February 19, 2021

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

RE: **Notice of Exempt Modification for AT&T**
Crown Site ID# 828054; AT&T Site ID #10035346
300 Governors Highway, South Windsor, CT 06074
Latitude: 41° 50′ 0.40″/ Longitude: -72° 36′ 11.00″

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 156-foot mount on the existing 169-foot Monopole Tower located at 300 Governors Highway in South Windsor. The property is owned by Electron Technologies and the Tower is owned by Crown Castle. AT&T now intends to relocate three (3) existing antennas and add three (3) new antennas. The new antennas will be installed at the 156-ft level of the tower. AT&T is also proposes tower mount modifications as shown on the enclosed Mount Analysis. This modification/proposal includes B2, B5, and B12 hardware that is both 4G(LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

The facility was approved by the Town of South Windsor Planning and Zoning Commission in Application No. 99-51P on September 21, 1999. This approval was given without conditions.

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 The Honorable Andrew Paterna, Mayor of the Town of South Windsor, Michele M. Lipe, Director of Planning for the Town of South Windsor, and the property owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification 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 Communication 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, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Richard Zajac
Site Acquisition Specialist
4545 East River Road, Suite 320
West Henrietta, NY
(585) 445-5896
Richard.zajac@crowncastle.com

Attachments
cc:

The Honorable Andrew Paterna, Mayor
Town of South Windsor
1540 Sullivan Ave
South Windsor, CT 06074
860-644-2511

Michele M. Lipe, Director of Planning
Town of South Windsor
1540 Sullivan Ave
South Windsor, CT 06074
860-644-2511 ext. 252

Electron Technologies
300 Governors Highway
South Windsor, NY 06074
201-236-9224

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

ORIGIN ID:ONHA (585) 445-5896
RICHARD ZAJAC
CROWN CASTLE
629 KAYLEIGH DR

WEBSTER, NY 14580
UNITED STATES US

SHIP DATE: 19FEB21
ACTWGT: 1.00 LB
CAD: 112911364/INET4340

BILL SENDER

TO **ELECTRON TECHNOLOGIES**

300 GOVERNORS HIGHWAY

SOUTH WINDSOR CT 06074

(201) 236-9224

REF: 799001.7680

INV:

PO:

DEPT:

J211121011901uv

FedEx Express

56DJ3/CB7A/FE4A

MON - 22 FEB 4:30P

STANDARD OVERNIGHT

TRK# 0201 **7729 5076 1465**

XE QCWA

06074

BDL

CT-US

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Exhibit A

Original Facility Approval

Town of South Windsor
1540 SULLIVAN AVENUE • SOUTH WINDSOR, CT 06074-2786
AREA CODE 860/644-2511
FAX 860/644-3781

CERTIFIED MAIL

September 21, 1999

Mr. Thomas M. Gilligan
Omnipoint Communications, Inc.
100 Filley Street
Bloomfield, CT 06002

Dear Mr. Gilligan:

Re: Appl 99-51P, Omnipoint Communications Services

We are pleased to advise you that the Planning & Zoning Commission voted on September 14, 1999 to approve with modifications the above referenced application for a request for a Special Exception to Section XVI for the construction of a 175 ft. multi-carrier telecommunications monopole on property located at 300 Governor's Highway, I zone as shown on plans prepared by Arcnet, Job No. A 99506823A, dated 5/9/99, as revised. This approval is subject to the following modifications:

1. Prior to commencement of any site work, a meeting must be held with Town Staff.

2. No building permit will be issued until the final mylars have been filed in the Town Clerk's office.

3. An as-built plan is required prior to issuance of a Certificate of Occupancy per Section 8.1.10 of the Zoning Regulations.

4. All plans used in the field by the developer must bear the stamp and authorized signature of the Town of South Windsor.

5. Special Exception approval is granted for five years and must be renewed prior to September 14, 2004. The attached Special Exception form must be completed and filed in the Town Clerk's office. The special exception will take effect upon filing.

Black and white transparent mylars of Sheet S-1 with the above modifications, together with three blueprint copies of the entire set of plans must be submitted to this Commission within 30 days to be stamped and signed.

After the mylars have been signed by the Commission, they will be returned to you for filing in the Office of the Town Clerk. After filing these plans, a copy of the receipt must be submitted to the Planning Department.

Sincerely,

Sue W. Larsen, Chairperson
Planning and Zoning Commission

SL/dlw

Attachment

cc: Town Engineer
Chief Building Official
Assessor
Superintendent of Pollution Control
Fire Marshal

Exhibit B

Property Card

300 GOVERNORS HIGHWAY

Location	300 GOVERNORS HIGHWAY	**Mblu**	71/ 22/ / /
Acct#	36900300	**Owner**	ELECTRON TECHNOLOGIES CORPORATIO
Assessment	$776,200	**Appraisal**	$1,108,900
PID	2698	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$628,200	$480,700	$1,108,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$439,700	$336,500	$776,200

Owner of Record

Owner	ELECTRON TECHNOLOGIES CORPORATIO	**Sale Price**	$800,000
Co-Owner	P.O.BOX 316	**Certificate**	
Address	300 GOVERNORS HIGHWAY SOUTH WINDSOR, CT 06074	**Book & Page**	540/ 418
		Sale Date	10/04/1988
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
ELECTRON TECHNOLOGIES CORPORATIO	$800,000		540/ 418	00	10/04/1988

Building Information

Building 1 : Section 1

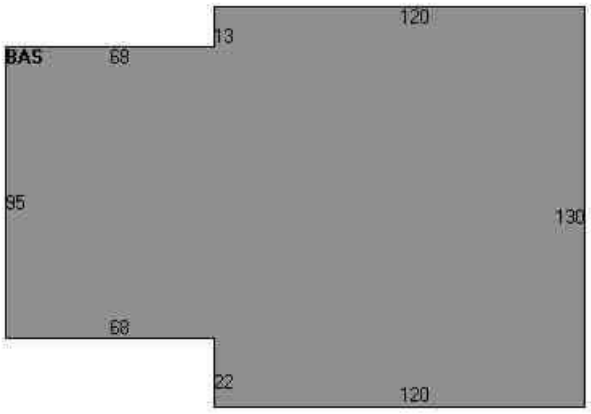
Year Built:	1965
Living Area:	22,060
Replacement Cost:	$960,272
Building Percent Good:	63
Replacement Cost Less Depreciation:	$605,000

Building Attributes	
Field	**Description**
STYLE	Light Industrial
MODEL	Comm/Ind
Grade	C
Stories:	1.00
Occupancy	1
Exterior Wall 1	Precast Panel
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minimum
Interior Wall 2	Drywall
Interior Floor 1	Concrete
Interior Floor 2	Carpet
Heating Fuel	Gas
Heating Type	Forced Hot Air
% Central Air	100
Foundation	Poured Conc
Bldg Use	Industrial
Total Rooms	0
Total Bedrms	0
Total Fixtures	12
% Wet Sprinkler	
% Dry Sprinkler	
1st Floor Use	
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
% Finished	25
Class	C
Wall Height	16

Building Photo

(http://images.vgsi.com/photos/SouthWindsorCTPhotos//\00\00\19/99.JPG)

Building Layout



(http://images.vgsi.com/photos/SouthWindsorCTPhotos//Sketches/2698_2(

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	22,060	22,060
		22,060	22,060

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use **Land Line Valuation**

Use Code	301	**Size (Acres)**	6.03
Description	Industrial	**Frontage**	0
Zone	I	**Depth**	0
Neighborhood	C400	**Assessed Value**	$336,500
Alt Land Appr	No	**Appraised Value**	$480,700
Category			

Outbuildings

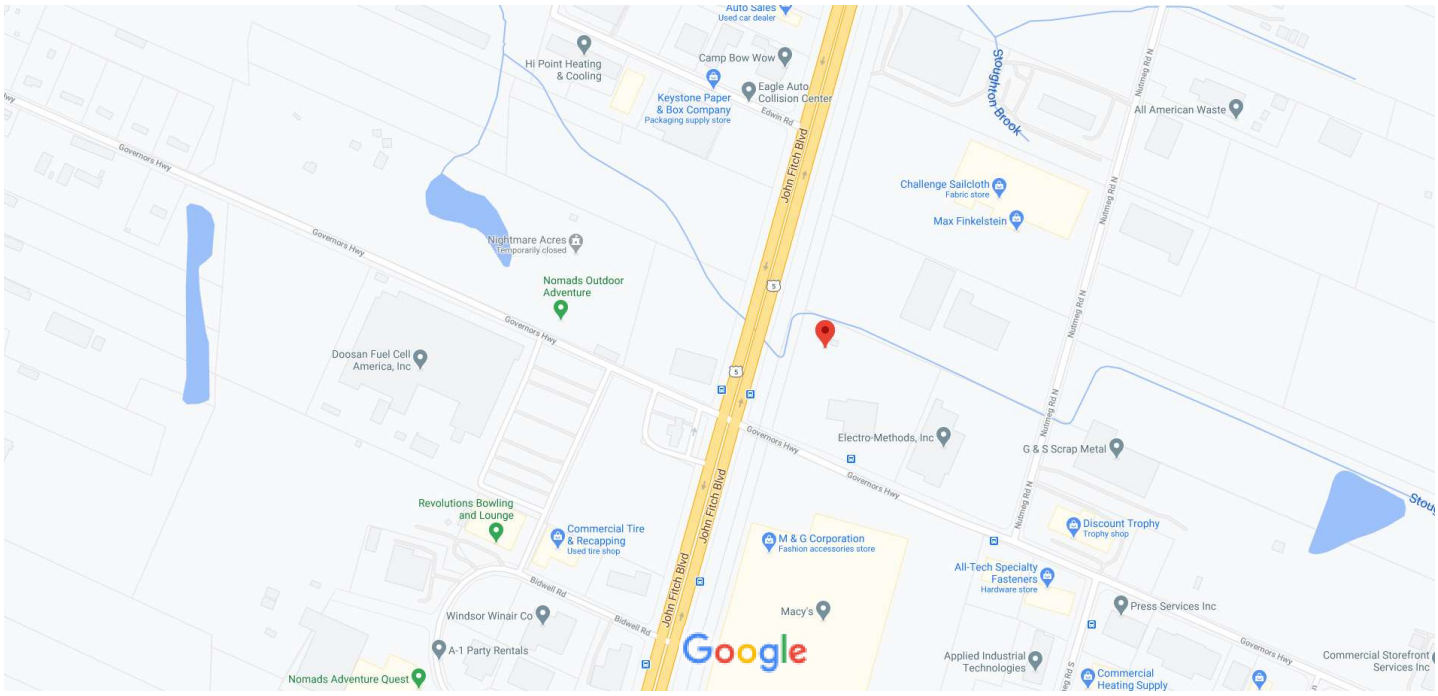
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving	AS	Asphalt	36700 S.F.	$19,300	1
FN1	Fence			1080 L.F.	$3,200	1
LT1	Lights			1 UNITS	$700	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$628,200	$480,700	$1,108,900
2018	$628,200	$480,700	$1,108,900
2017	$628,200	$480,700	$1,108,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$439,700	$336,500	$776,200
2018	$439,700	$336,500	$776,200
2017	$439,700	$336,500	$776,200

Google Maps 41°50'00.4"N 72°36'11.0"W



Map data ©2021 Google 200 ft

41°50'00.4"N 72°36'11.0"W

41.833444, -72.603056

Directions Save Nearby Send to your phone Share

South Windsor School District, South Windsor, CT

R9MW+9Q South Windsor, Connecticut

Exhibit C

Construction Drawings

AT&T

AT&T SITE NUMBER: CTL01135
AT&T SITE NAME: SOUTH WINDSOR WEST
AT&T FA CODE: 10035346
AT&T PACE NUMBER: MRCTB048456, MRCTB048625, MRCTB048567, MRCTB08639, MRCTB048548
AT&T PROJECT: LTE 3C, 4C, 5G NR, 4TX4RX

BUSINESS UNIT #: 828054
SITE ADDRESS: 300 GOVERNORS HIGHWAY SOUTH WINDSOR, CT 06074
COUNTY: HARTFORD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 169'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	SOUTH WINDSOR/RT5
SITE ADDRESS:	300 GOVERNORS HIGHWAY SOUTH WINDSOR, CT 06074
COUNTY:	HARTFORD
MAP/PARCEL #:	71-22
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.8334861
LONGITUDE:	-72.6030269
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	70'
CURRENT ZONING:	I
JURISDICTION:	TOWN OF SOUTH SINDSOR
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	ELECTRON TECHNOLOGIES CORPORATION 300 GOVERNORS HIGHWAY SOUTH WINDSOR, CT 06074
TOWER OWNER:	CROWN CASTLE USA INC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	NOT PROVIDED
TELCO PROVIDER:	NOT PROVIDED

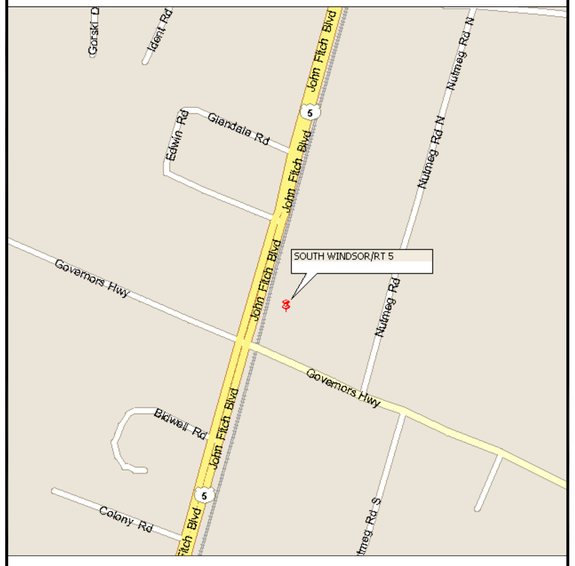
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4	EQUIPMENT MOUNTING DETAILS
C-5	EQUIPMENT SPECS
C-6	HATCH PLATE DETAILS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAMS
ATTACHED	MOUNT MOD DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 24X36. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

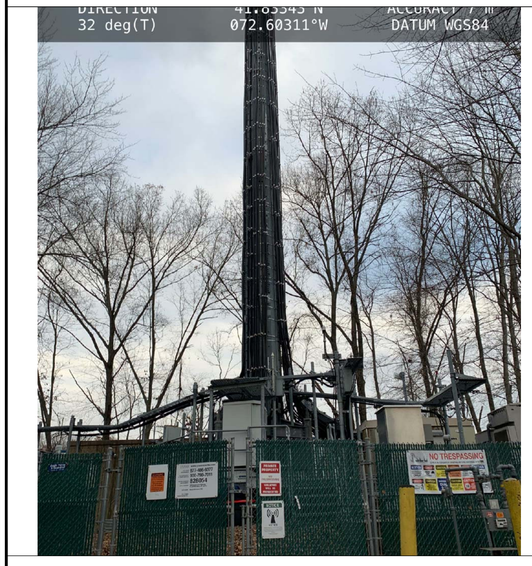
CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP



NO SCALE

SITE PHOTO



PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S BOULDER AVE, SUITE 300 TULSA, OK 74119 JENNY PAUL jpaul@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (3) ERICSSON RRUS-11 B12 RRUs
- REMOVE (3) ERICSSON RRUS-12 B2+RRUS A2 B25 RRUs
- REMOVE (6) COMM COMPONENTS INC DTMABP7819VG12A TMAs
- RELOCATE (3) KMW COMM-AMM-X-CW-18-65-00T-RET ANTENNAS
- INSTALL (3) NEW CCI OPA65R-BU6DA ANTENNAS
- INSTALL (3) NEW CCI DMP65R-BU6DA ANTENNAS
- INSTALL (3) NEW ERICSSON RRUS 8843 B2/B66A RRUs
- INSTALL (3) NEW ERICSSON 4449 B5/B12 RRUs
- INSTALL (3) NEW ERICSSON 4415 B30 RRUs
- INSTALL (1) NEW RAYCAP DC6-48-60-18-8F JUNCTION BOX
- INSTALL (1) FIBER CABLE
- INSTALL (2) COAX CABLES
- MODIFY MOUNT PER MOUNT ANALYSIS BY INFINIGY ENGINEERING, PLLC DATED 11/9/20

GROUND SCOPE OF WORK:
- REMOVE (1) POWER PLANT
- REMOVE (1) BATTERY STRING
- REMOVE (1) LTE CONVERTER SHELF
- INSTALL (1) VERTIV 721-48V POWER PLANT
- INSTALL (12) BATTERIES
- INSTALL (6) RECTIFIERS
- INSTALL (4) -48V CONVERTER MODULES
- INSTALL (15) VERTIV UP-CONVERTERS
- INSTALL (1) 6630
- INSTALL (1) IDLE CABLE
- INSTALL (1) INDOOR DC12 RAYCAP
- INSTALL (1) HATCH PLATE

NOTE:
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2015 IBC/2018 CT STATE BUILDING CODE
MECHANICAL	2015 IMC/2018 CT STATE BUILDING CODE
ELECTRICAL	2017EC/2018 CT STATE BUILDING CODE

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	PAUL J. FORD & COMPANY
DATED:	11/17/20
MOUNT ANALYSIS:	INFINIGY ENGINEERING
DATED:	11/9/20
AC ELECTRICAL POWER DESIGN:	BY OTHERS
DATED:	
RFDS REVISION:	1
DATED:	08/14/20
ORDER ID:	531442
REVISION:	2

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER:
CTL01135

BU #: **828054**
SOUTH WINDSOR/RT5

300 GOVERNORS HIGHWAY
SOUTH WINDSOR, CT 06074

EXISTING
169'-0" MONOPOLE

ISSUED FOR:

REV.	DATE	DRWN	DESCRIPTION	DES./QA
A	11/23/20	JTS	PRELIMINARY REVIEW	MTJ
B	12/7/20	GEH	PRELIMINARY REVIEW	GEH
C	12/8/20	GEH	PRELIMINARY REVIEW	MTJ
D	12/23/20	JJD	PRELIMINARY REVIEW	MTJ
0	1/25/21	JJD	CONSTRUCTION	RMC

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
1/25/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

SHEET NUMBER: T-1
REVISION: 0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED–STD–10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR 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.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: AT&T
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR 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 CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR 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.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER............................40 ksi
   #5 BARS AND LARGER............................60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..........3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
      #6 BARS AND LARGER............................2"
      #5 BARS AND SMALLER............................1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
      SLAB AND WALLS............................3/4"
      BEAMS AND COLUMNS............................1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   - 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   - 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER:
CTL01135

BU #: **828054**
SOUTH WINDSOR/RT5

300 GOVERNORS HIGHWAY
SOUTH WINDSOR, CT 06074

EXISTING
169'-0" MONOPOLE

ISSUED FOR:

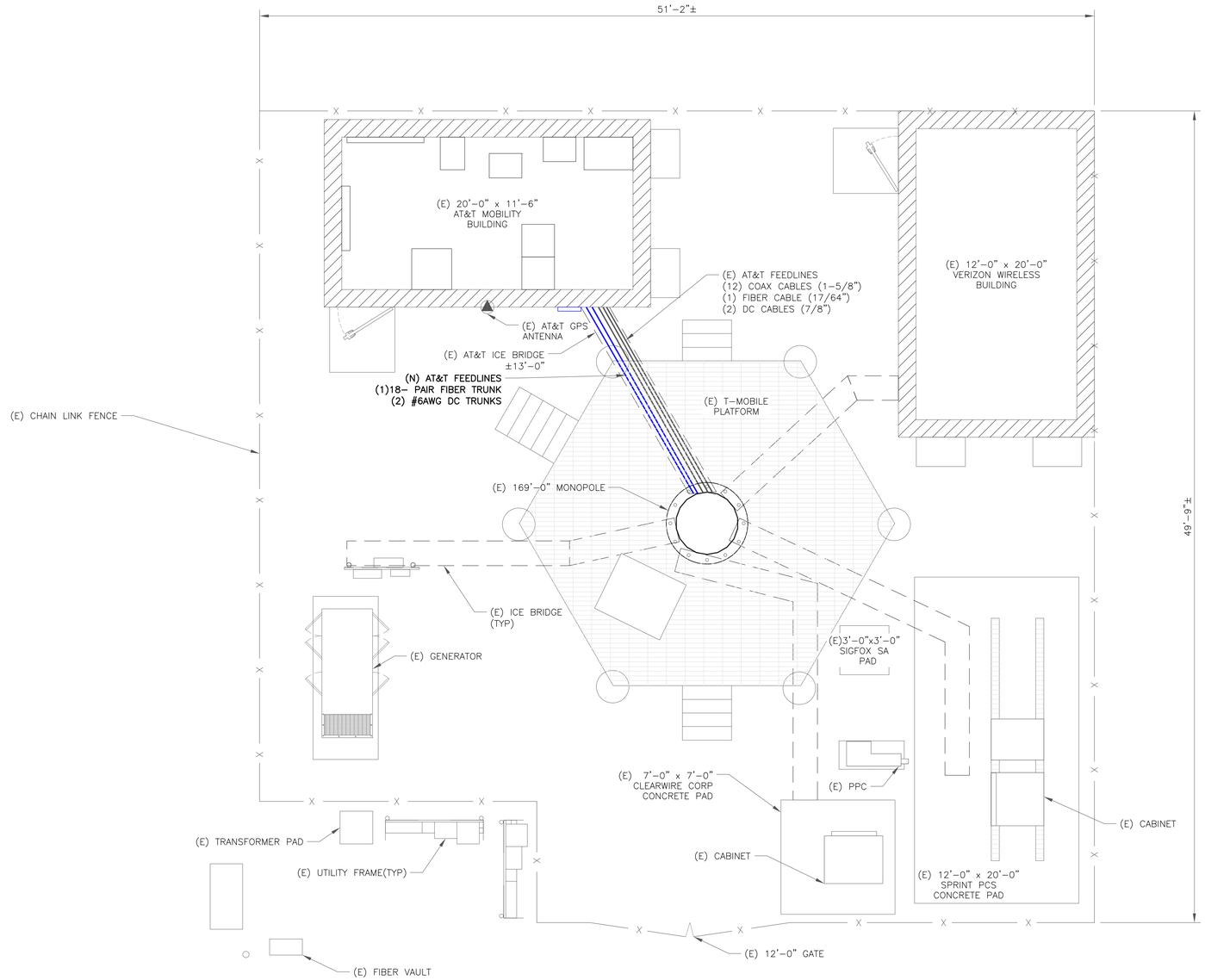
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/23/20	JTS	PRELIMINARY REVIEW	MTJ
B	12/7/20	GEH	PRELIMINARY REVIEW	GEH
C	12/8/20	GEH	PRELIMINARY REVIEW	MTJ
D	12/23/20	JJD	PRELIMINARY REVIEW	MTJ
0	1/25/21	JJD	CONSTRUCTION	RMC

No. 23924
1/25/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

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.

SHEET NUMBER: T-2
REVISION: 0



1 SITE PLAN

SCALE: 4' 3' 2' 1' 0 4'

1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

N

AT&T
575 MOROSGO DRIVE
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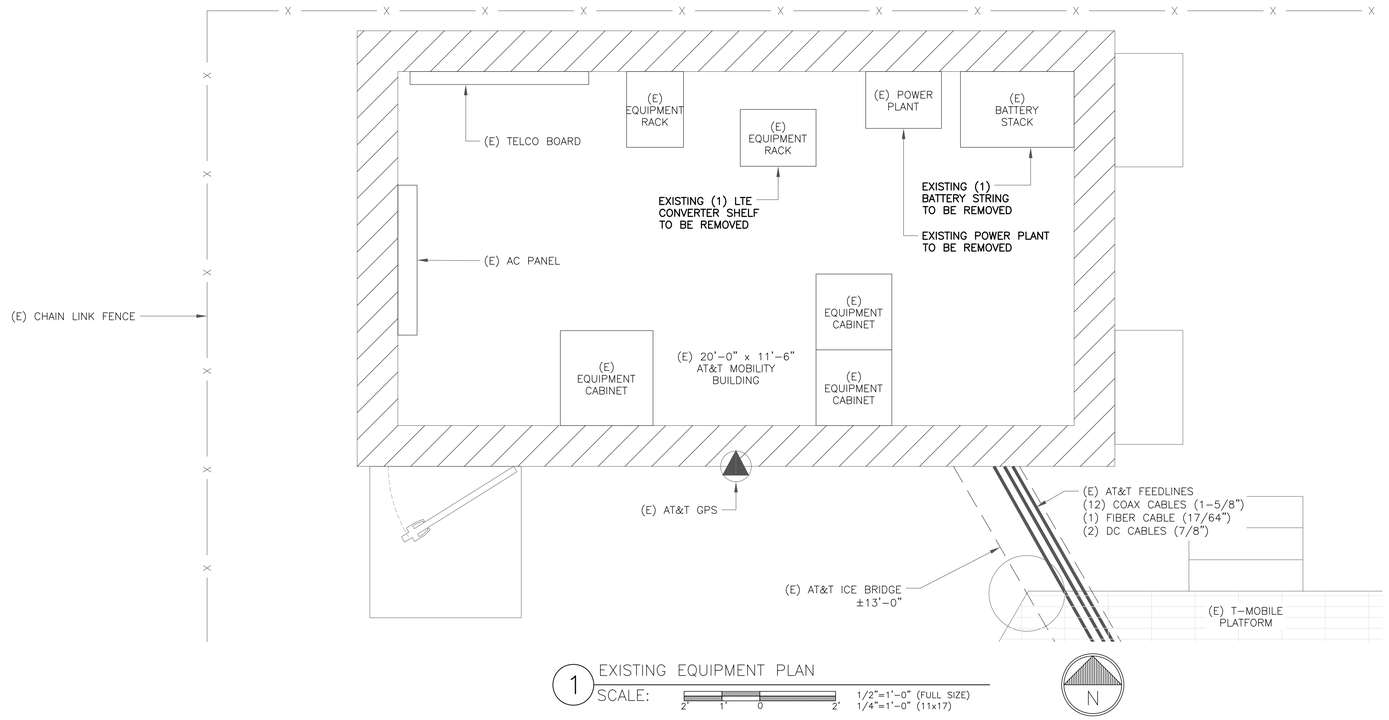
0	1/25/21	JJD	CONSTRUCTION	RMC

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

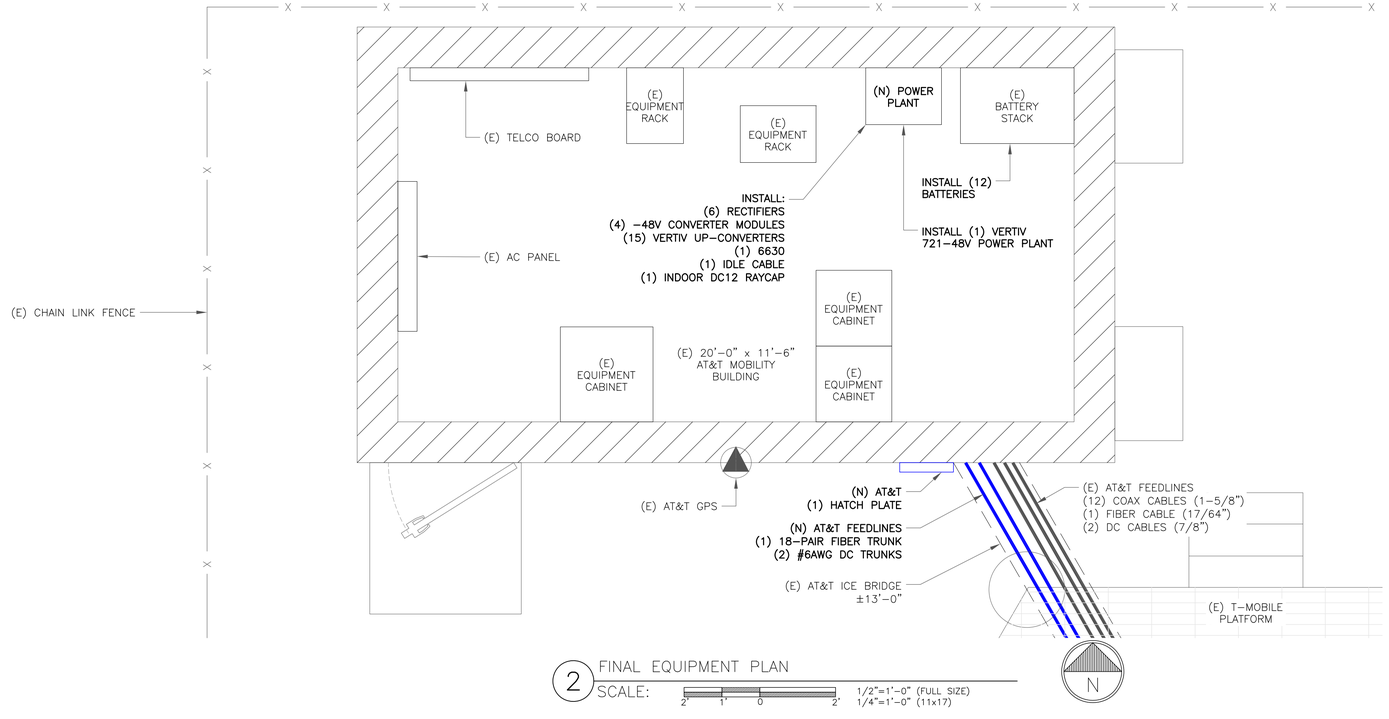
SHEET NUMBER: C-1.1

REVISION: 0



1 EXISTING EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

GROUND SCOPE OF WORK:
- REMOVE EXISTING POWERPLANT
- REMOVE EXISTING BATTERY STRING
- REMOVE EXISTING LTE CONVERTER SHELF
- INSTALL (1) VERTIV 721 -48V POWER PLANTX
- INSTALL (12) BATTERIES
- INSTALL (6) RECTIFIERS
- INSTALL (4) -48V CONVERTER MODULES
- INSTALL (15) VERTIV UP-CONVERTES
- INSTALL (1) 6630
- INSTALL (1) IDLE CABLE
- INSTALL (1) INDOOR DC12 RAYCAP

NOTE:

THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

AT&T
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ATLANTA, GA 30324-3300

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B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER:
CTL01135

BU #: **828054**
SOUTH WINDSOR/RT5

300 GOVERNORS HIGHWAY
SOUTH WINDSOR, CT 06074

EXISTING
169'-0" MONOPOLE

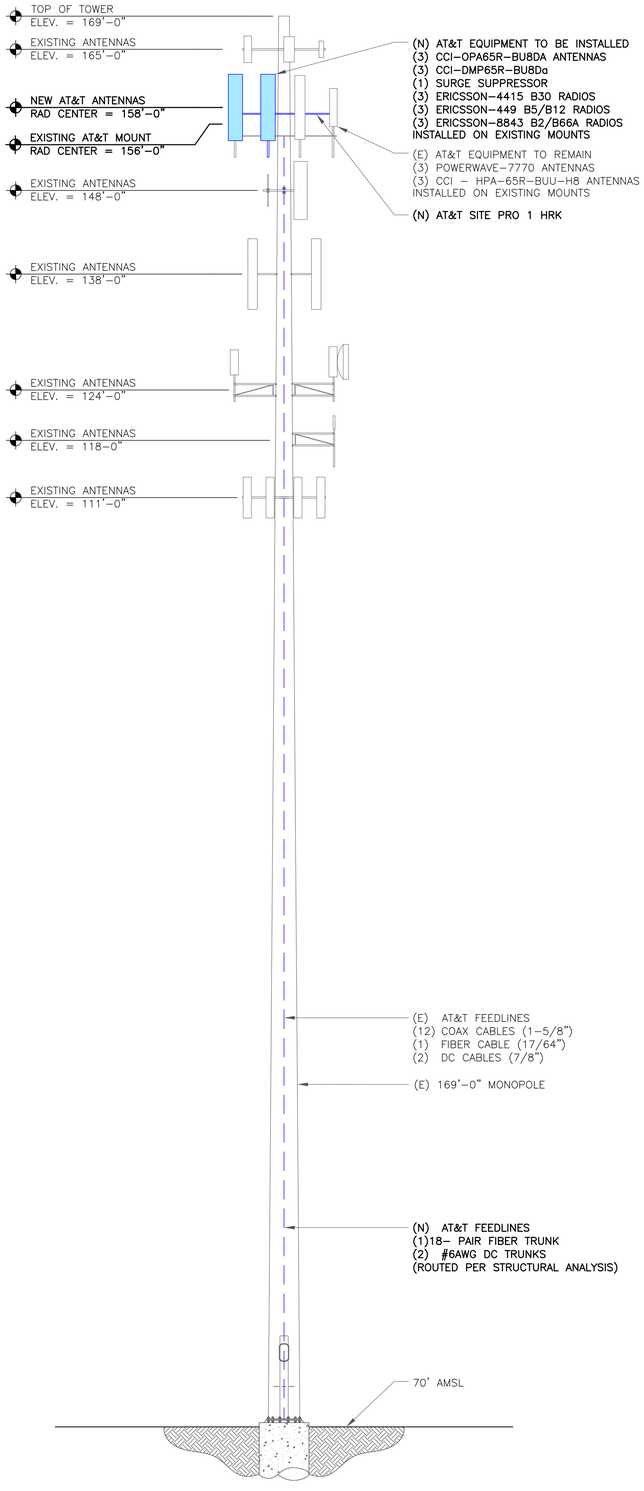
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/23/20	JTS	PRELIMINARY REVIEW	MTJ
B	12/7/20	GEH	PRELIMINARY REVIEW	GEH
C	12/8/20	GEH	PRELIMINARY REVIEW	MTJ
D	12/23/20	JJD	PRELIMINARY REVIEW	MTJ
0	1/25/21	JJD	CONSTRUCTION	RMC

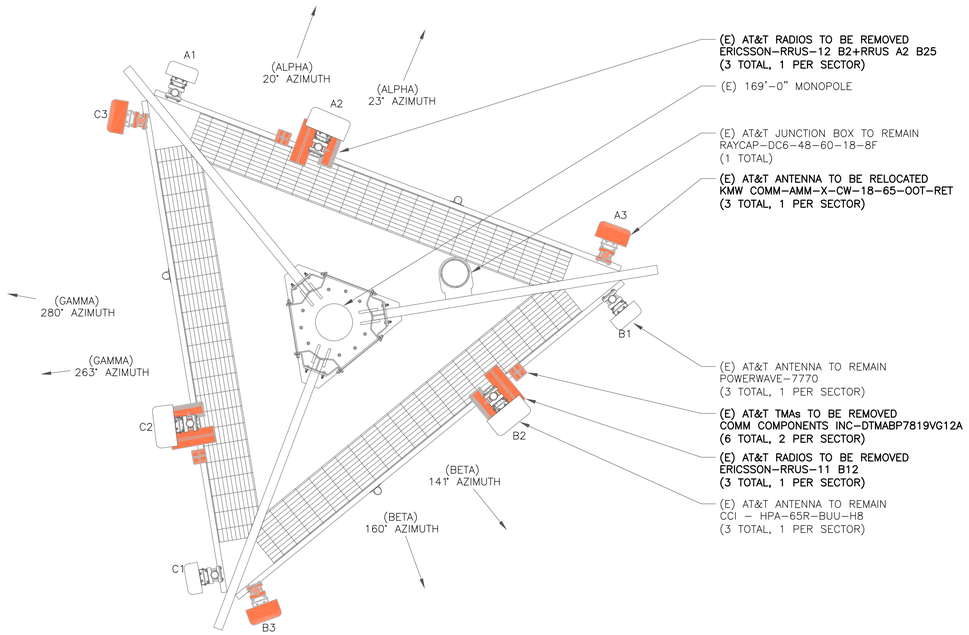
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

SHEET NUMBER: C-1.2

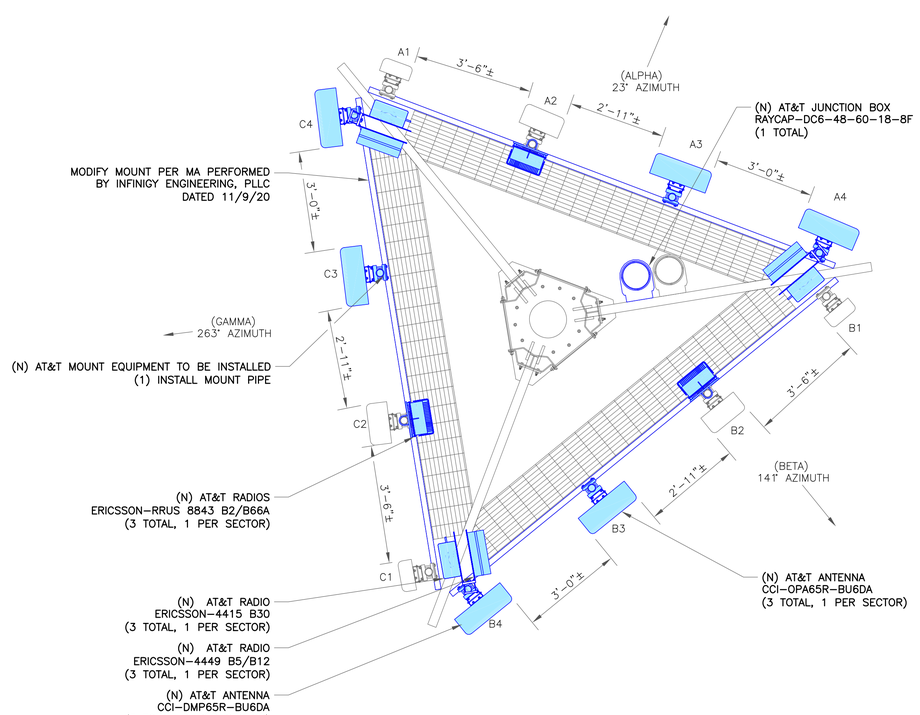
REVISION: 0



1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)



3 FINAL ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

"LOOK UP" - CROWN CASTLE USA INC.
SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

INSTALLER NOTES:

1. REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
4. 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
5. 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
6. 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
7. ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
8. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.

