 B71+B85 RRH	
201	MP4	90	1	4460 B25+B66 RRH	
201	-	220	1	APXVAALL24_43-U-NA20 Antenna	Sector 2
201	-	220	1	AIR 6419 B41 Antenna	
201	-	220	1	VV-65A-R1 Antenna	
201	-	220	1	4480 B71+B85 RRH	
201	-	220	1	4460 B25+B66 RRH	
201	-	340	1	APXVAALL24_43-U-NA20 Antenna	Sector 3
201	-	340	1	AIR 6419 B41 Antenna	
201	-	340	1	VV-65A-R1 Antenna	
201	-	340	1	4480 B71+B85 RRH	
201	-	340	1	4460 B25+B66 RRH	

Notes:

1. MP represents Mount Pipe.
2. Existing Appurtenance
3. **Proposed Appurtenance**

Design Criteria:

Design Codes:

2015 International Building Code
 ASCE 7-10
 TIA-222-G Standards
 2018 CT State Building Code

Ultimate Wind Speed	125 mph
Nominal Wind Speed	97 mph
Wind Speed with Ice	50 mph
Ice Thickness	0.75 in.
Exposure Category	C
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D-Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_s	0.186 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.064 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

*Refer to calculations for additional design criteria.

Conclusion:

Based on the results of the analysis, we have determined that the proposed T-Mobile mounts are adequate to support the proposed T-Mobile equipment loading. Mount Summary as follows:

Alpha, Beta & Gamma Sector:

- Install (3) Site Pro 1 #VFA10-HD sector frames with (4) 2.0" STD. x 8.0ft mount pipes.

	Stress Ratio	Overall Result
Proposed Mounts	72%	PASS

Reference Documents:

- T-Mobile RFDS CTNH794A_Sprint Retain_1, dated 05/02/2022
- Mount Analysis by Infinigy Engineering, dated 06/12/2018
- Construction Drawings by Infinigy Engineering, dated 06/13/2018

Assumptions and Limitations:

- The calculations performed by Centerline Communications are limited to the structural members in these calculations only.
- Structural calculations in this report do not check the adequacy of the supporting structure, other mounts, or coax mounting attachments.
- The calculation assumes all structural members to be in good condition i.e., no damage, rust, or other defects.

Photos:



Existing Mounts

Design Calculations

Site Details	
Site Name	CT60XC956
Carrier	T-Mobile
City, State	Wolcott, CT
Project	Sprint Retain

Mount Details	
Mount Type	Sector Frame
Mount Height, z	201 ft
Number of Sectors	3
Tower Type	Guyed
Tower Height, h	350 ft

Topographic Factors	
Topographic Category	1
Feature	Flat
Crest Height, H	N/A ft
Distance from Crest, x	N/A ft
Slope (H/L)	N/A
Topographic Factor, K_{zt}	1.00

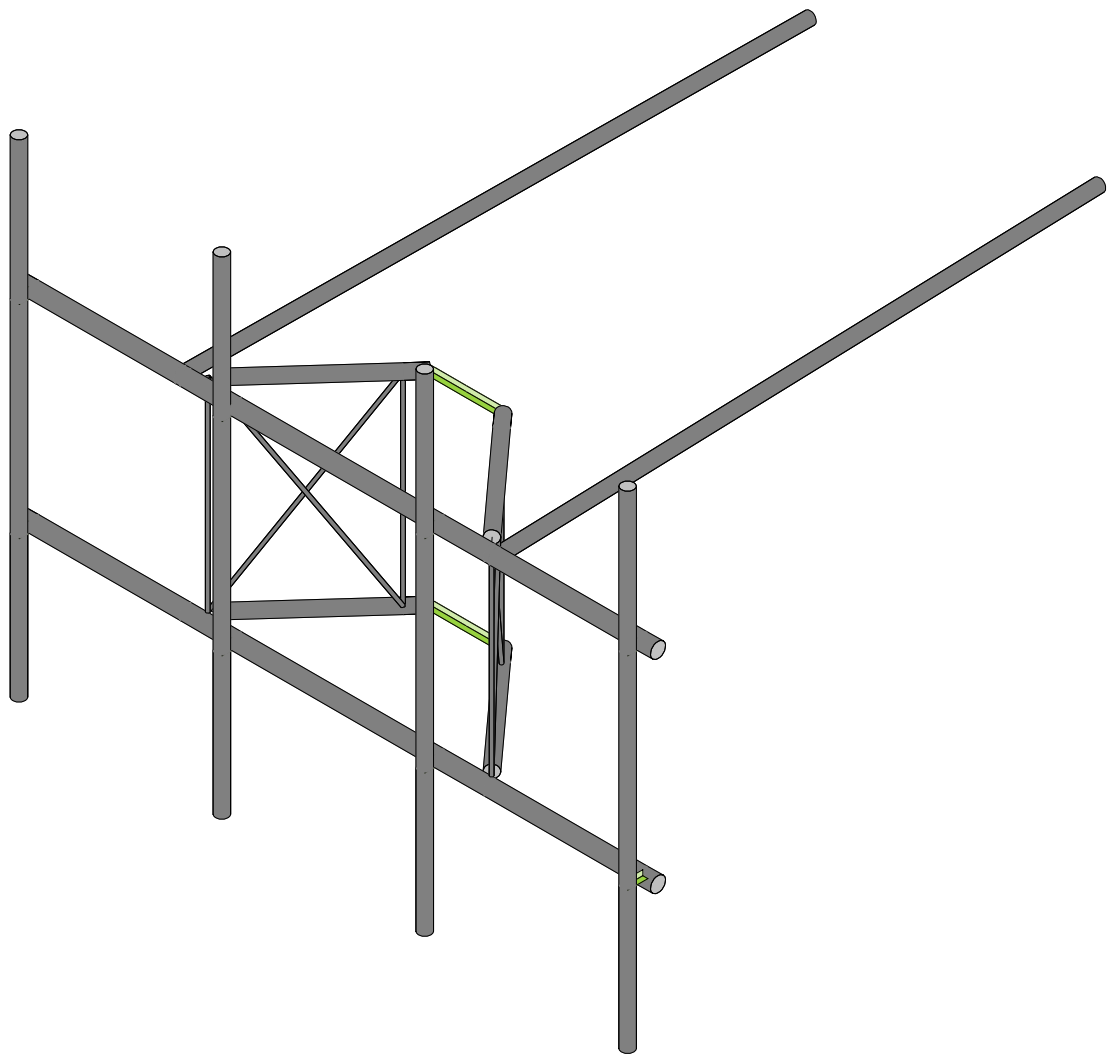
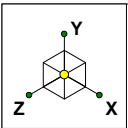
Seismic Factors	
Importance Factor, I_E	1
Short Period Spectral Acceleration, S_s	0.186 g
1 Second Period Spectral Acceleration, S_1	0.064 g
Long-Period Transition Period, T_L	6
Design Category	B
Short Period Site Coefficient, F_a	1.60
Long-Period Site Coefficient, F_v	2.4

Site Parameters		
Ultimate Wind Speed, V_{ULT}	125	mph
Nominal Wind Speed, V	97	mph
Wind Speed with Ice, V_i	50	mph
Design Ice Thickness, t_i	0.75	in
Structural Class	II	
Exposure Category	C	
Site Soil Class	D-Stiff Soil (Assumed)	

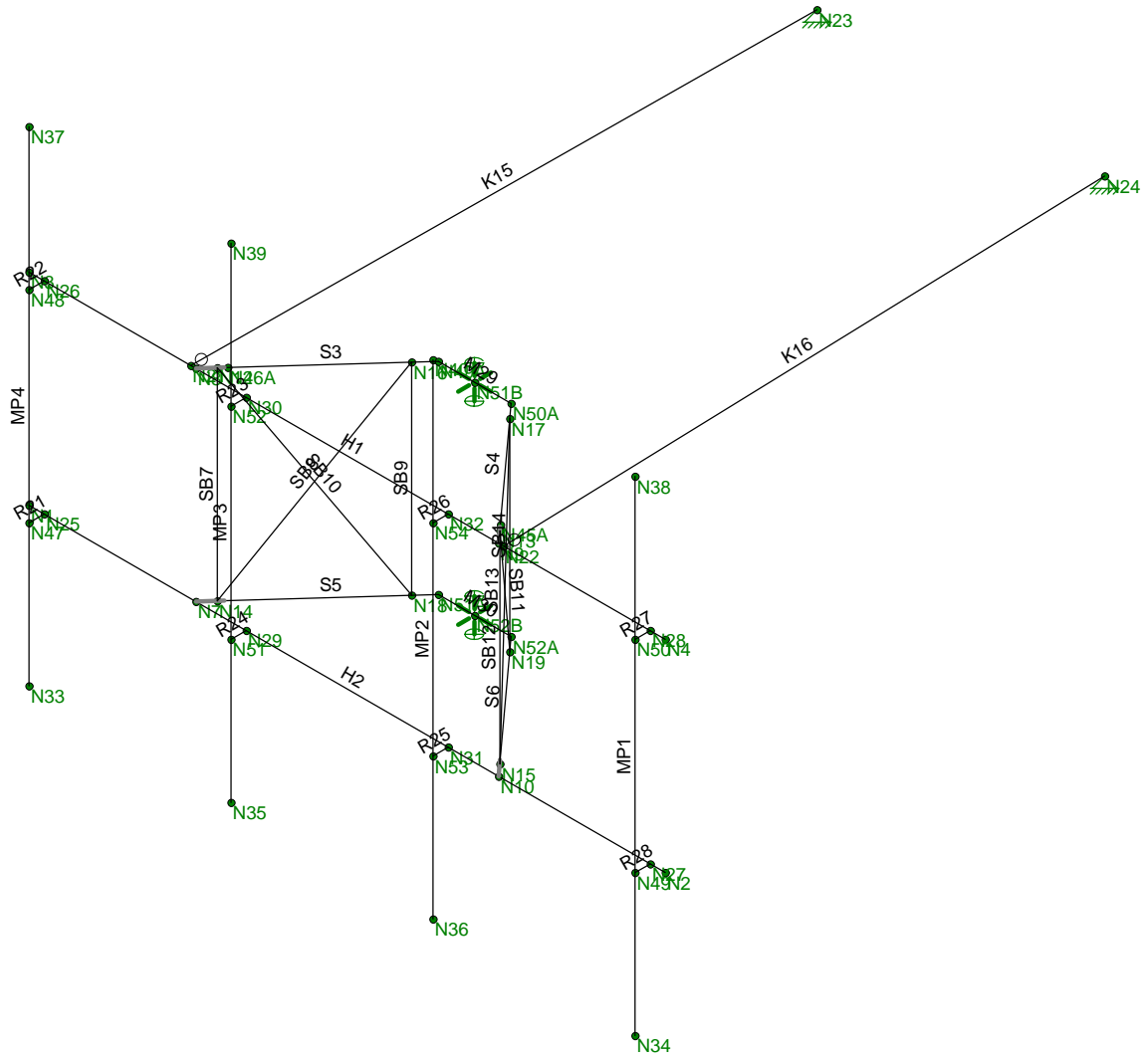
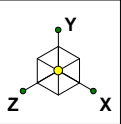
Code	
Building Code	2015 IBC
TIA Code	TIA-222-G
ASCE Code	7-10