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AT&T SITE NUMBER:
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BU #: **828054**
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300 GOVERNORS HIGHWAY
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0	1/25/21	JJD	CONSTRUCTION	RMC

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SHEET NUMBER: C-2

REVISION: 0

FINAL ANTENNA AND FEEDLINE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	SURGE PROTECTION	DC/FIBER CABLES	RRHs QTY & MODEL ON TOWER	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE
ALPHA SECTOR																		
A1	UMTS	EXISTING	23°	(E) POWERWAVE 7770	158'-0"	0°	10°/4°	1 5/8"	180'	2	–	DC6-48-60-18-8F DC6-48-60-18-8F	(1) 17/64" FIBER (2) 7/8" DC LINES (1) 17/64" FIBER (2) 7/8" DC LINES	–	–	Y	N	N
A2	LTE	EXISTING	23°	(E) CCI HPA-65R-BUU-H8	158'-0"	0°	2°	1 5/8"	180'	2	–			(1) 8843 B2/B66A	TOWER	N	N	N
A3	**LTE**	**NEW**	**23°**	**(N) CCI OPA65R-BU8DA**	**158'-0"**	**0°**	**2°**	–	–	–	–			–	–	N	N	N
A4	**LTE**	**NEW**	**23°**	**(N) CCI DMP65R-BU8DA**	**158'-0"**	**0°**	**3°**	–	–	–	–			(1) 4449 B5/B12 (1) 4415 B30	TOWER	N	N	N
BETA SECTOR																		
B1	UMTS	EXISTING	141°	(E) POWERWAVE 7770	158'-0"	0°	10°/4°	1 5/8"	180'	2	–	–	–	–	–	Y	N	N
B2	LTE	EXISTING	141°	(E) CCI HPA-65R-BUU-H8	158'-0"	0°	2°	1 5/8"	180'	2	–			(1) 8843 B2/B66A	TOWER	N	N	N
B3	**LTE**	**NEW**	**141°**	**(N) CCI OPA65R-BU8DA**	**158'-0"**	**0°**	**2°**	–	–	–	–			–	–	N	N	N
B4	**LTE**	**NEW**	**141°**	**(N) CCI DMP65R-BU8DA**	**158'-0"**	**0°**	**4°/3°**	–	–	–	–			(1) 4449 B5/B12 (1) 4415 B30	TOWER	N	N	N
GAMMA SECTOR																		
C1	UMTS	EXISTING	263°	(E) POWERWAVE 7770	158'-0"	0°	6°	1 5/8"	180'	2	–	–	–	–	–	Y	N	N
C2	LTE	EXISTING	263°	(E) CCI HPA-65R-BUU-H8	158'-0"	0°	4°	1 5/8"	180'	2	–			(1) 8843 B2/B66A	TOWER	N	N	N
C3	**LTE**	**NEW**	**263°**	**(N) CCI OPA65R-BU8DA**	**158'-0"**	**0°**	**4°**	–	–	–	–			–	–	N	N	N
C4	**LTE**	**NEW**	**263°**	**(N) CCI DMP65R-BU8DA**	**158'-0"**	**0°**	**11°/10°/3°**	–	–	–	–			(1) 4449 B5/B12 (1) 4415 B30	TOWER	N	N	N

NOTE: BOLD DENOTES NEW EQUIPMENT

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

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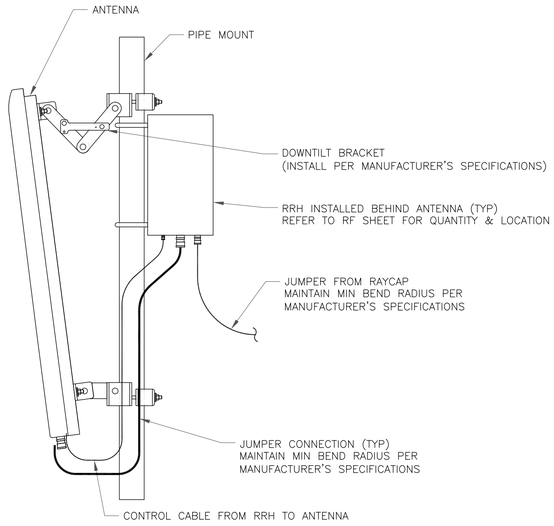
STATE OF CONNECTICUT
No. 23924
LICENSED PROFESSIONAL ENGINEER
1/25/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

SHEET NUMBER: C-3

REVISION: 0



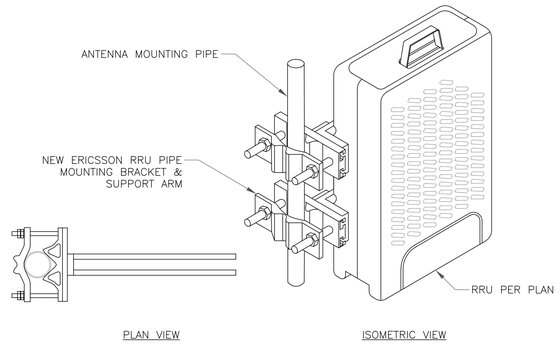
1 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE

ERICSSON RRU MOUNTING KIT:

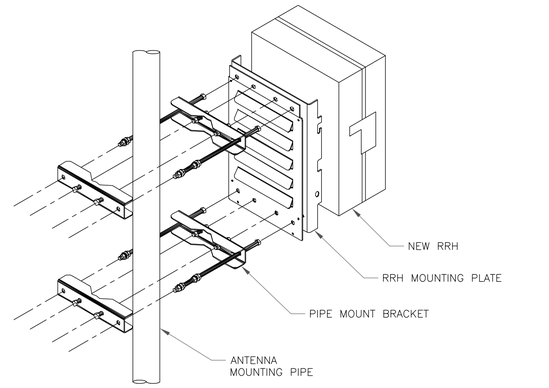
SXK 107 2839/1: SINGLE RRU SUPPORT KIT (PART # 5335) (OR ENGINEER APPROVED EQUIVALENT)
SXK 107 2839/2: EXPANSION KIT (PART # 5336) (OR ENGINEER APPROVED EQUIVALENT)

MOUNTING NOTES:

REFER TO PRODUCT SPECS FOR BOLT SIZE & PIPE
DIAMETER TOLERANCES. THE PART NO. SXK107-2839/2 IS REQUIRED FOR (2) RRUS.



2 ERICSSON – SXK 107 2839
SCALE: NOT TO SCALE



NOTE:

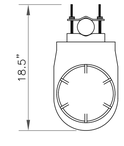
ANTENNA NOT SHOWN FOR CLARITY

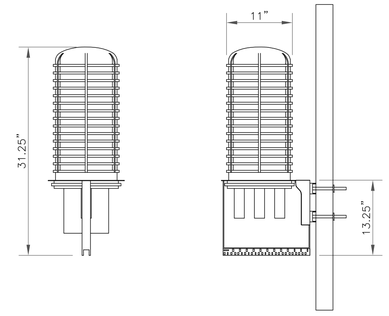
3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

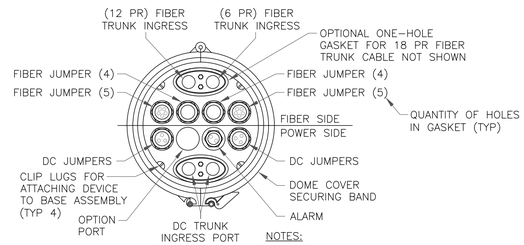
RAYCAP
DC6-48-60-18-8F

RAYCAP – DC6-48-60-18-8F
SIZE: 11x31.25 IN.
WEIGHT: 32.8 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 400 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION





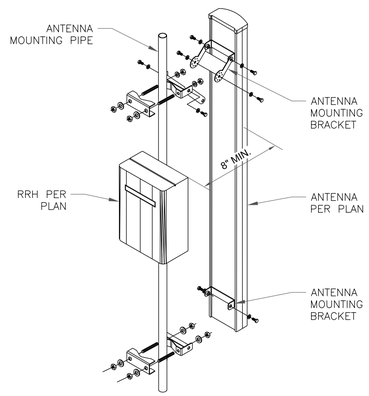


NOTES:

1. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

INSTALLER NOTES:

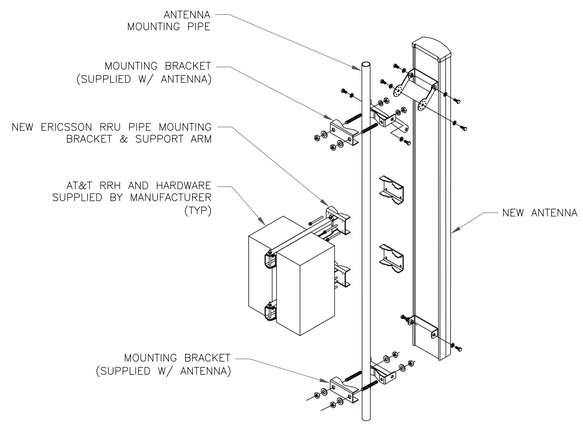
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.'
4. 8" MINIMUM SEPARATION BETWEEN BACK OF PANEL ANTENNA AND RRH.



4 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



5 ANTENNA WITH DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

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0	1/25/21	JJD	CONSTRUCTION	RMC

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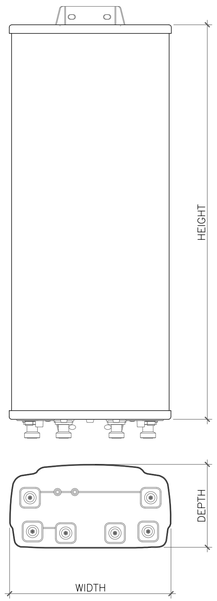
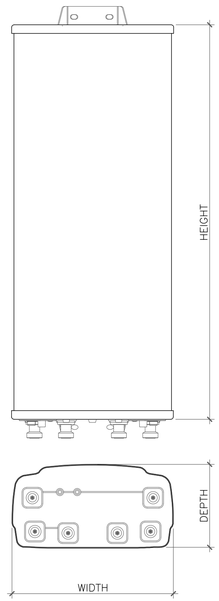
PEC.0001564
Expires 2/10/21

SHEET NUMBER: C-4
REVISION: 0



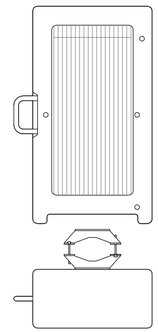
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
DMP65R-BU8D	96"	20.70"	7.70"	105.60lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



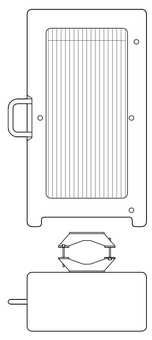
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
OPA65R-BU8D	96"	21.00"	7.80"	76.50lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



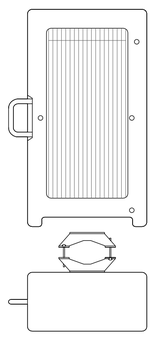
ERICSSON - 4415 B30
WEIGHT (FULLY EQUIPPED): 42.90 LBS
SIZE (HxWxD): 14.96x13.18X5.04 IN.
CONNECTOR TYPE: 4.3-10 FEMALE (4 TOTAL PORTS)

3 NOKIA - AHFIB
SCALE: NOT TO SCALE



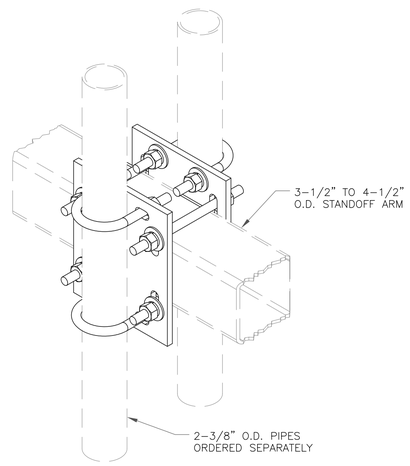
ERICSSON - 8843 B2/B66A
WEIGHT (FULLY EQUIPPED): 72.00 LBS
SIZE (HxWxD): 14.90x13.20X10.90 IN.
CONNECTOR TYPE: 4.3-10 FEMALE (4 TOTAL PORTS)

4 NOKIA - AHFIB
SCALE: NOT TO SCALE



ERICSSON - 4449 B5/B12
WEIGHT (FULLY EQUIPPED): 73.00 LBS
SIZE (HxWxD): 14.96x13.19X10.43 IN.
CONNECTOR TYPE: 4.3-10 FEMALE (4 TOTAL PORTS)

5 NOKIA - AHFIB
SCALE: NOT TO SCALE



6 VALMONT - BBPM-K1
SCALE: NOT TO SCALE

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B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

SHEET NUMBER: C-5

REVISION: 0

204673-4

4 Port Entrance Panel, 1 x 4

Product Classification

Product Type	Entrance panel
Ordering Note	CommScope® non-standard product

General Specifications

Color	Gray
Entry Panel Port Size	101.6 mm | 4 in
Number of Ports	4
Panel Type	Multiple

Dimensions

Height	241.3 mm | 9.5 in
Width	647.7 mm | 25.5 in

Material Specifications

Material Type	Aluminum

Environmental Specifications

Weather Resistance Test Method	04AS00-03.9.0 | IEC 60529:2001, IP66

Packaging and Weights

Height, packed	668.02 mm | 26.3 in
Width, packed	259.08 mm | 10.2 in
Length, packed	50.8 mm | 2 in
Included	Entry cap | Hardware | Port

204673-4

Packaging quantity	1
Weight, gross	1.4 kg | 3.086 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant

Included Products

CAP-4 – Snap-in Entry Port Cap, 4 in

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COMMSCOPE®

1 HATCH PLATE DETAIL
SCALE: NOT TO SCALE

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STATE OF CONNECTICUT
No. 23024
LICENSED PROFESSIONAL ENGINEER
1/25/21

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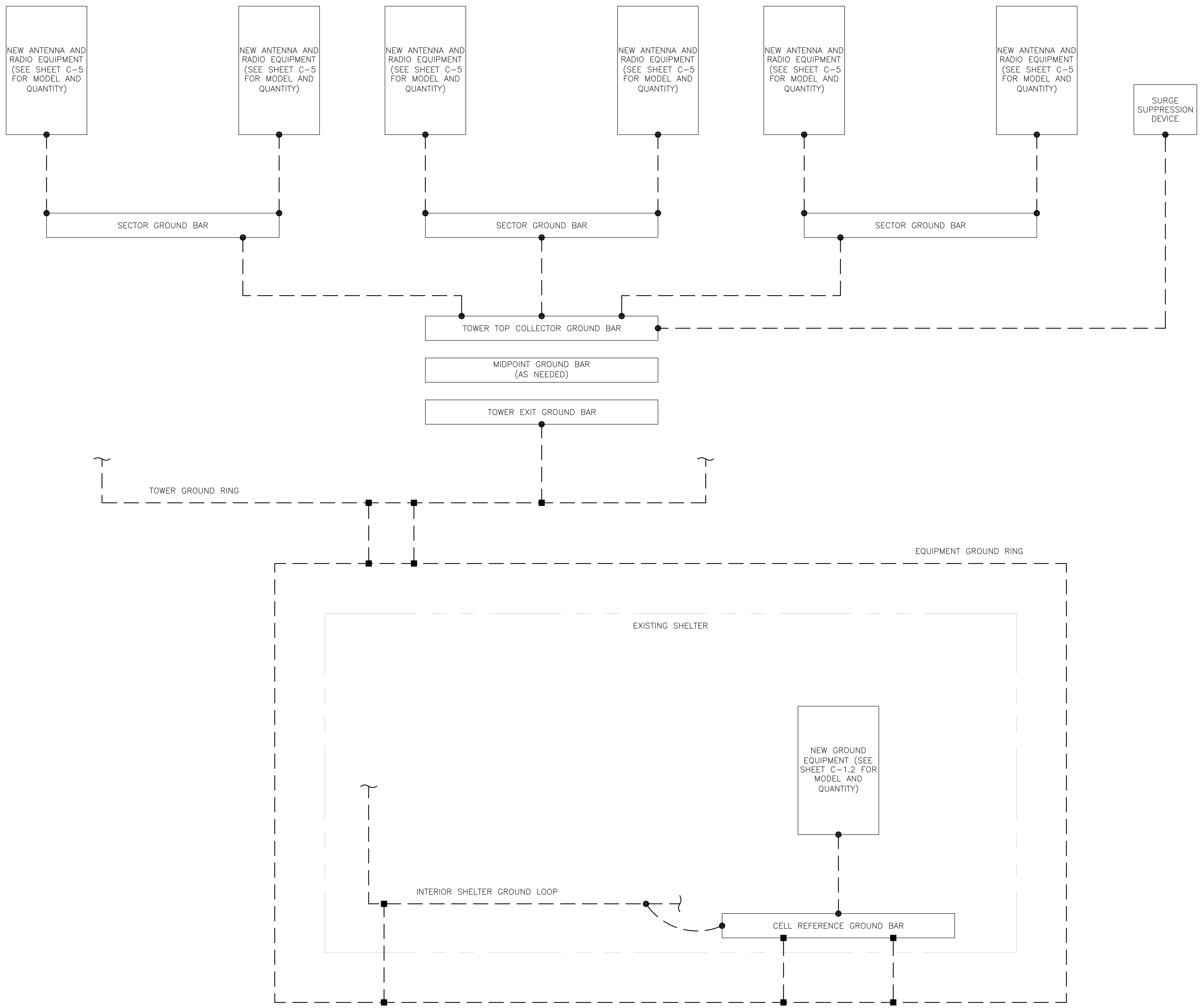
Expires 2/10/21

SHEET NUMBER: C-6

REVISION: 0



1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

- GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- COPPER GROUND ROD
- GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER:
CTL01135

BU #: **828054**
SOUTH WINDSOR/RT5

300 GOVERNORS HIGHWAY
SOUTH WINDSOR, CT 06074

EXISTING
169'-0" MONOPOLE

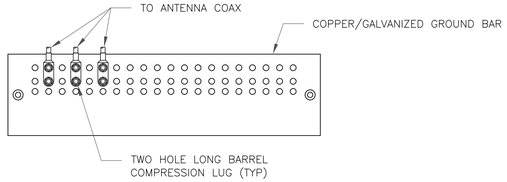
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/23/20	JTS	PRELIMINARY REVIEW	MTJ
B	12/7/20	GEH	PRELIMINARY REVIEW	GEH
C	12/8/20	GEH	PRELIMINARY REVIEW	MTJ
D	12/23/20	JJD	PRELIMINARY REVIEW	MTJ
0	1/25/21	JJD	CONSTRUCTION	RMC

STATE OF CONNECTICUT PROFESSIONAL ENGINEER No. 23924 LICENSED
1/25/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

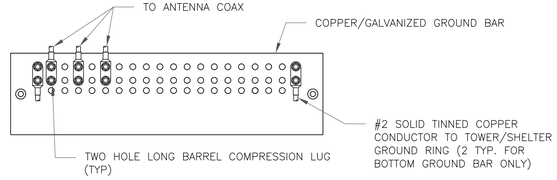
SHEET NUMBER: G-1
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

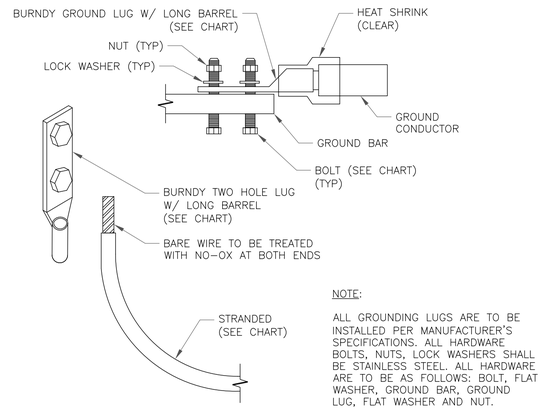


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

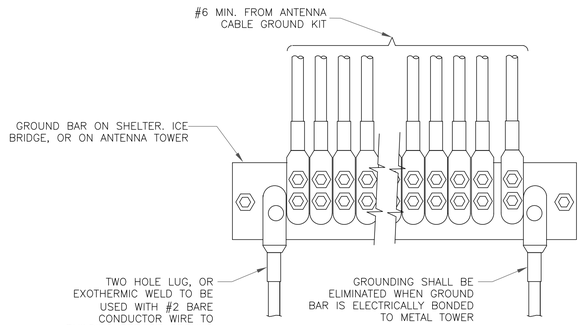
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



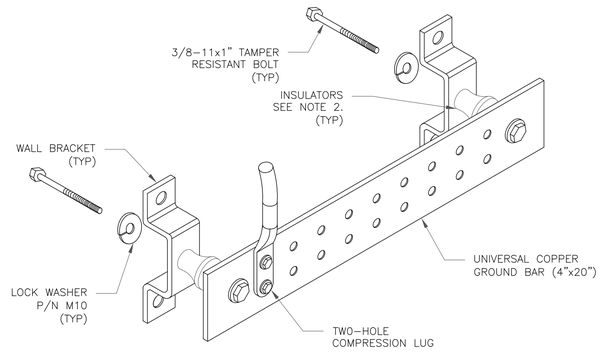
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

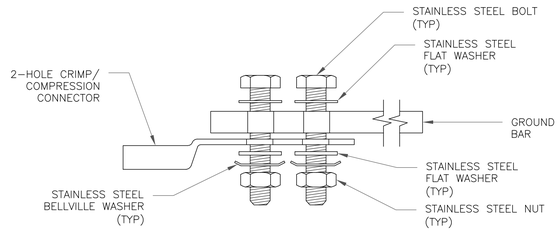


NOTES:

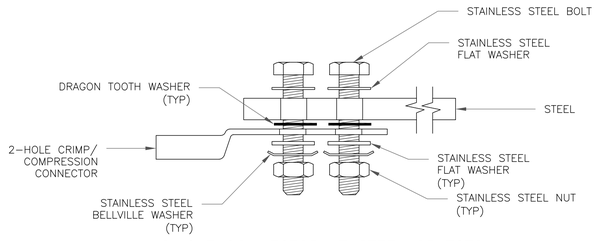
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

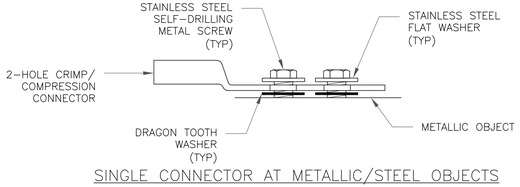
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

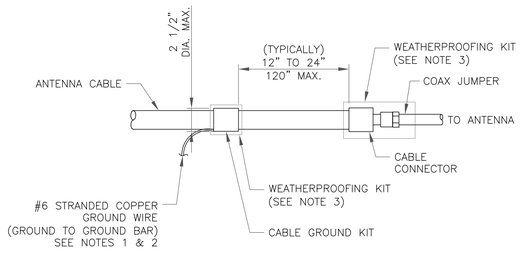


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

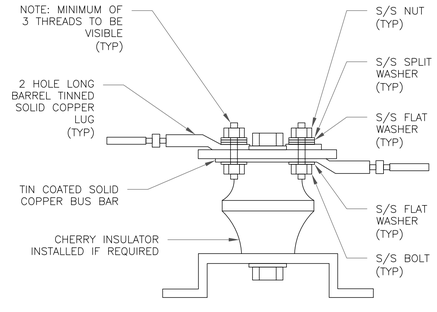
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

AT&T SITE NUMBER:
CTL01135

BU #: **828054**
SOUTH WINDSOR/RT5

300 GOVERNORS HIGHWAY
SOUTH WINDSOR, CT 06074

EXISTING
169'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/23/20	JTS	PRELIMINARY REVIEW	MTJ
B	12/7/20	GEH	PRELIMINARY REVIEW	GEH
C	12/8/20	GEH	PRELIMINARY REVIEW	MTJ
D	12/23/20	JJD	PRELIMINARY REVIEW	MTJ
0	1/25/21	JJD	CONSTRUCTION	RMC

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

SHEET NUMBER: G-2

REVISION: 0

Diagram - Sector	A	Diagram File Name - CT1135_A_B_C_LTEAWS_WCS_5G850_7004T4R_PCS4T4R__Rev2.vsd					
Atoll Site Name -	CTL01135	Location Name -	SOUTH WINDSOR WEST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson

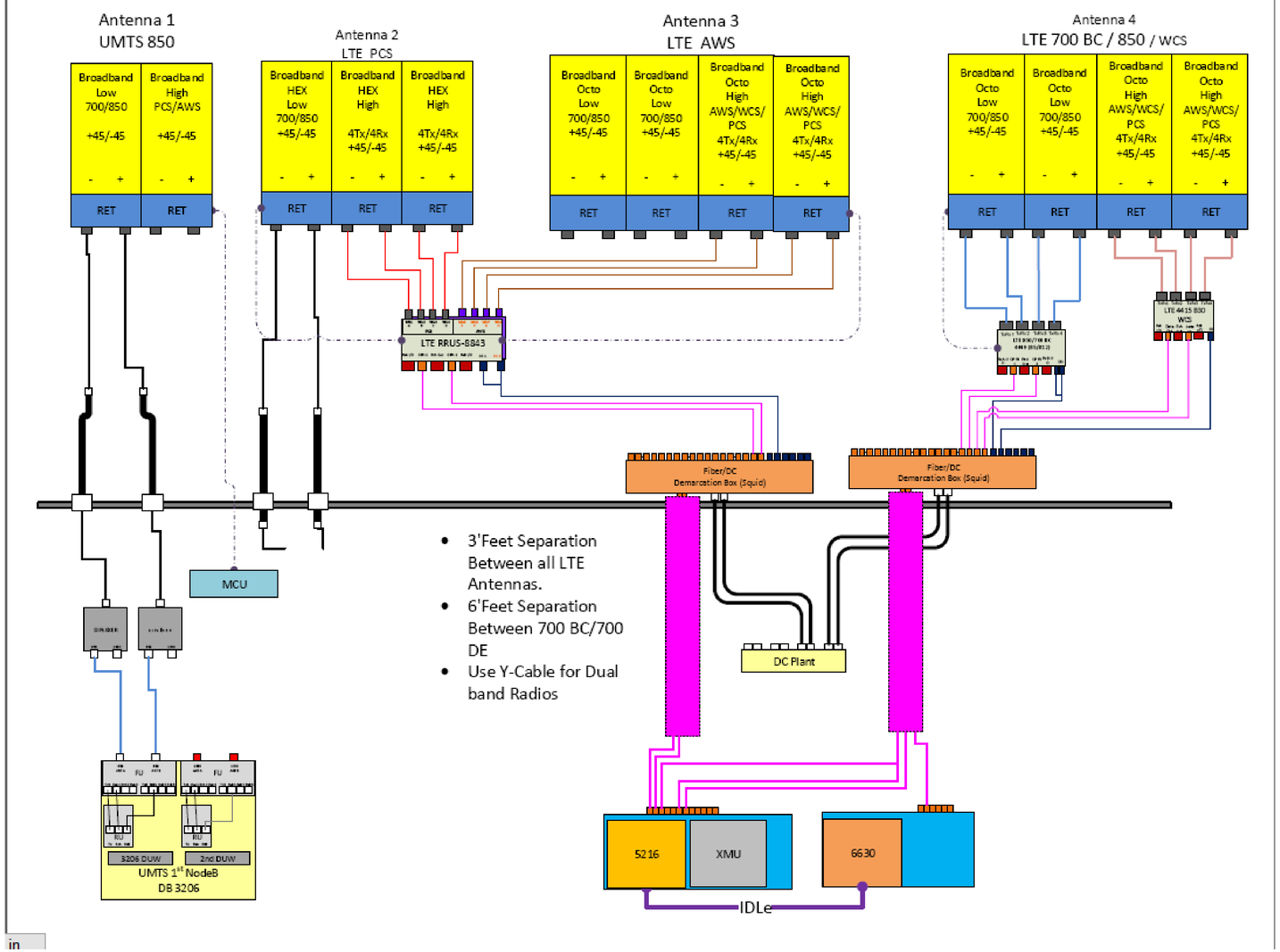


Diagram - Sector B | Diagram File Name - CT1135_A_B_C_LTEAWS_WCS_5G850_7004T4R_PCS4T4R__Rev2.vsd

Atoll Site Name - CTL01135 | Location Name - SOUTH WINDSOR WEST | Market - CONNECTICUT | Market Cluster - NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson

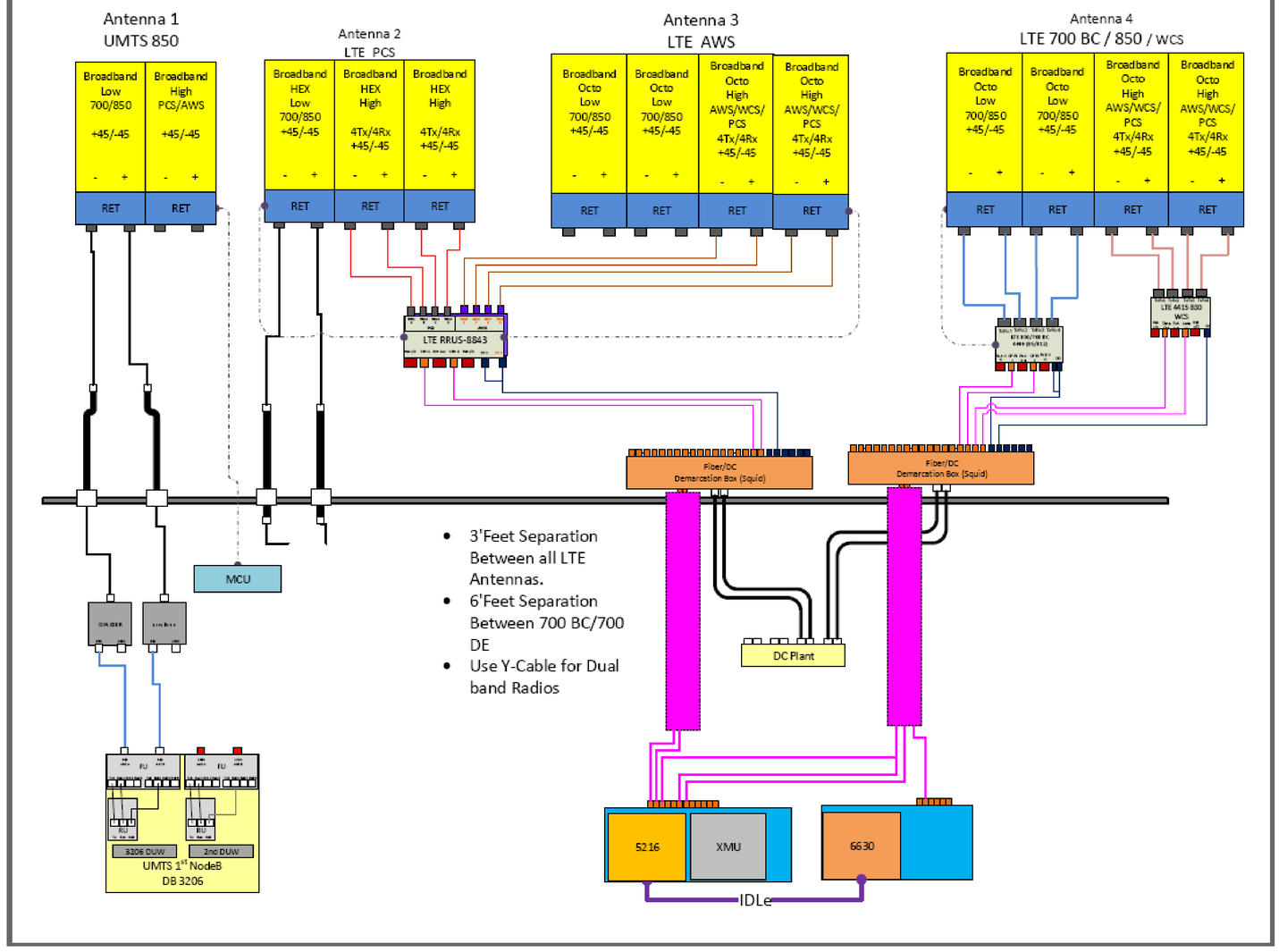
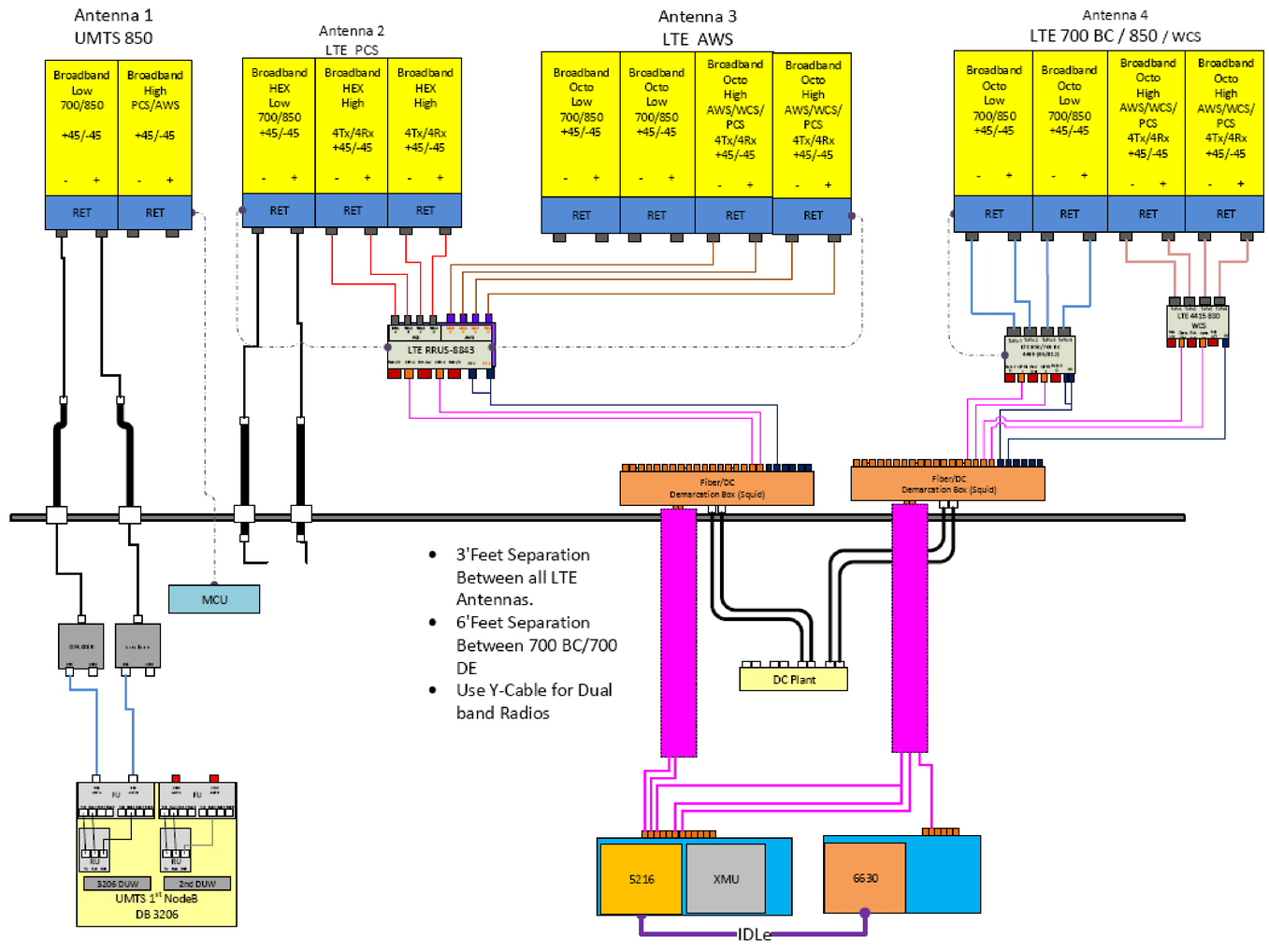


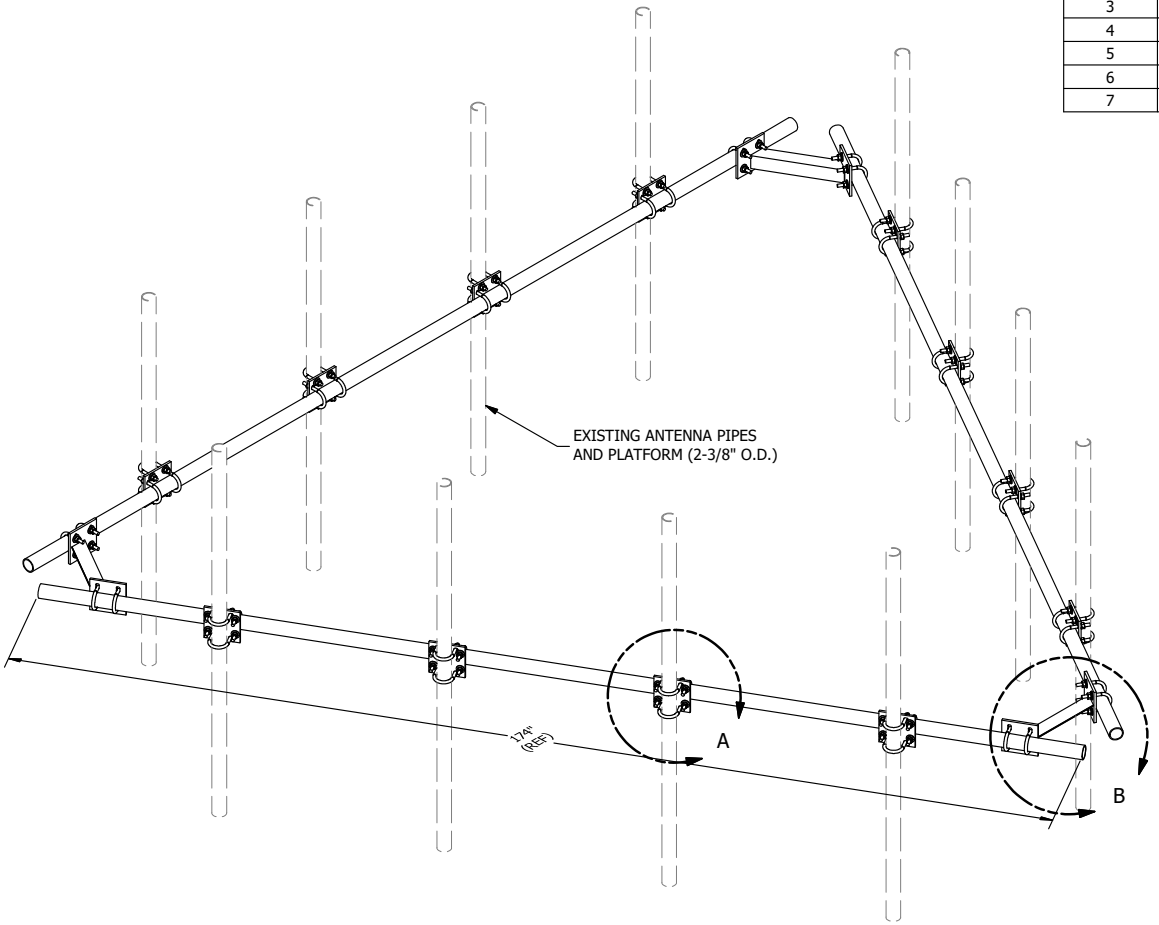
Diagram - Sector C | Diagram File Name - CT1135_A_B_C_LTEAWS_WCS_5G850_7004T4R_PCS4T4R__Rev2.vsd

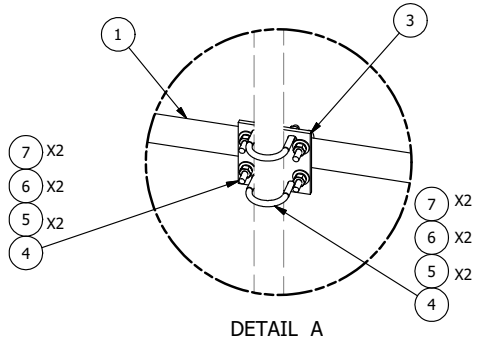
Atoll Site Name - CTL01135 | Location Name - SOUTH WINDSOR WEST | Market - CONNECTICUT | Market Cluster - NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson

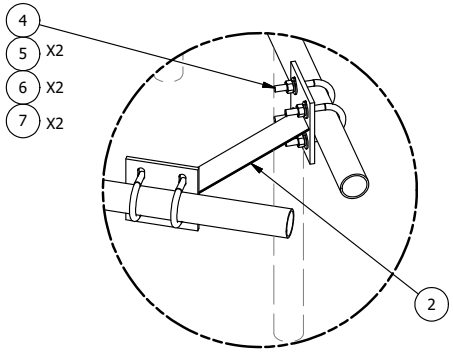


PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	P2174	2-3/8" OD X 174" SCH 40 GALVANIZED PIPE	174 in	55.75	167.24
2	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
3	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	44.50
4	60	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	37.51
5	120	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	4.09
6	120	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.67
7	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.60
					TOTAL WT. #	302.36





DETAIL A



DETAIL B

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

REVISION HISTORY				
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP		CEK	7/11/2014

DESCRIPTION: **HANDRAIL KIT FOR 14'-6" FACE**

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	KC8 5/30/2012		HRK14

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	BMC 7/13/2014	HRK14

SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

Exhibit D

Structural Analysis Report

PAUL J. FORD & COMPANY

Date: **November 17, 2020**

Angela Harris
Crown Castle
800 Avalon Blvd
Alpharetta, GA 30009

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
614-221-6679

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	25940
	Carrier Site Name:	CTL01135
Crown Castle Designation:	**Crown Castle BU Number:**	828054
	Crown Castle Site Name:	South Windsor/Rt 5
	Crown Castle JDE Job Number:	621947
	Crown Castle Work Order Number:	1891983
	Crown Castle Order Number:	531442 Rev. 2
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37520-2262.002.7805
Site Data:	**300 Governors Highway, South Windsor, Hartford County, CT** **Latitude *41° 50' 0.4"*, Longitude *-72° 36' 11"*** **169 Foot - Monopole Tower**	

Dear Angela Harris,

Paul J. Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

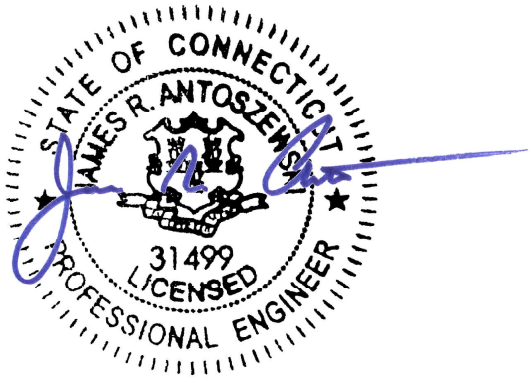
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity (90.9%)**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Nathan C. Miller

Nathan C. Miller, E.I.
Structural Designer
nmiller@pauljford.com



11/18/2020

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 169 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC. in January of 2000.