Site Constants		
Importance Factor, I (Wind no Ice)	1.00	
Importance Factor, I (Ice Thickness)	1.00	
Importance Factor, I (wind with Ice)	1.00	
Wind Direction Prob. Factor, K_d	0.95	
Velocity Pressure Coefficient, K_z	1.47	
Gust Effect Factor, G_h	1.00	
Design Ice Thickness, t_{iz}	1.80	in
Velocity Pressure, q_z	33.55	psf
Velocity Pressure with Ice, q_{zi}	8.91	psf
Shielding Factor, K_a	1.00	
Flat Velocity Pressure (Ca = 2.0)	67.09	psf
Round Velocity Pressure (Ca = 1.2)	40.26	psf
Round Velocity Pressure with Ice (Ca = 1.2)	10.70	psf
Engineer Initials	AP	

Proposed Mounts Results



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		CTNH794A_MA.r3d



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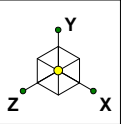
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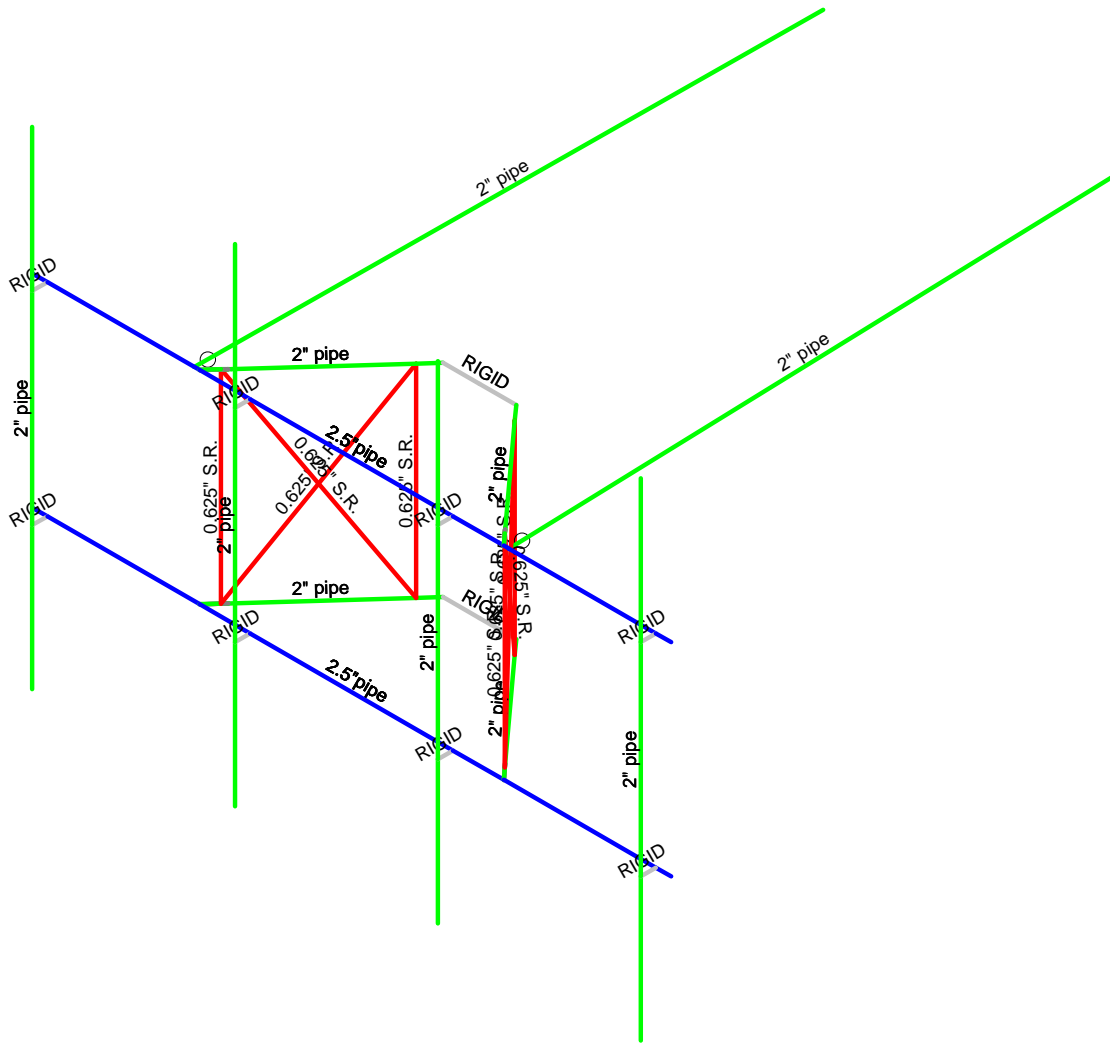
Wireframe

May 4, 2022 at 9:52 AM

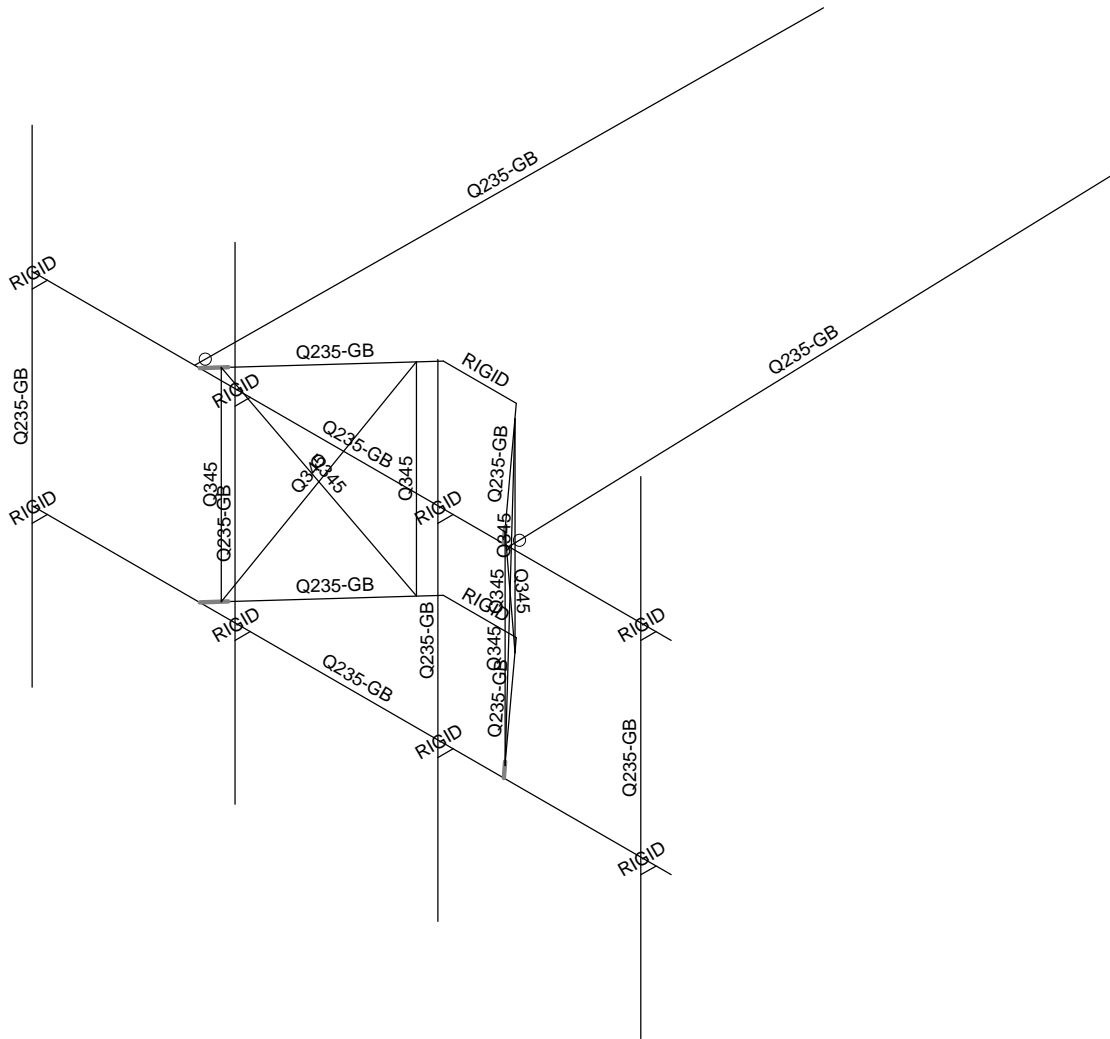
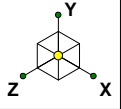
CTNH794A_MA.r3d



Section Sets	
■	2.5" pipe
■	2" pipe
■	0.625" S.R.
■	RIGID



Centerline Communication...	CTNH794A_MA	Section Sets
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		CTNH794A_MA.r3d



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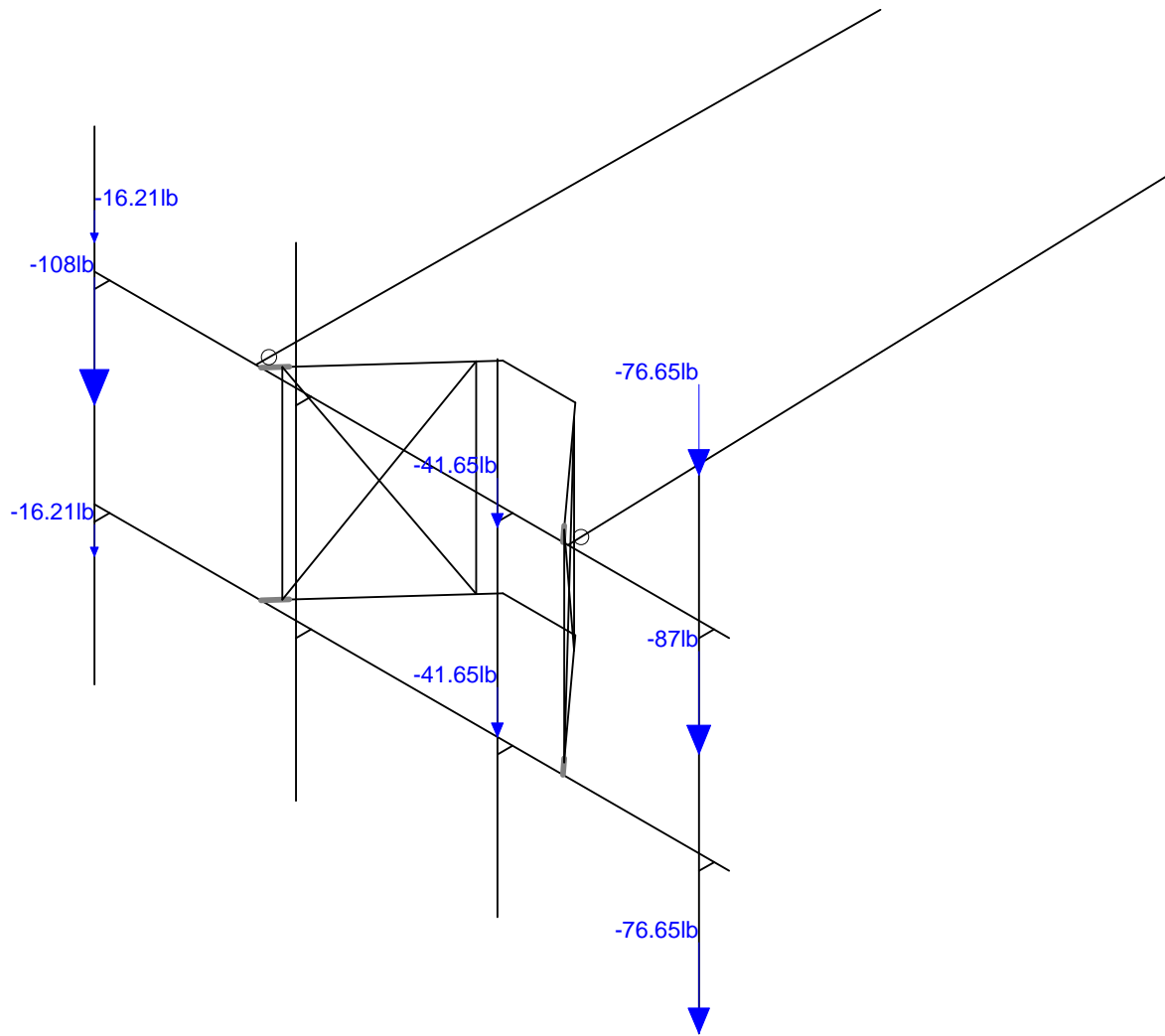
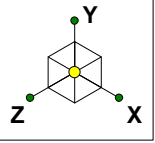
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CTNH794A_MA

Material Sets

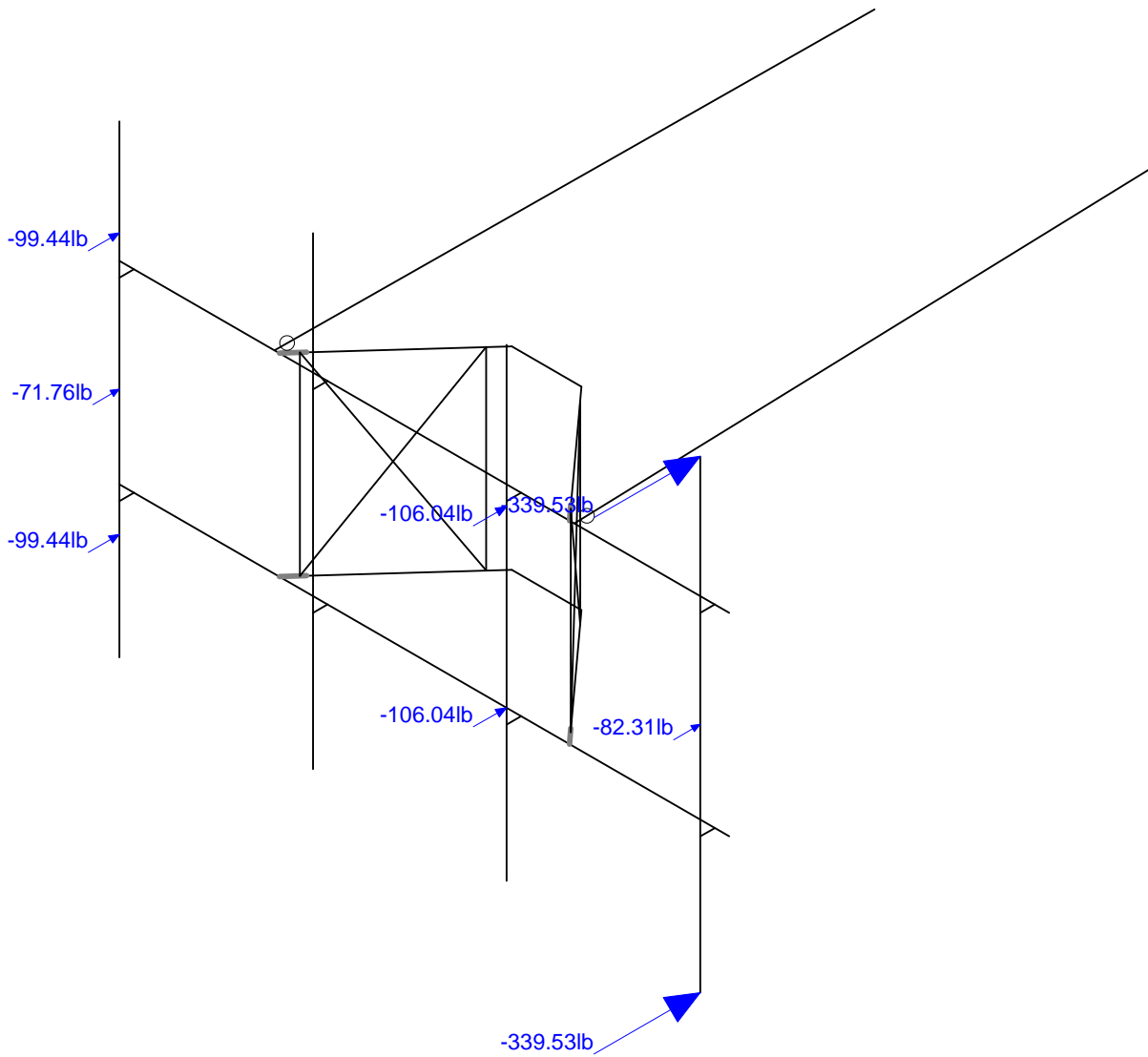
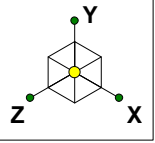
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CTNH794A_MA.r3d



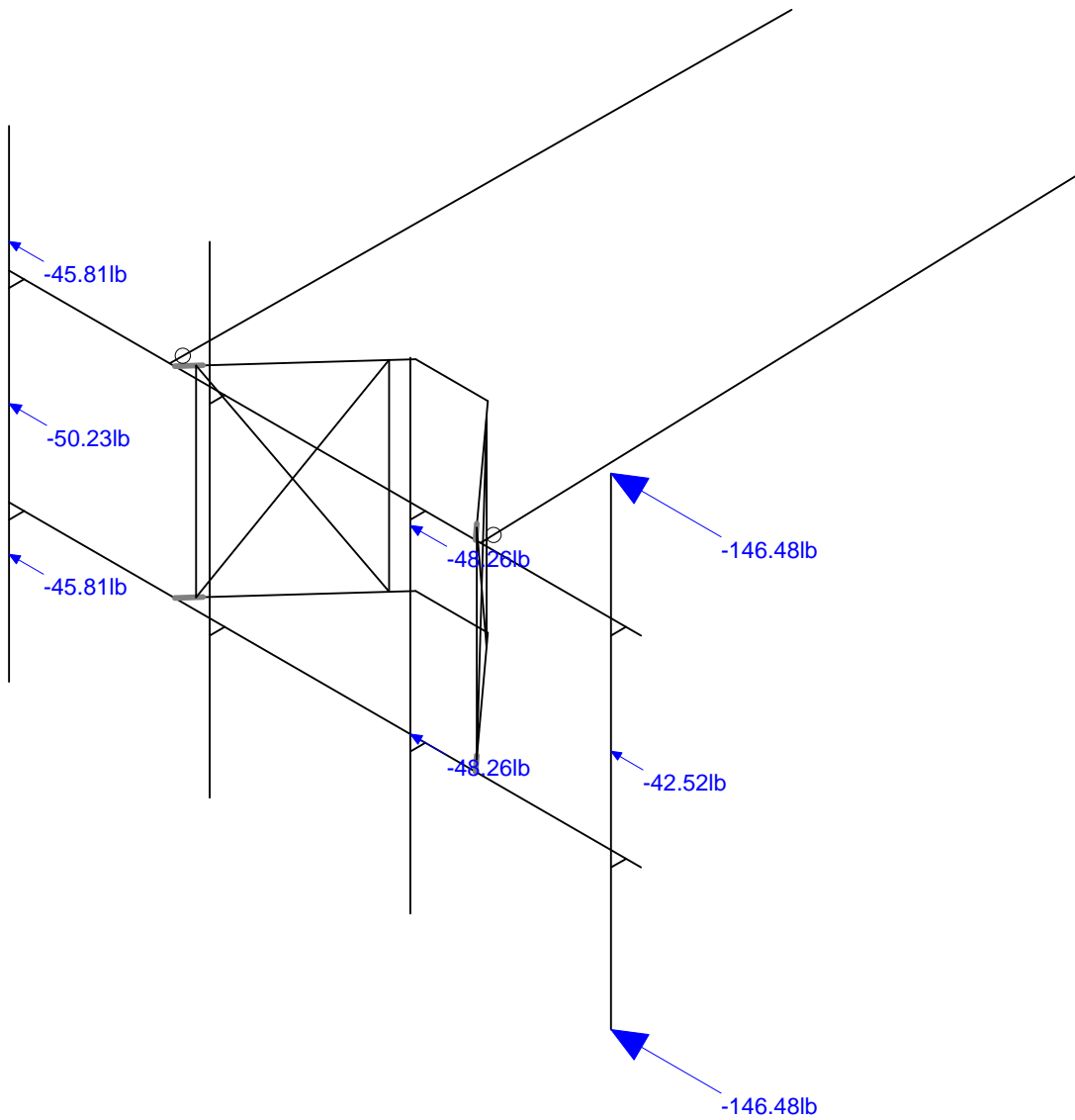
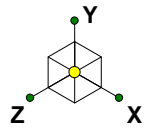
Loads: BLC 1, Dead Load

Centerline Communication...	CTNH794A_MA	Dead Load
AP		May 17, 2022 at 3:48 PM
		CTNH794A_MA.r3d



Loads: BLC 2, Wind 0

Centerline Communication...	CTNH794A_MA	Wind 0
AP		May 17, 2022 at 3:48 PM
		CTNH794A_MA.r3d



Loads: BLC 5, Wind 90

Centerline Communication...