The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
156.0	158.0	3	cci antennas	DMP65R-BU8D w/ Mount Pipe	2 4 12	17/64 7/8 1-5/8
		3	cci antennas	OPA65R-BU8D w/ Mount Pipe		
		3	ericsson	RADIO 4415 B30		
		3	ericsson	RADIO 4449 B5/B12		
		3	ericsson	RRUS 8843 B2/B66A		
		2	raycap	DC6-48-60-18-8F		
	156.0	1	site pro 1	HRK14 Handrail Kit		
		1	tower mounts	Platform Mount [LP 601-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
165.0	166.0	3	commscope	SDX1926Q-43	7 2	1-5/8 1-3/8
		3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe		
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	RADIO 4449 B12/B71		
		3	ericsson	RRUS 4415 B25_CCIV2		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	165.0	1	site pro 1	HRK12 Handrail Kit		
		3	ericsson	KRY 112 144/1		
		1	tower mounts	Platform Mount [LP 601-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148.0	148.0	3	alcatel lucent	800MHZ RRH	3	1-1/4
		3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ		
		3	alcatel lucent	RRH2X50-800		
		3	commscope	NNVV-65B-R4 w/ Mount Pipe		
		1	tower mounts	T-Arm Mount [TA 702-3]		
138.0	138.0	3	rfs celwave	APXV18-206517-A w/ Mount Pipe	6	1-5/8
		1	tower mounts	Side Arm Mount [SO 102-3]		
124.0	128.0	2	andrew	VHLP800-11	3 1 6 2	1/4 5/16 1/2 2" Conduit
		3	argus technologies	LLPX310R w/ Mount Pipe		
		2	dragonwave	HORIZON DUO		
		3	samsung telecommunications	WIMAX DAP HEAD		
	124.0	1	tower mounts	Side Arm Mount [SO 701-3]		
118.0	119.0	1	sigfox	CAVITY FILTER	1	1/2
		1	sigfox	CXL 900-3LW		
		1	sigfox	LNA		
	118.0	1	tower mounts	Side Arm Mount [SO 304-1]		
111.0	111.0	3	alcatel lucent	B4 RRH2X60-4R	2 18	1-1/4 1-5/8
		6	andrew	HBXX-6517DS-A2M w/ Mount Pipe		
		6	andrew	LNX-6514DS-A1M w/ Mount Pipe		
		2	raycap	RRFDC-3315-PF-48		
		1	tower mounts	Platform Mount [LP 303-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FPA, 99A076AR1. 01/11/2000	3436696	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI, 6255 REV 1, 03/10/2000	3436661	CCISITES
4-TOWER MANUFACTURER DRAWINGS	EEI, 99-1371 REV 1, 01/31/2000	3436681	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORTS	Centek Engineering, 10003.CO4, 06/11/2010	3487016	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 103179, 12/03/2010	3773025	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	GPD, 2012712.97, 06/29/2012	3793344	CCISITES
4-POST-MODIFICATION INSPECTION	ETS, 03/13/2013	3773024	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37513-1535.003.7700 R1, 12/03/2015	5431037	CCISITES
4-POST-MODIFICATION INSPECTION	FDH Velocitel, 15BZLZ1500, 12/03/2015	6000997	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37516-2594.003.7700, 11/17/2016	6563357	CCISITES
4-POST-MODIFICATION INSPECTION	CCI, 1352522, 05/16/2017	6861018	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.7.5), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) The structure was modified in conformance with the referenced modification drawings as shown in the referenced post modification inspection.
4) It is assumed that all base pole reactions are taken by the micropiles.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
169 - 164	Pole	TP16.455x15.5x0.25	Pole	3.6%	Pass
164 - 159	Pole	TP17.409x16.455x0.25	Pole	12.4%	Pass
159 - 154	Pole	TP18.364x17.409x0.25	Pole	25.2%	Pass
154 - 149	Pole	TP19.318x18.364x0.25	Pole	37.9%	Pass
149 - 144	Pole	TP20.273x19.318x0.25	Pole	50.1%	Pass
144 - 139	Pole	TP21.228x20.273x0.25	Pole	60.5%	Pass
139 - 136.66	Pole	TP22.31x21.228x0.25	Pole	65.0%	Pass
136.66 - 131.66	Pole	TP22.115x21.174x0.3125	Pole	62.2%	Pass
131.66 - 126.66	Pole	TP23.055x22.115x0.3125	Pole	68.4%	Pass
126.66 - 121.66	Pole	TP23.996x23.055x0.3125	Pole	74.5%	Pass
121.66 - 116.66	Pole	TP24.937x23.996x0.3125	Pole	79.8%	Pass
116.66 - 111.66	Pole	TP25.877x24.937x0.3125	Pole	84.5%	Pass
111.66 - 111	Pole	TP26.001x25.877x0.3125	Pole	85.1%	Pass
111 - 110.75	Pole + Reinf.	TP26.048x26.001x0.575	Reinf. 6 Tension Rupture	76.5%	Pass
110.75 - 105.75	Pole + Reinf.	TP26.989x26.048x0.5625	Reinf. 6 Tension Rupture	83.2%	Pass
105.75 - 101.5	Pole + Reinf.	TP27.788x26.989x0.55	Reinf. 6 Tension Rupture	88.6%	Pass
101.5 - 101.25	Pole + Reinf.	TP27.835x27.788x0.9875	Reinf. 12 Tension Rupture	60.4%	Pass
101.25 - 101	Pole + Reinf.	TP27.882x27.835x0.9875	Reinf. 12 Tension Rupture	60.6%	Pass
101 - 100.75	Pole + Reinf.	TP27.93x27.882x0.725	Reinf. 12 Tension Rupture	80.7%	Pass
100.75 - 95.75	Pole + Reinf.	TP28.87x27.93x0.7125	Reinf. 12 Tension Rupture	86.5%	Pass
95.75 - 92.16	Pole + Reinf.	TP30.36x28.87x0.7	Reinf. 12 Tension Rupture	90.5%	Pass
92.16 - 86.83	Pole + Reinf.	TP29.924x28.92x0.9375	Reinf. 12 Tension Rupture	74.9%	Pass
86.83 - 81.83	Pole + Reinf.	TP30.865x29.924x0.925	Reinf. 12 Tension Rupture	78.9%	Pass
81.83 - 81.5	Pole + Reinf.	TP30.927x30.865x0.925	Reinf. 12 Tension Rupture	79.2%	Pass
81.5 - 81.25	Pole + Reinf.	TP30.974x30.927x0.95	Reinf. 11 Tension Rupture	67.3%	Pass
81.25 - 76.25	Pole + Reinf.	TP31.915x30.974x0.925	Reinf. 11 Tension Rupture	70.6%	Pass
76.25 - 71.25	Pole + Reinf.	TP32.856x31.915x0.9	Reinf. 11 Tension Rupture	73.9%	Pass
71.25 - 66.25	Pole + Reinf.	TP33.797x32.856x0.875	Reinf. 11 Tension Rupture	77.0%	Pass
66.25 - 61.25	Pole + Reinf.	TP34.738x33.797x0.8625	Reinf. 11 Tension Rupture	80.0%	Pass
61.25 - 56.25	Pole + Reinf.	TP35.679x34.738x0.85	Reinf. 11 Tension Rupture	82.9%	Pass
56.25 - 51.25	Pole + Reinf.	TP36.619x35.679x0.825	Reinf. 11 Tension Rupture	85.7%	Pass
51.25 - 48.66	Pole + Reinf.	TP38.11x36.619x0.825	Reinf. 11 Tension Rupture	87.1%	Pass
48.66 - 42.33	Pole + Reinf.	TP37.546x36.357x1.0375	Reinf. 11 Tension Rupture	74.5%	Pass
42.33 - 37.4	Pole + Reinf.	TP38.473x37.546x1.025	Reinf. 11 Tension Rupture	76.7%	Pass
37.4 - 37.15	Pole + Reinf.	TP38.52x38.473x1.025	Reinf. 7 Tension Rupture	76.8%	Pass
37.15 - 32.15	Pole + Reinf.	TP39.459x38.52x1	Reinf. 7 Tension Rupture	79.0%	Pass
32.15 - 27.15	Pole + Reinf.	TP40.399x39.459x0.975	Reinf. 7 Tension Rupture	81.1%	Pass
27.15 - 22.15	Pole + Reinf.	TP41.338x40.399x0.9625	Reinf. 7 Tension Rupture	83.1%	Pass
22.15 - 19.5	Pole + Reinf.	TP41.836x41.338x0.95	Reinf. 7 Tension Rupture	84.2%	Pass
19.5 - 19.25	Pole + Reinf.	TP41.883x41.836x1.025	Reinf. 7 Tension Rupture	78.8%	Pass
19.25 - 14.25	Pole + Reinf.	TP42.822x41.883x1	Reinf. 7 Tension Rupture	80.6%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
14.25 - 9.25	Pole + Reinf.	TP43.762x42.822x1	Reinf. 7 Tension Rupture	82.4%	Pass
9.25 - 9	Pole + Reinf.	TP43.809x43.762x1	Reinf. 7 Tension Rupture	82.5%	Pass
9 - 8.75	Pole + Reinf.	TP43.856x43.809x1.025	Reinf. 7 Tension Rupture	79.5%	Pass
8.75 - 7	Pole + Reinf.	TP44.185x43.856x1.025	Reinf. 7 Tension Rupture	80.1%	Pass
7 - 6.75	Pole + Reinf.	TP44.232x44.185x0.975	Reinf. 7 Tension Rupture	83.3%	Pass
6.75 - 5	Pole + Reinf.	TP44.561x44.232x0.975	Reinf. 7 Tension Rupture	83.9%	Pass
5 - 4.75	Pole + Reinf.	TP44.607x44.561x1.45	Reinf. 3 Connection	66.3%	Pass
4.75 - 3	Pole + Reinf.	TP44.936x44.607x1.425	Reinf. 3 Connection	66.8%	Pass
3 - 2.75	Pole + Reinf.	TP44.983x44.936x1.45	Reinf. 7 Tension Rupture	59.0%	Pass
2.75 - 2.25	Pole + Reinf.	TP45.077x44.983x1.45	Reinf. 7 Tension Rupture	59.1%	Pass
2.25 - 2	Pole + Reinf.	TP45.124x45.077x1.2	Reinf. 8 Tension Rupture	71.0%	Pass
2 - 0	Pole + Reinf.	TP45.5x45.124x1.175	Reinf. 8 Tension Rupture	71.6%	Pass
				Summary	
			Pole	85.1%	Pass
			Reinforcement	90.5%	Pass
			Overall	90.5%	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	63.7	Pass
1	Base Plate	0	64.2	Pass
1	Base Foundation	0	90.9	Pass

Structure Rating (max from all components) =	90.9%

Notes:

- All structural ratings are per TIA-222-H Section 15.5

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

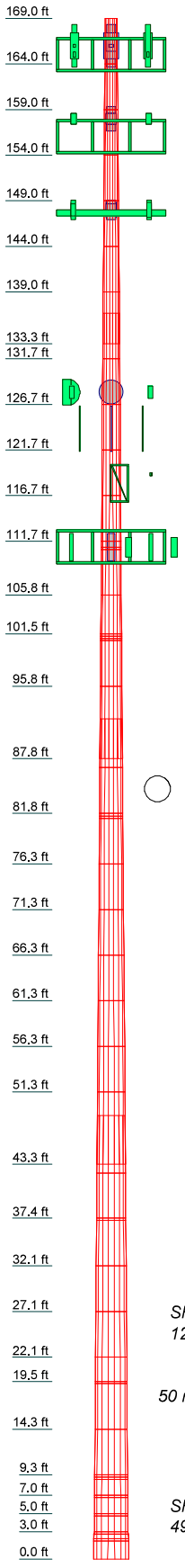
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.25	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	6.33	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.5000	0.5000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7500	0.7500	0.7500	0.7500	0.8750	0.9000	0.8750	0.8625	0.8500	0.8250	0.8250	0.8750	0.8750	1.0000	1.0000	0.9750	0.9625	1.0000	1.0000	1.0000	1.0000
Socket Length (ft)							3.33												4.33													5.33											
Top Dia (in)	15.5000	16.4546	17.4092	18.3638	19.3183	20.2729	21.2275	22.1821	23.1366	24.0912	25.0458	26.0004	26.9549	27.9095	28.8641	29.8187	30.7732	31.7278	32.6824	33.6369	34.5915	35.5461	36.5007	37.4552	38.4098	39.3644	40.3189	41.2735	42.2281	43.1827	44.1372	45.0918	46.0464	47.0010	47.9555	48.9101	49.8647	50.8193	51.7738	52.7284	53.6830	54.6376
Bot Dia (in)	16.4546	17.4092	18.3638	19.3183	20.2729	21.2275	22.1821	23.1366	24.0912	25.0458	26.0004	26.9549	27.9095	28.8641	29.8187	30.7732	31.7278	32.6824	33.6369	34.5915	35.5461	36.5007	37.4552	38.4098	39.3644	40.3189	41.2735	42.2281	43.1827	44.1372	45.0918	46.0464	47.0010	47.9555	48.9101	49.8647	50.8193	51.7738	52.7284	53.6830	54.6376	55.5921
Grade	A572-65																																									
Weight (K)	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.7	0.7	0.6	0.6	1.0	1.6	1.4	1.3	1.4	1.4	1.4	1.5	1.5	2.4	2.4	1.9	1.9	2.0	2.0	1.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6

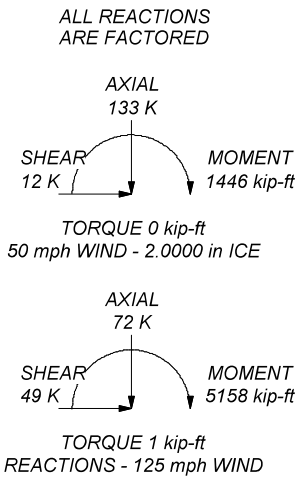


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TIA-222-H Annex S
8. TOWER RATING: 90.5%



PJFLogo

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job:	***165-Ft Monopole | South Windsor/Rt 5***		
Project:	***PJF 37520-2262 | BU 828054***		
Client: Crown Castle	Drawn by: Nathan Miller	App'd:	
Code: TIA-222-H	Date: 11/17/20	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

This tower is designed using the TIA-222-H standard.
The following design criteria apply:

1) Tower base elevation above sea level: 70.11 ft.
2) Basic wind speed of 125 mph.
3) Risk Category II.
4) Exposure Category C.
5) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
6) Topographic Category: 1.
7) Crest Height: 0.00 ft.
8) Nominal ice thickness of 2.0000 in.
9) Ice thickness is considered to increase with height.
10) Ice density of 56 pcf.
11) A wind speed of 50 mph is used in combination with ice.
12) Temperature drop of 50 °F.
13) Deflections calculated using a wind speed of 60 mph.
14) TIA-222-H Annex S.
15) A non-linear (P-delta) analysis was used.
16) Pressures are calculated at each section.
17) Stress ratio used in pole design is 1.05.
18) Tower analysis based on target reliabilities in accordance with Annex S.
19) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
20) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	169.00-164.00	5.00	0.00	18	15.5000	16.4546	0.2500	1.0000	A572-65 (65 ksi)
L2	164.00-159.00	5.00	0.00	18	16.4546	17.4092	0.2500	1.0000	A572-65 (65 ksi)
L3	159.00-154.00	5.00	0.00	18	17.4092	18.3638	0.2500	1.0000	A572-65 (65 ksi)
L4	154.00-149.00	5.00	0.00	18	18.3638	19.3183	0.2500	1.0000	A572-65 (65 ksi)
L5	149.00-144.00	5.00	0.00	18	19.3183	20.2729	0.2500	1.0000	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L6	144.00-139.00	5.00	0.00	18	20.2729	21.2275	0.2500	1.0000	(65 ksi) A572-65 (65 ksi)
L7	139.00-133.33	5.67	3.33	18	21.2275	22.3100	0.2500	1.0000	A572-65 (65 ksi)
L8	133.33-131.66	5.00	0.00	18	21.1742	22.1148	0.3125	1.2500	A572-65 (65 ksi)
L9	131.66-126.66	5.00	0.00	18	22.1148	23.0554	0.3125	1.2500	A572-65 (65 ksi)
L10	126.66-121.66	5.00	0.00	18	23.0554	23.9960	0.3125	1.2500	A572-65 (65 ksi)
L11	121.66-116.66	5.00	0.00	18	23.9960	24.9366	0.3125	1.2500	A572-65 (65 ksi)
L12	116.66-111.66	5.00	0.00	18	24.9366	25.8772	0.3125	1.2500	A572-65 (65 ksi)
L13	111.66-111.00	0.66	0.00	18	25.8772	26.0013	0.3125	1.2500	A572-65 (65 ksi)
L14	111.00-110.75	0.25	0.00	18	26.0013	26.0484	0.5750	2.3000	A572-65 (65 ksi)
L15	110.75-105.75	5.00	0.00	18	26.0484	26.9889	0.5625	2.2500	A572-65 (65 ksi)
L16	105.75-101.50	4.25	0.00	18	26.9889	27.7884	0.5500	2.2000	A572-65 (65 ksi)
L17	101.50-101.25	0.25	0.00	18	27.7884	27.8355	0.9875	3.9500	A572-65 (65 ksi)
L18	101.25-101.00	0.25	0.00	18	27.8355	27.8825	0.9875	3.9500	A572-65 (65 ksi)
L19	101.00-100.75	0.25	0.00	18	27.8825	27.9295	0.7250	2.9000	A572-65 (65 ksi)
L20	100.75-95.75	5.00	0.00	18	27.9295	28.8701	0.7125	2.8500	A572-65 (65 ksi)
L21	95.75-87.83	7.92	4.33	18	28.8701	30.3600	0.7000	2.8000	A572-65 (65 ksi)
L22	87.83-86.83	5.33	0.00	18	28.9205	29.9235	0.9375	3.7500	A572-65 (65 ksi)
L23	86.83-81.83	5.00	0.00	18	29.9235	30.8645	0.9250	3.7000	A572-65 (65 ksi)
L24	81.83-81.50	0.33	0.00	18	30.8645	30.9266	0.9250	3.7000	A572-65 (65 ksi)
L25	81.50-81.25	0.25	0.00	18	30.9266	30.9737	0.9500	3.8000	A572-65 (65 ksi)
L26	81.25-76.25	5.00	0.00	18	30.9737	31.9146	0.9250	3.7000	A572-65 (65 ksi)
L27	76.25-71.25	5.00	0.00	18	31.9146	32.8556	0.9000	3.6000	A572-65 (65 ksi)
L28	71.25-66.25	5.00	0.00	18	32.8556	33.7966	0.8750	3.5000	A572-65 (65 ksi)
L29	66.25-61.25	5.00	0.00	18	33.7966	34.7376	0.8625	3.4500	A572-65 (65 ksi)
L30	61.25-56.25	5.00	0.00	18	34.7376	35.6785	0.8500	3.4000	A572-65 (65 ksi)
L31	56.25-51.25	5.00	0.00	18	35.6785	36.6195	0.8250	3.3000	A572-65 (65 ksi)
L32	51.25-43.33	7.92	5.33	18	36.6195	38.1100	0.8250	3.3000	A572-65 (65 ksi)
L33	43.33-42.33	6.33	0.00	18	36.3569	37.5463	1.0375	4.1500	A572-65 (65 ksi)
L34	42.33-37.40	4.93	0.00	18	37.5463	38.4726	1.0250	4.1000	A572-65 (65 ksi)
L35	37.40-37.15	0.25	0.00	18	38.4726	38.5196	1.0250	4.1000	A572-65 (65 ksi)
L36	37.15-32.15	5.00	0.00	18	38.5196	39.4591	1.0000	4.0000	A572-65 (65 ksi)
L37	32.15-27.15	5.00	0.00	18	39.4591	40.3986	0.9750	3.9000	A572-65 (65 ksi)
L38	27.15-22.15	5.00	0.00	18	40.3986	41.3381	0.9625	3.8500	A572-65 (65 ksi)
L39	22.15-19.50	2.65	0.00	18	41.3381	41.8360	0.9500	3.8000	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L40	19.50-19.25	0.25	0.00	18	41.8360	41.8830	1.0250	4.1000	A572-65 (65 ksi)
L41	19.25-14.25	5.00	0.00	18	41.8830	42.8225	1.0000	4.0000	A572-65 (65 ksi)
L42	14.25-9.25	5.00	0.00	18	42.8225	43.7620	1.0000	4.0000	A572-65 (65 ksi)
L43	9.25-9.00	0.25	0.00	18	43.7620	43.8089	1.0000	4.0000	A572-65 (65 ksi)
L44	9.00-8.75	0.25	0.00	18	43.8089	43.8559	1.0250	4.1000	A572-65 (65 ksi)
L45	8.75-7.00	1.75	0.00	18	43.8559	44.1847	1.0250	4.1000	A572-65 (65 ksi)
L46	7.00-6.75	0.25	0.00	18	44.1847	44.2317	0.9750	3.9000	A572-65 (65 ksi)
L47	6.75-5.00	1.75	0.00	18	44.2317	44.5605	0.9750	3.9000	A572-65 (65 ksi)
L48	5.00-4.75	0.25	0.00	18	44.5605	44.6075	1.4500	5.8000	A572-65 (65 ksi)
L49	4.75-3.00	1.75	0.00	18	44.6075	44.9363	1.4250	5.7000	A572-65 (65 ksi)
L50	3.00-2.75	0.25	0.00	18	44.9363	44.9833	1.4500	5.8000	A572-65 (65 ksi)
L51	2.75-2.25	0.50	0.00	18	44.9833	45.0772	1.4500	5.8000	A572-65 (65 ksi)
L52	2.25-2.00	0.25	0.00	18	45.0772	45.1242	1.2000	4.8000	A572-65 (65 ksi)
L53	2.00-0.00	2.00		18	45.1242	45.5000	1.1750	4.7000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	15.7005	12.1009	355.5445	5.4138	7.8740	45.1542	711.5567	6.0516	2.2880	9.152
	16.6699	12.8583	426.5776	5.7526	8.3589	51.0326	853.7165	6.4304	2.4560	9.824
L2	16.6699	12.8583	426.5776	5.7526	8.3589	51.0326	853.7165	6.4304	2.4560	9.824
	17.6392	13.6158	506.4925	6.0915	8.8439	57.2705	1013.6514	6.8092	2.6240	10.496
L3	17.6392	13.6158	506.4925	6.0915	8.8439	57.2705	1013.6514	6.8092	2.6240	10.496
	18.6085	14.3733	595.8124	6.4304	9.3288	63.8682	1192.4089	7.1880	2.7920	11.168
L4	18.6085	14.3733	595.8124	6.4304	9.3288	63.8682	1192.4089	7.1880	2.7920	11.168
	19.5778	15.1307	695.0606	6.7693	9.8137	70.8254	1391.0359	7.5668	2.9600	11.84
L5	19.5778	15.1307	695.0606	6.7693	9.8137	70.8254	1391.0359	7.5668	2.9600	11.84
	20.5471	15.8882	804.7602	7.1081	10.2986	78.1424	1610.5793	7.9456	3.1280	12.512
L6	20.5471	15.8882	804.7602	7.1081	10.2986	78.1424	1610.5793	7.9456	3.1280	12.512
	21.5164	16.6456	925.4345	7.4470	10.7836	85.8189	1852.0867	8.3244	3.2960	13.184
L7	21.5164	16.6456	925.4345	7.4470	10.7836	85.8189	1852.0867	8.3244	3.2960	13.184
	22.6156	17.5046	1076.2196	7.8313	11.3335	94.9593	2153.8554	8.7540	3.4866	13.946
L8	22.0888	20.6922	1137.7489	7.4059	10.7565	105.7730	2276.9948	10.3481	3.1767	10.165
	22.4078	21.6252	1298.6833	7.7398	11.2343	115.5995	2599.0753	10.8146	3.3422	10.695
L9	22.4078	21.6252	1298.6833	7.7398	11.2343	115.5995	2599.0753	10.8146	3.3422	10.695
	23.3629	22.5581	1474.1202	8.0737	11.7122	125.8625	2950.1801	11.2812	3.5078	11.225
L10	23.3629	22.5581	1474.1202	8.0737	11.7122	125.8625	2950.1801	11.2812	3.5078	11.225
	24.3180	23.4911	1664.6853	8.4076	12.1900	136.5619	3331.5611	11.7478	3.6733	11.755
L11	24.3180	23.4911	1664.6853	8.4076	12.1900	136.5619	3331.5611	11.7478	3.6733	11.755
	25.2731	24.4240	1871.0044	8.7416	12.6678	147.6978	3744.4707	12.2143	3.8388	12.284
L12	25.2731	24.4240	1871.0044	8.7416	12.6678	147.6978	3744.4707	12.2143	3.8388	12.284
	26.2282	25.3570	2093.7030	9.0755	13.1456	159.2702	4190.1609	12.6809	4.0044	12.814
L13	26.2282	25.3570	2093.7030	9.0755	13.1456	159.2702	4190.1609	12.6809	4.0044	12.814
	26.3542	25.4801	2124.3561	9.1195	13.2087	160.8304	4251.5075	12.7425	4.0262	12.884
L14	26.3137	46.4043	3790.2094	9.0263	13.2087	286.9485	7585.4060	23.2066	3.5642	6.199
	26.3615	46.4902	3811.2801	9.0430	13.2326	288.0227	7627.5752	23.2495	3.5725	6.213
L15	26.3634	45.5018	3733.9176	9.0475	13.2326	282.1764	7472.7483	22.7552	3.5945	6.39
	27.3185	47.1811	4162.7764	9.3814	13.7104	303.6222	8331.0303	23.5950	3.7601	6.685
L16	27.3204	46.1545	4076.0488	9.3858	13.7104	297.2965	8157.4610	23.0816	3.7821	6.876
	28.1323	47.5501	4457.1146	9.6696	14.1165	315.7373	8920.0940	23.7796	3.9228	7.132
L17	28.0648	84.0029	7623.0998	9.5143	14.1165	540.0124	15256.230	42.0094	3.1528	3.193

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	28.1125	84.1503	7663.3002	9.5310	14.1404	541.9429	15336.6840	42.0831	3.1610	3.201
L18	28.1125	84.1503	7663.3002	9.5310	14.1404	541.9429	15336.6840	42.0831	3.1610	3.201
	28.1603	84.2977	7703.6417	9.5477	14.1643	543.8770	15417.4200	42.1568	3.1693	3.209
L19	28.2008	62.4935	5823.0658	9.6409	14.1643	411.1083	11653.7937	31.2527	3.6313	5.009
	28.2485	62.6017	5853.3698	9.6576	14.1882	412.5520	11714.4417	31.3068	3.6396	5.02
L20	28.2505	61.5506	5760.3828	9.6620	14.1882	405.9981	11528.3452	30.7812	3.6616	5.139
	29.2056	63.6777	6378.4734	9.9960	14.6660	434.9152	12765.3397	31.8449	3.8271	5.371
L21	29.2075	62.5884	6274.9198	10.0004	14.6660	427.8544	12558.0963	31.3001	3.8491	5.499
	30.7204	65.8986	7324.1268	10.5293	15.4229	474.8871	14657.8908	32.9556	4.1114	5.873
L22	30.0494	83.2668	8237.5161	9.9339	14.6916	560.6960	16485.8714	41.6413	3.4400	3.669
	30.2405	86.2516	9155.4966	10.2900	15.2012	602.2896	18323.0403	43.1340	3.6165	3.858
L23	30.2425	85.1382	9045.1151	10.2945	15.2012	595.0282	18102.1321	42.5772	3.6385	3.934
	31.1979	87.9009	9954.5115	10.6285	15.6792	634.8877	19922.1214	43.9588	3.8042	4.113
L24	31.1979	87.9009	9954.5115	10.6285	15.6792	634.8877	19922.1214	43.9588	3.8042	4.113
	31.2610	88.0832	10016.5865	10.6506	15.7107	637.5639	20046.3531	44.0500	3.8151	4.124
L25	31.2571	90.3885	10261.6096	10.6417	15.7107	653.1598	20536.7217	45.2028	3.7711	3.97
	31.3049	90.5303	10310.0020	10.6584	15.7346	655.2432	20633.5701	45.2738	3.7794	3.978
L26	31.3088	88.2214	10063.7839	10.6673	15.7346	639.5951	20140.8101	44.1191	3.8234	4.133
	32.2643	90.9840	11039.1420	11.0013	16.2126	680.8976	22092.8096	45.5006	3.9890	4.312
L27	32.2681	88.5964	10766.8023	11.0102	16.2126	664.0996	21547.7718	44.3066	4.0330	4.481
	33.2236	91.2844	11776.8183	11.3442	16.6906	705.5939	23569.1328	45.6509	4.1986	4.665
L28	33.2275	88.8181	11476.5780	11.3531	16.6906	687.6053	22968.2571	44.4175	4.2426	4.849
	34.1830	91.4315	12519.7125	11.6872	17.1687	729.2189	25055.8988	45.7244	4.4082	5.038
L29	34.1849	90.1595	12354.9219	11.6916	17.1687	719.6206	24726.1008	45.0883	4.4302	5.136
	35.1404	92.7355	13444.4596	12.0256	17.6467	761.8692	26906.6097	46.3766	4.5958	5.328
L30	35.1423	91.4252	13264.2852	12.0301	17.6467	751.6591	26546.0239	45.7213	4.6178	5.433
	36.0978	93.9639	14400.2007	12.3641	18.1247	794.5074	28819.3496	46.9909	4.7834	5.628
L31	36.1017	91.2657	14006.7845	12.3730	18.1247	772.8013	28031.9994	45.6415	4.8274	5.851
	37.0571	93.7297	15172.1508	12.7070	18.6027	815.5884	30364.2654	46.8737	4.9930	6.052
L32	37.0571	93.7297	15172.1508	12.7070	18.6027	815.5884	30364.2654	46.8737	4.9930	6.052
	38.5706	97.6326	17147.4981	13.2362	19.3599	885.7234	34317.5593	48.8256	5.2554	6.37
L33	37.7747	116.3077	18330.4548	12.5384	18.4693	992.4815	36685.0294	58.1649	4.5728	4.408
	37.9655	120.2244	20245.3636	12.9606	19.0735	1061.4379	40517.3666	60.1236	4.7822	4.609
L34	37.9674	118.8166	20021.9951	12.9651	19.0735	1049.7270	40070.3356	59.4196	4.8042	4.687
	38.9080	121.8303	21584.4890	13.2939	19.5441	1104.3990	43197.3794	60.9267	4.9672	4.846

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L35	38.9080	121.8303	21584.4890	13.2939	19.5441	1104.3990	43197.3794	60.9267	4.9672	4.846
	38.9557	121.9831	21665.8171	13.3106	19.5680	1107.2084	43360.1427	61.0031	4.9755	4.854
L36	38.9596	119.0873	21179.6916	13.3195	19.5680	1082.3655	42387.2519	59.5550	5.0195	5.019
	39.9136	122.0692	22810.8723	13.6530	20.0452	1137.9704	45651.7597	61.0462	5.1848	5.185
L37	39.9174	119.0948	22284.0006	13.6619	20.0452	1111.6862	44597.3230	59.5587	5.2288	5.363
	40.8714	122.0022	23956.1779	13.9954	20.5225	1167.3137	47943.8780	61.0127	5.3942	5.532
L38	40.8733	120.4763	23671.5497	13.9998	20.5225	1153.4447	47374.2471	60.2496	5.4162	5.627
	41.8273	123.3464	25403.9551	14.3333	20.9997	1209.7269	50841.3373	61.6849	5.5815	5.799
L39	41.8292	121.7822	25097.3290	14.3378	20.9997	1195.1255	50227.6818	60.9027	5.6035	5.898
	42.3348	123.2836	26037.0640	14.5145	21.2527	1225.1185	52108.3882	61.6535	5.6911	5.991
L40	42.3233	132.7725	27938.3084	14.4879	21.2527	1314.5775	55913.3788	66.3989	5.5591	5.424
	42.3710	132.9253	28034.8916	14.5046	21.2766	1317.6425	56106.6722	66.4753	5.5674	5.432
L41	42.3748	129.7626	27401.3509	14.5135	21.2766	1287.8661	54838.7572	64.8936	5.6114	5.611
	43.3288	132.7445	29334.1327	14.8470	21.7538	1348.4594	58706.8639	66.3849	5.7768	5.777
L42	43.3288	132.7445	29334.1327	14.8470	21.7538	1348.4594	58706.8639	66.3849	5.7768	5.777
	44.2828	135.7264	31355.7294	15.1805	22.2311	1410.4462	62752.7174	67.8761	5.9421	5.942
L43	44.2828	135.7264	31355.7294	15.1805	22.2311	1410.4462	62752.7174	67.8761	5.9421	5.942
	44.3305	135.8755	31459.1757	15.1972	22.2549	1413.5821	62959.7462	67.9507	5.9504	5.95
L44	44.3266	139.1911	32189.1946	15.1883	22.2549	1446.3846	64420.7446	69.6088	5.9064	5.762
	44.3743	139.3439	32295.3383	15.2050	22.2788	1449.5997	64633.1717	69.6852	5.9146	5.77
L45	44.3743	139.3439	32295.3383	15.2050	22.2788	1449.5997	64633.1717	69.6852	5.9146	5.77
	44.7082	140.4137	33044.8735	15.3217	22.4458	1472.2050	66133.2283	70.2202	5.9725	5.827
L46	44.7159	133.7190	31542.2990	15.3395	22.4458	1405.2627	63126.1022	66.8722	6.0605	6.216
	44.7636	133.8643	31645.2814	15.3561	22.4697	1408.3535	63332.2024	66.9449	6.0688	6.224
L47	44.7636	133.8643	31645.2814	15.3561	22.4697	1408.3535	63332.2024	66.9449	6.0688	6.224
	45.0975	134.8819	32372.4452	15.4729	22.6367	1430.0842	64787.4869	67.4538	6.1267	6.284
L48	45.0242	198.4075	46586.7032	15.3042	22.6367	2058.0128	93234.7063	99.2226	5.2907	3.649
	45.0719	198.6237	46739.1543	15.3209	22.6606	2062.5732	93539.8092	99.3307	5.2989	3.654
L49	45.0758	195.3122	46013.1770	15.3298	22.6606	2030.5362	92086.8992	97.6747	5.3429	3.749
	45.4097	196.7995	47072.3254	15.4465	22.8276	2062.0755	94206.5899	98.4184	5.4008	3.79
L50	45.4058	200.1370	47815.6416	15.4376	22.8276	2094.6376	95694.2002	100.0875	5.3568	3.694
	45.4535	200.3532	47970.7640	15.4543	22.8515	2099.2385	96004.6491	100.1957	5.3651	3.7
L51	45.4535	200.3532	47970.7640	15.4543	22.8515	2099.2385	96004.6491	100.1957	5.3651	3.7
	45.5489	200.7856	48282.0079	15.4877	22.8992	2108.4552	96627.5466	100.4119	5.3816	3.711
L52	45.5875	167.1196	40648.3813	15.5764	22.8992	1775.0979	81350.2488	83.5757	5.8216	4.851

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	45.6352	167.2985	40779.0757	15.5931	22.9231	1778.9514	81611.8095	83.6652	5.8299	4.858
L53	45.6391	163.9064	39997.7295	15.6020	22.9231	1744.8659	80048.0891	81.9688	5.8739	4.999
	46.0206	165.3079	41032.5467	15.7354	23.1140	1775.2248	82119.0850	82.6696	5.9400	5.055