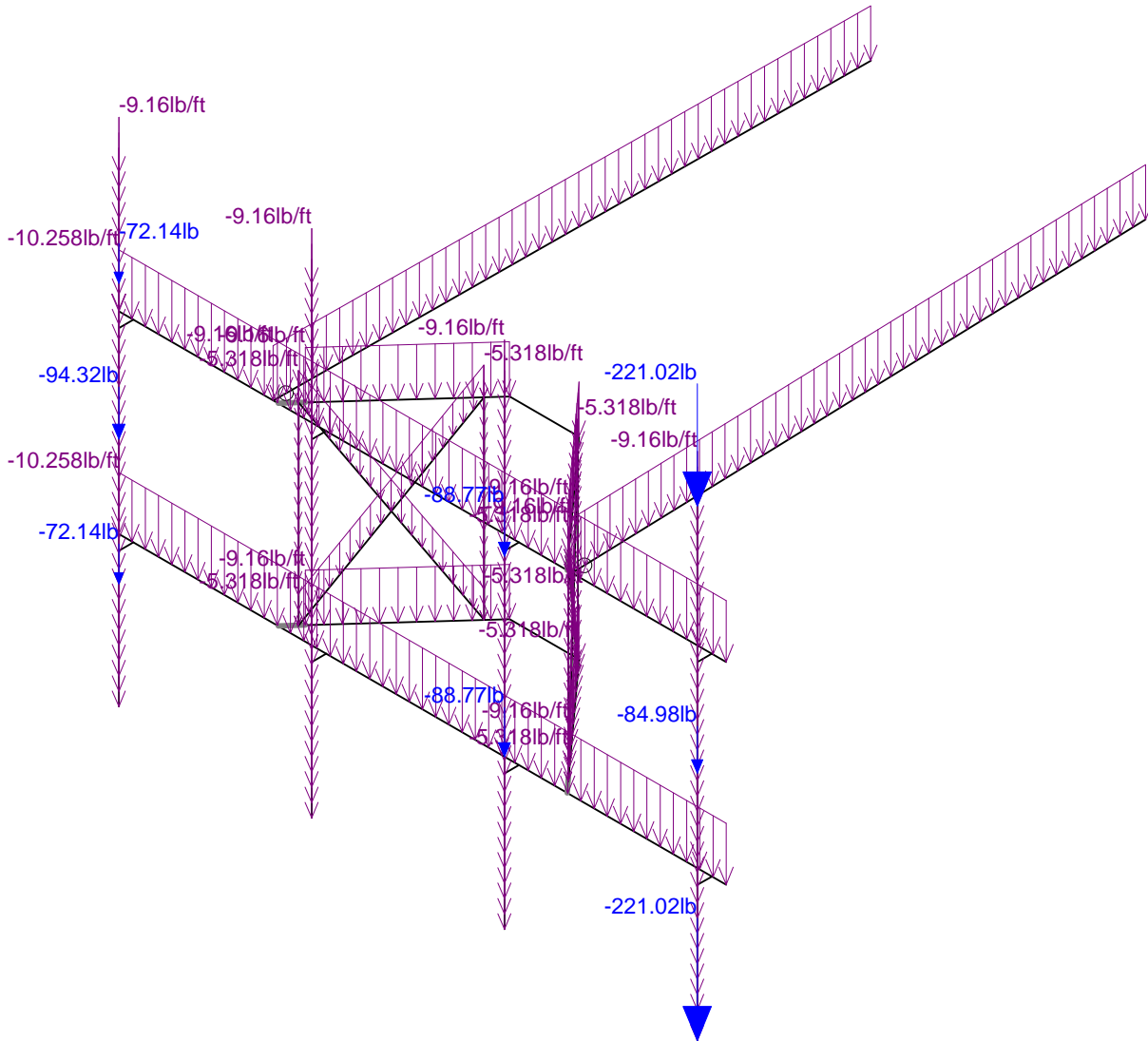
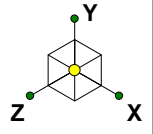
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CTNH794A_MA

Wind 90

May 17, 2022 at 3:48 PM

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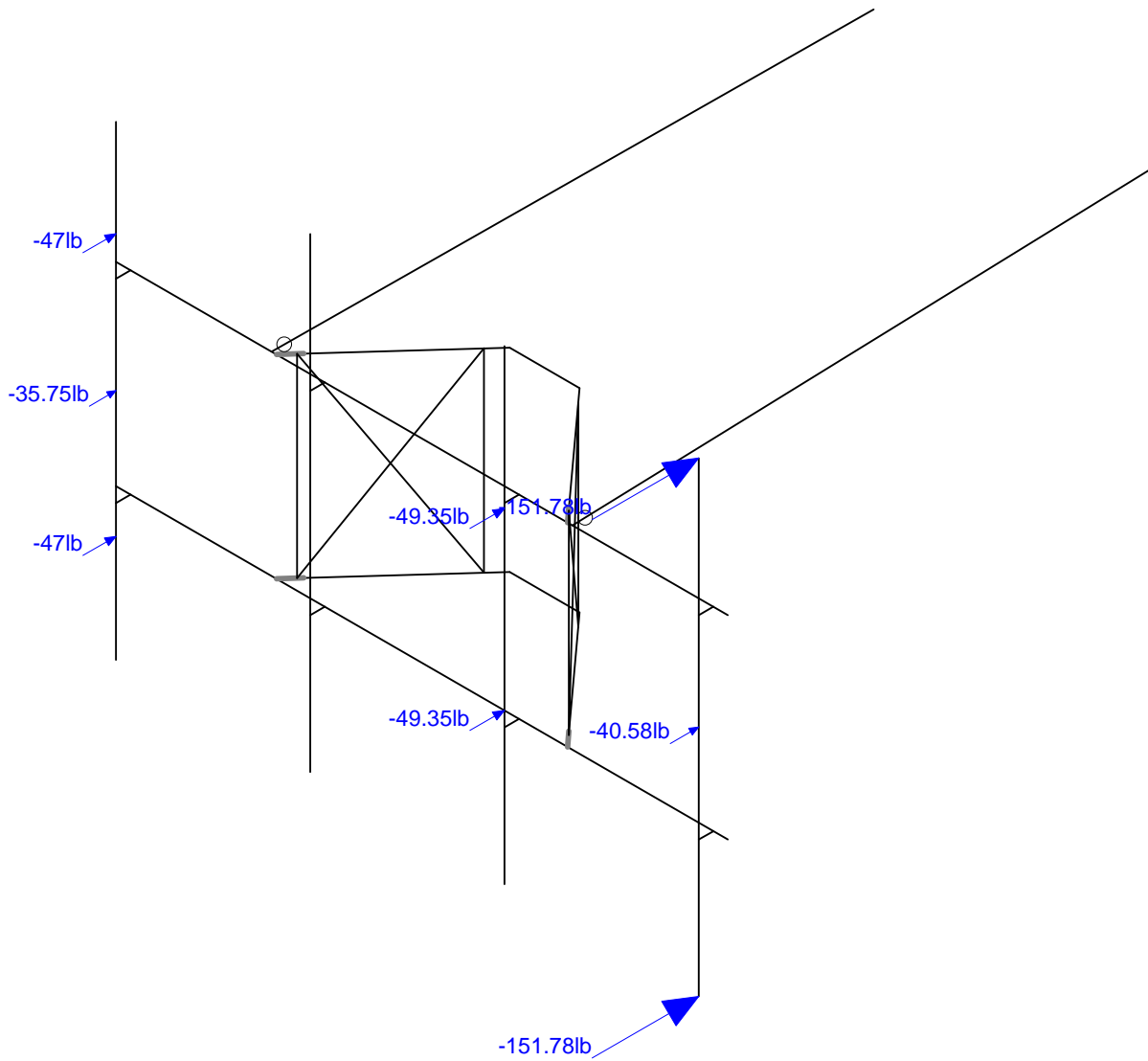
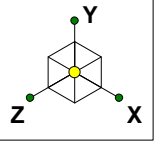


Loads: BLC 9, Ice Weight

Centerline Communication...
AP

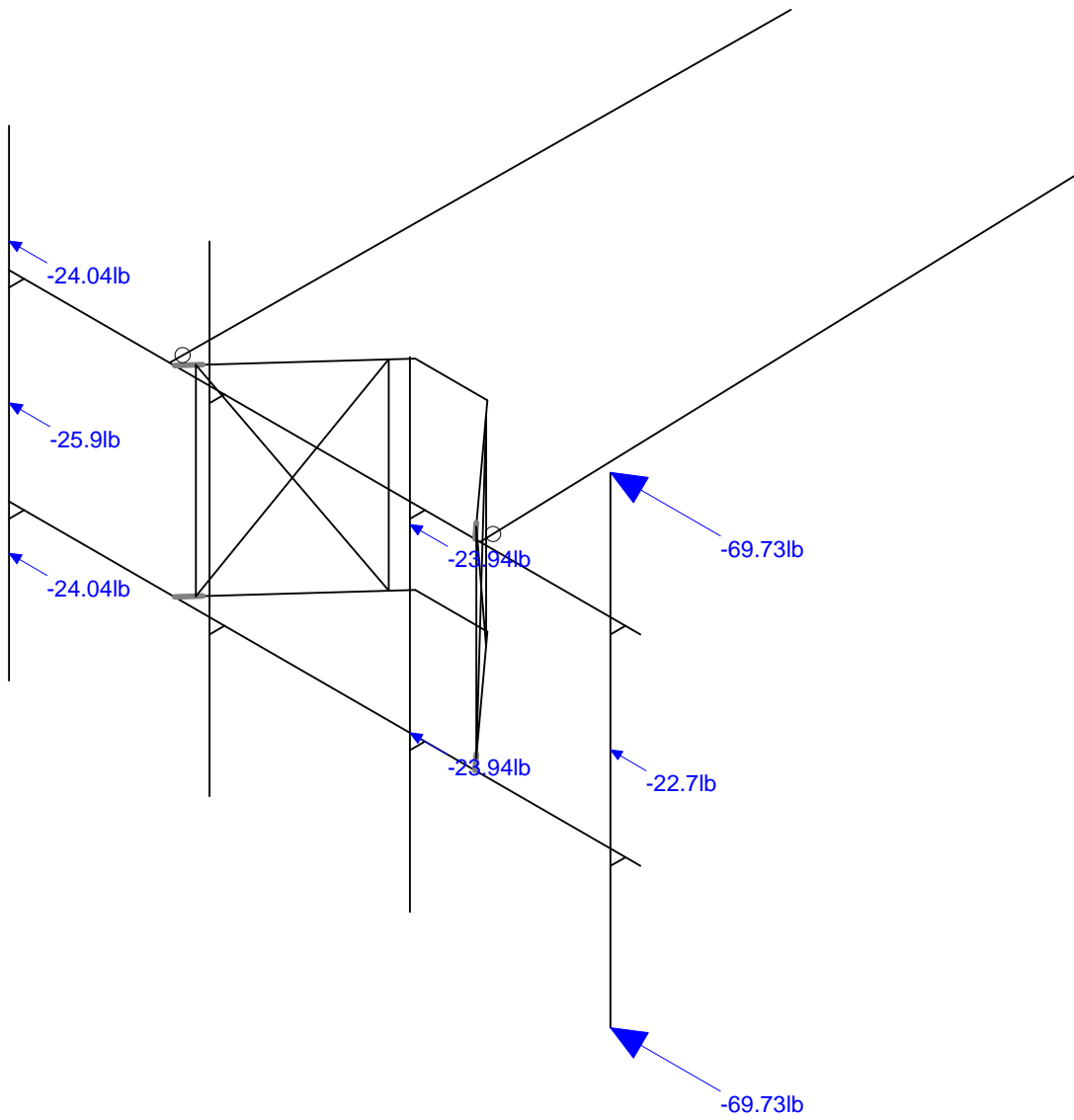
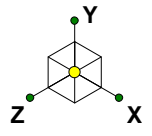
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Ice Weight
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CTNH794A_MA.r3d