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 169.00-164.00				1	1	1			
L2 164.00-159.00				1	1	1			
L3 159.00-154.00				1	1	1			
L4 154.00-149.00				1	1	1			
L5 149.00-144.00				1	1	1			
L6 144.00-139.00				1	1	1			
L7 139.00-133.33				1	1	1			
L8 133.33-131.66				1	1	1			
L9 131.66-126.66				1	1	1			
L10 126.66-121.66				1	1	1			
L11 121.66-116.66				1	1	1			
L12 116.66-111.66				1	1	1			
L13 111.66-111.00				1	1	1			
L14 111.00-110.75				1	1	0.936271			
L15 110.75-105.75				1	1	0.942334			
L16 105.75-101.50				1	1	0.951697			
L17 101.50-101.25				1	1	0.894841			
L18 101.25-101.00				1	1	0.893829			
L19 101.00-100.75				1	1	0.916808			
L20 100.75-95.75				1	1	0.915966			
L21 95.75-87.83				1	1	0.920543			
L22 87.83-86.83				1	1	0.912119			
L23 86.83-81.83				1	1	0.907746			
L24 81.83-81.50				1	1	0.906706			
L25 81.50-81.25				1	1	0.899386			
L26 81.25-76.25				1	1	0.907211			
L27 76.25-71.25				1	1	0.916495			
L28 71.25-66.25				1	1	0.92727			
L29 66.25-				1	1	0.926308			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
61.25									
L30 61.25-56.25				1	1	0.926118			
L31 56.25-51.25				1	1	0.940381			
L32 51.25-43.33				1	1	0.933854			
L33 43.33-42.33				1	1	0.941952			
L34 42.33-37.40				1	1	0.938586			
L35 37.40-37.15				1	1	0.937868			
L36 37.15-32.15				1	1	0.946368			
L37 32.15-27.15				1	1	0.956053			
L38 27.15-22.15				1	1	0.9547			
L39 22.15-19.50				1	1	0.959994			
L40 19.50-19.25				1	1	0.954729			
L41 19.25-14.25				1	1	0.964453			
L42 14.25-9.25				1	1	0.951503			
L43 9.25-9.00				1	1	0.95087			
L44 9.00-8.75				1	1	0.963488			
L45 8.75-7.00				1	1	0.958934			
L46 7.00-6.75				1	1	0.968915			
L47 6.75-5.00				1	1	0.964507			
L48 5.00-4.75				1	1	0.856655			
L49 4.75-3.00				1	1	0.866584			
L50 3.00-2.75				1	1	0.876449			
L51 2.75-2.25				1	1	0.875119			
L52 2.25-2.00				1	1	0.856349			
L53 2.00-0.00				1	1	0.869367			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
CCI-065125 Reinforcement	A	No	Surface Af (CaAa)	22.25 - 0.00	1	1	0.333 0.333	6.5000	15.5000	0.00
CCI-065125 Reinforcement	A	No	Surface Af (CaAa)	22.25 - 0.00	1	1	-0.333 -0.333	6.5000	15.5000	0.00
CCI-065125 Reinforcement	C	No	Surface Af (CaAa)	22.25 - 0.00	1	1	-0.167 -0.167	6.5000	15.5000	0.00
CCI-065125 Reinforcement	B	No	Surface Af (CaAa)	22.25 - 0.00	1	1	0.167 0.167	6.5000	15.5000	0.00
CCI-060100 Reinforcement	A	No	Surface Af (CaAa)	45.10 - 22.25	1	1	0.333 0.333	6.0000	14.0000	0.00
CCI-060100 Reinforcement	A	No	Surface Af (CaAa)	47.33 - 45.10	1	1	0.333 0.333	6.0000	14.0000	0.00
CCI-060100 Reinforcement	A	No	Surface Af (CaAa)	45.10 - 22.25	1	1	-0.333 -0.333	6.0000	14.0000	0.00
CCI-060100 Reinforcement	A	No	Surface Af (CaAa)	47.33 - 45.10	1	1	-0.333 -0.333	6.0000	14.0000	0.00
CCI-060100 Reinforcement	C	No	Surface Af (CaAa)	45.10 - 22.25	1	1	-0.167 -0.167	6.0000	14.0000	0.00
CCI-060100 Reinforcement	C	No	Surface Af (CaAa)	47.33 - 45.10	1	1	-0.167 -0.167	6.0000	14.0000	0.00
CCI-060100	B	No	Surface Af	45.10 -	1	1	0.167	6.0000	14.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Reinforcement			(CaAa)	22.25			0.167			
CCI-060100	B	No	Surface Af	47.33 -	1	1	0.167	6.0000	14.0000	0.00
Reinforcement			(CaAa)	45.10			0.167			
CCI-045100	A	No	Surface Af	90.00 -	1	1	0.167	4.5000	11.0000	0.00
Reinforcement			(CaAa)	80.00			0.167			
CCI-045100	C	No	Surface Af	90.00 -	1	1	0.167	4.5000	11.0000	0.00
Reinforcement			(CaAa)	80.00			0.167			
CCI-045100	B	No	Surface Af	90.00 -	1	1	0.167	4.5000	11.0000	0.00
Reinforcement			(CaAa)	80.00			0.167			
**********										
**********										
CCI-065125	B	No	Surface Af	26.01 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			-0.500			
CCI-065125	B	No	Surface Af	81.80 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			-0.500			
CCI-065125	A	No	Surface Af	26.01 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			0.000			
CCI-065125	A	No	Surface Af	81.80 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			0.000			
CCI-065125	A	No	Surface Af	26.01 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			-0.500			
CCI-065125	A	No	Surface Af	81.80 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			-0.500			
CCI-065125	C	No	Surface Af	26.01 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			0.000			
CCI-065125	C	No	Surface Af	81.80 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			0.000			
CCI-065125	C	No	Surface Af	26.01 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			-0.500			
CCI-065125	C	No	Surface Af	81.80 -	1	1	-0.500	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			-0.500			
CCI-065125	B	No	Surface Af	26.01 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	0.00			0.000			
CCI-065125	B	No	Surface Af	81.80 -	1	1	0.000	6.5000	15.5000	0.00
Reinforcement			(CaAa)	26.01			0.000			
CCI-040125	B	No	Surface Af	104.00 -	1	1	-0.500	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			-0.500			
CCI-040125	A	No	Surface Af	104.00 -	1	1	0.000	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			0.000			
CCI-040125	A	No	Surface Af	104.00 -	1	1	-0.500	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			-0.500			
CCI-040125	C	No	Surface Af	104.00 -	1	1	0.000	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			0.000			
CCI-040125	C	No	Surface Af	104.00 -	1	1	-0.500	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			-0.500			
CCI-040125	B	No	Surface Af	104.00 -	1	1	0.000	4.0000	10.5000	0.00
Reinforcement			(CaAa)	81.80			0.000			
**********										
**********										
CCI-060100	A	No	Surface Af	108.25 -	1	1	0.167	6.0000	14.0000	0.00
Reinforcement			(CaAa)	98.25			0.167			
CCI-060100	C	No	Surface Af	108.25 -	1	1	0.167	6.0000	14.0000	0.00
Reinforcement			(CaAa)	98.25			0.167			
CCI-060100	B	No	Surface Af	108.25 -	1	1	0.167	6.0000	14.0000	0.00
Reinforcement			(CaAa)	98.25			0.167			
***										
LDF7-50A(1-5/8)	B	No	Surface Ar	138.00 -	6	6	0.170	1.9800		0.82
			(CaAa)	0.00			0.373			
LDF4-50A(1/2)	C	No	Surface Ar	124.00 -	2	1	-0.487	0.6250		0.15
			(CaAa)	0.00			-0.487			
2" (Nominal) Conduit	C	No	Surface Ar	124.00 -	2	2	-0.500	2.3750		0.72
			(CaAa)	0.00			-0.395			
***										
EC4-50(1/2)	B	No	Surface Ar	118.00 -	1	1	0.411	0.6300		0.16
			(CaAa)	0.00			0.411			
***										
LDF7-50A(1-5/8)	A	No	Surface Ar	111.00 -	20	9	-0.177	1.9800		0.82
			(CaAa)	0.00			0.137			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
**********									
**********									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	165.00 - 0.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
HCS 6X12 6AWG(1-3/8)	C	No	No	Inside Pole	165.00 - 0.00	2	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
							2" Ice	0.00	1.70
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	165.00 - 0.00	1	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40
							2" Ice	0.00	2.40
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	156.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
A-DQZNB2YN1750N(17/64)	C	No	No	Inside Pole	156.00 - 0.00	2	No Ice	0.00	0.03
							1/2" Ice	0.00	0.03
							1" Ice	0.00	0.03
							2" Ice	0.00	0.03
WR-VG86ST-BRDA(7/8)	C	No	No	Inside Pole	156.00 - 0.00	4	No Ice	0.00	0.68
							1/2" Ice	0.00	0.68
							1" Ice	0.00	0.68
							2" Ice	0.00	0.68
***									
HB114-1-08U4-M5F(1-1/4)	C	No	No	Inside Pole	148.00 - 0.00	3	No Ice	0.00	1.08
							1/2" Ice	0.00	1.08
							1" Ice	0.00	1.08
							2" Ice	0.00	1.08
***									
LDF1-50A(1/4)	C	No	No	Inside Pole	124.00 - 0.00	3	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06
LDF4-50A(1/2)	C	No	No	Inside Pole	124.00 - 0.00	4	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
							2" Ice	0.00	0.15
9207(5/16)	C	No	No	Inside Pole	124.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	169.00-164.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L2	164.00-159.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.05
L3	159.00-154.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.08
L4	154.00-149.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.000	0.000	0.12
L5	149.00-144.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.13
L6	144.00-139.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.13
L7	139.00-133.33	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	5.548	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.15
L8	133.33-131.66	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	1.984	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.04
L9	131.66-126.66	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	5.940	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.13
L10	126.66-121.66	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	5.940	0.000	0.02
		C	0.000	0.000	1.258	0.000	0.14
L11	121.66-116.66	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	6.024	0.000	0.02
		C	0.000	0.000	2.688	0.000	0.15
L12	116.66-111.66	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	6.255	0.000	0.03
		C	0.000	0.000	2.688	0.000	0.15
L13	111.66-111.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.826	0.000	0.00
		C	0.000	0.000	0.355	0.000	0.02
L14	111.00-110.75	A	0.000	0.000	0.446	0.000	0.00
		B	0.000	0.000	0.313	0.000	0.00
		C	0.000	0.000	0.134	0.000	0.01
L15	110.75-105.75	A	0.000	0.000	11.190	0.000	0.08
		B	0.000	0.000	8.535	0.000	0.03
		C	0.000	0.000	4.968	0.000	0.15
L16	105.75-101.50	A	0.000	0.000	14.783	0.000	0.07
		B	0.000	0.000	12.527	0.000	0.02
		C	0.000	0.000	9.494	0.000	0.12
L17	101.50-101.25	A	0.000	0.000	1.007	0.000	0.00
		B	0.000	0.000	0.874	0.000	0.00
		C	0.000	0.000	0.696	0.000	0.01
L18	101.25-101.00	A	0.000	0.000	1.007	0.000	0.00
		B	0.000	0.000	0.874	0.000	0.00
		C	0.000	0.000	0.696	0.000	0.01
L19	101.00-100.75	A	0.000	0.000	1.007	0.000	0.00
		B	0.000	0.000	0.874	0.000	0.00
		C	0.000	0.000	0.696	0.000	0.01
L20	100.75-95.75	A	0.000	0.000	17.857	0.000	0.08
		B	0.000	0.000	15.202	0.000	0.03
		C	0.000	0.000	11.634	0.000	0.15
L21	95.75-87.83	A	0.000	0.000	26.301	0.000	0.13
		B	0.000	0.000	22.095	0.000	0.04
		C	0.000	0.000	16.445	0.000	0.23
L22	87.83-86.83	A	0.000	0.000	3.865	0.000	0.02
		B	0.000	0.000	3.334	0.000	0.01
		C	0.000	0.000	2.621	0.000	0.03
L23	86.83-81.83	A	0.000	0.000	19.327	0.000	0.08
		B	0.000	0.000	16.672	0.000	0.03
		C	0.000	0.000	13.104	0.000	0.15
L24	81.83-81.50	A	0.000	0.000	1.526	0.000	0.01
		B	0.000	0.000	1.350	0.000	0.00
		C	0.000	0.000	1.115	0.000	0.01
L25	81.50-81.25	A	0.000	0.000	1.175	0.000	0.00
		B	0.000	0.000	1.042	0.000	0.00
		C	0.000	0.000	0.864	0.000	0.01
L26	81.25-76.25	A	0.000	0.000	20.681	0.000	0.08
		B	0.000	0.000	18.026	0.000	0.03
		C	0.000	0.000	14.458	0.000	0.15
L27	76.25-71.25	A	0.000	0.000	19.743	0.000	0.08
		B	0.000	0.000	17.088	0.000	0.03

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	13.521	0.000	0.15
L28	71.25-66.25	A	0.000	0.000	19.743	0.000	0.08
		B	0.000	0.000	17.088	0.000	0.03
		C	0.000	0.000	13.521	0.000	0.15
L29	66.25-61.25	A	0.000	0.000	19.743	0.000	0.08
		B	0.000	0.000	17.088	0.000	0.03
		C	0.000	0.000	13.521	0.000	0.15
L30	61.25-56.25	A	0.000	0.000	19.743	0.000	0.08
		B	0.000	0.000	17.088	0.000	0.03
		C	0.000	0.000	13.521	0.000	0.15
L31	56.25-51.25	A	0.000	0.000	19.743	0.000	0.08
		B	0.000	0.000	17.088	0.000	0.03
		C	0.000	0.000	13.521	0.000	0.15
L32	51.25-43.33	A	0.000	0.000	37.680	0.000	0.13
		B	0.000	0.000	30.271	0.000	0.04
		C	0.000	0.000	24.620	0.000	0.23
L33	43.33-42.33	A	0.000	0.000	5.949	0.000	0.02
		B	0.000	0.000	4.418	0.000	0.01
		C	0.000	0.000	3.704	0.000	0.03
L34	42.33-37.40	A	0.000	0.000	29.327	0.000	0.08
		B	0.000	0.000	21.779	0.000	0.03
		C	0.000	0.000	18.262	0.000	0.14
L35	37.40-37.15	A	0.000	0.000	1.487	0.000	0.00
		B	0.000	0.000	1.104	0.000	0.00
		C	0.000	0.000	0.926	0.000	0.01
L36	37.15-32.15	A	0.000	0.000	29.743	0.000	0.08
		B	0.000	0.000	22.088	0.000	0.03
		C	0.000	0.000	18.521	0.000	0.15
L37	32.15-27.15	A	0.000	0.000	29.743	0.000	0.08
		B	0.000	0.000	22.088	0.000	0.03
		C	0.000	0.000	18.521	0.000	0.15
L38	27.15-22.15	A	0.000	0.000	29.760	0.000	0.08
		B	0.000	0.000	22.097	0.000	0.03
		C	0.000	0.000	18.529	0.000	0.15
L39	22.15-19.50	A	0.000	0.000	16.206	0.000	0.04
		B	0.000	0.000	11.928	0.000	0.01
		C	0.000	0.000	10.037	0.000	0.08
L40	19.50-19.25	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L41	19.25-14.25	A	0.000	0.000	30.577	0.000	0.08
		B	0.000	0.000	22.505	0.000	0.03
		C	0.000	0.000	18.938	0.000	0.15
L42	14.25-9.25	A	0.000	0.000	30.577	0.000	0.08
		B	0.000	0.000	22.505	0.000	0.03
		C	0.000	0.000	18.938	0.000	0.15
L43	9.25-9.00	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L44	9.00-8.75	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L45	8.75-7.00	A	0.000	0.000	10.702	0.000	0.03
		B	0.000	0.000	7.877	0.000	0.01
		C	0.000	0.000	6.628	0.000	0.05
L46	7.00-6.75	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L47	6.75-5.00	A	0.000	0.000	10.702	0.000	0.03
		B	0.000	0.000	7.877	0.000	0.01
		C	0.000	0.000	6.628	0.000	0.05
L48	5.00-4.75	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L49	4.75-3.00	A	0.000	0.000	10.702	0.000	0.03
		B	0.000	0.000	7.877	0.000	0.01
		C	0.000	0.000	6.628	0.000	0.05
L50	3.00-2.75	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.947	0.000	0.01
L51	2.75-2.25	A	0.000	0.000	3.058	0.000	0.01
		B	0.000	0.000	2.251	0.000	0.00
		C	0.000	0.000	1.894	0.000	0.01
L52	2.25-2.00	A	0.000	0.000	1.529	0.000	0.00
		B	0.000	0.000	1.125	0.000	0.00
		C	0.000	0.000	0.947	0.000	0.01
L53	2.00-0.00	A	0.000	0.000	12.231	0.000	0.03
		B	0.000	0.000	9.002	0.000	0.01
		C	0.000	0.000	7.575	0.000	0.06

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	169.00-164.00	A	1.999	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L2	164.00-159.00	A	1.993	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.05
L3	159.00-154.00	A	1.986	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.08
L4	154.00-149.00	A	1.980	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L5	149.00-144.00	A	1.973	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.13
L6	144.00-139.00	A	1.966	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.13
L7	139.00-133.33	A	1.959	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.222	0.000	0.15
		C		0.000	0.000	0.000	0.000	0.15
L8	133.33-131.66	A	1.954	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	3.298	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.04
L9	131.66-126.66	A	1.949	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.861	0.000	0.15
		C		0.000	0.000	0.000	0.000	0.13
L10	126.66-121.66	A	1.941	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.851	0.000	0.15
		C		0.000	0.000	3.579	0.000	0.20
L11	121.66-116.66	A	1.933	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	10.444	0.000	0.16
		C		0.000	0.000	7.630	0.000	0.28
L12	116.66-111.66	A	1.925	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	12.070	0.000	0.18
		C		0.000	0.000	7.612	0.000	0.28
L13	111.66-111.00	A	1.920	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.592	0.000	0.02
		C		0.000	0.000	1.003	0.000	0.04
L14	111.00-110.75	A	1.919	0.000	0.000	0.677	0.000	0.02
		B		0.000	0.000	0.603	0.000	0.01
		C		0.000	0.000	0.380	0.000	0.01
L15	110.75-105.75	A	1.914	0.000	0.000	16.316	0.000	0.34
		B		0.000	0.000	14.833	0.000	0.22
		C		0.000	0.000	10.374	0.000	0.31
L16	105.75-101.50	A	1.906	0.000	0.000	21.463	0.000	0.39
		B		0.000	0.000	20.195	0.000	0.29
		C		0.000	0.000	16.405	0.000	0.37
L17	101.50-101.25	A	1.902	0.000	0.000	1.477	0.000	0.03
		B		0.000	0.000	1.403	0.000	0.02
		C		0.000	0.000	1.180	0.000	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L18	101.25-101.00	A	1.901	0.000	0.000	1.477	0.000	0.03
		B		0.000	0.000	1.403	0.000	0.02
		C		0.000	0.000	1.180	0.000	0.02
L19	101.00-100.75	A	1.901	0.000	0.000	1.477	0.000	0.03
		B		0.000	0.000	1.402	0.000	0.02
		C		0.000	0.000	1.180	0.000	0.02
L20	100.75-95.75	A	1.896	0.000	0.000	26.746	0.000	0.47
		B		0.000	0.000	25.245	0.000	0.35
		C		0.000	0.000	20.786	0.000	0.44
L21	95.75-87.83	A	1.883	0.000	0.000	39.974	0.000	0.71
		B		0.000	0.000	37.575	0.000	0.52
		C		0.000	0.000	30.513	0.000	0.66
L22	87.83-86.83	A	1.874	0.000	0.000	5.743	0.000	0.10
		B		0.000	0.000	5.440	0.000	0.07
		C		0.000	0.000	4.549	0.000	0.09
L23	86.83-81.83	A	1.867	0.000	0.000	28.654	0.000	0.49
		B		0.000	0.000	27.124	0.000	0.37
		C		0.000	0.000	22.665	0.000	0.46
L24	81.83-81.50	A	1.861	0.000	0.000	2.140	0.000	0.03
		B		0.000	0.000	2.038	0.000	0.03
		C		0.000	0.000	1.744	0.000	0.03
L25	81.50-81.25	A	1.861	0.000	0.000	1.640	0.000	0.03
		B		0.000	0.000	1.563	0.000	0.02
		C		0.000	0.000	1.340	0.000	0.02
L26	81.25-76.25	A	1.854	0.000	0.000	29.192	0.000	0.47
		B		0.000	0.000	27.648	0.000	0.36
		C		0.000	0.000	23.190	0.000	0.45
L27	76.25-71.25	A	1.842	0.000	0.000	27.958	0.000	0.46
		B		0.000	0.000	26.403	0.000	0.34
		C		0.000	0.000	21.944	0.000	0.43
L28	71.25-66.25	A	1.829	0.000	0.000	27.917	0.000	0.45
		B		0.000	0.000	26.348	0.000	0.33
		C		0.000	0.000	21.890	0.000	0.43
L29	66.25-61.25	A	1.816	0.000	0.000	27.872	0.000	0.45
		B		0.000	0.000	26.290	0.000	0.33
		C		0.000	0.000	21.831	0.000	0.42
L30	61.25-56.25	A	1.801	0.000	0.000	27.824	0.000	0.45
		B		0.000	0.000	26.227	0.000	0.33
		C		0.000	0.000	21.768	0.000	0.42
L31	56.25-51.25	A	1.785	0.000	0.000	27.772	0.000	0.44
		B		0.000	0.000	26.159	0.000	0.32
		C		0.000	0.000	21.701	0.000	0.42
L32	51.25-43.33	A	1.762	0.000	0.000	52.369	0.000	0.81
		B		0.000	0.000	45.531	0.000	0.56
		C		0.000	0.000	38.468	0.000	0.71
L33	43.33-42.33	A	1.745	0.000	0.000	8.244	0.000	0.12
		B		0.000	0.000	6.565	0.000	0.08
		C		0.000	0.000	5.673	0.000	0.10
L34	42.33-37.40	A	1.732	0.000	0.000	40.491	0.000	0.56
		B		0.000	0.000	32.211	0.000	0.38
		C		0.000	0.000	27.815	0.000	0.47
L35	37.40-37.15	A	1.721	0.000	0.000	2.050	0.000	0.03
		B		0.000	0.000	1.630	0.000	0.02
		C		0.000	0.000	1.407	0.000	0.02
L36	37.15-32.15	A	1.708	0.000	0.000	40.939	0.000	0.56
		B		0.000	0.000	32.542	0.000	0.38
		C		0.000	0.000	28.083	0.000	0.47
L37	32.15-27.15	A	1.682	0.000	0.000	40.801	0.000	0.55
		B		0.000	0.000	32.403	0.000	0.37
		C		0.000	0.000	27.944	0.000	0.46
L38	27.15-22.15	A	1.651	0.000	0.000	40.656	0.000	0.54
		B		0.000	0.000	32.250	0.000	0.36
		C		0.000	0.000	27.791	0.000	0.45
L39	22.15-19.50	A	1.623	0.000	0.000	21.904	0.000	0.29
		B		0.000	0.000	17.232	0.000	0.19
		C		0.000	0.000	14.869	0.000	0.24
L40	19.50-19.25	A	1.612	0.000	0.000	2.063	0.000	0.03
		B		0.000	0.000	1.623	0.000	0.02
		C		0.000	0.000	1.400	0.000	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L41	19.25-14.25	A	1.588	0.000	0.000	41.144	0.000	0.53
		B		0.000	0.000	32.329	0.000	0.35
		C		0.000	0.000	27.871	0.000	0.44
L42	14.25-9.25	A	1.533	0.000	0.000	40.853	0.000	0.52
		B		0.000	0.000	32.039	0.000	0.34
		C		0.000	0.000	27.580	0.000	0.43
L43	9.25-9.00	A	1.495	0.000	0.000	2.033	0.000	0.03
		B		0.000	0.000	1.592	0.000	0.02
		C		0.000	0.000	1.369	0.000	0.02
L44	9.00-8.75	A	1.491	0.000	0.000	2.032	0.000	0.03
		B		0.000	0.000	1.591	0.000	0.02
		C		0.000	0.000	1.368	0.000	0.02
L45	8.75-7.00	A	1.473	0.000	0.000	14.188	0.000	0.17
		B		0.000	0.000	11.103	0.000	0.11
		C		0.000	0.000	9.543	0.000	0.15
L46	7.00-6.75	A	1.453	0.000	0.000	2.022	0.000	0.02
		B		0.000	0.000	1.581	0.000	0.02
		C		0.000	0.000	1.358	0.000	0.02
L47	6.75-5.00	A	1.431	0.000	0.000	14.110	0.000	0.17
		B		0.000	0.000	11.025	0.000	0.11
		C		0.000	0.000	9.464	0.000	0.14
L48	5.00-4.75	A	1.404	0.000	0.000	2.009	0.000	0.02
		B		0.000	0.000	1.568	0.000	0.02
		C		0.000	0.000	1.345	0.000	0.02
L49	4.75-3.00	A	1.372	0.000	0.000	14.003	0.000	0.16
		B		0.000	0.000	10.918	0.000	0.10
		C		0.000	0.000	9.357	0.000	0.14
L50	3.00-2.75	A	1.332	0.000	0.000	1.990	0.000	0.02
		B		0.000	0.000	1.549	0.000	0.01
		C		0.000	0.000	1.326	0.000	0.02
L51	2.75-2.25	A	1.313	0.000	0.000	3.970	0.000	0.04
		B		0.000	0.000	3.089	0.000	0.03
		C		0.000	0.000	2.643	0.000	0.04
L52	2.25-2.00	A	1.292	0.000	0.000	1.979	0.000	0.02
		B		0.000	0.000	1.539	0.000	0.01
		C		0.000	0.000	1.316	0.000	0.02
L53	2.00-0.00	A	1.198	0.000	0.000	15.638	0.000	0.17
		B		0.000	0.000	12.112	0.000	0.10
		C		0.000	0.000	10.329	0.000	0.14

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	169.00-164.00	0.0000	0.0000	0.0000	0.0000
L2	164.00-159.00	0.0000	0.0000	0.0000	0.0000
L3	159.00-154.00	0.0000	0.0000	0.0000	0.0000
L4	154.00-149.00	0.0000	0.0000	0.0000	0.0000
L5	149.00-144.00	0.0000	0.0000	0.0000	0.0000
L6	144.00-139.00	0.0000	0.0000	0.0000	0.0000
L7	139.00-133.33	5.0214	0.2252	4.0089	0.1798
L8	133.33-131.66	5.5893	0.2507	4.4320	0.1988
L9	131.66-126.66	5.6496	0.2534	4.4937	0.2015
L10	126.66-121.66	6.1560	0.8966	4.9825	0.9786
L11	121.66-116.66	6.6811	1.5285	5.5075	1.6584
L12	116.66-111.66	6.8714	1.5922	5.8924	1.7966
L13	111.66-111.00	6.9369	1.6072	5.9682	1.8190
L14	111.00-110.75	-0.2706	-1.2426	1.0272	-0.3867
L15	110.75-105.75	-0.2169	-1.0255	0.9176	-0.3416
L16	105.75-101.50	-0.1407	-0.7004	0.6800	-0.2487
L17	101.50-101.25	-0.1210	-0.6175	0.6084	-0.2207
L18	101.25-101.00	-0.1208	-0.6181	0.6094	-0.2209
L19	101.00-100.75	-0.1205	-0.6184	0.6104	-0.2211
L20	100.75-95.75	-0.1318	-0.6966	0.6732	-0.2417
L21	95.75-87.83	-0.1337	-0.7594	0.7338	-0.2587
L22	87.83-86.83	-0.1156	-0.6653	0.6675	-0.2339

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L23	86.83-81.83	-0.1129	-0.6719	0.6768	-0.2383
L24	81.83-81.50	-0.0939	-0.5762	0.6211	-0.2176
L25	81.50-81.25	-0.0922	-0.5676	0.6156	-0.2155
L26	81.25-76.25	-0.1015	-0.6438	0.6875	-0.2396
L27	76.25-71.25	-0.1014	-0.6816	0.7302	-0.2526
L28	71.25-66.25	-0.0971	-0.6920	0.7487	-0.2578
L29	66.25-61.25	-0.0929	-0.7023	0.7665	-0.2632
L30	61.25-56.25	-0.0887	-0.7124	0.7835	-0.2689
L31	56.25-51.25	-0.0845	-0.7224	0.7996	-0.2751
L32	51.25-43.33	0.4788	-0.3408	1.2247	0.0198
L33	43.33-42.33	1.1062	0.1028	1.7097	0.3825
L34	42.33-37.40	1.1216	0.1057	1.7241	0.3833
L35	37.40-37.15	1.1350	0.1082	1.7411	0.3867
L36	37.15-32.15	1.1485	0.1107	1.7578	0.3898
L37	32.15-27.15	1.1739	0.1155	1.7884	0.3951
L38	27.15-22.15	1.2008	0.1214	1.8177	0.3999
L39	22.15-19.50	1.3001	0.1814	1.8854	0.4376
L40	19.50-19.25	1.3078	0.1830	1.8928	0.4384
L41	19.25-14.25	1.3215	0.1860	1.9051	0.4392
L42	14.25-9.25	1.3475	0.1915	1.9237	0.4382
L43	9.25-9.00	1.3611	0.1944	1.9296	0.4354
L44	9.00-8.75	1.3624	0.1947	1.9299	0.4350
L45	8.75-7.00	1.3675	0.1958	1.9308	0.4332
L46	7.00-6.75	1.3726	0.1969	1.9307	0.4309
L47	6.75-5.00	1.3777	0.1980	1.9295	0.4278
L48	5.00-4.75	1.3834	0.1992	1.9272	0.4241
L49	4.75-3.00	1.3885	0.2003	1.9221	0.4188
L50	3.00-2.75	1.3936	0.2014	1.9134	0.4115
L51	2.75-2.25	1.3955	0.2018	1.9087	0.4080
L52	2.25-2.00	1.3971	0.2021	1.9026	0.4037
L53	2.00-0.00	1.4028	0.2033	1.8718	0.3835

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L7	54	LDF7-50A(1-5/8)	133.33 - 138.00	1.0000	1.0000
L8	54	LDF7-50A(1-5/8)	131.66 - 133.33	1.0000	1.0000
L9	54	LDF7-50A(1-5/8)	126.66 - 131.66	1.0000	1.0000
L10	54	LDF7-50A(1-5/8)	121.66 - 126.66	1.0000	1.0000
L10	59	LDF4-50A(1/2)	121.66 - 124.00	1.0000	1.0000
L10	60	2" (Nominal) Conduit	121.66 - 124.00	1.0000	1.0000
L11	54	LDF7-50A(1-5/8)	116.66 - 121.66	1.0000	1.0000
L11	59	LDF4-50A(1/2)	116.66 - 121.66	1.0000	1.0000
L11	60	2" (Nominal) Conduit	116.66 - 121.66	1.0000	1.0000
L11	62	EC4-50(1/2)	116.66 - 118.00	1.0000	1.0000
L12	54	LDF7-50A(1-5/8)	111.66 - 116.66	1.0000	1.0000
L12	59	LDF4-50A(1/2)	111.66 - 116.66	1.0000	1.0000
L12	60	2" (Nominal) Conduit	111.66 - 116.66	1.0000	1.0000
L12	62	EC4-50(1/2)	111.66 - 116.66	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L13	54	LDF7-50A(1-5/8)	111.00 - 111.66	1.0000	1.0000
L13	59	LDF4-50A(1/2)	111.00 - 111.66	1.0000	1.0000
L13	60	2" (Nominal) Conduit	111.00 - 111.66	1.0000	1.0000
L13	62	EC4-50(1/2)	111.00 - 111.66	1.0000	1.0000
L14	54	LDF7-50A(1-5/8)	110.75 - 111.00	1.0000	1.0000
L14	59	LDF4-50A(1/2)	110.75 - 111.00	1.0000	1.0000
L14	60	2" (Nominal) Conduit	110.75 - 111.00	1.0000	1.0000
L14	62	EC4-50(1/2)	110.75 - 111.00	1.0000	1.0000
L14	67	LDF7-50A(1-5/8)	110.75 - 111.00	1.0000	1.0000
L15	36	CCI-060100 Reinforcement	105.75 - 108.25	1.0000	1.0000
L15	37	CCI-060100 Reinforcement	105.75 - 108.25	1.0000	1.0000
L15	38	CCI-060100 Reinforcement	105.75 - 108.25	1.0000	1.0000
L15	54	LDF7-50A(1-5/8)	105.75 - 110.75	1.0000	1.0000
L15	59	LDF4-50A(1/2)	105.75 - 110.75	1.0000	1.0000
L15	60	2" (Nominal) Conduit	105.75 - 110.75	1.0000	1.0000
L15	62	EC4-50(1/2)	105.75 - 110.75	1.0000	1.0000
L15	67	LDF7-50A(1-5/8)	105.75 - 110.75	1.0000	1.0000
L16	29	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	30	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	31	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	32	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	33	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	34	CCI-040125 Reinforcement	101.50 - 104.00	1.0000	1.0000
L16	36	CCI-060100 Reinforcement	101.50 - 105.75	1.0000	1.0000
L16	37	CCI-060100 Reinforcement	101.50 - 105.75	1.0000	1.0000
L16	38	CCI-060100 Reinforcement	101.50 - 105.75	1.0000	1.0000
L16	54	LDF7-50A(1-5/8)	101.50 - 105.75	1.0000	1.0000
L16	59	LDF4-50A(1/2)	101.50 - 105.75	1.0000	1.0000
L16	60	2" (Nominal) Conduit	101.50 - 105.75	1.0000	1.0000
L16	62	EC4-50(1/2)	101.50 - 105.75	1.0000	1.0000
L16	67	LDF7-50A(1-5/8)	101.50 - 105.75	1.0000	1.0000
L17	29	CCI-040125 Reinforcement	101.25 - 101.50	1.0000	1.0000
L17	30	CCI-040125 Reinforcement	101.25 - 101.50	1.0000	1.0000
L17	31	CCI-040125 Reinforcement	101.25 - 101.50	1.0000	1.0000
L17	32	CCI-040125	101.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		Reinforcement	101.50		
L17	33	CCI-040125	101.25 - 101.50	1.0000	1.0000
		Reinforcement	101.50		
L17	34	CCI-040125	101.25 - 101.50	1.0000	1.0000
		Reinforcement	101.50		
L17	36	CCI-060100	101.25 - 101.50	1.0000	1.0000
		Reinforcement	101.50		
L17	37	CCI-060100	101.25 - 101.50	1.0000	1.0000
		Reinforcement	101.50		
L17	38	CCI-060100	101.25 - 101.50	1.0000	1.0000
		Reinforcement	101.50		
L17	54	LDF7-50A(1-5/8)	101.25 - 101.50	1.0000	1.0000
L17	59	LDF4-50A(1/2)	101.25 - 101.50	1.0000	1.0000
L17	60	2" (Nominal) Conduit	101.25 - 101.50	1.0000	1.0000
L17	62	EC4-50(1/2)	101.25 - 101.50	1.0000	1.0000
L17	67	LDF7-50A(1-5/8)	101.25 - 101.50	1.0000	1.0000
L18	29	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	30	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	31	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	32	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	33	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	34	CCI-040125	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	36	CCI-060100	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	37	CCI-060100	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	38	CCI-060100	101.00 - 101.25	1.0000	1.0000
		Reinforcement	101.25		
L18	54	LDF7-50A(1-5/8)	101.00 - 101.25	1.0000	1.0000
L18	59	LDF4-50A(1/2)	101.00 - 101.25	1.0000	1.0000
L18	60	2" (Nominal) Conduit	101.00 - 101.25	1.0000	1.0000
L18	62	EC4-50(1/2)	101.00 - 101.25	1.0000	1.0000
L18	67	LDF7-50A(1-5/8)	101.00 - 101.25	1.0000	1.0000
L19	29	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	30	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	31	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	32	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	33	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	34	CCI-040125	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	36	CCI-060100	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	37	CCI-060100	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	38	CCI-060100	100.75 - 101.00	1.0000	1.0000
		Reinforcement	101.00		
L19	54	LDF7-50A(1-5/8)	100.75 - 101.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	59	LDF4-50A(1/2)	100.75 - 101.00	1.0000	1.0000
L19	60	2" (Nominal) Conduit	100.75 - 101.00	1.0000	1.0000
L19	62	EC4-50(1/2)	100.75 - 101.00	1.0000	1.0000
L19	67	LDF7-50A(1-5/8)	100.75 - 101.00	1.0000	1.0000
L20	29	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	30	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	31	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	32	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	33	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	34	CCI-040125 Reinforcement	95.75 - 100.75	1.0000	1.0000
L20	36	CCI-060100 Reinforcement	98.25 - 100.75	1.0000	1.0000
L20	37	CCI-060100 Reinforcement	98.25 - 100.75	1.0000	1.0000
L20	38	CCI-060100 Reinforcement	98.25 - 100.75	1.0000	1.0000
L20	54	LDF7-50A(1-5/8)	95.75 - 100.75	1.0000	1.0000
L20	59	LDF4-50A(1/2)	95.75 - 100.75	1.0000	1.0000
L20	60	2" (Nominal) Conduit	95.75 - 100.75	1.0000	1.0000
L20	62	EC4-50(1/2)	95.75 - 100.75	1.0000	1.0000
L20	67	LDF7-50A(1-5/8)	95.75 - 100.75	1.0000	1.0000
L21	13	CCI-045100 Reinforcement	87.83 - 90.00	1.0000	1.0000
L21	14	CCI-045100 Reinforcement	87.83 - 90.00	1.0000	1.0000
L21	15	CCI-045100 Reinforcement	87.83 - 90.00	1.0000	1.0000
L21	29	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	30	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	31	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	32	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	33	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	34	CCI-040125 Reinforcement	87.83 - 95.75	1.0000	1.0000
L21	54	LDF7-50A(1-5/8)	87.83 - 95.75	1.0000	1.0000
L21	59	LDF4-50A(1/2)	87.83 - 95.75	1.0000	1.0000
L21	60	2" (Nominal) Conduit	87.83 - 95.75	1.0000	1.0000
L21	62	EC4-50(1/2)	87.83 - 95.75	1.0000	1.0000
L21	67	LDF7-50A(1-5/8)	87.83 - 95.75	1.0000	1.0000
L22	13	CCI-045100 Reinforcement	86.83 - 87.83	1.0000	1.0000
L22	14	CCI-045100 Reinforcement	86.83 - 87.83	1.0000	1.0000
L22	15	CCI-045100	86.83 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		Reinforcement	87.83		
L22	29	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	30	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	31	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	32	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	33	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	34	CCI-040125	86.83 - 87.83	1.0000	1.0000
		Reinforcement			
L22	54	LDF7-50A(1-5/8)	86.83 - 87.83	1.0000	1.0000
L22	59	LDF4-50A(1/2)	86.83 - 87.83	1.0000	1.0000
L22	60	2" (Nominal) Conduit	86.83 - 87.83	1.0000	1.0000
L22	62	EC4-50(1/2)	86.83 - 87.83	1.0000	1.0000
L22	67	LDF7-50A(1-5/8)	86.83 - 87.83	1.0000	1.0000
L23	13	CCI-045100	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	14	CCI-045100	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	15	CCI-045100	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	29	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	30	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	31	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	32	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	33	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	34	CCI-040125	81.83 - 86.83	1.0000	1.0000
		Reinforcement			
L23	54	LDF7-50A(1-5/8)	81.83 - 86.83	1.0000	1.0000
L23	59	LDF4-50A(1/2)	81.83 - 86.83	1.0000	1.0000
L23	60	2" (Nominal) Conduit	81.83 - 86.83	1.0000	1.0000
L23	62	EC4-50(1/2)	81.83 - 86.83	1.0000	1.0000
L23	67	LDF7-50A(1-5/8)	81.83 - 86.83	1.0000	1.0000
L24	13	CCI-045100	81.50 - 81.83	1.0000	1.0000
		Reinforcement			
L24	14	CCI-045100	81.50 - 81.83	1.0000	1.0000
		Reinforcement			
L24	15	CCI-045100	81.50 - 81.83	1.0000	1.0000
		Reinforcement			
L24	18	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			
L24	20	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			
L24	22	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			
L24	24	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			
L24	26	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			
L24	28	CCI-065125	81.50 - 81.80	1.0000	1.0000
		Reinforcement			

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	29	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	30	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	31	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	32	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	33	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	34	CCI-040125 Reinforcement	81.80 - 81.83	1.0000	1.0000
L24	54	LDF7-50A(1-5/8)	81.50 - 81.83	1.0000	1.0000
L24	59	LDF4-50A(1/2)	81.50 - 81.83	1.0000	1.0000
L24	60	2" (Nominal) Conduit	81.50 - 81.83	1.0000	1.0000
L24	62	EC4-50(1/2)	81.50 - 81.83	1.0000	1.0000
L24	67	LDF7-50A(1-5/8)	81.50 - 81.83	1.0000	1.0000
L25	13	CCI-045100 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	14	CCI-045100 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	15	CCI-045100 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	18	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	20	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	22	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	24	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	26	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	28	CCI-065125 Reinforcement	81.25 - 81.50	1.0000	1.0000
L25	54	LDF7-50A(1-5/8)	81.25 - 81.50	1.0000	1.0000
L25	59	LDF4-50A(1/2)	81.25 - 81.50	1.0000	1.0000
L25	60	2" (Nominal) Conduit	81.25 - 81.50	1.0000	1.0000
L25	62	EC4-50(1/2)	81.25 - 81.50	1.0000	1.0000
L25	67	LDF7-50A(1-5/8)	81.25 - 81.50	1.0000	1.0000
L26	13	CCI-045100 Reinforcement	80.00 - 81.25	1.0000	1.0000
L26	14	CCI-045100 Reinforcement	80.00 - 81.25	1.0000	1.0000
L26	15	CCI-045100 Reinforcement	80.00 - 81.25	1.0000	1.0000
L26	18	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	20	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	22	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	24	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	26	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	28	CCI-065125 Reinforcement	76.25 - 81.25	1.0000	1.0000
L26	54	LDF7-50A(1-5/8)	76.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			81.25		
L26	59	LDF4-50A(1/2)	76.25 - 81.25	1.0000	1.0000
L26	60	2" (Nominal) Conduit	76.25 - 81.25	1.0000	1.0000
L26	62	EC4-50(1/2)	76.25 - 81.25	1.0000	1.0000
L26	67	LDF7-50A(1-5/8)	76.25 - 81.25	1.0000	1.0000
L27	18	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	20	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	22	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	24	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	26	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	28	CCI-065125 Reinforcement	71.25 - 76.25	1.0000	1.0000
L27	54	LDF7-50A(1-5/8)	71.25 - 76.25	1.0000	1.0000
L27	59	LDF4-50A(1/2)	71.25 - 76.25	1.0000	1.0000
L27	60	2" (Nominal) Conduit	71.25 - 76.25	1.0000	1.0000
L27	62	EC4-50(1/2)	71.25 - 76.25	1.0000	1.0000
L27	67	LDF7-50A(1-5/8)	71.25 - 76.25	1.0000	1.0000
L28	18	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	20	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	22	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	24	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	26	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	28	CCI-065125 Reinforcement	66.25 - 71.25	1.0000	1.0000
L28	54	LDF7-50A(1-5/8)	66.25 - 71.25	1.0000	1.0000
L28	59	LDF4-50A(1/2)	66.25 - 71.25	1.0000	1.0000
L28	60	2" (Nominal) Conduit	66.25 - 71.25	1.0000	1.0000
L28	62	EC4-50(1/2)	66.25 - 71.25	1.0000	1.0000
L28	67	LDF7-50A(1-5/8)	66.25 - 71.25	1.0000	1.0000
L29	18	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	20	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	22	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	24	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	26	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	28	CCI-065125 Reinforcement	61.25 - 66.25	1.0000	1.0000
L29	54	LDF7-50A(1-5/8)	61.25 - 66.25	1.0000	1.0000
L29	59	LDF4-50A(1/2)	61.25 - 66.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	60	2" (Nominal) Conduit	61.25 - 66.25	1.0000	1.0000
L29	62	EC4-50(1/2)	61.25 - 66.25	1.0000	1.0000
L29	67	LDF7-50A(1-5/8)	61.25 - 66.25	1.0000	1.0000
L30	18	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	20	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	22	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	24	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	26	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	28	CCI-065125 Reinforcement	56.25 - 61.25	1.0000	1.0000
L30	54	LDF7-50A(1-5/8)	56.25 - 61.25	1.0000	1.0000
L30	59	LDF4-50A(1/2)	56.25 - 61.25	1.0000	1.0000
L30	60	2" (Nominal) Conduit	56.25 - 61.25	1.0000	1.0000
L30	62	EC4-50(1/2)	56.25 - 61.25	1.0000	1.0000
L30	67	LDF7-50A(1-5/8)	56.25 - 61.25	1.0000	1.0000
L31	18	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	20	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	22	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	24	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	26	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	28	CCI-065125 Reinforcement	51.25 - 56.25	1.0000	1.0000
L31	54	LDF7-50A(1-5/8)	51.25 - 56.25	1.0000	1.0000
L31	59	LDF4-50A(1/2)	51.25 - 56.25	1.0000	1.0000
L31	60	2" (Nominal) Conduit	51.25 - 56.25	1.0000	1.0000
L31	62	EC4-50(1/2)	51.25 - 56.25	1.0000	1.0000
L31	67	LDF7-50A(1-5/8)	51.25 - 56.25	1.0000	1.0000
L32	5	CCI-060100 Reinforcement	43.33 - 45.10	1.0000	1.0000
L32	6	CCI-060100 Reinforcement	45.10 - 47.33	1.0000	1.0000
L32	7	CCI-060100 Reinforcement	43.33 - 45.10	1.0000	1.0000
L32	8	CCI-060100 Reinforcement	45.10 - 47.33	1.0000	1.0000
L32	9	CCI-060100 Reinforcement	43.33 - 45.10	1.0000	1.0000
L32	10	CCI-060100 Reinforcement	45.10 - 47.33	1.0000	1.0000
L32	11	CCI-060100 Reinforcement	43.33 - 45.10	1.0000	1.0000
L32	12	CCI-060100 Reinforcement	45.10 - 47.33	1.0000	1.0000
L32	18	CCI-065125 Reinforcement	43.33 - 51.25	1.0000	1.0000
L32	20	CCI-065125	43.33 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		Reinforcement	51.25		
L32	22	CCI-065125	43.33 -	1.0000	1.0000
		Reinforcement	51.25		
L32	24	CCI-065125	43.33 -	1.0000	1.0000
		Reinforcement	51.25		
L32	26	CCI-065125	43.33 -	1.0000	1.0000
		Reinforcement	51.25		
L32	28	CCI-065125	43.33 -	1.0000	1.0000
		Reinforcement	51.25		
L32	54	LDF7-50A(1-5/8)	43.33 -	1.0000	1.0000
			51.25		
L32	59	LDF4-50A(1/2)	43.33 -	1.0000	1.0000
			51.25		
L32	60	2" (Nominal) Conduit	43.33 -	1.0000	1.0000
			51.25		
L32	62	EC4-50(1/2)	43.33 -	1.0000	1.0000
			51.25		
L32	67	LDF7-50A(1-5/8)	43.33 -	1.0000	1.0000
			51.25		
L33	5	CCI-060100	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	7	CCI-060100	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	9	CCI-060100	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	11	CCI-060100	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	18	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	20	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	22	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	24	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	26	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	28	CCI-065125	42.33 -	1.0000	1.0000
		Reinforcement	43.33		
L33	54	LDF7-50A(1-5/8)	42.33 -	1.0000	1.0000
			43.33		
L33	59	LDF4-50A(1/2)	42.33 -	1.0000	1.0000
			43.33		
L33	60	2" (Nominal) Conduit	42.33 -	1.0000	1.0000
			43.33		
L33	62	EC4-50(1/2)	42.33 -	1.0000	1.0000
			43.33		
L33	67	LDF7-50A(1-5/8)	42.33 -	1.0000	1.0000
			43.33		
L34	5	CCI-060100	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	7	CCI-060100	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	9	CCI-060100	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	11	CCI-060100	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	18	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	20	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	22	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	24	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	26	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		
L34	28	CCI-065125	37.40 -	1.0000	1.0000
		Reinforcement	42.33		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L34	54	LDF7-50A(1-5/8)	37.40 - 42.33	1.0000	1.0000
L34	59	LDF4-50A(1/2)	37.40 - 42.33	1.0000	1.0000
L34	60	2" (Nominal) Conduit	37.40 - 42.33	1.0000	1.0000
L34	62	EC4-50(1/2)	37.40 - 42.33	1.0000	1.0000
L34	67	LDF7-50A(1-5/8)	37.40 - 42.33	1.0000	1.0000
L35	5	CCI-060100 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	7	CCI-060100 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	9	CCI-060100 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	11	CCI-060100 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	18	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	20	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	22	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	24	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	26	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	28	CCI-065125 Reinforcement	37.15 - 37.40	1.0000	1.0000
L35	54	LDF7-50A(1-5/8)	37.15 - 37.40	1.0000	1.0000
L35	59	LDF4-50A(1/2)	37.15 - 37.40	1.0000	1.0000
L35	60	2" (Nominal) Conduit	37.15 - 37.40	1.0000	1.0000
L35	62	EC4-50(1/2)	37.15 - 37.40	1.0000	1.0000
L35	67	LDF7-50A(1-5/8)	37.15 - 37.40	1.0000	1.0000
L36	5	CCI-060100 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	7	CCI-060100 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	9	CCI-060100 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	11	CCI-060100 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	18	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	20	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	22	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	24	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	26	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	28	CCI-065125 Reinforcement	32.15 - 37.15	1.0000	1.0000
L36	54	LDF7-50A(1-5/8)	32.15 - 37.15	1.0000	1.0000
L36	59	LDF4-50A(1/2)	32.15 - 37.15	1.0000	1.0000
L36	60	2" (Nominal) Conduit	32.15 - 37.15	1.0000	1.0000
L36	62	EC4-50(1/2)	32.15 - 37.15	1.0000	1.0000
L36	67	LDF7-50A(1-5/8)	32.15 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			37.15		
L37	5	CCI-060100 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	7	CCI-060100 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	9	CCI-060100 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	11	CCI-060100 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	18	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	20	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	22	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	24	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	26	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	28	CCI-065125 Reinforcement	27.15 - 32.15	1.0000	1.0000
L37	54	LDF7-50A(1-5/8)	27.15 - 32.15	1.0000	1.0000
L37	59	LDF4-50A(1/2)	27.15 - 32.15	1.0000	1.0000
L37	60	2" (Nominal) Conduit	27.15 - 32.15	1.0000	1.0000
L37	62	EC4-50(1/2)	27.15 - 32.15	1.0000	1.0000
L37	67	LDF7-50A(1-5/8)	27.15 - 32.15	1.0000	1.0000
L38	1	CCI-065125 Reinforcement	22.15 - 22.25	1.0000	1.0000
L38	2	CCI-065125 Reinforcement	22.15 - 22.25	1.0000	1.0000
L38	3	CCI-065125 Reinforcement	22.15 - 22.25	1.0000	1.0000
L38	4	CCI-065125 Reinforcement	22.15 - 22.25	1.0000	1.0000
L38	5	CCI-060100 Reinforcement	22.25 - 27.15	1.0000	1.0000
L38	7	CCI-060100 Reinforcement	22.25 - 27.15	1.0000	1.0000
L38	9	CCI-060100 Reinforcement	22.25 - 27.15	1.0000	1.0000
L38	11	CCI-060100 Reinforcement	22.25 - 27.15	1.0000	1.0000
L38	17	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000
L38	18	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	19	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000
L38	20	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	21	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000
L38	22	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	23	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000
L38	24	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	25	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000
L38	26	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	27	CCI-065125 Reinforcement	22.15 - 26.01	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	28	CCI-065125 Reinforcement	26.01 - 27.15	1.0000	1.0000
L38	54	LDF7-50A(1-5/8)	22.15 - 27.15	1.0000	1.0000
L38	59	LDF4-50A(1/2)	22.15 - 27.15	1.0000	1.0000
L38	60	2" (Nominal) Conduit	22.15 - 27.15	1.0000	1.0000
L38	62	EC4-50(1/2)	22.15 - 27.15	1.0000	1.0000
L38	67	LDF7-50A(1-5/8)	22.15 - 27.15	1.0000	1.0000
L39	1	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	2	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	3	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	4	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	17	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	19	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	21	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	23	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	25	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	27	CCI-065125 Reinforcement	19.50 - 22.15	1.0000	1.0000
L39	54	LDF7-50A(1-5/8)	19.50 - 22.15	1.0000	1.0000
L39	59	LDF4-50A(1/2)	19.50 - 22.15	1.0000	1.0000
L39	60	2" (Nominal) Conduit	19.50 - 22.15	1.0000	1.0000
L39	62	EC4-50(1/2)	19.50 - 22.15	1.0000	1.0000
L39	67	LDF7-50A(1-5/8)	19.50 - 22.15	1.0000	1.0000
L40	1	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	2	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	3	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	4	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	17	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	19	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	21	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	23	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	25	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	27	CCI-065125 Reinforcement	19.25 - 19.50	1.0000	1.0000
L40	54	LDF7-50A(1-5/8)	19.25 - 19.50	1.0000	1.0000
L40	59	LDF4-50A(1/2)	19.25 - 19.50	1.0000	1.0000
L40	60	2" (Nominal) Conduit	19.25 - 19.50	1.0000	1.0000
L40	62	EC4-50(1/2)	19.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			19.50		
L40	67	LDF7-50A(1-5/8)	19.25 - 19.50	1.0000	1.0000
L41	1	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	2	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	3	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	4	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	17	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	19	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	21	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	23	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	25	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	27	CCI-065125 Reinforcement	14.25 - 19.25	1.0000	1.0000
L41	54	LDF7-50A(1-5/8)	14.25 - 19.25	1.0000	1.0000
L41	59	LDF4-50A(1/2)	14.25 - 19.25	1.0000	1.0000
L41	60	2" (Nominal) Conduit	14.25 - 19.25	1.0000	1.0000
L41	62	EC4-50(1/2)	14.25 - 19.25	1.0000	1.0000
L41	67	LDF7-50A(1-5/8)	14.25 - 19.25	1.0000	1.0000
L42	1	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	2	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	3	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	4	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	17	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	19	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	21	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	23	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	25	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	27	CCI-065125 Reinforcement	9.25 - 14.25	1.0000	1.0000
L42	54	LDF7-50A(1-5/8)	9.25 - 14.25	1.0000	1.0000
L42	59	LDF4-50A(1/2)	9.25 - 14.25	1.0000	1.0000
L42	60	2" (Nominal) Conduit	9.25 - 14.25	1.0000	1.0000
L42	62	EC4-50(1/2)	9.25 - 14.25	1.0000	1.0000
L42	67	LDF7-50A(1-5/8)	9.25 - 14.25	1.0000	1.0000
L43	1	CCI-065125 Reinforcement	9.00 - 9.25	1.0000	1.0000
L43	2	CCI-065125 Reinforcement	9.00 - 9.25	1.0000	1.0000
L43	3	CCI-065125 Reinforcement	9.00 - 9.25	1.0000	1.0000
L43	4	CCI-065125 Reinforcement	9.00 - 9.25	1.0000	1.0000
L43	17	CCI-065125 Reinforcement	9.00 - 9.25	1.0000	1.0000
L43	19	CCI-065125	9.00 - 9.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		Reinforcement			
L43	21	CCI-065125	9.00 - 9.25	1.0000	1.0000
		Reinforcement			
L43	23	CCI-065125	9.00 - 9.25	1.0000	1.0000
		Reinforcement			
L43	25	CCI-065125	9.00 - 9.25	1.0000	1.0000
		Reinforcement			
L43	27	CCI-065125	9.00 - 9.25	1.0000	1.0000
		Reinforcement			
L43	54	LDF7-50A(1-5/8)	9.00 - 9.25	1.0000	1.0000
L43	59	LDF4-50A(1/2)	9.00 - 9.25	1.0000	1.0000
L43	60	2" (Nominal) Conduit	9.00 - 9.25	1.0000	1.0000
L43	62	EC4-50(1/2)	9.00 - 9.25	1.0000	1.0000
L43	67	LDF7-50A(1-5/8)	9.00 - 9.25	1.0000	1.0000
L44	1	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	2	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	3	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	4	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	17	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	19	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	21	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	23	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	25	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	27	CCI-065125	8.75 - 9.00	1.0000	1.0000
		Reinforcement			
L44	54	LDF7-50A(1-5/8)	8.75 - 9.00	1.0000	1.0000
L44	59	LDF4-50A(1/2)	8.75 - 9.00	1.0000	1.0000
L44	60	2" (Nominal) Conduit	8.75 - 9.00	1.0000	1.0000
L44	62	EC4-50(1/2)	8.75 - 9.00	1.0000	1.0000
L44	67	LDF7-50A(1-5/8)	8.75 - 9.00	1.0000	1.0000
L45	1	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	2	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	3	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	4	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	17	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	19	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	21	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	23	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	25	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	27	CCI-065125	7.00 - 8.75	1.0000	1.0000
		Reinforcement			
L45	54	LDF7-50A(1-5/8)	7.00 - 8.75	1.0000	1.0000
L45	59	LDF4-50A(1/2)	7.00 - 8.75	1.0000	1.0000
L45	60	2" (Nominal) Conduit	7.00 - 8.75	1.0000	1.0000
L45	62	EC4-50(1/2)	7.00 - 8.75	1.0000	1.0000
L45	67	LDF7-50A(1-5/8)	7.00 - 8.75	1.0000	1.0000
L46	1	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	2	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	3	CCI-065125	6.75 - 7.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		Reinforcement			
L46	4	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	17	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	19	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	21	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	23	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	25	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	27	CCI-065125	6.75 - 7.00	1.0000	1.0000
		Reinforcement			
L46	54	LDF7-50A(1-5/8)	6.75 - 7.00	1.0000	1.0000
L46	59	LDF4-50A(1/2)	6.75 - 7.00	1.0000	1.0000
L46	60	2" (Nominal) Conduit	6.75 - 7.00	1.0000	1.0000
L46	62	EC4-50(1/2)	6.75 - 7.00	1.0000	1.0000
L46	67	LDF7-50A(1-5/8)	6.75 - 7.00	1.0000	1.0000
L47	1	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	2	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	3	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	4	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	17	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	19	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	21	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	23	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	25	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	27	CCI-065125	5.00 - 6.75	1.0000	1.0000
		Reinforcement			
L47	54	LDF7-50A(1-5/8)	5.00 - 6.75	1.0000	1.0000
L47	59	LDF4-50A(1/2)	5.00 - 6.75	1.0000	1.0000
L47	60	2" (Nominal) Conduit	5.00 - 6.75	1.0000	1.0000
L47	62	EC4-50(1/2)	5.00 - 6.75	1.0000	1.0000
L47	67	LDF7-50A(1-5/8)	5.00 - 6.75	1.0000	1.0000
L48	1	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	2	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	3	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	4	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	17	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	19	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	21	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	23	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	25	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	27	CCI-065125	4.75 - 5.00	1.0000	1.0000
		Reinforcement			
L48	54	LDF7-50A(1-5/8)	4.75 - 5.00	1.0000	1.0000
L48	59	LDF4-50A(1/2)	4.75 - 5.00	1.0000	1.0000
L48	60	2" (Nominal) Conduit	4.75 - 5.00	1.0000	1.0000
L48	62	EC4-50(1/2)	4.75 - 5.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L48	67	LDF7-50A(1-5/8)	4.75 - 5.00	1.0000	1.0000
L49	1	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	2	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	3	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	4	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	17	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	19	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	21	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	23	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	25	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	27	CCI-065125 Reinforcement	3.00 - 4.75	1.0000	1.0000
L49	54	LDF7-50A(1-5/8)	3.00 - 4.75	1.0000	1.0000
L49	59	LDF4-50A(1/2)	3.00 - 4.75	1.0000	1.0000
L49	60	2" (Nominal) Conduit	3.00 - 4.75	1.0000	1.0000
L49	62	EC4-50(1/2)	3.00 - 4.75	1.0000	1.0000
L49	67	LDF7-50A(1-5/8)	3.00 - 4.75	1.0000	1.0000
L50	1	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	2	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	3	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	4	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	17	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	19	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	21	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	23	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	25	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	27	CCI-065125 Reinforcement	2.75 - 3.00	1.0000	1.0000
L50	54	LDF7-50A(1-5/8)	2.75 - 3.00	1.0000	1.0000
L50	59	LDF4-50A(1/2)	2.75 - 3.00	1.0000	1.0000
L50	60	2" (Nominal) Conduit	2.75 - 3.00	1.0000	1.0000
L50	62	EC4-50(1/2)	2.75 - 3.00	1.0000	1.0000
L50	67	LDF7-50A(1-5/8)	2.75 - 3.00	1.0000	1.0000
L51	1	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	2	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	3	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	4	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	17	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	19	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	21	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	23	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	25	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L51	27	CCI-065125 Reinforcement	2.25 - 2.75	1.0000	1.0000
L51	54	LDF7-50A(1-5/8)	2.25 - 2.75	1.0000	1.0000
L51	59	LDF4-50A(1/2)	2.25 - 2.75	1.0000	1.0000
L51	60	2" (Nominal) Conduit	2.25 - 2.75	1.0000	1.0000
L51	62	EC4-50(1/2)	2.25 - 2.75	1.0000	1.0000
L51	67	LDF7-50A(1-5/8)	2.25 - 2.75	1.0000	1.0000
L52	1	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	2	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	3	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	4	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	17	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	19	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	21	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	23	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	25	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	27	CCI-065125 Reinforcement	2.00 - 2.25	1.0000	1.0000
L52	54	LDF7-50A(1-5/8)	2.00 - 2.25	1.0000	1.0000
L52	59	LDF4-50A(1/2)	2.00 - 2.25	1.0000	1.0000
L52	60	2" (Nominal) Conduit	2.00 - 2.25	1.0000	1.0000
L52	62	EC4-50(1/2)	2.00 - 2.25	1.0000	1.0000
L52	67	LDF7-50A(1-5/8)	2.00 - 2.25	1.0000	1.0000
L53	1	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	2	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	3	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	4	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	17	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	19	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	21	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	23	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	25	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	27	CCI-065125 Reinforcement	0.00 - 2.00	1.0000	1.0000
L53	54	LDF7-50A(1-5/8)	0.00 - 2.00	1.0000	1.0000
L53	59	LDF4-50A(1/2)	0.00 - 2.00	1.0000	1.0000
L53	60	2" (Nominal) Conduit	0.00 - 2.00	1.0000	1.0000
L53	62	EC4-50(1/2)	0.00 - 2.00	1.0000	1.0000
L53	67	LDF7-50A(1-5/8)	0.00 - 2.00	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L15	36	CCI-060100 Reinforcement	105.75 - 108.25	Auto	0.3802

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L15	37	CCI-060100 Reinforcement	105.75 - 108.25	Auto	0.3802
L15	38	CCI-060100 Reinforcement	105.75 - 108.25	Auto	0.3802
L16	29	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	30	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	31	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	32	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	33	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	34	CCI-040125 Reinforcement	101.50 - 104.00	Auto	0.0297
L16	36	CCI-060100 Reinforcement	101.50 - 105.75	Auto	0.3579
L16	37	CCI-060100 Reinforcement	101.50 - 105.75	Auto	0.3579
L16	38	CCI-060100 Reinforcement	101.50 - 105.75	Auto	0.3579
L17	29	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	30	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	31	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	32	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	33	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	34	CCI-040125 Reinforcement	101.25 - 101.50	Auto	0.2108
L17	36	CCI-060100 Reinforcement	101.25 - 101.50	Auto	0.4738
L17	37	CCI-060100 Reinforcement	101.25 - 101.50	Auto	0.4738
L17	38	CCI-060100 Reinforcement	101.25 - 101.50	Auto	0.4738
L18	29	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	30	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	31	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	32	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	33	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	34	CCI-040125 Reinforcement	101.00 - 101.25	Auto	0.2087
L18	36	CCI-060100 Reinforcement	101.00 - 101.25	Auto	0.4725
L18	37	CCI-060100 Reinforcement	101.00 - 101.25	Auto	0.4725
L18	38	CCI-060100 Reinforcement	101.00 - 101.25	Auto	0.4725
L19	29	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911
L19	30	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911
L19	31	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911
L19	32	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911
L19	33	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L19	34	CCI-040125 Reinforcement	100.75 - 101.00	Auto	0.0911
L19	36	CCI-060100 Reinforcement	100.75 - 101.00	Auto	0.3941
L19	37	CCI-060100 Reinforcement	100.75 - 101.00	Auto	0.3941
L19	38	CCI-060100 Reinforcement	100.75 - 101.00	Auto	0.3941
L20	29	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	30	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	31	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	32	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	33	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	34	CCI-040125 Reinforcement	95.75 - 100.75	Auto	0.0639
L20	36	CCI-060100 Reinforcement	98.25 - 100.75	Auto	0.3828
L20	37	CCI-060100 Reinforcement	98.25 - 100.75	Auto	0.3828
L20	38	CCI-060100 Reinforcement	98.25 - 100.75	Auto	0.3828
L21	13	CCI-045100 Reinforcement	87.83 - 90.00	Auto	0.0943
L21	14	CCI-045100 Reinforcement	87.83 - 90.00	Auto	0.0943
L21	15	CCI-045100 Reinforcement	87.83 - 90.00	Auto	0.0943
L21	29	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L21	30	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L21	31	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L21	32	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L21	33	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L21	34	CCI-040125 Reinforcement	87.83 - 95.75	Auto	0.0108
L22	13	CCI-045100 Reinforcement	86.83 - 87.83	Auto	0.2000
L22	14	CCI-045100 Reinforcement	86.83 - 87.83	Auto	0.2000
L22	15	CCI-045100 Reinforcement	86.83 - 87.83	Auto	0.2000
L22	29	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L22	30	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L22	31	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L22	32	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L22	33	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L22	34	CCI-040125 Reinforcement	86.83 - 87.83	Auto	0.1000
L23	13	CCI-045100 Reinforcement	81.83 - 86.83	Auto	0.1730
L23	14	CCI-045100 Reinforcement	81.83 - 86.83	Auto	0.1730
L23	15	CCI-045100 Reinforcement	81.83 - 86.83	Auto	0.1730

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L23	29	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L23	30	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L23	31	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L23	32	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L23	33	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L23	34	CCI-040125 Reinforcement	81.83 - 86.83	Auto	0.0697
L24	13	CCI-045100 Reinforcement	81.50 - 81.83	Auto	0.1534
L24	14	CCI-045100 Reinforcement	81.50 - 81.83	Auto	0.1534
L24	15	CCI-045100 Reinforcement	81.50 - 81.83	Auto	0.1534
L24	18	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	20	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	22	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	24	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	26	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	28	CCI-065125 Reinforcement	81.50 - 81.80	Auto	0.4138
L24	29	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L24	30	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L24	31	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L24	32	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L24	33	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L24	34	CCI-040125 Reinforcement	81.80 - 81.83	Auto	0.0488
L25	13	CCI-045100 Reinforcement	81.25 - 81.50	Auto	0.1611
L25	14	CCI-045100 Reinforcement	81.25 - 81.50	Auto	0.1611
L25	15	CCI-045100 Reinforcement	81.25 - 81.50	Auto	0.1611
L25	18	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L25	20	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L25	22	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L25	24	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L25	26	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L25	28	CCI-065125 Reinforcement	81.25 - 81.50	Auto	0.4192
L26	13	CCI-045100 Reinforcement	80.00 - 81.25	Auto	0.1458
L26	14	CCI-045100 Reinforcement	80.00 - 81.25	Auto	0.1458
L26	15	CCI-045100 Reinforcement	80.00 - 81.25	Auto	0.1458
L26	18	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L26	20	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991
L26	22	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991
L26	24	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991
L26	26	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991
L26	28	CCI-065125 Reinforcement	76.25 - 81.25	Auto	0.3991
L27	18	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L27	20	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L27	22	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L27	24	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L27	26	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L27	28	CCI-065125 Reinforcement	71.25 - 76.25	Auto	0.3668
L28	18	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L28	20	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L28	22	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L28	24	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L28	26	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L28	28	CCI-065125 Reinforcement	66.25 - 71.25	Auto	0.3346
L29	18	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L29	20	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L29	22	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L29	24	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L29	26	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L29	28	CCI-065125 Reinforcement	61.25 - 66.25	Auto	0.3057
L30	18	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L30	20	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L30	22	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L30	24	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L30	26	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L30	28	CCI-065125 Reinforcement	56.25 - 61.25	Auto	0.2768
L31	18	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446
L31	20	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446
L31	22	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446
L31	24	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446
L31	26	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	28	CCI-065125 Reinforcement	51.25 - 56.25	Auto	0.2446
L32	5	CCI-060100 Reinforcement	43.33 - 45.10	Auto	0.1290
L32	6	CCI-060100 Reinforcement	45.10 - 47.33	Auto	0.1400
L32	7	CCI-060100 Reinforcement	43.33 - 45.10	Auto	0.1290
L32	8	CCI-060100 Reinforcement	45.10 - 47.33	Auto	0.1400
L32	9	CCI-060100 Reinforcement	43.33 - 45.10	Auto	0.1290
L32	10	CCI-060100 Reinforcement	45.10 - 47.33	Auto	0.1400
L32	11	CCI-060100 Reinforcement	43.33 - 45.10	Auto	0.1290
L32	12	CCI-060100 Reinforcement	45.10 - 47.33	Auto	0.1400
L32	18	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L32	20	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L32	22	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L32	24	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L32	26	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L32	28	CCI-065125 Reinforcement	43.33 - 51.25	Auto	0.2117
L33	5	CCI-060100 Reinforcement	42.33 - 43.33	Auto	0.2057
L33	7	CCI-060100 Reinforcement	42.33 - 43.33	Auto	0.2057
L33	9	CCI-060100 Reinforcement	42.33 - 43.33	Auto	0.2057
L33	11	CCI-060100 Reinforcement	42.33 - 43.33	Auto	0.2057
L33	18	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L33	20	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L33	22	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L33	24	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L33	26	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L33	28	CCI-065125 Reinforcement	42.33 - 43.33	Auto	0.2668
L34	5	CCI-060100 Reinforcement	37.40 - 42.33	Auto	0.1857
L34	7	CCI-060100 Reinforcement	37.40 - 42.33	Auto	0.1857
L34	9	CCI-060100 Reinforcement	37.40 - 42.33	Auto	0.1857
L34	11	CCI-060100 Reinforcement	37.40 - 42.33	Auto	0.1857
L34	18	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484
L34	20	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484
L34	22	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484
L34	24	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484
L34	26	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	28	CCI-065125 Reinforcement	37.40 - 42.33	Auto	0.2484
L35	5	CCI-060100 Reinforcement	37.15 - 37.40	Auto	0.1714
L35	7	CCI-060100 Reinforcement	37.15 - 37.40	Auto	0.1714
L35	9	CCI-060100 Reinforcement	37.15 - 37.40	Auto	0.1714
L35	11	CCI-060100 Reinforcement	37.15 - 37.40	Auto	0.1714
L35	18	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L35	20	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L35	22	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L35	24	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L35	26	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L35	28	CCI-065125 Reinforcement	37.15 - 37.40	Auto	0.2352
L36	5	CCI-060100 Reinforcement	32.15 - 37.15	Auto	0.1496
L36	7	CCI-060100 Reinforcement	32.15 - 37.15	Auto	0.1496
L36	9	CCI-060100 Reinforcement	32.15 - 37.15	Auto	0.1496
L36	11	CCI-060100 Reinforcement	32.15 - 37.15	Auto	0.1496
L36	18	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L36	20	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L36	22	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L36	24	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L36	26	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L36	28	CCI-065125 Reinforcement	32.15 - 37.15	Auto	0.2151
L37	5	CCI-060100 Reinforcement	27.15 - 32.15	Auto	0.1148
L37	7	CCI-060100 Reinforcement	27.15 - 32.15	Auto	0.1148
L37	9	CCI-060100 Reinforcement	27.15 - 32.15	Auto	0.1148
L37	11	CCI-060100 Reinforcement	27.15 - 32.15	Auto	0.1148
L37	18	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L37	20	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L37	22	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L37	24	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L37	26	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L37	28	CCI-065125 Reinforcement	27.15 - 32.15	Auto	0.1828
L38	1	CCI-065125 Reinforcement	22.15 - 22.25	Auto	0.1416
L38	2	CCI-065125 Reinforcement	22.15 - 22.25	Auto	0.1416
L38	3	CCI-065125 Reinforcement	22.15 - 22.25	Auto	0.1416

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L38	4	CCI-065125 Reinforcement	22.15 - 22.25	Auto	0.1416
L38	5	CCI-060100 Reinforcement	22.25 - 27.15	Auto	0.0838
L38	7	CCI-060100 Reinforcement	22.25 - 27.15	Auto	0.0838
L38	9	CCI-060100 Reinforcement	22.25 - 27.15	Auto	0.0838
L38	11	CCI-060100 Reinforcement	22.25 - 27.15	Auto	0.0838
L38	17	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	18	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L38	19	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	20	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L38	21	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	22	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L38	23	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	24	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L38	25	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	26	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L38	27	CCI-065125 Reinforcement	22.15 - 26.01	Auto	0.1511
L38	28	CCI-065125 Reinforcement	26.01 - 27.15	Auto	0.1638
L39	1	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	2	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	3	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	4	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	17	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	19	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	21	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	23	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	25	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L39	27	CCI-065125 Reinforcement	19.50 - 22.15	Auto	0.1312
L40	1	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	2	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	3	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	4	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	17	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	19	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	21	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L40	23	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	25	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L40	27	CCI-065125 Reinforcement	19.25 - 19.50	Auto	0.1441
L41	1	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	2	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	3	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	4	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	17	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	19	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	21	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	23	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	25	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L41	27	CCI-065125 Reinforcement	14.25 - 19.25	Auto	0.1240
L42	1	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	2	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	3	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	4	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	17	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	19	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	21	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	23	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	25	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L42	27	CCI-065125 Reinforcement	9.25 - 14.25	Auto	0.0985
L43	1	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	2	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	3	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	4	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	17	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	19	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	21	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	23	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	25	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L43	27	CCI-065125 Reinforcement	9.00 - 9.25	Auto	0.0852
L44	1	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	2	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	3	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	4	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	17	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	19	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	21	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	23	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	25	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L44	27	CCI-065125 Reinforcement	8.75 - 9.00	Auto	0.0907
L45	1	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	2	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	3	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	4	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	17	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	19	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	21	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	23	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	25	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L45	27	CCI-065125 Reinforcement	7.00 - 8.75	Auto	0.0856
L46	1	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	2	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	3	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	4	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	17	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	19	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	21	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	23	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	25	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L46	27	CCI-065125 Reinforcement	6.75 - 7.00	Auto	0.0670
L47	1	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	2	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	3	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	4	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	17	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L47	19	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	21	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	23	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	25	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L47	27	CCI-065125 Reinforcement	5.00 - 6.75	Auto	0.0619
L48	1	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	2	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	3	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	4	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	17	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	19	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	21	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	23	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	25	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L48	27	CCI-065125 Reinforcement	4.75 - 5.00	Auto	0.1854
L49	1	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	2	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	3	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	4	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	17	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	19	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	21	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	23	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	25	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L49	27	CCI-065125 Reinforcement	3.00 - 4.75	Auto	0.1736
L50	1	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	2	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	3	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	4	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	17	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	19	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	21	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	23	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L50	25	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L50	27	CCI-065125 Reinforcement	2.75 - 3.00	Auto	0.1752
L51	1	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	2	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	3	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	4	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	17	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	19	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	21	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	23	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	25	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L51	27	CCI-065125 Reinforcement	2.25 - 2.75	Auto	0.1733
L52	1	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	2	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	3	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	4	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	17	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	19	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	21	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	23	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	25	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L52	27	CCI-065125 Reinforcement	2.00 - 2.25	Auto	0.1037
L53	1	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	2	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	3	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	4	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	17	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	19	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	21	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	23	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	25	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912
L53	27	CCI-065125 Reinforcement	0.00 - 2.00	Auto	0.0912

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.75 7.20 7.65 8.57	6.07 6.87 7.58 9.06	0.15 0.21 0.28 0.44
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.75 7.20 7.65 8.57	6.07 6.87 7.58 9.06	0.15 0.21 0.28 0.44
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.75 7.20 7.65 8.57	6.07 6.87 7.58 9.06	0.15 0.21 0.28 0.44
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
SDX1926Q-43	A	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.24 0.31 0.38 0.55	0.10 0.14 0.19 0.32	0.01 0.01 0.01 0.02
SDX1926Q-43	B	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.24 0.31 0.38 0.55	0.10 0.14 0.19 0.32	0.01 0.01 0.01 0.02
SDX1926Q-43	C	From Leg	4.00 0.00 1.00		0.0000	165.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.24 0.31 0.38 0.55	0.10 0.14 0.19 0.32	0.01 0.01 0.01 0.02
KRY 112 144/1	A	From Leg	4.00 0.00		0.0000	165.00	No Ice 1/2"	0.35 0.43	0.17 0.23	0.01 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00					Ice	0.51	0.30	0.02
								1" Ice	0.70	0.46	0.03
								2" Ice			
KRY 112 144/1	B	From Leg	4.00			0.0000	165.00	No Ice	0.35	0.17	0.01
			0.00					1/2"	0.43	0.23	0.01
			0.00					Ice	0.51	0.30	0.02
								1" Ice	0.70	0.46	0.03
								2" Ice			
KRY 112 144/1	C	From Leg	4.00			0.0000	165.00	No Ice	0.35	0.17	0.01
			0.00					1/2"	0.43	0.23	0.01
			0.00					Ice	0.51	0.30	0.02
								1" Ice	0.70	0.46	0.03
								2" Ice			
RADIO 4449 B12/B71	A	From Leg	4.00			0.0000	165.00	No Ice	1.65	1.16	0.07
			0.00					1/2"	1.81	1.30	0.09
			1.00					Ice	1.98	1.45	0.11
								1" Ice	2.34	1.76	0.16
								2" Ice			
RADIO 4449 B12/B71	B	From Leg	4.00			0.0000	165.00	No Ice	1.65	1.16	0.07
			0.00					1/2"	1.81	1.30	0.09
			1.00					Ice	1.98	1.45	0.11
								1" Ice	2.34	1.76	0.16
								2" Ice			
RADIO 4449 B12/B71	C	From Leg	4.00			0.0000	165.00	No Ice	1.65	1.16	0.07
			0.00					1/2"	1.81	1.30	0.09
			1.00					Ice	1.98	1.45	0.11
								1" Ice	2.34	1.76	0.16
								2" Ice			
RRUS 4415 B25_CCIV2	A	From Leg	4.00			0.0000	165.00	No Ice	1.84	0.82	0.05
			0.00					1/2"	2.01	0.94	0.06
			1.00					Ice	2.19	1.07	0.08
								1" Ice	2.57	1.37	0.12
								2" Ice			
RRUS 4415 B25_CCIV2	B	From Leg	4.00			0.0000	165.00	No Ice	1.84	0.82	0.05
			0.00					1/2"	2.01	0.94	0.06
			1.00					Ice	2.19	1.07	0.08
								1" Ice	2.57	1.37	0.12
								2" Ice			
RRUS 4415 B25_CCIV2	C	From Leg	4.00			0.0000	165.00	No Ice	1.84	0.82	0.05
			0.00					1/2"	2.01	0.94	0.06
			1.00					Ice	2.19	1.07	0.08
								1" Ice	2.57	1.37	0.12
								2" Ice			
8-ft Ladder	C	None				0.0000	165.00	No Ice	7.07	7.07	0.04
								1/2"	9.73	9.73	0.07
								Ice	11.19	11.19	0.08
								1" Ice	13.98	13.98	0.11
								2" Ice			
Platform Mount [LP 601-1]	C	None				0.0000	165.00	No Ice	28.50	28.50	1.12
								1/2"	31.69	31.69	1.68
								Ice	34.87	34.87	2.28
								1" Ice	41.23	41.23	3.65
								2" Ice			
HRK12 Handrail Kit	C	None				0.0000	165.00	No Ice	5.38	5.38	0.41
								1/2"	7.22	7.22	0.50
								Ice	8.88	8.88	0.63
								1" Ice	12.20	12.20	0.88
								2" Ice			
***											
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.00			0.0000	156.00	No Ice	15.89	7.89	0.14
			0.00					1/2"	16.81	8.74	0.25
			2.00					Ice	17.76	9.60	0.38
								1" Ice	19.70	11.37	0.68
								2" Ice			
DMP65R-BU8D w/ Mount	B	From Leg	4.00			0.0000	156.00	No Ice	15.89	7.89	0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe			0.00					1/2" Ice	16.81	8.74	0.25
			2.00					1" Ice	17.76	9.60	0.38
								2" Ice	19.70	11.37	0.68
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.00		0.00	0.0000	156.00	No Ice	15.89	7.89	0.14
			0.00					1/2" Ice	16.81	8.74	0.25
			2.00					1" Ice	17.76	9.60	0.38
								2" Ice	19.70	11.37	0.68
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.00		0.00	0.0000	156.00	No Ice	17.46	8.58	0.11
			0.00					1/2" Ice	18.46	9.49	0.22
			2.00					1" Ice	19.48	10.42	0.35
								2" Ice	21.58	12.33	0.66
OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.00		0.00	0.0000	156.00	No Ice	17.46	8.58	0.11
			0.00					1/2" Ice	18.46	9.49	0.22
			2.00					1" Ice	19.48	10.42	0.35
								2" Ice	21.58	12.33	0.66
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.00		0.00	0.0000	156.00	No Ice	17.46	8.58	0.11
			0.00					1/2" Ice	18.46	9.49	0.22
			2.00					1" Ice	19.48	10.42	0.35
								2" Ice	21.58	12.33	0.66
RRUS 8843 B2/B66A	A	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.35	0.07
			0.00					1/2" Ice	1.80	1.50	0.09
			2.00					1" Ice	1.97	1.65	0.11
								2" Ice	2.32	1.99	0.16
RRUS 8843 B2/B66A	B	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.35	0.07
			0.00					1/2" Ice	1.80	1.50	0.09
			2.00					1" Ice	1.97	1.65	0.11
								2" Ice	2.32	1.99	0.16
RRUS 8843 B2/B66A	C	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.35	0.07
			0.00					1/2" Ice	1.80	1.50	0.09
			2.00					1" Ice	1.97	1.65	0.11
								2" Ice	2.32	1.99	0.16
RADIO 4415 B30	A	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	0.64	0.04
			0.00					1/2" Ice	1.80	0.75	0.05
			2.00					1" Ice	1.97	0.87	0.07
								2" Ice	2.33	1.13	0.11
RADIO 4415 B30	B	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	0.64	0.04
			0.00					1/2" Ice	1.80	0.75	0.05
			2.00					1" Ice	1.97	0.87	0.07
								2" Ice	2.33	1.13	0.11
RADIO 4415 B30	C	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	0.64	0.04
			0.00					1/2" Ice	1.80	0.75	0.05
			2.00					1" Ice	1.97	0.87	0.07
								2" Ice	2.33	1.13	0.11
RADIO 4449 B5/B12	A	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.30	0.07
			0.00					1/2" Ice	1.80	1.45	0.09
			2.00					1" Ice	1.97	1.60	0.11
								2" Ice	2.33	1.92	0.16
RADIO 4449 B5/B12	B	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.30	0.07
			0.00					1/2" Ice	1.80	1.45	0.09
			2.00					1" Ice	1.97	1.60	0.11
								2" Ice	2.33	1.92	0.16
RADIO 4449 B5/B12	C	From Leg	4.00		0.00	0.0000	156.00	No Ice	1.64	1.30	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00 2.00			1/2" Ice 1" Ice 2" Ice	1.80 1.97 2.33	1.45 1.60 1.92	0.09 0.11 0.16
(2) DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.0000	156.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.21 1.89 2.11 2.57	1.21 1.89 2.11 2.57	0.03 0.05 0.08 0.14
Platform Mount [LP 601-1]	C	None		0.0000	156.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.50 31.69 34.87 41.23	28.50 31.69 34.87 41.23	1.12 1.68 2.28 3.65
HRK14	C	None		0.0000	156.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.01 8.27 10.20 14.06	6.01 8.27 10.20 14.06	0.44 0.54 0.68 0.96
***									
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
800MHZ RRH	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
800MHZ RRH	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.13 2.32 2.51 2.92	1.77 1.95 2.13 2.51	0.05 0.07 0.10 0.16
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHZ 4X45W-65MHZ	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRH2X50-800	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.70 1.86 2.03 2.40	1.28 1.43 1.58 1.91	0.05 0.07 0.09 0.14
RRH2X50-800	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.70 1.86 2.03 2.40	1.28 1.43 1.58 1.91	0.05 0.07 0.09 0.14
RRH2X50-800	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.70 1.86 2.03 2.40	1.28 1.43 1.58 1.91	0.05 0.07 0.09 0.14
T-Arm Mount [TA 702-3]	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.75 5.82 6.98 9.72	4.75 5.82 6.98 9.72	0.34 0.43 0.55 0.87
***									
APXV18-206517-A w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.36 4.94 6.14	3.16 3.71 4.28 5.47	0.06 0.09 0.14 0.27
APXV18-206517-A w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.36 4.94 6.14	3.16 3.71 4.28 5.47	0.06 0.09 0.14 0.27
APXV18-206517-A w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.79 4.36 4.94 6.14	3.16 3.71 4.28 5.47	0.06 0.09 0.14 0.27
Side Arm Mount [SO 102-3]	C	None		0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
***									
LLPX310R w/ Mount Pipe	A	From Leg	4.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.88 4.29 4.72 5.61	2.36 2.73 3.12 3.94	0.06 0.09 0.13 0.24
LLPX310R w/ Mount Pipe	B	From Leg	4.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.88 4.29 4.72 5.61	2.36 2.73 3.12 3.94	0.06 0.09 0.13 0.24
LLPX310R w/ Mount Pipe	C	From Leg	4.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.88 4.29 4.72 5.61	2.36 2.73 3.12 3.94	0.06 0.09 0.13 0.24
HORIZON DUO	A	From Leg	4.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.47 0.56 0.65 0.86	0.29 0.37 0.44 0.62	0.01 0.01 0.02 0.04
HORIZON DUO	C	From Leg	4.00 0.00 4.00	0.0000	124.00	No Ice 1/2" Ice	0.47 0.56 0.65	0.29 0.37 0.44	0.01 0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
							1" Ice	0.86	0.62	0.04
							2" Ice			
WIMAX DAP HEAD	A	From Leg	4.00		0.0000	124.00	No Ice	1.55	0.68	0.03
			0.00				1/2"	1.70	0.80	0.04
			4.00				Ice	1.87	0.92	0.06
							1" Ice	2.22	1.19	0.09
							2" Ice			
WIMAX DAP HEAD	B	From Leg	4.00		0.0000	124.00	No Ice	1.55	0.68	0.03
			0.00				1/2"	1.70	0.80	0.04
			4.00				Ice	1.87	0.92	0.06
							1" Ice	2.22	1.19	0.09
							2" Ice			
WIMAX DAP HEAD	C	From Leg	4.00		0.0000	124.00	No Ice	1.55	0.68	0.03
			0.00				1/2"	1.70	0.80	0.04
			4.00				Ice	1.87	0.92	0.06
							1" Ice	2.22	1.19	0.09
							2" Ice			
2.375" OD x 5' Mount Pipe	A	From Leg	3.00		0.0000	124.00	No Ice	1.19	1.19	0.02
			0.00				1/2"	1.50	1.50	0.03
			0.00				Ice	1.81	1.81	0.04
							1" Ice	2.46	2.46	0.08
							2" Ice			
2.375" OD x 5' Mount Pipe	B	From Leg	3.00		0.0000	124.00	No Ice	1.19	1.19	0.02
			0.00				1/2"	1.50	1.50	0.03
			0.00				Ice	1.81	1.81	0.04
							1" Ice	2.46	2.46	0.08
							2" Ice			
2.375" OD x 5' Mount Pipe	C	From Leg	3.00		0.0000	124.00	No Ice	1.19	1.19	0.02
			0.00				1/2"	1.50	1.50	0.03
			0.00				Ice	1.81	1.81	0.04
							1" Ice	2.46	2.46	0.08
							2" Ice			
Side Arm Mount [SO 701-3]	C	None			0.0000	124.00	No Ice	3.02	3.02	0.20
							1/2"	4.18	4.18	0.24
							Ice	5.33	5.33	0.28
							1" Ice	7.63	7.63	0.36
							2" Ice			
***										
CAVITY FILTER	B	From Leg	4.00		0.0000	118.00	No Ice	0.19	0.08	0.00
			0.00				1/2"	0.25	0.12	0.00
			1.00				Ice	0.32	0.17	0.01
							1" Ice	0.47	0.29	0.02
							2" Ice			
CXL 900-3LW	B	From Leg	4.00		0.0000	118.00	No Ice	0.14	0.14	0.00
			0.00				1/2"	0.33	0.33	0.00
			1.00				Ice	0.48	0.48	0.01
							1" Ice	0.81	0.81	0.02
							2" Ice			
LNA	B	From Leg	4.00		0.0000	118.00	No Ice	0.14	0.05	0.00
			0.00				1/2"	0.19	0.09	0.00
			1.00				Ice	0.25	0.13	0.00
							1" Ice	0.39	0.24	0.01
							2" Ice			
Side Arm Mount [SO 304-1]	B	From Leg	0.00		0.0000	118.00	No Ice	0.31	0.88	0.02
			0.00				1/2"	0.50	1.26	0.03
			0.00				Ice	0.73	1.67	0.05
							1" Ice	1.29	2.58	0.09
							2" Ice			
***										
(2) HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	4.00		0.0000	111.00	No Ice	7.97	5.99	0.08
			0.00				1/2"	8.73	6.72	0.14
			0.00				Ice	9.51	7.47	0.21
							1" Ice	11.11	9.02	0.40
							2" Ice			
(2) HBXX-6517DS-A2M w/	B	From Leg	4.00		0.0000	111.00	No Ice	7.97	5.99	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.00			1/2" Ice	8.73	6.72	0.14
			0.00			1" Ice	9.51	7.47	0.21
						2" Ice	11.11	9.02	0.40
(2) HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.00	0.0000	111.00	No Ice	7.97	5.99	0.08
			0.00			1/2" Ice	8.73	6.72	0.14
			0.00			1" Ice	9.51	7.47	0.21
						2" Ice	11.11	9.02	0.40
(2) LNX-6514DS-A1M w/ Mount Pipe	A	From Leg	4.00	0.0000	111.00	No Ice	4.09	3.30	0.06
			0.00			1/2" Ice	4.49	3.68	0.13
			0.00			1" Ice	4.89	4.06	0.20
						2" Ice	5.71	4.87	0.38
(2) LNX-6514DS-A1M w/ Mount Pipe	B	From Leg	4.00	0.0000	111.00	No Ice	4.09	3.30	0.06
			0.00			1/2" Ice	4.49	3.68	0.13
			0.00			1" Ice	4.89	4.06	0.20
						2" Ice	5.71	4.87	0.38
(2) LNX-6514DS-A1M w/ Mount Pipe	C	From Leg	4.00	0.0000	111.00	No Ice	4.09	3.30	0.06
			0.00			1/2" Ice	4.49	3.68	0.13
			0.00			1" Ice	4.89	4.06	0.20
						2" Ice	5.71	4.87	0.38
B4 RRH2X60-4R	A	From Leg	4.00	0.0000	111.00	No Ice	3.36	2.00	0.06
			0.00			1/2" Ice	3.61	2.24	0.08
			0.00			1" Ice	3.88	2.48	0.11
						2" Ice	4.42	2.97	0.18
B4 RRH2X60-4R	B	From Leg	4.00	0.0000	111.00	No Ice	3.36	2.00	0.06
			0.00			1/2" Ice	3.61	2.24	0.08
			0.00			1" Ice	3.88	2.48	0.11
						2" Ice	4.42	2.97	0.18
B4 RRH2X60-4R	C	From Leg	4.00	0.0000	111.00	No Ice	3.36	2.00	0.06
			0.00			1/2" Ice	3.61	2.24	0.08
			0.00			1" Ice	3.88	2.48	0.11
						2" Ice	4.42	2.97	0.18
(2) RRFDC-3315-PF-48	B	From Leg	4.00	0.0000	111.00	No Ice	3.36	2.19	0.03
			0.00			1/2" Ice	3.60	2.39	0.06
			0.00			1" Ice	3.84	2.61	0.09
						2" Ice	4.34	3.05	0.17
Platform Mount [LP 303-1]	C	None		0.0000	111.00	No Ice	14.69	14.69	1.25
						1/2" Ice	18.01	18.01	1.57
						1" Ice	21.34	21.34	1.94
						2" Ice	28.08	28.08	2.85