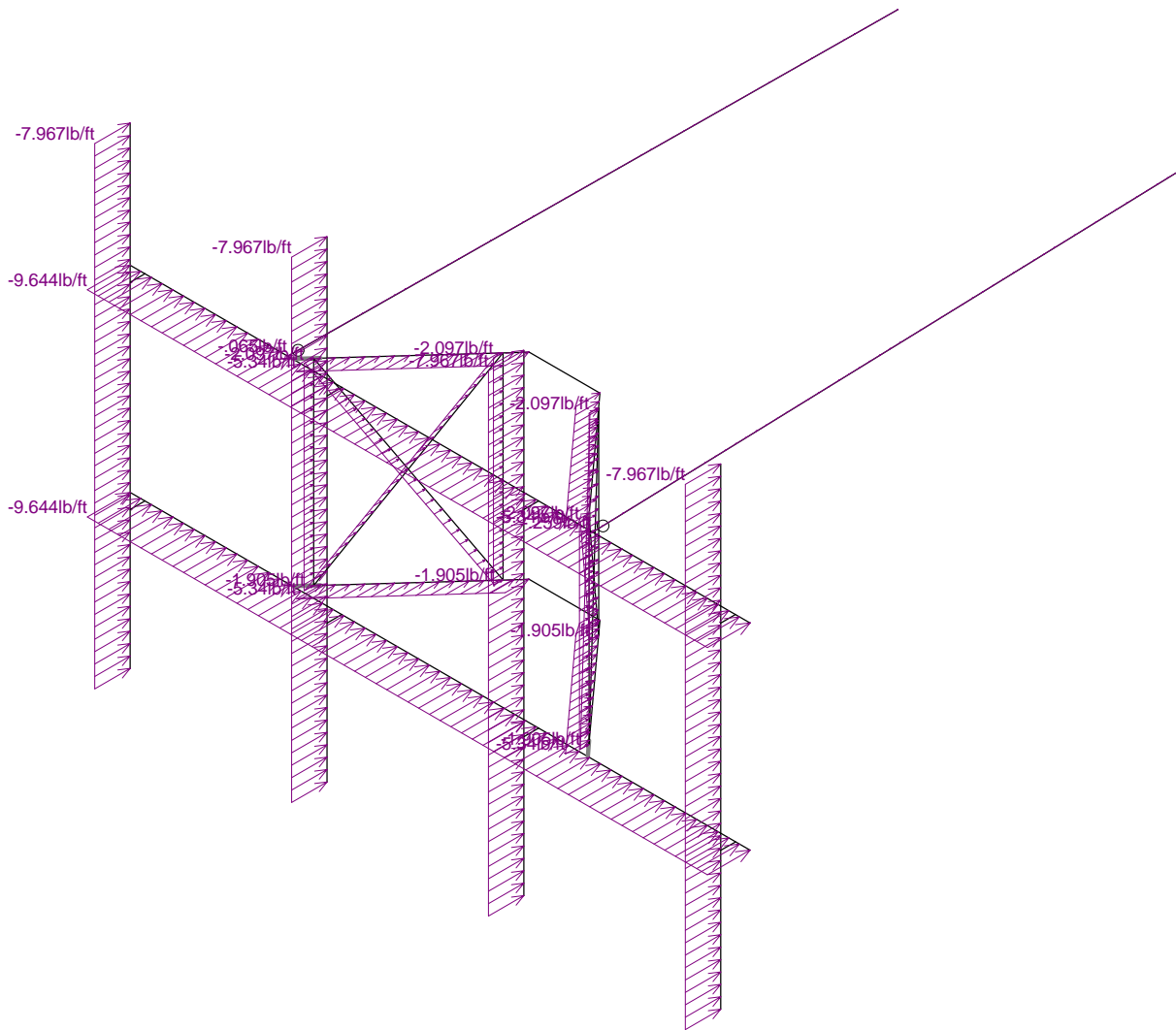
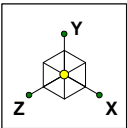
Loads: BLC 10, Ice + Wind 0

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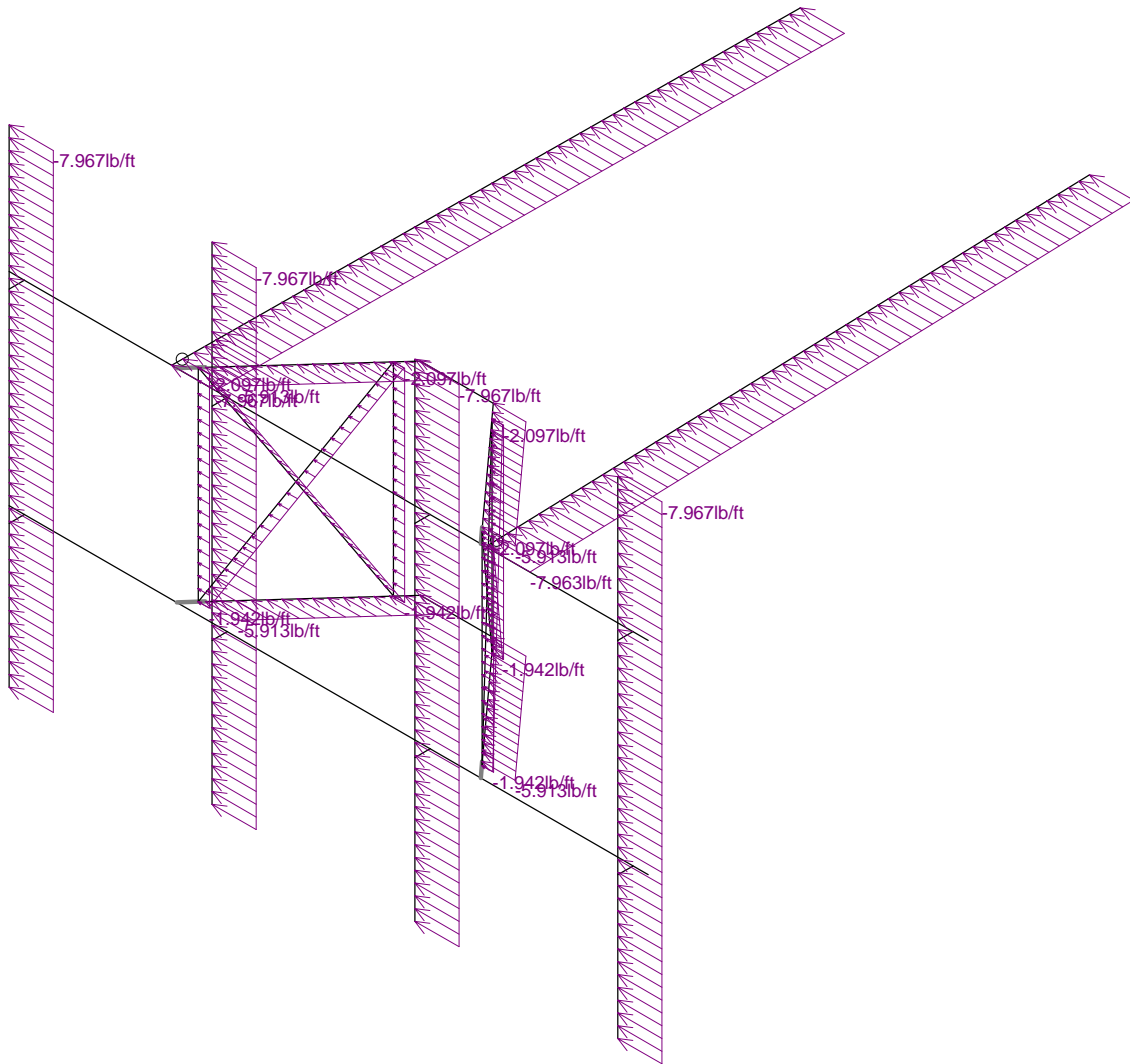
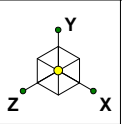
Loads: BLC 13, Ice + Wind 90

Centerline Communication...	CTNH794A_MA	Ice + Wind 90
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		CTNH794A_MA.r3d



Loads: BLC 17, Distri. Wind Z

Centerline Communication...		Distr. Wind 0
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		CTNH794A_MA.r3d



Loads: BLC 18, Distri. Wind X

Centerline Communication...

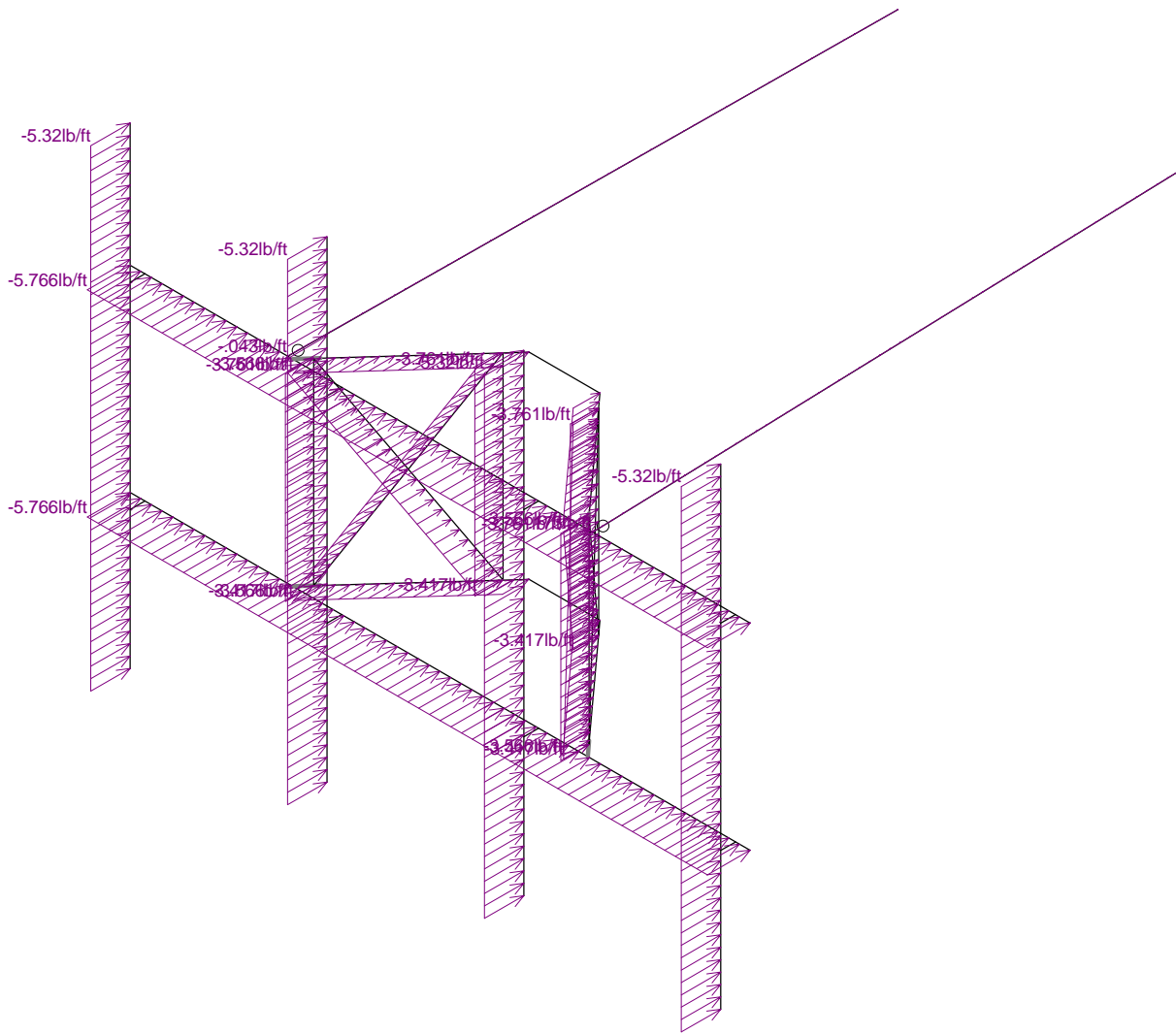
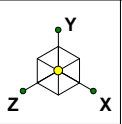
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CTNH794A_MA