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
VHLP800-11	A	Paraboloid w/Shroud (HP)	From Leg	3.00	0.0000		124.00	2.80	No Ice	6.16	0.02
				0.00					1/2" Ice	6.53	0.06
				4.00					1" Ice	6.90	0.09
									2" Ice	7.64	0.17
VHLP800-11	C	Paraboloid w/Shroud (HP)	From Leg	3.00	0.0000		124.00	2.80	No Ice	6.16	0.02
				0.00					1/2" Ice	6.53	0.06

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
				4.00					1" Ice	6.90	0.09
									2" Ice	7.64	0.17

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 169.00-164.00	166.48	1.409	51	6.744	A	0.000	6.744	6.744	100.00	0.000	0.000
					B	0.000	6.744		100.00	0.000	0.000
					C	0.000	6.744		100.00	0.000	0.000
L2 164.00-159.00	161.48	1.4	50	7.148	A	0.000	7.148	7.148	100.00	0.000	0.000
					B	0.000	7.148		100.00	0.000	0.000
					C	0.000	7.148		100.00	0.000	0.000
L3 159.00-154.00	156.48	1.391	50	7.552	A	0.000	7.552	7.552	100.00	0.000	0.000
					B	0.000	7.552		100.00	0.000	0.000
					C	0.000	7.552		100.00	0.000	0.000
L4 154.00-149.00	151.48	1.381	50	7.955	A	0.000	7.955	7.955	100.00	0.000	0.000
					B	0.000	7.955		100.00	0.000	0.000
					C	0.000	7.955		100.00	0.000	0.000
L5 149.00-144.00	146.48	1.372	49	8.359	A	0.000	8.359	8.359	100.00	0.000	0.000
					B	0.000	8.359		100.00	0.000	0.000
					C	0.000	8.359		100.00	0.000	0.000
L6 144.00-139.00	141.48	1.362	49	8.763	A	0.000	8.763	8.763	100.00	0.000	0.000
					B	0.000	8.763		100.00	0.000	0.000
					C	0.000	8.763		100.00	0.000	0.000
L7 139.00-133.33	136.14	1.351	49	10.426	A	0.000	10.426	10.426	100.00	0.000	0.000
					B	0.000	10.426		100.00	5.548	0.000
					C	0.000	10.426		100.00	0.000	0.000
L8 133.33-131.66	132.49	1.343	48	3.096	A	0.000	3.096	3.096	100.00	0.000	0.000
					B	0.000	3.096		100.00	1.984	0.000
					C	0.000	3.096		100.00	0.000	0.000
L9 131.66-126.66	129.14	1.336	48	9.536	A	0.000	9.536	9.536	100.00	0.000	0.000
					B	0.000	9.536		100.00	5.940	0.000
					C	0.000	9.536		100.00	0.000	0.000
L10 126.66-121.66	124.14	1.325	48	9.934	A	0.000	9.934	9.934	100.00	0.000	0.000
					B	0.000	9.934		100.00	5.940	0.000
					C	0.000	9.934		100.00	1.258	0.000
L11 121.66-116.66	119.14	1.313	47	10.331	A	0.000	10.331	10.331	100.00	0.000	0.000
					B	0.000	10.331		100.00	6.024	0.000
					C	0.000	10.331		100.00	2.688	0.000
L12 116.66-111.66	114.14	1.301	47	10.729	A	0.000	10.729	10.729	100.00	0.000	0.000
					B	0.000	10.729		100.00	6.255	0.000
					C	0.000	10.729		100.00	2.688	0.000
L13 111.66-111.00	111.33	1.295	47	1.446	A	0.000	1.446	1.446	100.00	0.000	0.000
					B	0.000	1.446		100.00	0.826	0.000
					C	0.000	1.446		100.00	0.355	0.000
L14 111.00-110.75	110.87	1.293	47	0.549	A	0.000	0.549	0.549	100.00	0.446	0.000
					B	0.000	0.549		100.00	0.313	0.000
					C	0.000	0.549		100.00	0.134	0.000
L15 110.75-105.75	108.24	1.287	46	11.184	A	0.000	11.184	11.184	100.00	11.190	0.000
					B	0.000	11.184		100.00	8.535	0.000
					C	0.000	11.184		100.00	4.968	0.000
L16 105.75-101.50	103.61	1.275	46	9.820	A	0.000	9.820	9.820	100.00	14.783	0.000
					B	0.000	9.820		100.00	12.527	0.000
					C	0.000	9.820		100.00	9.494	0.000
L17 101.50-101.25	101.37	1.269	46	0.585	A	0.000	0.585	0.585	100.00	1.007	0.000
					B	0.000	0.585		100.00	0.874	0.000
					C	0.000	0.585		100.00	0.696	0.000
L18 101.25-101.00	101.12	1.269	46	0.586	A	0.000	0.586	0.586	100.00	1.007	0.000
					B	0.000	0.586		100.00	0.874	0.000
					C	0.000	0.586		100.00	0.696	0.000
L19 101.00-	100.87	1.268	46	0.588	A	0.000	0.588	0.588	100.00	1.007	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
100.75					B	0.000	0.588		100.00	0.874	0.000
					C	0.000	0.588		100.00	0.696	0.000
L20 100.75-95.75	98.24	1.261	45	11.970	A	0.000	11.970	11.970	100.00	17.857	0.000
					B	0.000	11.970		100.00	15.202	0.000
					C	0.000	11.970		100.00	11.634	0.000
L21 95.75-87.83	91.76	1.243	45	19.776	A	0.000	19.776	19.776	100.00	26.301	0.000
					B	0.000	19.776		100.00	22.095	0.000
					C	0.000	19.776		100.00	16.445	0.000
L22 87.83-86.83	87.33	1.23	44	2.512	A	0.000	2.512	2.512	100.00	3.865	0.000
					B	0.000	2.512		100.00	3.334	0.000
					C	0.000	2.512		100.00	2.621	0.000
L23 86.83-81.83	84.32	1.221	44	12.800	A	0.000	12.800	12.800	100.00	19.327	0.000
					B	0.000	12.800		100.00	16.672	0.000
					C	0.000	12.800		100.00	13.104	0.000
L24 81.83-81.50	81.66	1.213	44	0.859	A	0.000	0.859	0.859	100.00	1.526	0.000
					B	0.000	0.859		100.00	1.350	0.000
					C	0.000	0.859		100.00	1.115	0.000
L25 81.50-81.25	81.37	1.212	44	0.652	A	0.000	0.652	0.652	100.00	1.175	0.000
					B	0.000	0.652		100.00	1.042	0.000
					C	0.000	0.652		100.00	0.864	0.000
L26 81.25-76.25	78.74	1.204	43	13.244	A	0.000	13.244	13.244	100.00	20.681	0.000
					B	0.000	13.244		100.00	18.026	0.000
					C	0.000	13.244		100.00	14.458	0.000
L27 76.25-71.25	73.74	1.187	43	13.644	A	0.000	13.644	13.644	100.00	19.743	0.000
					B	0.000	13.644		100.00	17.088	0.000
					C	0.000	13.644		100.00	13.521	0.000
L28 71.25-66.25	68.74	1.17	42	14.044	A	0.000	14.044	14.044	100.00	19.743	0.000
					B	0.000	14.044		100.00	17.088	0.000
					C	0.000	14.044		100.00	13.521	0.000
L29 66.25-61.25	63.74	1.151	41	14.443	A	0.000	14.443	14.443	100.00	19.743	0.000
					B	0.000	14.443		100.00	17.088	0.000
					C	0.000	14.443		100.00	13.521	0.000
L30 61.25-56.25	58.74	1.132	41	14.842	A	0.000	14.842	14.842	100.00	19.743	0.000
					B	0.000	14.842		100.00	17.088	0.000
					C	0.000	14.842		100.00	13.521	0.000
L31 56.25-51.25	53.74	1.111	40	15.241	A	0.000	15.241	15.241	100.00	19.743	0.000
					B	0.000	15.241		100.00	17.088	0.000
					C	0.000	15.241		100.00	13.521	0.000
L32 51.25-43.33	47.26	1.081	39	24.957	A	0.000	24.957	24.957	100.00	37.680	0.000
					B	0.000	24.957		100.00	30.271	0.000
					C	0.000	24.957		100.00	24.620	0.000
L33 43.33-42.33	42.83	1.059	38	3.156	A	0.000	3.156	3.156	100.00	5.949	0.000
					B	0.000	3.156		100.00	4.418	0.000
					C	0.000	3.156		100.00	3.704	0.000
L34 42.33-37.40	39.85	1.043	38	15.791	A	0.000	15.791	15.791	100.00	29.327	0.000
					B	0.000	15.791		100.00	21.779	0.000
					C	0.000	15.791		100.00	18.262	0.000
L35 37.40-37.15	37.27	1.028	37	0.811	A	0.000	0.811	0.811	100.00	1.487	0.000
					B	0.000	0.811		100.00	1.104	0.000
					C	0.000	0.811		100.00	0.926	0.000
L36 37.15-32.15	34.64	1.012	36	16.432	A	0.000	16.432	16.432	100.00	29.743	0.000
					B	0.000	16.432		100.00	22.088	0.000
					C	0.000	16.432		100.00	18.521	0.000
L37 32.15-27.15	29.64	0.98	35	16.831	A	0.000	16.831	16.831	100.00	29.743	0.000
					B	0.000	16.831		100.00	22.088	0.000
					C	0.000	16.831		100.00	18.521	0.000
L38 27.15-22.15	24.64	0.942	34	17.229	A	0.000	17.229	17.229	100.00	29.760	0.000
					B	0.000	17.229		100.00	22.097	0.000
					C	0.000	17.229		100.00	18.529	0.000
L39 22.15-19.50	20.82	0.91	33	9.293	A	0.000	9.293	9.293	100.00	16.206	0.000
					B	0.000	9.293		100.00	11.928	0.000
					C	0.000	9.293		100.00	10.037	0.000
L40 19.50-19.25	19.37	0.896	32	0.882	A	0.000	0.882	0.882	100.00	1.529	0.000
					B	0.000	0.882		100.00	1.125	0.000
					C	0.000	0.882		100.00	0.947	0.000
L41 19.25-14.25	16.74	0.869	31	17.855	A	0.000	17.855	17.855	100.00	30.577	0.000
					B	0.000	17.855		100.00	22.505	0.000
					C	0.000	17.855		100.00	18.938	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L42 14.25-9.25	11.74	0.85	31	18.252	A	0.000	18.252	18.252	100.00	30.577	0.000
					B	0.000	18.252		100.00	22.505	0.000
					C	0.000	18.252		100.00	18.938	0.000
L43 9.25-9.00	9.12	0.85	31	0.923	A	0.000	0.923	0.923	100.00	1.529	0.000
					B	0.000	0.923		100.00	1.125	0.000
					C	0.000	0.923		100.00	0.947	0.000
L44 9.00-8.75	8.87	0.85	31	0.924	A	0.000	0.924	0.924	100.00	1.529	0.000
					B	0.000	0.924		100.00	1.125	0.000
					C	0.000	0.924		100.00	0.947	0.000
L45 8.75-7.00	7.87	0.85	31	6.496	A	0.000	6.496	6.496	100.00	10.702	0.000
					B	0.000	6.496		100.00	7.877	0.000
					C	0.000	6.496		100.00	6.628	0.000
L46 7.00-6.75	6.87	0.85	31	0.932	A	0.000	0.932	0.932	100.00	1.529	0.000
					B	0.000	0.932		100.00	1.125	0.000
					C	0.000	0.932		100.00	0.947	0.000
L47 6.75-5.00	5.87	0.85	31	6.552	A	0.000	6.552	6.552	100.00	10.702	0.000
					B	0.000	6.552		100.00	7.877	0.000
					C	0.000	6.552		100.00	6.628	0.000
L48 5.00-4.75	4.87	0.85	31	0.939	A	0.000	0.939	0.939	100.00	1.529	0.000
					B	0.000	0.939		100.00	1.125	0.000
					C	0.000	0.939		100.00	0.947	0.000
L49 4.75-3.00	3.87	0.85	31	6.598	A	0.000	6.598	6.598	100.00	10.702	0.000
					B	0.000	6.598		100.00	7.877	0.000
					C	0.000	6.598		100.00	6.628	0.000
L50 3.00-2.75	2.87	0.85	31	0.946	A	0.000	0.946	0.946	100.00	1.529	0.000
					B	0.000	0.946		100.00	1.125	0.000
					C	0.000	0.946		100.00	0.947	0.000
L51 2.75-2.25	2.50	0.85	31	1.896	A	0.000	1.896	1.896	100.00	3.058	0.000
					B	0.000	1.896		100.00	2.251	0.000
					C	0.000	1.896		100.00	1.894	0.000
L52 2.25-2.00	2.12	0.85	31	0.950	A	0.000	0.950	0.950	100.00	1.529	0.000
					B	0.000	0.950		100.00	1.125	0.000
					C	0.000	0.950		100.00	0.947	0.000
L53 2.00-0.00	1.00	0.85	31	7.638	A	0.000	7.638	7.638	100.00	12.231	0.000
					B	0.000	7.638		100.00	9.002	0.000
					C	0.000	7.638		100.00	7.575	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 169.00-164.00	166.48	1.409	8	1.9986	8.409	A	0.000	8.409	8.409	100.00	0.000	0.000
						B	0.000	8.409		100.00	0.000	0.000
						C	0.000	8.409		100.00	0.000	0.000
L2 164.00-159.00	161.48	1.4	8	1.9925	8.808	A	0.000	8.808	8.808	100.00	0.000	0.000
						B	0.000	8.808		100.00	0.000	0.000
						C	0.000	8.808		100.00	0.000	0.000
L3 159.00-154.00	156.48	1.391	8	1.9863	9.207	A	0.000	9.207	9.207	100.00	0.000	0.000
						B	0.000	9.207		100.00	0.000	0.000
						C	0.000	9.207		100.00	0.000	0.000
L4 154.00-149.00	151.48	1.381	8	1.9799	9.605	A	0.000	9.605	9.605	100.00	0.000	0.000
						B	0.000	9.605		100.00	0.000	0.000
						C	0.000	9.605		100.00	0.000	0.000
L5 149.00-144.00	146.48	1.372	8	1.9732	10.004	A	0.000	10.004	10.004	100.00	0.000	0.000
						B	0.000	10.004		100.00	0.000	0.000
						C	0.000	10.004		100.00	0.000	0.000
L6 144.00-139.00	141.48	1.362	8	1.9664	10.402	A	0.000	10.402	10.402	100.00	0.000	0.000
						B	0.000	10.402		100.00	0.000	0.000
						C	0.000	10.402		100.00	0.000	0.000
L7 139.00-133.33	136.14	1.351	8	1.9588	12.277	A	0.000	12.277	12.277	100.00	0.000	0.000
						B	0.000	12.277		100.00	9.222	0.000
						C	0.000	12.277		100.00	0.000	0.000
L8 133.33-	132.49	1.343	8	1.9535	3.641	A	0.000	3.641	3.641	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
131.66						B	0.000	3.641		100.00	3.298	0.000
						C	0.000	3.641		100.00	0.000	0.000
L9 131.66-126.66	129.14	1.336	8	1.9485	11.159	A	0.000	11.159	11.159	100.00	0.000	0.000
						B	0.000	11.159		100.00	9.861	0.000
						C	0.000	11.159		100.00	0.000	0.000
L10 126.66-121.66	124.14	1.325	8	1.9408	11.551	A	0.000	11.551	11.551	100.00	0.000	0.000
						B	0.000	11.551		100.00	9.851	0.000
						C	0.000	11.551		100.00	3.579	0.000
L11 121.66-116.66	119.14	1.313	8	1.9329	11.942	A	0.000	11.942	11.942	100.00	0.000	0.000
						B	0.000	11.942		100.00	10.444	0.000
						C	0.000	11.942		100.00	7.630	0.000
L12 116.66-111.66	114.14	1.301	7	1.9246	12.333	A	0.000	12.333	12.333	100.00	0.000	0.000
						B	0.000	12.333		100.00	12.070	0.000
						C	0.000	12.333		100.00	7.612	0.000
L13 111.66-111.00	111.33	1.295	7	1.9198	1.657	A	0.000	1.657	1.657	100.00	0.000	0.000
						B	0.000	1.657		100.00	1.592	0.000
						C	0.000	1.657		100.00	1.003	0.000
L14 111.00-110.75	110.87	1.293	7	1.9190	0.629	A	0.000	0.629	0.629	100.00	0.677	0.000
						B	0.000	0.629		100.00	0.603	0.000
						C	0.000	0.629		100.00	0.380	0.000
L15 110.75-105.75	108.24	1.287	7	1.9144	12.779	A	0.000	12.779	12.779	100.00	16.316	0.000
						B	0.000	12.779		100.00	14.833	0.000
						C	0.000	12.779		100.00	10.374	0.000
L16 105.75-101.50	103.61	1.275	7	1.9061	11.170	A	0.000	11.170	11.170	100.00	21.463	0.000
						B	0.000	11.170		100.00	20.195	0.000
						C	0.000	11.170		100.00	16.405	0.000
L17 101.50-101.25	101.37	1.269	7	1.9019	0.664	A	0.000	0.664	0.664	100.00	1.477	0.000
						B	0.000	0.664		100.00	1.403	0.000
						C	0.000	0.664		100.00	1.180	0.000
L18 101.25-101.00	101.12	1.269	7	1.9014	0.665	A	0.000	0.665	0.665	100.00	1.477	0.000
						B	0.000	0.665		100.00	1.403	0.000
						C	0.000	0.665		100.00	1.180	0.000
L19 101.00-100.75	100.87	1.268	7	1.9010	0.667	A	0.000	0.667	0.667	100.00	1.477	0.000
						B	0.000	0.667		100.00	1.402	0.000
						C	0.000	0.667		100.00	1.180	0.000
L20 100.75-95.75	98.24	1.261	7	1.8959	13.550	A	0.000	13.550	13.550	100.00	26.746	0.000
						B	0.000	13.550		100.00	25.245	0.000
						C	0.000	13.550		100.00	20.786	0.000
L21 95.75-87.83	91.76	1.243	7	1.8830	22.262	A	0.000	22.262	22.262	100.00	39.974	0.000
						B	0.000	22.262		100.00	37.575	0.000
						C	0.000	22.262		100.00	30.513	0.000
L22 87.83-86.83	87.33	1.23	7	1.8738	2.826	A	0.000	2.826	2.826	100.00	5.743	0.000
						B	0.000	2.826		100.00	5.440	0.000
						C	0.000	2.826		100.00	4.549	0.000
L23 86.83-81.83	84.32	1.221	7	1.8672	14.356	A	0.000	14.356	14.356	100.00	28.654	0.000
						B	0.000	14.356		100.00	27.124	0.000
						C	0.000	14.356		100.00	22.665	0.000
L24 81.83-81.50	81.66	1.213	7	1.8612	0.961	A	0.000	0.961	0.961	100.00	2.140	0.000
						B	0.000	0.961		100.00	2.038	0.000
						C	0.000	0.961		100.00	1.744	0.000
L25 81.50-81.25	81.37	1.212	7	1.8606	0.729	A	0.000	0.729	0.729	100.00	1.640	0.000
						B	0.000	0.729		100.00	1.563	0.000
						C	0.000	0.729		100.00	1.340	0.000
L26 81.25-76.25	78.74	1.204	7	1.8545	14.790	A	0.000	14.790	14.790	100.00	29.192	0.000
						B	0.000	14.790		100.00	27.648	0.000
						C	0.000	14.790		100.00	23.190	0.000
L27 76.25-71.25	73.74	1.187	7	1.8423	15.179	A	0.000	15.179	15.179	100.00	27.958	0.000
						B	0.000	15.179		100.00	26.403	0.000
						C	0.000	15.179		100.00	21.944	0.000
L28 71.25-66.25	68.74	1.17	7	1.8294	15.568	A	0.000	15.568	15.568	100.00	27.917	0.000
						B	0.000	15.568		100.00	26.348	0.000
						C	0.000	15.568		100.00	21.890	0.000
L29 66.25-61.25	63.74	1.151	7	1.8157	15.956	A	0.000	15.956	15.956	100.00	27.872	0.000
						B	0.000	15.956		100.00	26.290	0.000
						C	0.000	15.956		100.00	21.831	0.000
L30 61.25-56.25	58.74	1.132	7	1.8009	16.342	A	0.000	16.342	16.342	100.00	27.824	0.000
						B	0.000	16.342		100.00	26.227	0.000
						C	0.000	16.342		100.00	21.768	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L31 56.25-51.25	53.74	1.111	6	1.7850	16.729	A	0.000	16.729	16.729	100.00	27.772	0.000
						B	0.000	16.729		100.00	26.159	0.000
						C	0.000	16.729		100.00	21.701	0.000
L32 51.25-43.33	47.26	1.081	6	1.7622	27.283	A	0.000	27.283	27.283	100.00	52.369	0.000
						B	0.000	27.283		100.00	45.531	0.000
						C	0.000	27.283		100.00	38.468	0.000
L33 43.33-42.33	42.83	1.059	6	1.7449	3.450	A	0.000	3.450	3.450	100.00	8.244	0.000
						B	0.000	3.450		100.00	6.565	0.000
						C	0.000	3.450		100.00	5.673	0.000
L34 42.33-37.40	39.85	1.043	6	1.7324	17.215	A	0.000	17.215	17.215	100.00	40.491	0.000
						B	0.000	17.215		100.00	32.211	0.000
						C	0.000	17.215		100.00	27.815	0.000
L35 37.40-37.15	37.27	1.028	6	1.7208	0.883	A	0.000	0.883	0.883	100.00	2.050	0.000
						B	0.000	0.883		100.00	1.630	0.000
						C	0.000	0.883		100.00	1.407	0.000
L36 37.15-32.15	34.64	1.012	6	1.7083	17.855	A	0.000	17.855	17.855	100.00	40.939	0.000
						B	0.000	17.855		100.00	32.542	0.000
						C	0.000	17.855		100.00	28.083	0.000
L37 32.15-27.15	29.64	0.98	6	1.6818	18.233	A	0.000	18.233	18.233	100.00	40.801	0.000
						B	0.000	18.233		100.00	32.403	0.000
						C	0.000	18.233		100.00	27.944	0.000
L38 27.15-22.15	24.64	0.942	5	1.6511	18.605	A	0.000	18.605	18.605	100.00	40.656	0.000
						B	0.000	18.605		100.00	32.250	0.000
						C	0.000	18.605		100.00	27.791	0.000
L39 22.15-19.50	20.82	0.91	5	1.6235	10.010	A	0.000	10.010	10.010	100.00	21.904	0.000
						B	0.000	10.010		100.00	17.232	0.000
						C	0.000	10.010		100.00	14.869	0.000
L40 19.50-19.25	19.37	0.896	5	1.6118	0.949	A	0.000	0.949	0.949	100.00	2.063	0.000
						B	0.000	0.949		100.00	1.623	0.000
						C	0.000	0.949		100.00	1.400	0.000
L41 19.25-14.25	16.74	0.869	5	1.5885	19.179	A	0.000	19.179	19.179	100.00	41.144	0.000
						B	0.000	19.179		100.00	32.329	0.000
						C	0.000	19.179		100.00	27.871	0.000
L42 14.25-9.25	11.74	0.85	5	1.5331	19.530	A	0.000	19.530	19.530	100.00	40.853	0.000
						B	0.000	19.530		100.00	32.039	0.000
						C	0.000	19.530		100.00	27.580	0.000
L43 9.25-9.00	9.12	0.85	5	1.4949	0.985	A	0.000	0.985	0.985	100.00	2.033	0.000
						B	0.000	0.985		100.00	1.592	0.000
						C	0.000	0.985		100.00	1.369	0.000
L44 9.00-8.75	8.87	0.85	5	1.4908	0.986	A	0.000	0.986	0.986	100.00	2.032	0.000
						B	0.000	0.986		100.00	1.591	0.000
						C	0.000	0.986		100.00	1.368	0.000
L45 8.75-7.00	7.87	0.85	5	1.4730	6.925	A	0.000	6.925	6.925	100.00	14.188	0.000
						B	0.000	6.925		100.00	11.103	0.000
						C	0.000	6.925		100.00	9.543	0.000
L46 7.00-6.75	6.87	0.85	5	1.4532	0.993	A	0.000	0.993	0.993	100.00	2.022	0.000
						B	0.000	0.993		100.00	1.581	0.000
						C	0.000	0.993		100.00	1.358	0.000
L47 6.75-5.00	5.87	0.85	5	1.4305	6.970	A	0.000	6.970	6.970	100.00	14.110	0.000
						B	0.000	6.970		100.00	11.025	0.000
						C	0.000	6.970		100.00	9.464	0.000
L48 5.00-4.75	4.87	0.85	5	1.4041	0.997	A	0.000	0.997	0.997	100.00	2.009	0.000
						B	0.000	0.997		100.00	1.568	0.000
						C	0.000	0.997		100.00	1.345	0.000
L49 4.75-3.00	3.87	0.85	5	1.3722	6.998	A	0.000	6.998	6.998	100.00	14.003	0.000
						B	0.000	6.998		100.00	10.918	0.000
						C	0.000	6.998		100.00	9.357	0.000
L50 3.00-2.75	2.87	0.85	5	1.3319	1.002	A	0.000	1.002	1.002	100.00	1.990	0.000
						B	0.000	1.002		100.00	1.549	0.000
						C	0.000	1.002		100.00	1.326	0.000
L51 2.75-2.25	2.50	0.85	5	1.3134	2.005	A	0.000	2.005	2.005	100.00	3.970	0.000
						B	0.000	2.005		100.00	3.089	0.000
						C	0.000	2.005		100.00	2.643	0.000
L52 2.25-2.00	2.12	0.85	5	1.2922	1.004	A	0.000	1.004	1.004	100.00	1.979	0.000
						B	0.000	1.004		100.00	1.539	0.000
						C	0.000	1.004		100.00	1.316	0.000
L53 2.00-0.00	1.00	0.85	5	1.1982	8.038	A	0.000	8.038	8.038	100.00	15.638	0.000
						B	0.000	8.038		100.00	12.112	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	8.038		100.00	10.329	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 169.00-164.00	166.48	1.409	11	6.744	A	0.000	6.744	6.744	100.00	0.000	0.000
					B	0.000	6.744		100.00	0.000	0.000
					C	0.000	6.744		100.00	0.000	0.000
L2 164.00-159.00	161.48	1.4	11	7.148	A	0.000	7.148	7.148	100.00	0.000	0.000
					B	0.000	7.148		100.00	0.000	0.000
					C	0.000	7.148		100.00	0.000	0.000
L3 159.00-154.00	156.48	1.391	11	7.552	A	0.000	7.552	7.552	100.00	0.000	0.000
					B	0.000	7.552		100.00	0.000	0.000
					C	0.000	7.552		100.00	0.000	0.000
L4 154.00-149.00	151.48	1.381	11	7.955	A	0.000	7.955	7.955	100.00	0.000	0.000
					B	0.000	7.955		100.00	0.000	0.000
					C	0.000	7.955		100.00	0.000	0.000
L5 149.00-144.00	146.48	1.372	11	8.359	A	0.000	8.359	8.359	100.00	0.000	0.000
					B	0.000	8.359		100.00	0.000	0.000
					C	0.000	8.359		100.00	0.000	0.000
L6 144.00-139.00	141.48	1.362	11	8.763	A	0.000	8.763	8.763	100.00	0.000	0.000
					B	0.000	8.763		100.00	0.000	0.000
					C	0.000	8.763		100.00	0.000	0.000
L7 139.00-133.33	136.14	1.351	11	10.426	A	0.000	10.426	10.426	100.00	0.000	0.000
					B	0.000	10.426		100.00	5.548	0.000
					C	0.000	10.426		100.00	0.000	0.000
L8 133.33-131.66	132.49	1.343	10	3.096	A	0.000	3.096	3.096	100.00	0.000	0.000
					B	0.000	3.096		100.00	1.984	0.000
					C	0.000	3.096		100.00	0.000	0.000
L9 131.66-126.66	129.14	1.336	10	9.536	A	0.000	9.536	9.536	100.00	0.000	0.000
					B	0.000	9.536		100.00	5.940	0.000
					C	0.000	9.536		100.00	0.000	0.000
L10 126.66-121.66	124.14	1.325	10	9.934	A	0.000	9.934	9.934	100.00	0.000	0.000
					B	0.000	9.934		100.00	5.940	0.000
					C	0.000	9.934		100.00	1.258	0.000
L11 121.66-116.66	119.14	1.313	10	10.331	A	0.000	10.331	10.331	100.00	0.000	0.000
					B	0.000	10.331		100.00	6.024	0.000
					C	0.000	10.331		100.00	2.688	0.000
L12 116.66-111.66	114.14	1.301	10	10.729	A	0.000	10.729	10.729	100.00	0.000	0.000
					B	0.000	10.729		100.00	6.255	0.000
					C	0.000	10.729		100.00	2.688	0.000
L13 111.66-111.00	111.33	1.295	10	1.446	A	0.000	1.446	1.446	100.00	0.000	0.000
					B	0.000	1.446		100.00	0.826	0.000
					C	0.000	1.446		100.00	0.355	0.000
L14 111.00-110.75	110.87	1.293	10	0.549	A	0.000	0.549	0.549	100.00	0.446	0.000
					B	0.000	0.549		100.00	0.313	0.000
					C	0.000	0.549		100.00	0.134	0.000
L15 110.75-105.75	108.24	1.287	10	11.184	A	0.000	11.184	11.184	100.00	11.190	0.000
					B	0.000	11.184		100.00	8.535	0.000
					C	0.000	11.184		100.00	4.968	0.000
L16 105.75-101.50	103.61	1.275	10	9.820	A	0.000	9.820	9.820	100.00	14.783	0.000
					B	0.000	9.820		100.00	12.527	0.000
					C	0.000	9.820		100.00	9.494	0.000
L17 101.50-101.25	101.37	1.269	10	0.585	A	0.000	0.585	0.585	100.00	1.007	0.000
					B	0.000	0.585		100.00	0.874	0.000
					C	0.000	0.585		100.00	0.696	0.000
L18 101.25-101.00	101.12	1.269	10	0.586	A	0.000	0.586	0.586	100.00	1.007	0.000
					B	0.000	0.586		100.00	0.874	0.000
					C	0.000	0.586		100.00	0.696	0.000
L19 101.00-100.75	100.87	1.268	10	0.588	A	0.000	0.588	0.588	100.00	1.007	0.000
					B	0.000	0.588		100.00	0.874	0.000
					C	0.000	0.588		100.00	0.696	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L20 100.75-95.75	98.24	1.261	10	11.970	A	0.000	11.970	11.970	100.00	17.857	0.000
					B	0.000	11.970		100.00	15.202	0.000
					C	0.000	11.970		100.00	11.634	0.000
L21 95.75-87.83	91.76	1.243	10	19.776	A	0.000	19.776	19.776	100.00	26.301	0.000
					B	0.000	19.776		100.00	22.095	0.000
					C	0.000	19.776		100.00	16.445	0.000
L22 87.83-86.83	87.33	1.23	10	2.512	A	0.000	2.512	2.512	100.00	3.865	0.000
					B	0.000	2.512		100.00	3.334	0.000
					C	0.000	2.512		100.00	2.621	0.000
L23 86.83-81.83	84.32	1.221	10	12.800	A	0.000	12.800	12.800	100.00	19.327	0.000
					B	0.000	12.800		100.00	16.672	0.000
					C	0.000	12.800		100.00	13.104	0.000
L24 81.83-81.50	81.66	1.213	9	0.859	A	0.000	0.859	0.859	100.00	1.526	0.000
					B	0.000	0.859		100.00	1.350	0.000
					C	0.000	0.859		100.00	1.115	0.000
L25 81.50-81.25	81.37	1.212	9	0.652	A	0.000	0.652	0.652	100.00	1.175	0.000
					B	0.000	0.652		100.00	1.042	0.000
					C	0.000	0.652		100.00	0.864	0.000
L26 81.25-76.25	78.74	1.204	9	13.244	A	0.000	13.244	13.244	100.00	20.681	0.000
					B	0.000	13.244		100.00	18.026	0.000
					C	0.000	13.244		100.00	14.458	0.000
L27 76.25-71.25	73.74	1.187	9	13.644	A	0.000	13.644	13.644	100.00	19.743	0.000
					B	0.000	13.644		100.00	17.088	0.000
					C	0.000	13.644		100.00	13.521	0.000
L28 71.25-66.25	68.74	1.17	9	14.044	A	0.000	14.044	14.044	100.00	19.743	0.000
					B	0.000	14.044		100.00	17.088	0.000
					C	0.000	14.044		100.00	13.521	0.000
L29 66.25-61.25	63.74	1.151	9	14.443	A	0.000	14.443	14.443	100.00	19.743	0.000
					B	0.000	14.443		100.00	17.088	0.000
					C	0.000	14.443		100.00	13.521	0.000
L30 61.25-56.25	58.74	1.132	9	14.842	A	0.000	14.842	14.842	100.00	19.743	0.000
					B	0.000	14.842		100.00	17.088	0.000
					C	0.000	14.842		100.00	13.521	0.000
L31 56.25-51.25	53.74	1.111	9	15.241	A	0.000	15.241	15.241	100.00	19.743	0.000
					B	0.000	15.241		100.00	17.088	0.000
					C	0.000	15.241		100.00	13.521	0.000
L32 51.25-43.33	47.26	1.081	8	24.957	A	0.000	24.957	24.957	100.00	37.680	0.000
					B	0.000	24.957		100.00	30.271	0.000
					C	0.000	24.957		100.00	24.620	0.000
L33 43.33-42.33	42.83	1.059	8	3.156	A	0.000	3.156	3.156	100.00	5.949	0.000
					B	0.000	3.156		100.00	4.418	0.000
					C	0.000	3.156		100.00	3.704	0.000
L34 42.33-37.40	39.85	1.043	8	15.791	A	0.000	15.791	15.791	100.00	29.327	0.000
					B	0.000	15.791		100.00	21.779	0.000
					C	0.000	15.791		100.00	18.262	0.000
L35 37.40-37.15	37.27	1.028	8	0.811	A	0.000	0.811	0.811	100.00	1.487	0.000
					B	0.000	0.811		100.00	1.104	0.000
					C	0.000	0.811		100.00	0.926	0.000
L36 37.15-32.15	34.64	1.012	8	16.432	A	0.000	16.432	16.432	100.00	29.743	0.000
					B	0.000	16.432		100.00	22.088	0.000
					C	0.000	16.432		100.00	18.521	0.000
L37 32.15-27.15	29.64	0.98	8	16.831	A	0.000	16.831	16.831	100.00	29.743	0.000
					B	0.000	16.831		100.00	22.088	0.000
					C	0.000	16.831		100.00	18.521	0.000
L38 27.15-22.15	24.64	0.942	7	17.229	A	0.000	17.229	17.229	100.00	29.760	0.000
					B	0.000	17.229		100.00	22.097	0.000
					C	0.000	17.229		100.00	18.529	0.000
L39 22.15-19.50	20.82	0.91	7	9.293	A	0.000	9.293	9.293	100.00	16.206	0.000
					B	0.000	9.293		100.00	11.928	0.000
					C	0.000	9.293		100.00	10.037	0.000
L40 19.50-19.25	19.37	0.896	7	0.882	A	0.000	0.882	0.882	100.00	1.529	0.000
					B	0.000	0.882		100.00	1.125	0.000
					C	0.000	0.882		100.00	0.947	0.000
L41 19.25-14.25	16.74	0.869	7	17.855	A	0.000	17.855	17.855	100.00	30.577	0.000
					B	0.000	17.855		100.00	22.505	0.000
					C	0.000	17.855		100.00	18.938	0.000
L42 14.25-9.25	11.74	0.85	7	18.252	A	0.000	18.252	18.252	100.00	30.577	0.000
					B	0.000	18.252		100.00	22.505	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	18.252		100.00	18.938	0.000
L43 9.25-9.00	9.12	0.85	7	0.923	A	0.000	0.923	0.923	100.00	1.529	0.000
					B	0.000	0.923		100.00	1.125	0.000
					C	0.000	0.923		100.00	0.947	0.000
L44 9.00-8.75	8.87	0.85	7	0.924	A	0.000	0.924	0.924	100.00	1.529	0.000
					B	0.000	0.924		100.00	1.125	0.000
					C	0.000	0.924		100.00	0.947	0.000
L45 8.75-7.00	7.87	0.85	7	6.496	A	0.000	6.496	6.496	100.00	10.702	0.000
					B	0.000	6.496		100.00	7.877	0.000
					C	0.000	6.496		100.00	6.628	0.000
L46 7.00-6.75	6.87	0.85	7	0.932	A	0.000	0.932	0.932	100.00	1.529	0.000
					B	0.000	0.932		100.00	1.125	0.000
					C	0.000	0.932		100.00	0.947	0.000
L47 6.75-5.00	5.87	0.85	7	6.552	A	0.000	6.552	6.552	100.00	10.702	0.000
					B	0.000	6.552		100.00	7.877	0.000
					C	0.000	6.552		100.00	6.628	0.000
L48 5.00-4.75	4.87	0.85	7	0.939	A	0.000	0.939	0.939	100.00	1.529	0.000
					B	0.000	0.939		100.00	1.125	0.000
					C	0.000	0.939		100.00	0.947	0.000
L49 4.75-3.00	3.87	0.85	7	6.598	A	0.000	6.598	6.598	100.00	10.702	0.000
					B	0.000	6.598		100.00	7.877	0.000
					C	0.000	6.598		100.00	6.628	0.000
L50 3.00-2.75	2.87	0.85	7	0.946	A	0.000	0.946	0.946	100.00	1.529	0.000
					B	0.000	0.946		100.00	1.125	0.000
					C	0.000	0.946		100.00	0.947	0.000
L51 2.75-2.25	2.50	0.85	7	1.896	A	0.000	1.896	1.896	100.00	3.058	0.000
					B	0.000	1.896		100.00	2.251	0.000
					C	0.000	1.896		100.00	1.894	0.000
L52 2.25-2.00	2.12	0.85	7	0.950	A	0.000	0.950	0.950	100.00	1.529	0.000
					B	0.000	0.950		100.00	1.125	0.000
					C	0.000	0.950		100.00	0.947	0.000
L53 2.00-0.00	1.00	0.85	7	7.638	A	0.000	7.638	7.638	100.00	12.231	0.000
					B	0.000	7.638		100.00	9.002	0.000
					C	0.000	7.638		100.00	7.575	0.000

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	169 - 164	Pole	Max Tension	15	0.00	-0.00	0.00
			Max. Compression	26	-11.55	-0.00	0.01
			Max. Mx	8	-3.29	-10.63	0.01
			Max. My	2	-3.26	-0.00	10.65
			Max. Vy	8	6.68	-10.63	0.01
			Max. Vx	2	-6.70	-0.00	10.65
			Max. Torque	2			0.00
L2	164 - 159	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.12	-0.00	0.03
			Max. Mx	8	-3.59	-44.86	0.02
			Max. My	2	-3.55	-0.02	44.98
			Max. Vy	8	7.01	-44.86	0.02
			Max. Vx	2	-7.04	-0.02	44.98
			Max. Torque	2			0.00
L3	159 - 154	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.44	-0.00	1.44
			Max. Mx	8	-6.47	-101.33	0.31
			Max. My	2	-6.39	-0.03	101.93
			Max. Vy	8	13.68	-101.33	0.31
			Max. Vx	2	-13.72	-0.03	101.93
			Max. Torque	20			-0.56
L4	154 - 149	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.14	-0.01	1.48
			Max. Mx	8	-6.93	-170.60	0.35
			Max. My	2	-6.85	-0.05	171.39
			Max. Vy	8	14.03	-170.60	0.35
			Max. Vx	2	-14.07	-0.05	171.39
			Max. Torque	20			-0.56
L5	149 - 144	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.93	-0.01	1.53
			Max. Mx	8	-8.56	-249.42	0.38
			Max. My	2	-8.46	-0.08	250.45
			Max. Vy	8	16.33	-249.42	0.38
			Max. Vx	2	-16.38	-0.08	250.45
			Max. Torque	20			-0.56
L6	144 - 139	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.69	-0.01	1.57
			Max. Mx	8	-9.13	-331.90	0.42
			Max. My	2	-9.03	-0.11	333.17

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	16.67	-331.90	0.42
			Max. Vx	2	-16.72	-0.11	333.17
			Max. Torque	20			-0.55
L7	139 - 133.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.17	-0.07	1.62
			Max. Mx	8	-9.63	-371.98	0.44
			Max. My	2	-9.53	-0.13	373.38
			Max. Vy	8	17.50	-371.98	0.44
			Max. Vx	2	-17.56	-0.13	373.38
			Max. Torque	20			-0.55
L8	133.33 - 131.66	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.62	-0.19	1.73
			Max. Mx	8	-10.52	-460.54	0.50
			Max. My	2	-10.42	-0.19	462.21
			Max. Vy	8	17.92	-460.54	0.50
			Max. Vx	2	-17.97	-0.19	462.21
			Max. Torque	20			-0.55
L9	131.66 - 126.66	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.02	0.24	2.19
			Max. Mx	8	-11.27	-551.62	0.75
			Max. My	2	-11.16	-0.50	553.73
			Max. Vy	8	18.84	-551.62	0.75
			Max. Vx	14	18.97	0.25	-552.92
			Max. Torque	8			1.18
L10	126.66 - 121.66	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.91	0.25	2.32
			Max. Mx	8	-12.60	-651.13	1.66
			Max. My	2	-12.49	-1.58	653.66
			Max. Vy	8	20.15	-651.13	1.66
			Max. Vx	14	20.29	0.94	-653.09
			Max. Torque	8			1.21
L11	121.66 - 116.66	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.33	-0.19	2.12
			Max. Mx	8	-13.48	-752.83	2.54
			Max. My	2	-13.36	-2.74	755.68
			Max. Vy	8	20.54	-752.83	2.54
			Max. Vx	14	20.69	1.56	-755.45
			Max. Torque	8			1.20
L12	116.66 - 111.66	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.66	-0.38	2.09
			Max. Mx	8	-14.36	-856.29	3.47
			Max. My	14	-14.24	2.26	-859.65
			Max. Vy	8	20.86	-856.29	3.47
			Max. Vx	14	21.02	2.26	-859.65
			Max. Torque	8			1.14
L13	111.66 - 111	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.83	-0.41	2.09
			Max. Mx	8	-14.49	-870.07	3.59
			Max. My	14	-14.36	2.35	-873.53
			Max. Vy	8	20.90	-870.07	3.59
			Max. Vx	14	21.06	2.35	-873.53
			Max. Torque	8			1.14
L14	111 - 110.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.52	-1.88	1.25
			Max. Mx	8	-17.02	-876.65	3.49
			Max. My	14	-16.87	2.14	-880.01
			Max. Vy	8	25.10	-876.65	3.49
			Max. Vx	14	25.26	2.14	-880.01
			Max. Torque	8			1.14
L15	110.75 - 105.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.68	-1.70	1.43
			Max. Mx	8	-18.32	-1003.05	4.28
			Max. My	14	-18.12	2.74	-1008.49

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	25.51	-1003.05	4.28
			Max. Vx	14	26.19	2.74	-1008.49
			Max. Torque	8			0.67
L16	105.75 - 101.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.83	-1.54	1.58
			Max. Mx	8	-19.45	-1112.08	4.96
			Max. My	14	-19.22	3.25	-1121.39
			Max. Vy	8	25.85	-1112.08	4.96
			Max. Vx	14	27.00	3.25	-1121.39
			Max. Torque	8			0.67
L17	101.5 - 101.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.99	-1.53	1.60
			Max. Mx	8	-19.56	-1118.53	5.00
			Max. My	14	-19.33	3.29	-1128.14
			Max. Vy	8	25.87	-1118.53	5.00
			Max. Vx	14	27.06	3.29	-1128.14
			Max. Torque	8			0.67
L18	101.25 - 101	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.16	-1.52	1.61
			Max. Mx	8	-19.65	-1125.00	5.04
			Max. My	14	-19.42	3.32	-1134.90
			Max. Vy	8	25.90	-1125.00	5.04
			Max. Vx	14	27.11	3.32	-1134.90
			Max. Torque	8			0.67
L19	101 - 100.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.31	-1.51	1.61
			Max. Mx	8	-19.73	-1131.47	5.08
			Max. My	14	-19.50	3.35	-1141.67
			Max. Vy	8	25.92	-1131.47	5.08
			Max. Vx	14	27.16	3.35	-1141.67
			Max. Torque	8			0.67
L20	100.75 - 95.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.15	-1.32	1.77
			Max. Mx	8	-21.29	-1262.03	5.88
			Max. My	14	-21.02	3.96	-1279.71
			Max. Vy	8	26.36	-1262.03	5.88
			Max. Vx	14	28.12	3.96	-1279.71
			Max. Torque	8			0.67
L21	95.75 - 87.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.16	-1.18	1.89
			Max. Mx	8	-22.43	-1357.12	6.45
			Max. My	14	-22.15	4.40	-1381.81
			Max. Vy	8	26.67	-1357.12	6.45
			Max. Vx	14	28.82	4.40	-1381.81
			Max. Torque	8			0.67
L22	87.83 - 86.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.96	-0.97	2.08
			Max. Mx	8	-25.54	-1500.78	7.31
			Max. My	14	-25.22	5.05	-1538.47
			Max. Vy	8	27.28	-1500.78	7.31
			Max. Vx	14	30.01	5.05	-1538.47
			Max. Torque	8			0.67
L23	86.83 - 81.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.31	-0.77	2.25
			Max. Mx	8	-27.53	-1638.15	8.11
			Max. My	14	-27.19	5.67	-1690.87
			Max. Vy	8	27.73	-1638.15	8.11
			Max. Vx	14	31.01	5.67	-1690.87
			Max. Torque	8			0.67
L24	81.83 - 81.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.54	-0.76	2.27
			Max. Mx	8	-27.67	-1647.29	8.17
			Max. My	14	-27.33	5.71	-1701.11

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	27.76	-1647.29	8.17
			Max. Vx	14	31.09	5.71	-1701.11
			Max. Torque	8			0.67
L25	81.5 - 81.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.72	-0.75	2.28
			Max. Mx	8	-27.77	-1654.23	8.21
			Max. My	14	-27.43	5.74	-1708.88
			Max. Vy	8	27.78	-1654.23	8.21
			Max. Vx	14	31.15	5.74	-1708.88
			Max. Torque	8			0.67
L26	81.25 - 76.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.09	-0.55	2.45
			Max. Mx	8	-29.81	-1794.12	9.02
			Max. My	14	-29.45	6.36	-1866.85
			Max. Vy	8	28.23	-1794.12	9.02
			Max. Vx	14	32.12	6.36	-1866.85
			Max. Torque	8			0.67
L27	76.25 - 71.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.43	-0.34	2.63
			Max. Mx	8	-31.89	-1936.23	9.83
			Max. My	14	-31.52	6.98	-2029.71
			Max. Vy	8	28.68	-1936.23	9.83
			Max. Vx	14	33.09	6.98	-2029.71
			Max. Torque	8			0.67
L28	71.25 - 66.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.80	-0.13	2.82
			Max. Mx	8	-34.00	-2080.52	10.64
			Max. My	14	-33.62	7.61	-2197.41
			Max. Vy	6	29.21	-1894.22	1103.18
			Max. Vx	14	34.05	7.61	-2197.41
			Max. Torque	8			0.67
L29	66.25 - 61.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.18	0.09	3.01
			Max. Mx	8	-36.13	-2226.94	11.45
			Max. My	14	-35.76	8.23	-2369.88
			Max. Vy	6	29.69	-2041.30	1188.85
			Max. Vx	14	35.01	8.23	-2369.88
			Max. Torque	8			0.67
L30	61.25 - 56.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.59	0.31	3.21
			Max. Mx	8	-38.29	-2375.43	12.26
			Max. My	14	-37.93	8.86	-2547.06
			Max. Vy	6	30.16	-2190.75	1275.90
			Max. Vx	14	35.94	8.86	-2547.06
			Max. Torque	8			0.67
L31	56.25 - 51.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.02	0.54	3.41
			Max. Mx	8	-40.48	-2525.92	13.07
			Max. My	14	-40.13	9.49	-2728.87
			Max. Vy	6	30.61	-2342.48	1364.26
			Max. Vx	14	36.86	9.49	-2728.87
			Max. Torque	8			0.67
L32	51.25 - 43.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.88	0.67	3.52
			Max. Mx	8	-41.62	-2604.65	13.49
			Max. My	14	-41.28	9.81	-2824.85
			Max. Vy	6	30.84	-2421.95	1410.54
			Max. Vx	14	37.34	9.81	-2824.85
			Max. Torque	8			0.67
L33	43.33 - 42.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.46	0.99	3.80

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-46.91	-2799.83	14.52
			Max. My	14	-46.58	10.61	-3065.27
			Max. Vy	6	31.63	-2619.34	1525.47
			Max. Vx	14	38.68	10.61	-3065.27
			Max. Torque	8			0.67
L34	42.33 - 37.4	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.61	1.26	4.03
			Max. Mx	8	-49.57	-2954.31	15.32
			Max. My	14	-49.26	11.23	-3258.01
			Max. Vy	6	32.40	-2776.99	1617.24
			Max. Vx	14	39.59	11.23	-3258.01
			Max. Torque	8			0.67
L35	37.4 - 37.15	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.82	1.27	4.05
			Max. Mx	8	-49.72	-2962.20	15.36
			Max. My	14	-49.41	11.26	-3267.90
			Max. Vy	6	32.43	-2785.09	1621.95
			Max. Vx	14	39.65	11.26	-3267.90
			Max. Torque	8			0.67
L36	37.15 - 32.15	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.04	1.55	4.27
			Max. Mx	8	-52.44	-3120.82	16.17
			Max. My	14	-52.16	11.90	-3468.09
			Max. Vy	6	33.19	-2948.96	1717.33
			Max. Vx	14	40.52	11.90	-3468.09
			Max. Torque	8			0.67
L37	32.15 - 27.15	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-109.26	1.83	4.51
			Max. Mx	8	-55.20	-3281.19	16.98
			Max. My	14	-54.95	12.53	-3672.62
			Max. Vy	6	33.91	-3116.50	1814.82
			Max. Vx	14	41.38	12.53	-3672.62
			Max. Torque	8			0.67
L38	27.15 - 22.15	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-113.48	2.11	4.76
			Max. Mx	8	-57.98	-3443.20	17.79
			Max. My	14	-57.78	13.16	-3881.32
			Max. Vy	6	34.29	-3286.80	1913.91
			Max. Vx	14	42.19	13.16	-3881.32
			Max. Torque	8			0.67
L39	22.15 - 19.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-115.73	2.27	4.89
			Max. Mx	8	-59.47	-3529.70	18.22
			Max. My	14	-59.28	13.49	-3993.55
			Max. Vy	6	34.65	-3378.03	1966.99
			Max. Vx	14	42.61	13.49	-3993.55
			Max. Torque	8			0.67
L40	19.5 - 19.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-115.95	2.28	4.91
			Max. Mx	8	-59.63	-3537.88	18.26
			Max. My	14	-59.45	13.52	-4004.20
			Max. Vy	6	34.66	-3386.68	1972.02
			Max. Vx	14	42.65	13.52	-4004.20
			Max. Torque	8			0.67
L41	19.25 - 14.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-120.34	2.58	5.15
			Max. Mx	8	-62.61	-3702.24	19.06
			Max. My	14	-62.47	14.15	-4219.08
			Max. Vy	6	35.02	-3560.72	2073.27
			Max. Vx	14	43.40	14.15	-4219.08
			Max. Torque	8			0.67
L42	14.25 - 9.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-124.70	2.87	5.40
			Max. Mx	8	-65.62	-3867.98	19.86
			Max. My	14	-65.53	14.78	-4437.66

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	6	35.35	-3736.43	2175.48
			Max. Vx	14	44.13	14.78	-4437.66
			Max. Torque	8			0.67
L43	9.25 - 9	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-124.92	2.88	5.42
			Max. Mx	8	-65.78	-3876.30	19.90
			Max. My	14	-65.70	14.81	-4448.69
			Max. Vy	6	35.35	-3745.26	2180.61
			Max. Vx	14	44.16	14.81	-4448.69
			Max. Torque	8			0.67
L44	9 - 8.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-125.15	2.90	5.43
			Max. Mx	8	-65.94	-3884.63	19.94
			Max. My	14	-65.86	14.84	-4459.72
			Max. Vy	6	35.37	-3754.09	2185.75
			Max. Vx	14	44.19	14.84	-4459.72
			Max. Torque	8			0.67
L45	8.75 - 7	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-126.70	3.00	5.52
			Max. Mx	8	-67.02	-3943.00	20.22
			Max. My	14	-66.95	15.06	-4537.22
			Max. Vy	6	35.51	-3816.04	2221.78
			Max. Vx	14	44.48	15.06	-4537.22
			Max. Torque	8			0.67
L46	7 - 6.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-126.91	3.02	5.53
			Max. Mx	8	-67.19	-3951.36	20.26
			Max. My	14	-67.13	15.10	-4548.33
			Max. Vy	6	35.50	-3824.90	2226.93
			Max. Vx	14	44.49	15.10	-4548.33
			Max. Torque	8			0.67
L47	6.75 - 5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.42	3.12	5.62
			Max. Mx	8	-68.24	-4009.92	20.54
			Max. My	14	-68.19	15.32	-4626.34
			Max. Vy	6	35.64	-3887.07	2263.09
			Max. Vx	14	44.77	15.32	-4626.34
			Max. Torque	8			0.67
L48	5 - 4.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-128.67	3.13	5.63
			Max. Mx	8	-68.45	-4018.29	20.58
			Max. My	14	-68.41	15.35	-4637.52
			Max. Vy	6	35.63	-3895.96	2268.27
			Max. Vx	14	44.78	15.35	-4637.52
			Max. Torque	8			0.67
L49	4.75 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-130.45	3.23	5.72
			Max. Mx	8	-69.79	-4077.06	20.86
			Max. My	14	-69.75	15.57	-4716.07
			Max. Vy	6	35.78	-3958.37	2304.56
			Max. Vx	14	45.08	15.57	-4716.07
			Max. Torque	8			0.67
L50	3 - 2.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-130.70	3.25	5.73
			Max. Mx	8	-70.00	-4085.47	20.90
			Max. My	14	-69.97	15.60	-4727.33
			Max. Vy	6	35.77	-3967.30	2309.76
			Max. Vx	14	45.09	15.60	-4727.33
			Max. Torque	8			0.67
L51	2.75 - 2.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-131.22	3.28	5.76
			Max. Mx	8	-70.39	-4102.31	20.98
			Max. My	14	-70.37	15.66	-4749.88
			Max. Vy	6	35.81	-3985.18	2320.16
			Max. Vx	14	45.18	15.66	-4749.88
			Max. Torque	8			0.67
L52	2.25 - 2	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-131.44	3.29	5.77
			Max. Mx	8	-70.56	-4110.73	21.02

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-70.54	15.69	-4761.17
			Max. Vy	6	35.83	-3994.13	2325.36
			Max. Vx	14	45.21	15.69	-4761.17
			Max. Torque	8			0.67
L53	2 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-133.17	3.40	5.86
			Max. Mx	8	-71.87	-4178.25	21.34
			Max. My	14	-71.87	15.94	-4851.84
			Max. Vy	6	35.98	-4065.87	2367.08
			Max. Vx	14	45.53	15.94	-4851.84
			Max. Torque	8			0.67

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	133.17	0.00	-0.00
	Max. H_x	18	71.88	35.87	-20.91
	Max. H_z	2	71.88	-0.18	45.45
	Max. M_x	2	4848.85	-0.18	45.45
	Max. M_z	8	4178.25	-33.84	0.14
	Max. Torsion	8	0.67	-33.84	0.14
	Min. Vert	15	53.91	0.10	-45.51
	Min. H_x	6	71.88	-35.96	20.88
	Min. H_z	14	71.88	0.10	-45.51
	Min. M_x	14	-4851.84	0.10	-45.51
	Min. M_z	20	-4171.33	33.76	-0.04
	Min. Torsion	20	-0.65	33.76	-0.04

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	59.90	-0.00	-0.00	-1.93	1.64	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	71.88	0.18	-45.45	-4848.85	-22.27	0.63
0.9 Dead+1.0 Wind 0 deg - No Ice	53.91	0.18	-45.45	-4789.44	-22.49	0.62
1.2 Dead+1.0 Wind 30 deg - No Ice	71.88	24.77	-42.85	-4467.02	-2579.45	0.64
0.9 Dead+1.0 Wind 30 deg - No Ice	53.91	24.77	-42.85	-4413.32	-2549.28	0.64
1.2 Dead+1.0 Wind 60 deg - No Ice	71.88	35.96	-20.88	-2367.08	-4065.87	-0.35
0.9 Dead+1.0 Wind 60 deg - No Ice	53.91	35.96	-20.88	-2337.25	-4016.14	-0.34
1.2 Dead+1.0 Wind 90 deg - No Ice	71.88	33.84	-0.14	-21.34	-4178.25	-0.67
0.9 Dead+1.0 Wind 90 deg - No Ice	53.91	33.84	-0.14	-20.49	-4124.52	-0.66
1.2 Dead+1.0 Wind 120 deg - No Ice	71.88	29.30	16.91	2085.67	-3614.65	-0.47
0.9 Dead+1.0 Wind 120 deg - No Ice	53.91	29.30	16.91	2059.17	-3568.19	-0.46
1.2 Dead+1.0 Wind 150 deg - No Ice	71.88	16.99	29.71	3654.57	-2087.49	-0.15
0.9 Dead+1.0 Wind 150 deg - No Ice	53.91	16.99	29.71	3607.84	-2060.92	-0.14
1.2 Dead+1.0 Wind 180 deg - No Ice	71.88	-0.10	45.51	4851.84	15.94	-0.45
0.9 Dead+1.0 Wind 180 deg - No Ice	53.91	-0.10	45.51	4793.53	15.26	-0.44

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 210 deg - No Ice	71.88	-24.72	42.87	4465.50	2577.75	-0.64
0.9 Dead+1.0 Wind 210 deg - No Ice	53.91	-24.72	42.87	4413.02	2546.61	-0.64
1.2 Dead+1.0 Wind 240 deg - No Ice	71.88	-35.87	20.91	2367.11	4057.58	0.17
0.9 Dead+1.0 Wind 240 deg - No Ice	53.91	-35.87	20.91	2338.48	4006.96	0.16
1.2 Dead+1.0 Wind 270 deg - No Ice	71.88	-33.76	0.04	3.68	4171.33	0.65
0.9 Dead+1.0 Wind 270 deg - No Ice	53.91	-33.76	0.04	4.23	4116.58	0.64
1.2 Dead+1.0 Wind 300 deg - No Ice	71.88	-29.26	-16.90	-2088.06	3614.47	0.47
0.9 Dead+1.0 Wind 300 deg - No Ice	53.91	-29.26	-16.90	-2060.34	3567.02	0.46
1.2 Dead+1.0 Wind 330 deg - No Ice	71.88	-17.04	-29.59	-3643.62	2097.23	0.17
0.9 Dead+1.0 Wind 330 deg - No Ice	53.91	-17.04	-29.59	-3595.82	2069.57	0.16
1.2 Dead+1.0 Ice+1.0 Temp	133.17	-0.00	0.00	-5.86	3.40	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	133.17	0.04	-11.17	-1374.28	-1.79	0.41
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	133.17	6.08	-10.52	-1254.60	-717.95	0.44
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	133.17	8.99	-5.22	-675.53	-1149.26	-0.03
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	133.17	9.54	-0.03	-10.55	-1260.39	-0.23
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	133.17	8.25	4.76	624.77	-1089.69	-0.24
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	133.17	4.74	8.27	1090.28	-624.84	-0.19
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	133.17	-0.02	11.19	1363.25	6.62	-0.37
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	133.17	-6.07	10.52	1242.52	723.76	-0.44
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	133.17	-8.98	5.22	663.77	1153.67	-0.01
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	133.17	-9.52	0.01	-4.94	1265.11	0.22
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	133.17	-8.24	-4.76	-637.03	1095.81	0.24
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	133.17	-4.75	-8.25	-1099.71	633.07	0.20
Dead+Wind 0 deg - Service	59.90	0.04	-9.86	-1047.32	-3.56	0.14
Dead+Wind 30 deg - Service	59.90	5.37	-9.30	-965.28	-555.29	0.14
Dead+Wind 60 deg - Service	59.90	7.80	-4.53	-512.02	-875.69	-0.08
Dead+Wind 90 deg - Service	59.90	7.34	-0.03	-6.09	-899.42	-0.15
Dead+Wind 120 deg - Service	59.90	6.36	3.67	448.14	-778.01	-0.10
Dead+Wind 150 deg - Service	59.90	3.69	6.45	786.39	-448.79	-0.03
Dead+Wind 180 deg - Service	59.90	-0.02	9.88	1045.09	4.68	-0.10
Dead+Wind 210 deg - Service	59.90	-5.37	9.30	961.98	557.41	-0.14
Dead+Wind 240 deg - Service	59.90	-7.78	4.54	509.05	876.38	0.04
Dead+Wind 270 deg - Service	59.90	-7.33	0.01	-0.69	900.43	0.14
Dead+Wind 300 deg - Service	59.90	-6.35	-3.67	-451.63	780.45	0.10
Dead+Wind 330 deg - Service	59.90	-3.70	-6.42	-787.00	453.37	0.04

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-59.90	0.00	0.00	59.90	0.00	0.000%
2	0.18	-71.88	-45.45	-0.18	71.88	45.45	0.002%
3	0.18	-53.91	-45.45	-0.18	53.91	45.45	0.002%
4	24.77	-71.88	-42.85	-24.77	71.88	42.85	0.000%
5	24.77	-53.91	-42.85	-24.77	53.91	42.85	0.000%
6	35.96	-71.88	-20.88	-35.96	71.88	20.88	0.000%
7	35.96	-53.91	-20.88	-35.96	53.91	20.88	0.000%
8	33.84	-71.88	-0.14	-33.84	71.88	0.14	0.002%
9	33.84	-53.91	-0.14	-33.84	53.91	0.14	0.001%
10	29.30	-71.88	16.91	-29.30	71.88	-16.91	0.000%
11	29.30	-53.91	16.91	-29.30	53.91	-16.91	0.000%
12	16.99	-71.88	29.71	-16.99	71.88	-29.71	0.000%
13	16.99	-53.91	29.71	-16.99	53.91	-29.71	0.000%
14	-0.10	-71.88	45.51	0.10	71.88	-45.51	0.005%
15	-0.10	-53.91	45.51	0.10	53.91	-45.51	0.007%
16	-24.72	-71.88	42.87	24.72	71.88	-42.87	0.000%
17	-24.72	-53.91	42.87	24.72	53.91	-42.87	0.000%
18	-35.87	-71.88	20.91	35.87	71.88	-20.91	0.000%
19	-35.87	-53.91	20.91	35.87	53.91	-20.91	0.000%
20	-33.76	-71.88	0.04	33.76	71.88	-0.04	0.003%
21	-33.76	-53.91	0.04	33.76	53.91	-0.04	0.004%
22	-29.26	-71.88	-16.90	29.26	71.88	16.90	0.000%
23	-29.26	-53.91	-16.90	29.26	53.91	16.90	0.000%
24	-17.04	-71.88	-29.59	17.04	71.88	29.59	0.000%
25	-17.04	-53.91	-29.59	17.04	53.91	29.59	0.000%
26	0.00	-133.17	0.00	0.00	133.17	-0.00	0.001%
27	0.04	-133.17	-11.17	-0.04	133.17	11.17	0.000%
28	6.08	-133.17	-10.52	-6.08	133.17	10.52	0.000%
29	9.00	-133.17	-5.22	-8.99	133.17	5.22	0.000%
30	9.54	-133.17	-0.03	-9.54	133.17	0.03	0.000%
31	8.25	-133.17	4.76	-8.25	133.17	-4.76	0.000%
32	4.74	-133.17	8.27	-4.74	133.17	-8.27	0.000%
33	-0.02	-133.17	11.19	0.02	133.17	-11.19	0.000%
34	-6.07	-133.17	10.52	6.07	133.17	-10.52	0.000%
35	-8.98	-133.17	5.22	8.98	133.17	-5.22	0.000%
36	-9.52	-133.17	0.01	9.52	133.17	-0.01	0.000%
37	-8.25	-133.17	-4.76	8.24	133.17	4.76	0.000%
38	-4.75	-133.17	-8.25	4.75	133.17	8.25	0.000%
39	0.04	-59.90	-9.86	-0.04	59.90	9.86	0.002%
40	5.37	-59.90	-9.30	-5.37	59.90	9.30	0.001%
41	7.80	-59.90	-4.53	-7.80	59.90	4.53	0.001%
42	7.34	-59.90	-0.03	-7.34	59.90	0.03	0.002%
43	6.36	-59.90	3.67	-6.36	59.90	-3.67	0.001%
44	3.69	-59.90	6.45	-3.69	59.90	-6.45	0.001%
45	-0.02	-59.90	9.88	0.02	59.90	-9.88	0.002%
46	-5.37	-59.90	9.30	5.37	59.90	-9.30	0.001%
47	-7.78	-59.90	4.54	7.78	59.90	-4.54	0.001%
48	-7.33	-59.90	0.01	7.33	59.90	-0.01	0.002%
49	-6.35	-59.90	-3.67	6.35	59.90	3.67	0.001%
50	-3.70	-59.90	-6.42	3.70	59.90	6.42	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	21	0.00001892	0.00009767
3	Yes	20	0.00002183	0.00012878
4	Yes	28	0.00000001	0.00000000
5	Yes	27	0.00000001	0.00000000
6	Yes	28	0.00000001	0.00000000
7	Yes	27	0.00000001	0.00000000
8	Yes	21	0.00001921	0.00011461
9	Yes	21	0.00000001	0.00008657

10	Yes	27	0.00000001	0.00013212
11	Yes	27	0.00000001	0.00000000
12	Yes	27	0.00000001	0.00013387
13	Yes	27	0.00000001	0.00000000
14	Yes	19	0.00005974	0.00009974
15	Yes	18	0.00006994	0.00011869
16	Yes	28	0.00000001	0.00000000
17	Yes	27	0.00000001	0.00000000
18	Yes	28	0.00000001	0.00000000
19	Yes	27	0.00000001	0.00000000
20	Yes	20	0.00003423	0.00009229
21	Yes	19	0.00003979	0.00012013
22	Yes	27	0.00000001	0.00013355
23	Yes	27	0.00000001	0.00000000
24	Yes	27	0.00000001	0.00013353
25	Yes	27	0.00000001	0.00000000
26	Yes	12	0.00000001	0.00010254
27	Yes	25	0.00000001	0.00011172
28	Yes	26	0.00000001	0.00010534
29	Yes	26	0.00000001	0.00009871
30	Yes	25	0.00000001	0.00010746
31	Yes	26	0.00000001	0.00009224
32	Yes	26	0.00000001	0.00009283
33	Yes	25	0.00000001	0.00011045
34	Yes	26	0.00000001	0.00010324
35	Yes	26	0.00000001	0.00009706
36	Yes	25	0.00000001	0.00010726
37	Yes	26	0.00000001	0.00009411
38	Yes	26	0.00000001	0.00009349
39	Yes	18	0.00009008	0.00003519
40	Yes	20	0.00000001	0.00013812
41	Yes	20	0.00000001	0.00012102
42	Yes	18	0.00009096	0.00003745
43	Yes	20	0.00000001	0.00009694
44	Yes	20	0.00000001	0.00010034
45	Yes	18	0.00009006	0.00003231
46	Yes	20	0.00000001	0.00013402
47	Yes	20	0.00000001	0.00011744
48	Yes	18	0.00009094	0.00003494
49	Yes	20	0.00000001	0.00010181
50	Yes	20	0.00000001	0.00010006

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164	33.708	40	2.0904	0.0027
L2	164 - 159	31.520	40	2.0892	0.0027
L3	159 - 154	29.340	40	2.0712	0.0027
L4	154 - 149	27.190	40	2.0330	0.0026
L5	149 - 144	25.094	40	1.9678	0.0022
L6	144 - 139	23.077	40	1.8815	0.0020
L7	139 - 133.33	21.160	40	1.7776	0.0017
L8	136.66 - 131.66	20.302	40	1.7244	0.0016
L9	131.66 - 126.66	18.529	40	1.6510	0.0015
L10	126.66 - 121.66	16.859	40	1.5383	0.0013
L11	121.66 - 116.66	15.310	40	1.4200	0.0010
L12	116.66 - 111.66	13.887	40	1.2972	0.0007
L13	111.66 - 111	12.594	40	1.1712	0.0005
L14	111 - 110.75	12.434	40	1.1545	0.0005
L15	110.75 - 105.75	12.373	40	1.1510	0.0005
L16	105.75 - 101.5	11.207	40	1.0767	0.0004
L17	101.5 - 101.25	10.278	40	1.0107	0.0004
L18	101.25 - 101	10.225	40	1.0084	0.0004
L19	101 - 100.75	10.172	40	1.0061	0.0004
L20	100.75 - 95.75	10.119	40	1.0031	0.0004
L21	95.75 - 87.83	9.102	40	0.9407	0.0003
L22	92.16 - 86.83	8.412	40	0.8947	0.0003
L23	86.83 - 81.83	7.431	40	0.8590	0.0003
L24	81.83 - 81.5	6.559	40	0.8054	0.0002

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L25	81.5 - 81.25	6.504	40	0.8019	0.0002
L26	81.25 - 76.25	6.462	40	0.7993	0.0002
L27	76.25 - 71.25	5.653	40	0.7457	0.0002
L28	71.25 - 66.25	4.901	40	0.6909	0.0002
L29	66.25 - 61.25	4.207	40	0.6349	0.0002
L30	61.25 - 56.25	3.571	40	0.5785	0.0001
L31	56.25 - 51.25	2.995	40	0.5217	0.0001
L32	51.25 - 43.33	2.479	40	0.4638	0.0001
L33	48.66 - 42.33	2.236	40	0.4340	0.0001
L34	42.33 - 37.4	1.683	40	0.3961	0.0001
L35	37.4 - 37.15	1.299	40	0.3478	0.0001
L36	37.15 - 32.15	1.281	40	0.3454	0.0001
L37	32.15 - 27.15	0.945	40	0.2959	0.0001
L38	27.15 - 22.15	0.661	40	0.2459	0.0000
L39	22.15 - 19.5	0.430	40	0.1961	0.0000
L40	19.5 - 19.25	0.329	40	0.1696	0.0000
L41	19.25 - 14.25	0.320	40	0.1673	0.0000
L42	14.25 - 9.25	0.169	40	0.1202	0.0000
L43	9.25 - 9	0.068	40	0.0737	0.0000
L44	9 - 8.75	0.064	40	0.0714	0.0000
L45	8.75 - 7	0.060	40	0.0692	0.0000
L46	7 - 6.75	0.038	40	0.0537	0.0000
L47	6.75 - 5	0.035	40	0.0513	0.0000
L48	5 - 4.75	0.019	40	0.0352	0.0000
L49	4.75 - 3	0.017	40	0.0335	0.0000
L50	3 - 2.75	0.007	40	0.0222	0.0000
L51	2.75 - 2.25	0.006	40	0.0206	0.0000
L52	2.25 - 2	0.004	40	0.0174	0.0000
L53	2 - 0	0.003	40	0.0155	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
165.00	AIR 32 B2A/B66AA w/ Mount Pipe	40	31.957	2.0905	0.0028	34138
156.00	DMP65R-BU8D w/ Mount Pipe	40	28.045	2.0513	0.0028	6851
148.00	NNVV-65B-R4 w/ Mount Pipe	40	24.683	1.9519	0.0023	3590
138.00	APXV18-206517-A w/ Mount Pipe	40	20.791	1.7538	0.0018	3059
128.00	VHLP800-11	40	17.295	1.5713	0.0014	2546
124.00	LLPX310R w/ Mount Pipe	40	16.019	1.4752	0.0012	2412
118.00	CAVITY FILTER	40	14.255	1.3299	0.0008	2323
111.00	(2) HBXX-6517DS-A2M w/ Mount Pipe	40	12.434	1.1545	0.0005	2868

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	169 - 164	155.606	4	9.6844	0.0120
L2	164 - 159	145.549	4	9.6790	0.0120
L3	159 - 154	135.532	4	9.5956	0.0120
L4	154 - 149	125.644	4	9.4194	0.0114
L5	149 - 144	116.001	4	9.1190	0.0099
L6	144 - 139	106.718	4	8.7207	0.0087
L7	139 - 133.33	97.887	4	8.2406	0.0076
L8	136.66 - 131.66	93.932	4	7.9942	0.0072
L9	131.66 - 126.66	85.753	4	7.6547	0.0067
L10	126.66 - 121.66	78.045	4	7.1328	0.0059
L11	121.66 - 116.66	70.890	4	6.5848	0.0046
L12	116.66 - 111.66	64.314	4	6.0155	0.0034
L13	111.66 - 111	58.336	4	5.4317	0.0023