Distr. Wind 90

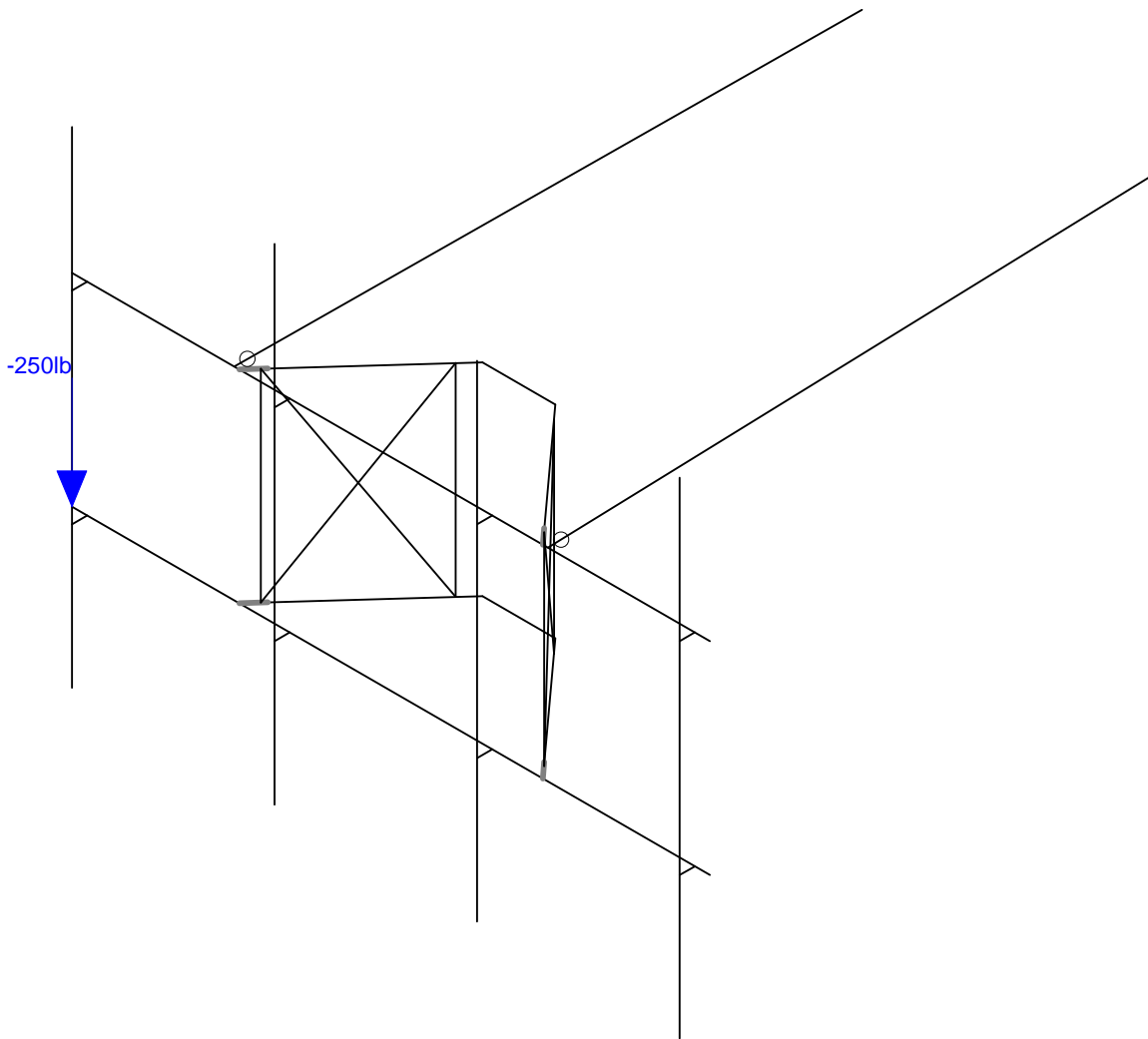
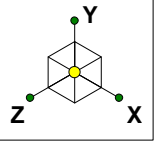
May 4, 2022 at 9:54 AM

CTNH794A_MA.r3d



Loads: BLC 19, Distri. Ice + Wind Z

Centerline Communication...		Distr. Ice + Wind 0
AP	CTNH794A_MA	May 4, 2022 at 9:54 AM
		CTNH794A_MA.r3d



Loads: BLC 23, Live Load 1

Centerline Communication...	CTNH794A_MA	Live Load
AP		May 17, 2022 at 3:49 PM
		CTNH794A_MA.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	Q345	29000	11154	.3	.65	490	36	1.5	58	1.2
4	A572 Gr.50	29000	11154	.3	.65	490	50	1.1	65	1.1
5	A500 Gr.B RND	29000	11154	.3	.65	527	42	1.4	58	1.3
6	A500 Gr.B Rect	29000	11154	.3	.65	527	46	1.4	58	1.3
7	A53 Gr.B	29000	11154	.3	.65	490	35	1.6	60	1.2
8	Q235-GB	29000	11154	.3	.65	490	35	1.6	60	1.2
9	A1085	29000	11154	.3	.65	490	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	2.5"pipe	PIPE 2.5	None	None	Q235-GB	Typical	1.61	1.45	1.45	2.89
2	2" pipe	PIPE 2.0	None	None	Q235-GB	Typical	1.02	.627	.627	1.25
3	0.625" S.R.	0.625" S.R.	None	None	Q345	Typical	.307	.007	.007	.015

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	126	0	0	0	
3	N3	0	40	0	0	
4	N4	126	40	0	0	
5	N7	33	0	0	0	
6	N8	33	40	0	0	
7	N9	93	40	0	0	
8	N10	93	0	0	0	
9	N12	35.010668	40	-2.22648	0	
10	N13	90.989332	40	-2.22648	0	
11	N14	35.010668	0	-2.22648	0	
12	N15	90.989332	0	-2.22648	0	
13	N16	53.274238	40	-22.45034	0	
14	N17	72.725762	40	-22.45034	0	
15	N18	53.274238	0	-22.45034	0	
16	N19	72.725762	0	-22.45034	0	
17	N21	32	40	0	0	
18	N22	94	40	0	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
19	N23	33	40	-123	0	
20	N24	90	40	-123	0	
21	N25	3	0	0	0	
22	N26	3	40	0	0	
23	N27	123	0	0	0	
24	N28	123	40	0	0	
25	N29	43	0	0	0	
26	N30	43	40	0	0	
27	N31	83	0	0	0	
28	N32	83	40	0	0	
29	N33	3	-28	3	0	
30	N34	123	-28	3	0	
31	N35	43	-28	3	0	
32	N36	83	-28	3	0	
33	N37	3	68	3	0	
34	N38	123	68	3	0	
35	N39	43	68	3	0	
36	N40	83	68	3	0	
37	N45A	90	40	-3.322	0	
38	N46A	36	40	-3.322	0	
39	N47	3	0	3	0	
40	N48	3	40	3	0	
41	N49	123	0	3	0	
42	N50	123	40	3	0	
43	N51	43	0	3	0	
44	N52	43	40	3	0	
45	N53	83	0	3	0	
46	N54	83	40	3	0	
47	N49A	55.787574	40	-25.23344	0	
48	N50A	70.212426	40	-25.23344	0	
49	N51A	55.787574	0	-25.23344	0	
50	N52A	70.212426	0	-25.23344	0	
51	N51B	63	40	-25.23344	0	
52	N52B	63	0	-25.23344	0	

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N23	max	60.087	5	68.319	16	668.673	12	0	78	0	78	0	78
2		min	-.417	43	16.001	10	-166.777	22	0	1	0	1	0	1
3	N24	max	66.358	3	68.825	21	1619.987	2	0	78	0	78	0	78
4		min	-51.907	8	15.617	9	-1750.619	14	0	1	0	1	0	1
5	N51B	max	752.241	12	3240.74	20	-323.595	14	0	78	526.242	16	0	78
6		min	-796.979	51	108.42	10	-1708.092	22	0	1	-607.54	13	0	1
7	N52B	max	1047.686	19	604.057	10	2264.11	16	0	78	1014.775	7	0	78
8		min	-399.129	43	-513.212	53	-963.957	15	0	1	-821.819	9	0	1
9	Totals:	max	1776.854	12	2879.951	22	2907.193	9						
10		min	-.004	8	744.116	14	-2907.195	8						

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N23	Reaction	Reaction	Reaction			
2	N24	Reaction	Reaction	Reaction			
3	N51B	Reaction	Reaction	Reaction		Reaction	
4	N52B	Reaction	Reaction	Reaction		Reaction	

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	H1	2.5" pipe	126									Lateral
2	H2	2.5" pipe	126									Lateral
3	S3	2" pipe	34									Lateral
4	S4	2" pipe	34									Lateral
5	S5	2" pipe	34									Lateral
6	S6	2" pipe	34									Lateral
7	SB7	0.625" S.R.	40			Lbyy						Lateral
8	SB8	0.625" S.R.	48.4			Lbyy						Lateral
9	SB9	0.625" S.R.	40			Lbyy						Lateral
10	SB10	0.625" S.R.	48.4			Lbyy						Lateral
11	SB11	0.625" S.R.	48.4			Lbyy						Lateral
12	SB12	0.625" S.R.	40			Lbyy						Lateral
13	SB13	0.625" S.R.	48.4			Lbyy						Lateral
14	SB14	0.625" S.R.	40			Lbyy						Lateral
15	K15	2" pipe	123.004			Lbyy						Lateral
16	K16	2" pipe	123.065			Lbyy						Lateral
17	MP4	2" pipe	96									Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
18	MP3	2" pipe	96									Lateral
19	MP2	2" pipe	96									Lateral
20	MP1	2" pipe	96									Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design R...
1	H1	N3	N4			2.5"pipe	None	None	Q235-GB	Typical
2	H2	N1	N2			2.5"pipe	None	None	Q235-GB	Typical
3	S3	N8	N49A			2" pipe	None	None	Q235-GB	Typical
4	S4	N9	N50A			2" pipe	None	None	Q235-GB	Typical
5	S5	N7	N51A			2" pipe	None	None	Q235-GB	Typical
6	S6	N10	N52A			2" pipe	None	None	Q235-GB	Typical
7	SB7	N12	N14			0.625" S.R.	None	None	Q345	Typical
8	SB8	N14	N16			0.625" S.R.	None	None	Q345	Typical
9	SB9	N16	N18			0.625" S.R.	None	None	Q345	Typical
10	SB10	N18	N12			0.625" S.R.	None	None	Q345	Typical
11	SB11	N19	N13			0.625" S.R.	None	None	Q345	Typical
12	SB12	N13	N15			0.625" S.R.	None	None	Q345	Typical
13	SB13	N15	N17			0.625" S.R.	None	None	Q345	Typical
14	SB14	N17	N19			0.625" S.R.	None	None	Q345	Typical
15	K15	N21	N23			2" pipe	None	None	Q235-GB	Typical
16	K16	N22	N24			2" pipe	None	None	Q235-GB	Typical
17	MP4	N37	N33			2" pipe	None	None	Q235-GB	Typical
18	MP3	N39	N35			2" pipe	None	None	Q235-GB	Typical
19	MP2	N40	N36			2" pipe	None	None	Q235-GB	Typical
20	MP1	N38	N34			2" pipe	None	None	Q235-GB	Typical
21	R21	N47	N25			RIGID	None	None	RIGID	Typical
22	R22	N48	N26			RIGID	None	None	RIGID	Typical
23	R23	N52	N30			RIGID	None	None	RIGID	Typical
24	R24	N51	N29			RIGID	None	None	RIGID	Typical
25	R25	N53	N31			RIGID	None	None	RIGID	Typical
26	R26	N54	N32			RIGID	None	None	RIGID	Typical
27	R27	N50	N28			RIGID	None	None	RIGID	Typical
28	R28	N49	N27			RIGID	None	None	RIGID	Typical
29	M29	N49A	N50A			RIGID	None	None	RIGID	Typical
30	M30	N51A	N52A			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	H1						Yes	** NA **			None
2	H2						Yes	** NA **			None
3	S3			4			Yes	** NA **			None
4	S4			4			Yes	** NA **			None
5	S5			4			Yes	** NA **			None
6	S6			4			Yes	** NA **			None
7	SB7					Euler Buc...	Yes	** NA **			None
8	SB8					Euler Buc...	Yes	** NA **			None
9	SB9					Euler Buc...	Yes	** NA **			None
10	SB10					Euler Buc...	Yes	** NA **			None
11	SB11					Euler Buc...	Yes	** NA **			None
12	SB12					Euler Buc...	Yes	** NA **			None
13	SB13					Euler Buc...	Yes	** NA **			None
14	SB14					Euler Buc...	Yes	** NA **			None
15	K15	BenPIN					Yes	** NA **			None
16	K16	BenPIN					Yes	** NA **			None
17	MP4						Yes	** NA **			None
18	MP3						Yes	** NA **			None
19	MP2						Yes	** NA **			None
20	MP1						Yes	** NA **			None
21	R21						Yes	** NA **			None
22	R22						Yes	** NA **			None
23	R23						Yes	** NA **			None
24	R24						Yes	** NA **			None
25	R25						Yes	** NA **			None
26	R26						Yes	** NA **			None
27	R27						Yes	** NA **			None
28	R28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Dead Load	DL		-1			8		
2	Wind 0	WLZ					16		
3	Wind 30	None					16		
4	Wind 60	None					16		
5	Wind 90	WLX					16		



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Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
6	Wind 120	None					16		
7	Wind 150	None					16		
8	Wind 180	WLZ					16		
9	Ice Weight	DL					8	30	
10	Ice + Wind 0	WLZ					16		
11	Ice + Wind 30	None					16		
12	Ice + Wind 60	None					16		
13	Ice + Wind 90	WLX					16		
14	Ice + Wind 120	None					16		
15	Ice + Wind 150	None					16		
16	Ice + Wind 180	WLZ					16		
17	Distri. Wind Z	WLZ						30	
18	Distri. Wind X	WLX						30	
19	Distri. Ice + Wind Z	WLZ						30	
20	Distrr. Ice + Wind X	WLX						30	
21	Seismic Load Z	ELZ					8	30	
22	Seismic Load X	ELX					8	30	
23	Live Load 1	LL					1		
24	Live Load 2	LL					1		
25	Live Load 3	LL					1		

Load Combinations

	Description	Solve	PDelta	S...B...Fa...B...Fa...B...Fa...B...Fa...B...Fa...B...Fa...B...Fa...B...Fa...
1	1.4D	Yes	Y	1 1.4
2	1.2D + 1.6W 0°	Yes	Y	1 1.2 2 1.6 17 1.6 18
3	1.2D + 1.6W 30°	Yes	Y	1 1.2 3 1.6 17 1.... 18 .8
4	1.2D + 1.6W 60°	Yes	Y	1 1.2 4 1.6 17 .8 18 1....
5	1.2D + 1.6W 90°	Yes	Y	1 1.2 5 1.6 17 18 1.6
6	1.2D + 1.6W 120°	Yes	Y	1 1.2 6 1.6 17 -.8 18 1....
7	1.2D + 1.6W 150°	Yes	Y	1 1.2 7 1.6 17 -1.... 18 .8
8	1.2D + 1.6W 180°	Yes	Y	1 1.2 8 1.6 17 -1.6 18
9	0.9D + 1.6W 0°	Yes	Y	1 .9 2 1.6 17 1.6 18
10	0.9D + 1.6W 30°	Yes	Y	1 .9 3 1.6 17 1.... 18 .8
11	0.9D + 1.6W 60°	Yes	Y	1 .9 4 1.6 17 .8 18 1....
12	0.9D + 1.6W 90°	Yes	Y	1 .9 5 1.6 17 18 1.6
13	0.9D + 1.6W 120°	Yes	Y	1 .9 6 1.6 17 -.8 18 1....
14	0.9D + 1.6W 150°	Yes	Y	1 .9 7 1.6 17 -1.... 18 .8
15	0.9D + 1.6W 180°	Yes	Y	1 .9 8 1.6 17 -1.6 18
16	1.2D + 1.0Di + 1.0...	Yes	Y	1 1.2 9 1 10 1 19 1 20



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Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
17	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	11	1	19	.866	20	.5							
18	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	12	1	19	.5	20	.866							
19	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	13	1	19		20	1							
20	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	14	1	19	-.5	20	.866							
21	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	15	1	19	-.8	20	.5							
22	1.2D + 1.0Di + 1.0...	Yes	Y	1	1.2	9	1	16	1	19	-1	20								
23	1.2D + 1.0Eh 0°	Yes	Y	1	1.2	21	1	22												
24	1.2D + 1.0Eh 30°	Yes	Y	1	1.2	21	.866	22	.5											
25	1.2D + 1.0Eh 60°	Yes	Y	1	1.2	21	.5	22	.866											
26	1.2D + 1.0Eh 90°	Yes	Y	1	1.2	21		22	1											
27	1.2D + 1.0Eh 120°	Yes	Y	1	1.2	21	-.5	22	.866											
28	1.2D + 1.0Eh 150°	Yes	Y	1	1.2	21	-.8	22	.5											
29	1.2D + 1.0Eh 180°	Yes	Y	1	1.2	21	-1	22												
30	0.9D + 1.0Eh 0°	Yes	Y	1	.9	21	1	22												
31	0.9D + 1.0Eh 30°	Yes	Y	1	.9	21	.866	22	.5											
32	0.9D + 1.0Eh 60°	Yes	Y	1	.9	21	.5	22	.866											
33	0.9D + 1.0Eh 90°	Yes	Y	1	.9	21		22	1											
34	0.9D + 1.0Eh 120°	Yes	Y	1	.9	21	-.5	22	.866											
35	0.9D + 1.0Eh 150°	Yes	Y	1	.9	21	-.8	22	.5											
36	0.9D + 1.0Eh 180°	Yes	Y	1	.9	21	-1	22												
37	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	2	.342	17	.342	18								
38	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	3	.342	17	.296	18	.171							
39	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	4	.342	17	.171	18	.296							
40	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	5	.342	17		18	.342							
41	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	6	.342	17	-.1	18	.296							
42	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	7	.342	17	-.2	18	.171							
43	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	23	1.5	8	.342	17	-.3	18								
44	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	2	.342	17	.342	18								
45	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	3	.342	17	.296	18	.171							
46	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	4	.342	17	.171	18	.296							
47	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	5	.342	17		18	.342							
48	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	6	.342	17	-.1	18	.296							
49	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	7	.342	17	-.2	18	.171							
50	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	24	1.5	8	.342	17	-.3	18								
51	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	2	.342	17	.342	18								
52	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	3	.342	17	.296	18	.171							
53	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	4	.342	17	.171	18	.296							
54	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	5	.342	17		18	.342							
55	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	6	.342	17	-.1	18	.296							
56	1.0D + 1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	7	.342	17	-.2	18	.171							



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Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
57	1.0D +1.5Lv + 1.0...	Yes	Y	1	1	25	1.5	8	.342	17	-.3	18								
58	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	2	.096	17	.096	18								
59	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	3	.096	17	.083	18	.048							
60	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	4	.096	17	.048	18	.083							
61	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	5	.096	17		18	.096							
62	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	6	.096	17	-.0	18	.083							
63	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	7	.096	17	-.0	18	.048							
64	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	23	1	8	.096	17	-.0	18								
65	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	2	.096	17	.096	18								
66	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	3	.096	17	.083	18	.048							
67	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	4	.096	17	.048	18	.083							
68	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	5	.096	17		18	.096							
69	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	6	.096	17	-.0	18	.083							
70	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	7	.096	17	-.0	18	.048							
71	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	24	1	8	.096	17	-.0	18								
72	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	2	.096	17	.096	18								
73	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	3	.096	17	.083	18	.048							
74	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	4	.096	17	.048	18	.083							
75	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	5	.096	17		18	.096							
76	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	6	.096	17	-.0	18	.083							
77	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	7	.096	17	-.0	18	.048							
78	1.2D + 1.0Lv + 1.0...	Yes	Y	1	1.2	25	1	8	.096	17	-.0	18								

Envelope AISC 14th(360-10): LRFD Steel Code Checks

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[...]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M.....	Eqn
1	MP1	PIPE 2.0	.719	28	2	.073	28	8	1491...	32130	1871....	1871.....	H1-1b
2	H2	PIPE 2.5	.521	93.188	2	.274	93.1...	8	2057...	50715	3596....	3596.....	H3-6
3	H1	PIPE 2.5	.495	94.5	8	.239	93.1...	8	2057...	50715	3596....	3596.....	H1-1b
4	S4	PIPE 2.0	.467	0	8	.331	30	18	2981...	32130	1871....	1871.....	H1-1b
5	S5	PIPE 2.0	.437	30	7	.082	26.25	7	2981...	32130	1871....	1871.....	H1-1b
6	S6	PIPE 2.0	.422	0	9	.097	26.25	10	2981...	32130	1871....	1871.....	H1-1b
7	SB13	0.625" S.R.	.257	48.4	21	.023	0	7	675.0...	9946.8	96.768	96.768 ...	H1-...
8	MP2	PIPE 2.0	.243	68	16	.069	28	7	1491...	32130	1871....	1871.....	H1-1b
9	S3	PIPE 2.0	.242	0	2	.313	30	16	2981...	32130	1871....	1871.....	H1-1b
10	MP4	PIPE 2.0	.207	68	43	.037	68	37	1491...	32130	1871....	1871.....	H1-1b
11	K16	PIPE 2.0	.173	123.0...	2	.008	123...	19	9352...	32130	1871....	1871.....	H1-...
12	SB8	0.625" S.R.	.137	48.4	16	.018	0	18	675.0...	9946.8	96.768	96.768 ...	H1-...
13	MP3	PIPE 2.0	.135	28	14	.055	28	7	1491...	32130	1871....	1871.....	H1-1b
14	K15	PIPE 2.0	.128	61.502	5	.008	123...	19	9361....	32130	1871....	1871.....	H1-1b



Company : Centerline Communications, LLC
 Designer : AP
 Job Number :
 Model Name : CTNH794A_MA

May 17, 2022
 3:49 PM
 Checked By: NJ

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[...]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M.....	Eqn
15	SB12	0.625" S.R.	.052	0	15	.015	0	7	988.3...	9946.8	96.768	96.768	... H1-...
16	SB9	0.625" S.R.	.052	0	52	.009	40	7	988.3...	9946.8	96.768	96.768	... H1-...
17	SB14	0.625" S.R.	.013	0	14	.009	40	7	988.3...	9946.8	96.768	96.768	... H1-...
18	SB10	0.625" S.R.	.011	0	14	.015	48.4	8	675.0...	9946.8	96.768	96.768	... H1-...
19	SB7	0.625" S.R.	.001	0	15	.014	0	7	988.3...	9946.8	96.768	96.768	... H1-...
20	SB11	0.625" S.R.	.000	0	78	.013	48.4	8	675.0...	9946.8	96.768	96.768	1 H1-1a

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Exposure Analysis Report

June 8, 2022

Centerline on behalf of T-Mobile
Centerline Communications Project Number: N/A

T-Mobile Site Name: CT60XC956
Site Number: CTNH794A

Site Address: 164 COUNTY RD, WOLCOTT, CT 06716

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	18.80487 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	1.8805000000000001%



June 8, 2022

Centerline
Attn: Ryan Clark, Site Acquisition Consultant
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **CT60XC956**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed T-Mobile facility at **164 COUNTY RD, WOLCOTT, CT 06716** 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 T-Mobile 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 578' southwest 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
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	700	13.65	201.00	2.00	40.00	1853.92	0.00000	466.67	0.00000
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	4.00	60.00	4733.81	0.00000	400.00	0.00000
T-Mobile A 1	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile A 2	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	0.01602	1000.00	0.00160
T-Mobile A 2	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	0.01602	1000.00	0.00160
T-Mobile A 3	COMMSCOPE VV-65A-R1	2100	16.43	201.00	2.00	140.00	12307.17	0.00000	1000.00	0.00000
T-Mobile A 3	COMMSCOPE VV-65A-R1	1900	15.80	201.00	2.00	140.00	10645.30	0.00000	1000.00	0.00000
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	700	13.65	201.00	2.00	40.00	1853.92	0.00001	466.67	0.00000
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	4.00	60.00	4733.81	0.00003	400.00	0.00001
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	2.00	40.00	1577.94	0.00001	400.00	0.00000
T-Mobile B 5	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	9.19551	1000.00	0.91955
T-Mobile B 5	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	9.19551	1000.00	0.91955
T-Mobile B 6	COMMSCOPE VV-65A-R1	2100	16.43	201.00	2.00	140.00	12307.17	0.00004	1000.00	0.00000
T-Mobile B 6	COMMSCOPE VV-65A-R1	1900	15.80	201.00	2.00	140.00	10645.30	0.00004	1000.00	0.00000
T-Mobile C 7	RFS APXVAALL24 43-U-NA20	700	13.65	201.00	2.00	40.00	1853.92	0.00000	466.67	0.00000
T-Mobile C 7	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	4.00	60.00	4733.81	0.00000	400.00	0.00000
T-Mobile C 7	RFS APXVAALL24 43-U-NA20	600	12.95	201.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile C 8	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	0.19080	1000.00	0.01908
T-Mobile C 8	ERICSSON AIR6419	2500	22.05	201.00	2.00	80.00	25651.93	0.19080	1000.00	0.01908
T-Mobile C 9	COMMSCOPE VV-65A-R1	2100	16.43	201.00	2.00	140.00	12307.17	0.00000	1000.00	0.00000
T-Mobile C 9	COMMSCOPE VV-65A-R1	1900	15.80	201.00	2.00	140.00	10645.30	0.00000	1000.00	0.00000
Calamp Wireless A 10	GENERIC OMNI	850	8.96	306.80	1.00	25.00	196.76	0.00000	566.67	0.00000
Dish A 11	JMA MX08FRO665-21	700	12.05	223.00	4.00	60.00	3847.79	0.00000	466.67	0.00000
Dish A 11	JMA MX08FRO665-21	1900	15.75	223.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish A 11	JMA MX08FRO665-21	2100	16.75	223.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Dish B 12	JMA MX08FRO665-21	700	12.05	223.00	4.00	60.00	3847.79	0.00004	466.67	0.00001
Dish B 12	JMA MX08FRO665-21	1900	15.75	223.00	4.00	40.00	6013.40	0.00003	1000.00	0.00000
Dish B 12	JMA MX08FRO665-21	2100	16.75	223.00	4.00	40.00	7570.42	0.00002	1000.00	0.00000
Dish C 13	JMA MX08FRO665-21	700	12.05	223.00	4.00	60.00	3847.79	0.00000	466.67	0.00000
Dish C 13	JMA MX08FRO665-21	1900	15.75	223.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish C 13	JMA MX08FRO665-21	2100	16.75	223.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Cox A 14	GENERIC OMNI	850	8.96	182.00	1.00	25.00	196.76	0.00000	566.67	0.00000
							Cumulative Power Density:	18.80487 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	1.88050%



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.

Exhibit G

Mailing Receipts/Proof of Notice

UPS CampusShip: View/Print Label

- 1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
- 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
- 3. **GETTING YOUR SHIPMENT TO UPS**
Customers with a Daily Pickup
 Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup




Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
 Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
 Hand the package to any UPS driver in your area.

UPS Access Point™
 CVS STORE # 629
 146 SOUTH ST
 DANBURY ,CT 06810

UPS Access Point™
 TIENDA ECUADOR
 72 LAKE AVE
 DANBURY ,CT 06810

UPS Access Point™
 THE UPS STORE
 42 LAKE AVENUE EXT
 DANBURY ,CT 06811

FOLD HERE

<p style="text-align: right;">1 OF 1</p> <p>1 LBS DWT: 12.9,1</p> <p>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY ,CT 06810-8312</p> <p>SHIP TO: PLANNING AND ZONING TOWN OF WOLCOTT 10 KENEA AVE WOLCOTT CT 06716-2114</p>	<p>CT 067 9-05</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1675 5259</p> 	<p style="text-align: right;">BILLING: P/P</p> <div style="text-align: right;">  </div> <p style="font-size: small; text-align: right;">CS 22.9.00. WNTNV50 26.0A 06/2022*</p>
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UPS CampusShip: View/Print Label

- 1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
- 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. GETTING YOUR SHIPMENT TO UPS

Customers with a Daily Pickup

Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.


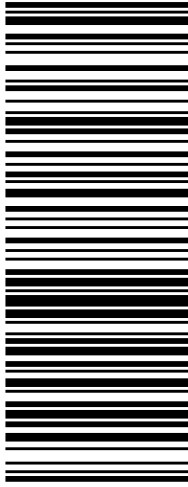

Hand the package to any UPS driver in your area.

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 CVS STORE # 629
 146 SOUTH ST
 DANBURY ,CT 06810

UPS Access Point™
 TIENDA ECUADOR
 72 LAKE AVE
 DANBURY ,CT 06810

UPS Access Point™
 THE UPS STORE
 42 LAKE AVENUE EXT
 DANBURY ,CT 06811

FOLD HERE

<p>1 LBS 1 OF 1 DWT: 12.9,1</p> <p>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</p> <p>SHIP TO: LAND MANAGEMENT 7814287250 AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN MA 01801-1053</p>	<p>MA 018 9-04</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 2507 5137</p> 	<p>BILLING: P/P</p>  <p>CS 22.9.00. WNTNV50 26.0A 06/2022*</p>
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- 1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
- 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

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Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.


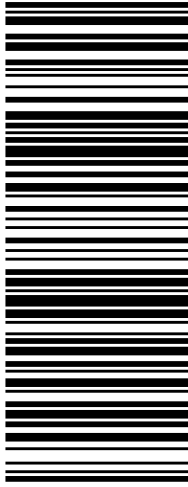

Hand the package to any UPS driver in your area.

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 146 SOUTH ST
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 DANBURY ,CT 06810

UPS Access Point™
 THE UPS STORE
 42 LAKE AVENUE EXT
 DANBURY ,CT 06811

FOLD HERE

<p>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</p> <p>1 LBS 1 OF 1 DWT: 12.9,1</p> <p>SHIP TO: THOMAS DUNN TOWN OF WOLCOTT 10 KENEA AVE WOLCOTT CT 06716-2114</p>	<p>CT 067 9-05</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1590 4241</p> 	<p>BILLING: P/P</p>  <p style="font-size: small;">CS 22.9.00. WNTNV50 26.0A 06/2022*</p>
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Your shipment from
CENTERLINE SITE ACQUISITION

Estimated delivery

Monday, June 27 **between** 9:45 A.M. - 11:45 A.M.



Label Created



On the Way

Out for Delivery

Delivery

Ship To

AMERICAN TOWER CORPORATION
LAND MANAGEMENT
10 PRESIDENTIAL WAY
WOBURN, MA 018011053 US

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Your shipment from
CENTERLINE SITE ACQUISITION

Estimated delivery

Monday, June 27 **between** 10:15 A.M. - 2:15 P.M.



Label Created



On the Way

Out for Delivery

Delivery

Ship To

TOWN OF WOLCOTT
THOMAS DUNN
10 KENEA AVE
WOLCOTT, CT 067162114 US

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Your shipment from
CENTERLINE SITE ACQUISITION

Estimated delivery

Monday, June 27 **between** 10:15 A.M. - 2:15 P.M.



Label Created



On the Way

Out for Delivery

Delivery

Ship To

TOWN OF WOLCOTT
PLANNING AND ZONING
10 KENEA AVE
WOLCOTT, CT 067162114 US

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