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L14	111 - 110.75	57.593	4	5.3544	0.0022
L15	110.75 - 105.75	57.314	4	5.3379	0.0022
L16	105.75 - 101.5	51.916	4	4.9937	0.0019
L17	101.5 - 101.25	47.616	4	4.6874	0.0016
L18	101.25 - 101	47.371	4	4.6768	0.0016
L19	101 - 100.75	47.127	4	4.6661	0.0016
L20	100.75 - 95.75	46.883	4	4.6521	0.0016
L21	95.75 - 87.83	42.171	4	4.3630	0.0014
L22	92.16 - 86.83	38.976	4	4.1495	0.0013
L23	86.83 - 81.83	34.432	4	3.9839	0.0012
L24	81.83 - 81.5	30.395	4	3.7354	0.0011
L25	81.5 - 81.25	30.138	4	3.7190	0.0011
L26	81.25 - 76.25	29.944	4	3.7069	0.0011
L27	76.25 - 71.25	26.197	4	3.4584	0.0009
L28	71.25 - 66.25	22.712	4	3.2041	0.0008
L29	66.25 - 61.25	19.495	4	2.9443	0.0007
L30	61.25 - 56.25	16.551	4	2.6825	0.0006
L31	56.25 - 51.25	13.882	4	2.4190	0.0006
L32	51.25 - 43.33	11.490	4	2.1503	0.0005
L33	48.66 - 42.33	10.362	4	2.0121	0.0004
L34	42.33 - 37.4	7.799	4	1.8363	0.0004
L35	37.4 - 37.15	6.020	4	1.6123	0.0003
L36	37.15 - 32.15	5.936	4	1.6010	0.0003
L37	32.15 - 27.15	4.380	4	1.3717	0.0003
L38	27.15 - 22.15	3.065	4	1.1400	0.0002
L39	22.15 - 19.5	1.993	4	0.9086	0.0002
L40	19.5 - 19.25	1.522	4	0.7858	0.0001
L41	19.25 - 14.25	1.482	4	0.7751	0.0001
L42	14.25 - 9.25	0.784	4	0.5568	0.0001
L43	9.25 - 9	0.314	4	0.3416	0.0001
L44	9 - 8.75	0.297	4	0.3309	0.0001
L45	8.75 - 7	0.280	4	0.3205	0.0001
L46	7 - 6.75	0.175	4	0.2486	0.0000
L47	6.75 - 5	0.163	4	0.2378	0.0000
L48	5 - 4.75	0.089	4	0.1629	0.0000
L49	4.75 - 3	0.081	4	0.1554	0.0000
L50	3 - 2.75	0.033	4	0.1028	0.0000
L51	2.75 - 2.25	0.028	4	0.0954	0.0000
L52	2.25 - 2	0.019	4	0.0806	0.0000
L53	2 - 0	0.015	4	0.0718	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
165.00	AIR 32 B2A/B66AA w/ Mount Pipe	4	147.559	9.6847	0.0140	7755
156.00	DMP65R-BU8D w/ Mount Pipe	4	129.576	9.5034	0.0136	1563
148.00	NNVV-65B-R4 w/ Mount Pipe	4	114.113	9.0459	0.0113	815
138.00	APXV18-206517-A w/ Mount Pipe	4	96.185	8.1305	0.0086	687
128.00	VHLP800-11	4	80.058	7.2857	0.0068	567
124.00	LLPX310R w/ Mount Pipe	4	74.167	6.8404	0.0056	535
118.00	CAVITY FILTER	4	66.018	6.1672	0.0039	514
111.00	(2) HBXX-6517DS-A2M w/ Mount Pipe	4	57.593	5.3544	0.0023	631

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L1	169 - 164 (1)	TP16.4546x15.5x0.25	5.00	0.00	0.0	12.8583	-3.23
L2	164 - 159 (2)	TP17.4092x16.4546x0.25	5.00	0.00	0.0	13.6158	-3.52
L3	159 - 154 (3)	TP18.3638x17.4092x0.25	5.00	0.00	0.0	14.3733	-6.34
L4	154 - 149 (4)	TP19.3183x18.3638x0.25	5.00	0.00	0.0	15.1307	-6.80
L5	149 - 144 (5)	TP20.2729x19.3183x0.25	5.00	0.00	0.0	15.8882	-8.40
L6	144 - 139 (6)	TP21.2275x20.2729x0.25	5.00	0.00	0.0	16.6456	-8.97
L7	139 - 133.33 (7)	TP22.31x21.2275x0.25	5.67	0.00	0.0	17.0001	-9.46
L8	133.33 - 131.66 (8)	TP22.1148x21.1742x0.3125	5.00	0.00	0.0	21.6252	-10.35
L9	131.66 - 126.66 (9)	TP23.0554x22.1148x0.3125	5.00	0.00	0.0	22.5581	-11.08
L10	126.66 - 121.66 (10)	TP23.996x23.0554x0.3125	5.00	0.00	0.0	23.4911	-12.40
L11	121.66 - 116.66 (11)	TP24.9366x23.996x0.3125	5.00	0.00	0.0	24.4240	-13.23
L12	116.66 - 111.66 (12)	TP25.8772x24.9366x0.3125	5.00	0.00	0.0	25.3570	-14.08
L13	111.66 - 111 (13)	TP26.0013x25.8772x0.3125	0.66	0.00	0.0	25.4801	-14.20
L14	111 - 110.75 (14)	TP26.0484x26.0013x0.575	0.25	0.00	0.0	46.4902	-16.70
L15	110.75 - 105.75 (15)	TP26.9889x26.0484x0.5625	5.00	0.00	0.0	47.1811	-17.95
L16	105.75 - 101.5 (16)	TP27.7884x26.9889x0.55	4.25	0.00	0.0	47.5501	-19.04
L17	101.5 - 101.25 (17)	TP27.8355x27.7884x0.9875	0.25	0.00	0.0	84.1503	-19.15
L18	101.25 - 101 (18)	TP27.8825x27.8355x0.9875	0.25	0.00	0.0	84.2977	-19.24
L19	101 - 100.75 (19)	TP27.9295x27.8825x0.725	0.25	0.00	0.0	62.6017	-19.32
L20	100.75 - 95.75 (20)	TP28.8701x27.9295x0.7125	5.00	0.00	0.0	63.6777	-20.83
L21	95.75 - 87.83 (21)	TP30.36x28.8701x0.7	7.92	0.00	0.0	64.0888	-21.95
L22	87.83 - 86.83 (22)	TP29.9235x28.9205x0.9375	5.33	0.00	0.0	86.2516	-25.01
L23	86.83 - 81.83 (23)	TP30.8645x29.9235x0.925	5.00	0.00	0.0	87.9009	-26.97
L24	81.83 - 81.5 (24)	TP30.9266x30.8645x0.925	0.33	0.00	0.0	88.0832	-27.12
L25	81.5 - 81.25 (25)	TP30.9737x30.9266x0.95	0.25	0.00	0.0	90.5303	-27.22
L26	81.25 - 76.25 (26)	TP31.9146x30.9737x0.925	5.00	0.00	0.0	90.9840	-29.24
L27	76.25 - 71.25 (27)	TP32.8556x31.9146x0.9	5.00	0.00	0.0	91.2844	-31.31
L28	71.25 - 66.25 (28)	TP33.7966x32.8556x0.875	5.00	0.00	0.0	91.4314	-33.41
L29	66.25 - 61.25 (29)	TP34.7376x33.7966x0.8625	5.00	0.00	0.0	92.7355	-35.56
L30	61.25 - 56.25 (30)	TP35.6785x34.7376x0.85	5.00	0.00	0.0	93.9639	-37.73
L31	56.25 - 51.25 (31)	TP36.6195x35.6785x0.825	5.00	0.00	0.0	93.7297	-39.95
L32	51.25 - 43.33 (32)	TP38.11x36.6195x0.825	7.92	0.00	0.0	95.0060	-41.10
L33	43.33 - 42.33 (33)	TP37.5463x36.3569x1.0375	6.33	0.00	0.0	120.2240	-46.41
L34	42.33 - 37.4	TP38.4726x37.5463x1.02	4.93	0.00	0.0	121.83	-49.11

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
	(34)	5				00	
L35	37.4 - 37.15	TP38.5196x38.4726x1.02	0.25	0.00	0.0	121.98	-49.26
	(35)	5				30	
L36	37.15 - 32.15	TP39.4591x38.5196x1	5.00	0.00	0.0	122.06	-52.03
	(36)					90	
L37	32.15 - 27.15	TP40.3986x39.4591x0.97	5.00	0.00	0.0	122.00	-54.84
	(37)	5				20	
L38	27.15 - 22.15	TP41.3381x40.3986x0.96	5.00	0.00	0.0	123.34	-57.68
	(38)	25				60	
L39	22.15 - 19.5	TP41.836x41.3381x0.95	2.65	0.00	0.0	123.28	-59.20
	(39)					40	
L40	19.5 - 19.25	TP41.883x41.836x1.025	0.25	0.00	0.0	132.92	-59.37
	(40)					50	
L41	19.25 - 14.25	TP42.8225x41.883x1	5.00	0.00	0.0	132.74	-62.41
	(41)					50	
L42	14.25 - 9.25	TP43.762x42.8225x1	5.00	0.00	0.0	135.72	-65.49
	(42)					60	
L43	9.25 - 9 (43)	TP43.8089x43.762x1	0.25	0.00	0.0	135.87	-65.66
						60	
L44	9 - 8.75 (44)	TP43.8559x43.8089x1.02	0.25	0.00	0.0	139.34	-65.82
		5				40	
L45	8.75 - 7 (45)	TP44.1847x43.8559x1.02	1.75	0.00	0.0	140.41	-66.92
		5				40	
L46	7 - 6.75 (46)	TP44.2317x44.1847x0.97	0.25	0.00	0.0	133.86	-67.10
		5				40	
L47	6.75 - 5 (47)	TP44.5605x44.2317x0.97	1.75	0.00	0.0	134.88	-68.17
		5				20	
L48	5 - 4.75 (48)	TP44.6075x44.5605x1.45	0.25	0.00	0.0	198.62	-68.39
						40	
L49	4.75 - 3 (49)	TP44.9363x44.6075x1.42	1.75	0.00	0.0	196.79	-69.74
		5				90	
L50	3 - 2.75 (50)	TP44.9833x44.9363x1.45	0.25	0.00	0.0	200.35	-69.96
						30	
L51	2.75 - 2.25	TP45.0772x44.9833x1.45	0.50	0.00	0.0	200.78	-70.36
	(51)					60	
L52	2.25 - 2 (52)	TP45.1242x45.0772x1.2	0.25	0.00	0.0	167.29	-70.53
						90	
L53	2 - 0 (53)	TP45.5x45.1242x1.175	2.00	0.00	0.0	165.30	-71.87
						80	

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	M_{uy} kip-ft
L1	169 - 164 (1)	TP16.4546x15.5x0.25	10.66	0.00
L2	164 - 159 (2)	TP17.4092x16.4546x0.25	45.06	0.00
L3	159 - 154 (3)	TP18.3638x17.4092x0.25	102.06	0.00
L4	154 - 149 (4)	TP19.3183x18.3638x0.25	171.64	0.00
L5	149 - 144 (5)	TP20.2729x19.3183x0.25	250.85	0.00
L6	144 - 139 (6)	TP21.2275x20.2729x0.25	333.74	0.00
L7	139 - 133.33	TP22.31x21.2275x0.25	374.04	0.00
	(7)			
L8	133.33 -	TP22.1148x21.1742x0.31	463.07	0.00
	131.66 (8)	25		
L9	131.66 -	TP23.0554x22.1148x0.31	554.87	0.00
	126.66 (9)	25		
L10	126.66 -	TP23.996x23.0554x0.312	655.55	0.00
	121.66 (10)	5		
L11	121.66 -	TP24.9366x23.996x0.312	759.48	0.00
	116.66 (11)	5		
L12	116.66 -	TP25.8772x24.9366x0.31	867.42	0.00
	111.66 (12)	25		
L13	111.66 - 111	TP26.0013x25.8772x0.31	881.94	0.00
	(13)	25		
L14	111 - 110.75	TP26.0484x26.0013x0.57	888.49	0.00
	(14)	5		
L15	110.75 -	TP26.9889x26.0484x0.56	1022.15	0.00

Section No.	Elevation ft	Size	M_{ux} kip-ft	M_{uy} kip-ft
	105.75 (15)	25		
L16	105.75 - 101.5 (16)	TP27.7884x26.9889x0.55	1139.93	0.00
L17	101.5 - 101.25 (17)	TP27.8355x27.7884x0.98 75	1146.99	0.00
L18	101.25 - 101 (18)	TP27.8825x27.8355x0.98 75	1154.06	0.00
L19	101 - 100.75 (19)	TP27.9295x27.8825x0.72 5	1161.14	0.00
L20	100.75 - 95.75 (20)	TP28.8701x27.9295x0.71 25	1305.81	0.00
L21	95.75 - 87.83 (21)	TP30.36x28.8701x0.7	1413.23	0.00
L22	87.83 - 86.83 (22)	TP29.9235x28.9205x0.93 75	1578.68	0.00
L23	86.83 - 81.83 (23)	TP30.8645x29.9235x0.92 5	1740.23	0.00
L24	81.83 - 81.5 (24)	TP30.9266x30.8645x0.92 5	1751.10	0.00
L25	81.5 - 81.25 (25)	TP30.9737x30.9266x0.95	1759.35	0.00
L26	81.25 - 76.25 (26)	TP31.9146x30.9737x0.92 5	1927.41	0.00
L27	76.25 - 71.25 (27)	TP32.8556x31.9146x0.9	2101.26	0.00
L28	71.25 - 66.25 (28)	TP33.7966x32.8556x0.87 5	2280.83	0.00
L29	66.25 - 61.25 (29)	TP34.7376x33.7966x0.86 25	2466.05	0.00
L30	61.25 - 56.25 (30)	TP35.6785x34.7376x0.85	2656.82	0.00
L31	56.25 - 51.25 (31)	TP36.6195x35.6785x0.82 5	2853.07	0.00
L32	51.25 - 43.33 (32)	TP38.11x36.6195x0.825	2956.82	0.00
L33	43.33 - 42.33 (33)	TP37.5463x36.3569x1.03 75	3217.07	0.00
L34	42.33 - 37.4 (34)	TP38.4726x37.5463x1.02 5	3425.97	0.00
L35	37.4 - 37.15 (35)	TP38.5196x38.4726x1.02 5	3436.70	0.00
L36	37.15 - 32.15 (36)	TP39.4591x38.5196x1	3653.88	0.00
L37	32.15 - 27.15 (37)	TP40.3986x39.4591x0.97 5	3875.95	0.00
L38	27.15 - 22.15 (38)	TP41.3381x40.3986x0.96 25	4102.70	0.00
L39	22.15 - 19.5 (39)	TP41.836x41.3381x0.95	4224.70	0.00
L40	19.5 - 19.25 (40)	TP41.883x41.836x1.025	4236.27	0.00
L41	19.25 - 14.25 (41)	TP42.8225x41.883x1	4469.90	0.00
L42	14.25 - 9.25 (42)	TP43.762x42.8225x1	4707.64	0.00
L43	9.25 - 9 (43)	TP43.8089x43.762x1	4719.63	0.00
L44	9 - 8.75 (44)	TP43.8559x43.8089x1.02 5	4731.64	0.00
L45	8.75 - 7 (45)	TP44.1847x43.8559x1.02 5	4815.95	0.00
L46	7 - 6.75 (46)	TP44.2317x44.1847x0.97 5	4828.03	0.00
L47	6.75 - 5 (47)	TP44.5605x44.2317x0.97 5	4912.91	0.00
L48	5 - 4.75 (48)	TP44.6075x44.5605x1.45	4925.07	0.00
L49	4.75 - 3 (49)	TP44.9363x44.6075x1.42 5	5010.53	0.00
L50	3 - 2.75 (50)	TP44.9833x44.9363x1.45	5022.79	0.00
L51	2.75 - 2.25 (51)	TP45.0772x44.9833x1.45	5047.32	0.00

Section No.	Elevation ft	Size	M_{ux} kip-ft	M_{uy} kip-ft
L52	2.25 - 2 (52)	TP45.1242x45.0772x1.2	5059.62	0.00
L53	2 - 0 (53)	TP45.5x45.1242x1.175	5158.27	0.00

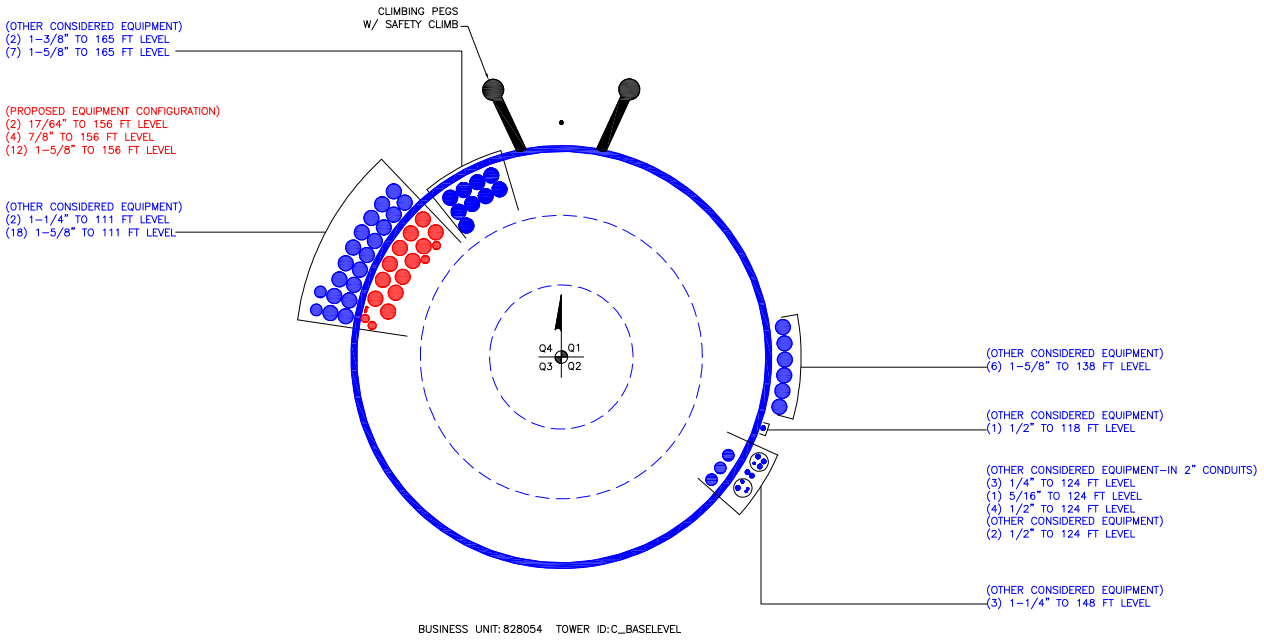
Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L1	169 - 164 (1)	TP16.4546x15.5x0.25	6.71	0.00
L2	164 - 159 (2)	TP17.4092x16.4546x0.25	7.05	0.00
L3	159 - 154 (3)	TP18.3638x17.4092x0.25	13.75	0.28
L4	154 - 149 (4)	TP19.3183x18.3638x0.25	14.10	0.28
L5	149 - 144 (5)	TP20.2729x19.3183x0.25	16.42	0.28
L6	144 - 139 (6)	TP21.2275x20.2729x0.25	16.76	0.28
L7	139 - 133.33 (7)	TP22.31x21.2275x0.25	17.59	0.28
L8	133.33 - 131.66 (8)	TP22.1148x21.1742x0.3125	18.01	0.28
L9	131.66 - 126.66 (9)	TP23.0554x22.1148x0.3125	19.04	0.80
L10	126.66 - 121.66 (10)	TP23.996x23.0554x0.3125	20.40	0.86
L11	121.66 - 116.66 (11)	TP24.9366x23.996x0.3125	21.22	0.61
L12	116.66 - 111.66 (12)	TP25.8772x24.9366x0.3125	21.98	0.44
L13	111.66 - 111 (13)	TP26.0013x25.8772x0.3125	22.04	0.40
L14	111 - 110.75 (14)	TP26.0484x26.0013x0.575	26.23	0.54
L15	110.75 - 105.75 (15)	TP26.9889x26.0484x0.5625	27.26	0.51
L16	105.75 - 101.5 (16)	TP27.7884x26.9889x0.55	28.19	0.49
L17	101.5 - 101.25 (17)	TP27.8355x27.7884x0.9875	28.27	0.49
L18	101.25 - 101 (18)	TP27.8825x27.8355x0.9875	28.33	0.49
L19	101 - 100.75 (19)	TP27.9295x27.8825x0.725	28.38	0.49
L20	100.75 - 95.75 (20)	TP28.8701x27.9295x0.7125	29.52	0.47
L21	95.75 - 87.83 (21)	TP30.36x28.8701x0.7	30.34	0.45
L22	87.83 - 86.83 (22)	TP29.9235x28.9205x0.9375	31.73	0.43
L23	86.83 - 81.83 (23)	TP30.8645x29.9235x0.925	32.90	0.41
L24	81.83 - 81.5 (24)	TP30.9266x30.8645x0.925	32.98	0.40
L25	81.5 - 81.25 (25)	TP30.9737x30.9266x0.95	33.05	0.40
L26	81.25 - 76.25 (26)	TP31.9146x30.9737x0.925	34.20	0.39
L27	76.25 - 71.25 (27)	TP32.8556x31.9146x0.9	35.36	0.37
L28	71.25 - 66.25 (28)	TP33.7966x32.8556x0.875	36.49	0.35
L29	66.25 - 61.25 (29)	TP34.7376x33.7966x0.8625	37.62	0.33
L30	61.25 - 56.25 (30)	TP35.6785x34.7376x0.85	38.72	0.31
L31	56.25 - 51.25 (31)	TP36.6195x35.6785x0.825	39.80	0.29
L32	51.25 - 43.33 (32)	TP38.11x36.6195x0.825	40.35	0.29
L33	43.33 - 42.33	TP37.5463x36.3569x1.03	41.88	0.31

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
	(33)	75		
L34	42.33 - 37.4 (34)	TP38.4726x37.5463x1.025	42.90	0.35
L35	37.4 - 37.15 (35)	TP38.5196x38.4726x1.025	42.94	0.35
L36	37.15 - 32.15 (36)	TP39.4591x38.5196x1	43.95	0.39
L37	32.15 - 27.15 (37)	TP40.3986x39.4591x0.975	44.91	0.43
L38	27.15 - 22.15 (38)	TP41.3381x40.3986x0.9625	45.82	0.46
L39	22.15 - 19.5 (39)	TP41.836x41.3381x0.95	46.29	0.49
L40	19.5 - 19.25 (40)	TP41.883x41.836x1.025	46.31	0.49
L41	19.25 - 14.25 (41)	TP42.8225x41.883x1	47.16	0.53
L42	14.25 - 9.25 (42)	TP43.762x42.8225x1	47.97	0.57
L43	9.25 - 9 (43)	TP43.8089x43.762x1	47.99	0.57
L44	9 - 8.75 (44)	TP43.8559x43.8089x1.025	48.03	0.57
L45	8.75 - 7 (45)	TP44.1847x43.8559x1.025	48.35	0.58
L46	7 - 6.75 (46)	TP44.2317x44.1847x0.975	48.36	0.59
L47	6.75 - 5 (47)	TP44.5605x44.2317x0.975	48.68	0.60
L48	5 - 4.75 (48)	TP44.6075x44.5605x1.45	48.68	0.60
L49	4.75 - 3 (49)	TP44.9363x44.6075x1.425	49.02	0.62
L50	3 - 2.75 (50)	TP44.9833x44.9363x1.45	49.03	0.62
L51	2.75 - 2.25 (51)	TP45.0772x44.9833x1.45	49.12	0.62
L52	2.25 - 2 (52)	TP45.1242x45.0772x1.2	49.16	0.63
L53	2 - 0 (53)	TP45.5x45.1242x1.175	49.52	0.64

APPENDIX B

BASE LEVEL DRAWING


CLIMBING PEGS
W/ SAFETY CLIMB
(OTHER CONSIDERED EQUIPMENT)
(2) 1-3/8" TO 165 FT LEVEL
(7) 1-5/8" TO 165 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(2) 17/64" TO 156 FT LEVEL
(4) 7/8" TO 156 FT LEVEL
(12) 1-5/8" TO 156 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(2) 1-1/4" TO 111 FT LEVEL
(18) 1-5/8" TO 111 FT LEVEL
Q4
Q1
Q3
Q2
(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 138 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 118 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN 2" CONDUITS)
(3) 1/4" TO 124 FT LEVEL
(1) 5/16" TO 124 FT LEVEL
(4) 1/2" TO 124 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(2) 1/2" TO 124 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 1-1/4" TO 148 FT LEVEL
BUSINESS UNIT: 828054 TOWER ID:C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 828054

Work Order: 1891983

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	169	35.67	3.33	18	15.5	22.31	0.25	Auto	A572-65
2	136.66	48.83	4.33	18	21.17	30.36	0.3125	Auto	A572-65
3	92.16	48.83	5.33	18	28.92	38.11	0.375	Auto	A572-65
4	48.66	48.66	0	18	36.36	45.5	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	2.25	19.5	plate	I-065125; (1) (1.1875"	4		o				o					o				o			
2	19.5	44.58	plate	I-060100; (1) (1.1875"	4		o				o					o				o			
3	3	5	plate	FP 1.25 x 8_1	4		o				o					o				o			
4	81.5	88.5	plate	I-045100; (1) (1.1875"	3			o						o						o			
5	0	3	plate	FP 1.25 x 6_1	6	o			o			o			o			o			o		
6	101	111	plate	I-060100; (1) (1.1875"	3			o						o						o			
7	0	37.4	plate	6 x 1.25; (1) (1.1875)	4	o						o			o						o		
8	0	7	plate	6 x 1.25; (1) (1.1875)	2				o									o					
9	9	37.4	plate	6 x 1.25; (1) (1.1875)	2				o									o					
10	7	9	plate	FP 4 x 1.25_1	4			o		o							o		o				
11	37.4	81.5	plate	6 x 1.25; (1) (1.1875)	6	o			o			o			o			o			o		
12	81.5	101.5	plate	4 x 1.25; (1) (1.1875)	6	o			o			o			o			o			o		
13																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	6.5	1.25	8.125	0.625	n/a	33.000	19.000	6.563	1.1875	A572-65
2	6	1	6	0.5	33.000	33.000	16.000	4.750	1.1875	A572-65
3	1.25	8	10	4	n/a	n/a	0.000	10.000	0.0000	A572-65
4	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
5	1.25	6	7.5	3	n/a	n/a	0.000	7.500	0.0000	A572-65
6	6	1	6	0.5	33.000	33.000	16.000	4.750	1.1875	A572-65
7	6	1.25	7.5	0.625	36.000	36.000	12.000	5.938	1.1875	A572-65
8	6	1.25	7.5	0.625	36.000	36.000	12.000	5.938	1.1875	A572-65
9	6	1.25	7.5	0.625	36.000	36.000	12.000	5.938	1.1875	A572-65
10	4	1.25	5	0.625	n/a	n/a	12.000	5.000	0.0000	A572-65
11	6	1.25	7.5	0.625	36.000	36.000	12.000	5.938	1.1875	A572-65
12	4	1.25	5	0.625	30.000	30.000	18.000	3.438	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	169 - 164	5		18	15.500	16.455	0.25	A572-65	1.000
2	164 - 159	5		18	16.455	17.409	0.25	A572-65	1.000
3	159 - 154	5		18	17.409	18.364	0.25	A572-65	1.000
4	154 - 149	5		18	18.364	19.318	0.25	A572-65	1.000
5	149 - 144	5		18	19.318	20.273	0.25	A572-65	1.000
6	144 - 139	5		18	20.273	21.228	0.25	A572-65	1.000
7	139 - 136.66	5.67	3.33	18	21.228	22.310	0.25	A572-65	1.000
8	136.66 - 131.66	5		18	21.174	22.115	0.3125	A572-65	1.000
9	131.66 - 126.66	5		18	22.115	23.055	0.3125	A572-65	1.000
10	126.66 - 121.66	5		18	23.055	23.996	0.3125	A572-65	1.000
11	121.66 - 116.66	5		18	23.996	24.937	0.3125	A572-65	1.000
12	116.66 - 111.66	5		18	24.937	25.877	0.3125	A572-65	1.000
13	111.66 - 111	0.66		18	25.877	26.001	0.3125	A572-65	1.000
14	111 - 110.75	0.25		18	26.001	26.048	0.575	A572-65	0.936
15	110.75 - 105.75	5		18	26.048	26.989	0.5625	A572-65	0.942
16	105.75 - 101.5	4.25		18	26.989	27.788	0.55	A572-65	0.952
17	101.5 - 101.25	0.25		18	27.788	27.835	0.9875	A572-65	0.895
18	101.25 - 101	0.25		18	27.835	27.882	0.9875	A572-65	0.894
19	101 - 100.75	0.25		18	27.882	27.930	0.725	A572-65	0.917
20	100.75 - 95.75	5		18	27.930	28.870	0.7125	A572-65	0.916
21	95.75 - 92.16	7.92	4.33	18	28.870	30.360	0.7	A572-65	0.921
22	92.16 - 86.83	5.33		18	28.920	29.924	0.9375	A572-65	0.912
23	86.83 - 81.83	5		18	29.924	30.865	0.925	A572-65	0.908
24	81.83 - 81.5	0.33		18	30.865	30.927	0.925	A572-65	0.907
25	81.5 - 81.25	0.25		18	30.927	30.974	0.95	A572-65	0.899
26	81.25 - 76.25	5		18	30.974	31.915	0.925	A572-65	0.907
27	76.25 - 71.25	5		18	31.915	32.856	0.9	A572-65	0.916
28	71.25 - 66.25	5		18	32.856	33.797	0.875	A572-65	0.927
29	66.25 - 61.25	5		18	33.797	34.738	0.8625	A572-65	0.926
30	61.25 - 56.25	5		18	34.738	35.679	0.85	A572-65	0.926
31	56.25 - 51.25	5		18	35.679	36.619	0.825	A572-65	0.940
32	51.25 - 48.66	7.92	5.33	18	36.619	38.110	0.825	A572-65	0.934
33	48.66 - 42.33	6.33		18	36.357	37.546	1.0375	A572-65	0.942
34	42.33 - 37.4	4.93		18	37.546	38.473	1.025	A572-65	0.939
35	37.4 - 37.15	0.25		18	38.473	38.520	1.025	A572-65	0.938
36	37.15 - 32.15	5		18	38.520	39.459	1	A572-65	0.946
37	32.15 - 27.15	5		18	39.459	40.399	0.975	A572-65	0.956
38	27.15 - 22.15	5		18	40.399	41.338	0.9625	A572-65	0.955
39	22.15 - 19.5	2.65		18	41.338	41.836	0.95	A572-65	0.960
40	19.5 - 19.25	0.25		18	41.836	41.883	1.025	A572-65	0.955
41	19.25 - 14.25	5		18	41.883	42.822	1	A572-65	0.964
42	14.25 - 9.25	5		18	42.822	43.762	1	A572-65	0.952
43	9.25 - 9	0.25		18	43.762	43.809	1	A572-65	0.951
44	9 - 8.75	0.25		18	43.809	43.856	1.025	A572-65	0.963
45	8.75 - 7	1.75		18	43.856	44.185	1.025	A572-65	0.959
46	7 - 6.75	0.25		18	44.185	44.232	0.975	A572-65	0.969
47	6.75 - 5	1.75		18	44.232	44.561	0.975	A572-65	0.965
48	5 - 4.75	0.25		18	44.561	44.607	1.45	A572-65	0.857
49	4.75 - 3	1.75		18	44.607	44.936	1.425	A572-65	0.867
50	3 - 2.75	0.25		18	44.936	44.983	1.45	A572-65	0.876
51	2.75 - 2.25	0.5		18	44.983	45.077	1.45	A572-65	0.875
52	2.25 - 2	0.25		18	45.077	45.124	1.2	A572-65	0.856
53	2 - 0	2		18	45.124	45.500	1.175	A572-65	0.869

TNX Section Forces

Increment (ft): 5		TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	169 - 164	3.23	10.66	6.71
2	164 - 159	3.52	45.06	7.05
3	159 - 154	6.34	102.06	13.75
4	154 - 149	6.80	171.64	14.10
5	149 - 144	8.40	250.85	16.42
6	144 - 139	8.97	333.74	16.76
7	139 - 136.66	9.46	374.04	17.59
8	136.66 - 131.66	10.35	463.07	18.01
9	131.66 - 126.66	11.08	554.87	19.04
10	126.66 - 121.66	12.40	655.55	20.40
11	121.66 - 116.66	13.23	759.48	21.22
12	116.66 - 111.66	14.08	867.42	21.98
13	111.66 - 111	14.20	881.94	22.04
14	111 - 110.75	16.70	888.49	26.23
15	110.75 - 105.75	17.95	1022.15	27.26
16	105.75 - 101.5	19.04	1139.94	28.19
17	101.5 - 101.25	19.15	1146.99	28.27
18	101.25 - 101	19.24	1154.06	28.33
19	101 - 100.75	19.32	1161.14	28.38
20	100.75 - 95.75	20.83	1305.81	29.52
21	95.75 - 92.16	21.95	1413.23	30.34
22	92.16 - 86.83	25.01	1578.69	31.73
23	86.83 - 81.83	26.97	1740.23	32.90
24	81.83 - 81.5	27.12	1751.10	32.98
25	81.5 - 81.25	27.22	1759.35	33.05
26	81.25 - 76.25	29.24	1927.41	34.20
27	76.25 - 71.25	31.31	2101.26	35.36
28	71.25 - 66.25	33.41	2280.83	36.49
29	66.25 - 61.25	35.56	2466.05	37.62
30	61.25 - 56.25	37.73	2656.82	38.72
31	56.25 - 51.25	39.95	2853.06	39.80
32	51.25 - 48.66	41.10	2956.82	40.35
33	48.66 - 42.33	46.41	3217.07	41.88
34	42.33 - 37.4	49.11	3425.98	42.90
35	37.4 - 37.15	49.26	3436.70	42.94
36	37.15 - 32.15	52.03	3653.88	43.95
37	32.15 - 27.15	54.84	3875.95	44.91
38	27.15 - 22.15	57.68	4102.70	45.82
39	22.15 - 19.5	59.20	4224.70	46.29
40	19.5 - 19.25	59.37	4236.27	46.31
41	19.25 - 14.25	62.41	4469.90	47.16
42	14.25 - 9.25	65.49	4707.64	47.97
43	9.25 - 9	65.66	4719.64	47.99
44	9 - 8.75	65.82	4731.64	48.03
45	8.75 - 7	66.92	4815.95	48.35
46	7 - 6.75	67.10	4828.03	48.36
47	6.75 - 5	68.17	4912.90	48.68
48	5 - 4.75	68.39	4925.07	48.68
49	4.75 - 3	69.74	5010.53	49.02
50	3 - 2.75	69.96	5022.79	49.03
51	2.75 - 2.25	70.36	5047.33	49.12
52	2.25 - 2	70.53	5059.61	49.16
53	2 - 0	71.87	5158.28	49.52

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
169 - 164	Pole	TP16.455x15.5x0.25	Pole	3.6%	Pass
164 - 159	Pole	TP17.409x16.455x0.25	Pole	12.4%	Pass
159 - 154	Pole	TP18.364x17.409x0.25	Pole	25.2%	Pass
154 - 149	Pole	TP19.318x18.364x0.25	Pole	37.9%	Pass
149 - 144	Pole	TP20.273x19.318x0.25	Pole	50.1%	Pass
144 - 139	Pole	TP21.228x20.273x0.25	Pole	60.5%	Pass
139 - 136.66	Pole	TP22.31x21.228x0.25	Pole	65.0%	Pass
136.66 - 131.66	Pole	TP22.115x21.174x0.3125	Pole	62.2%	Pass
131.66 - 126.66	Pole	TP23.055x22.115x0.3125	Pole	68.4%	Pass
126.66 - 121.66	Pole	TP23.996x23.055x0.3125	Pole	74.5%	Pass
121.66 - 116.66	Pole	TP24.937x23.996x0.3125	Pole	79.8%	Pass
116.66 - 111.66	Pole	TP25.877x24.937x0.3125	Pole	84.5%	Pass
111.66 - 111	Pole	TP26.001x25.877x0.3125	Pole	85.1%	Pass
111 - 110.75	Pole + Reinf.	TP26.048x26.001x0.575	Reinf. 6 Tension Rupture	76.5%	Pass
110.75 - 105.75	Pole + Reinf.	TP26.989x26.048x0.5625	Reinf. 6 Tension Rupture	83.2%	Pass
105.75 - 101.5	Pole + Reinf.	TP27.788x26.989x0.55	Reinf. 6 Tension Rupture	88.6%	Pass
101.5 - 101.25	Pole + Reinf.	TP27.835x27.788x0.9875	Reinf. 12 Tension Rupture	60.4%	Pass
101.25 - 101	Pole + Reinf.	TP27.882x27.835x0.9875	Reinf. 12 Tension Rupture	60.6%	Pass
101 - 100.75	Pole + Reinf.	TP27.93x27.882x0.725	Reinf. 12 Tension Rupture	80.7%	Pass
100.75 - 95.75	Pole + Reinf.	TP28.87x27.93x0.7125	Reinf. 12 Tension Rupture	86.5%	Pass
95.75 - 92.16	Pole + Reinf.	TP30.36x28.87x0.7	Reinf. 12 Tension Rupture	90.5%	Pass
92.16 - 86.83	Pole + Reinf.	TP29.924x28.92x0.9375	Reinf. 12 Tension Rupture	74.9%	Pass
86.83 - 81.83	Pole + Reinf.	TP30.865x29.924x0.925	Reinf. 12 Tension Rupture	78.9%	Pass
81.83 - 81.5	Pole + Reinf.	TP30.927x30.865x0.925	Reinf. 12 Tension Rupture	79.2%	Pass
81.5 - 81.25	Pole + Reinf.	TP30.974x30.927x0.95	Reinf. 11 Tension Rupture	67.3%	Pass
81.25 - 76.25	Pole + Reinf.	TP31.915x30.974x0.925	Reinf. 11 Tension Rupture	70.6%	Pass
76.25 - 71.25	Pole + Reinf.	TP32.856x31.915x0.9	Reinf. 11 Tension Rupture	73.9%	Pass
71.25 - 66.25	Pole + Reinf.	TP33.797x32.856x0.875	Reinf. 11 Tension Rupture	77.0%	Pass
66.25 - 61.25	Pole + Reinf.	TP34.738x33.797x0.8625	Reinf. 11 Tension Rupture	80.0%	Pass
61.25 - 56.25	Pole + Reinf.	TP35.679x34.738x0.85	Reinf. 11 Tension Rupture	82.9%	Pass
56.25 - 51.25	Pole + Reinf.	TP36.619x35.679x0.825	Reinf. 11 Tension Rupture	85.7%	Pass
51.25 - 48.66	Pole + Reinf.	TP38.11x36.619x0.825	Reinf. 11 Tension Rupture	87.1%	Pass
48.66 - 42.33	Pole + Reinf.	TP37.546x36.357x1.0375	Reinf. 11 Tension Rupture	74.5%	Pass
42.33 - 37.4	Pole + Reinf.	TP38.473x37.546x1.025	Reinf. 11 Tension Rupture	76.7%	Pass
37.4 - 37.15	Pole + Reinf.	TP38.52x38.473x1.025	Reinf. 7 Tension Rupture	76.8%	Pass
37.15 - 32.15	Pole + Reinf.	TP39.459x38.52x1	Reinf. 7 Tension Rupture	79.0%	Pass
32.15 - 27.15	Pole + Reinf.	TP40.399x39.459x0.975	Reinf. 7 Tension Rupture	81.1%	Pass
27.15 - 22.15	Pole + Reinf.	TP41.338x40.399x0.9625	Reinf. 7 Tension Rupture	83.1%	Pass
22.15 - 19.5	Pole + Reinf.	TP41.836x41.338x0.95	Reinf. 7 Tension Rupture	84.2%	Pass
19.5 - 19.25	Pole + Reinf.	TP41.883x41.836x1.025	Reinf. 7 Tension Rupture	78.8%	Pass
19.25 - 14.25	Pole + Reinf.	TP42.822x41.883x1	Reinf. 7 Tension Rupture	80.6%	Pass
14.25 - 9.25	Pole + Reinf.	TP43.762x42.822x1	Reinf. 7 Tension Rupture	82.4%	Pass
9.25 - 9	Pole + Reinf.	TP43.809x43.762x1	Reinf. 7 Tension Rupture	82.5%	Pass
9 - 8.75	Pole + Reinf.	TP43.856x43.809x1.025	Reinf. 7 Tension Rupture	79.5%	Pass
8.75 - 7	Pole + Reinf.	TP44.185x43.856x1.025	Reinf. 7 Tension Rupture	80.1%	Pass
7 - 6.75	Pole + Reinf.	TP44.232x44.185x0.975	Reinf. 7 Tension Rupture	83.3%	Pass
6.75 - 5	Pole + Reinf.	TP44.561x44.232x0.975	Reinf. 7 Tension Rupture	83.9%	Pass
5 - 4.75	Pole + Reinf.	TP44.607x44.561x1.45	Reinf. 3 Connection	66.3%	Pass
4.75 - 3	Pole + Reinf.	TP44.936x44.607x1.425	Reinf. 3 Connection	66.8%	Pass
3 - 2.75	Pole + Reinf.	TP44.983x44.936x1.45	Reinf. 7 Tension Rupture	59.0%	Pass
2.75 - 2.25	Pole + Reinf.	TP45.077x44.983x1.45	Reinf. 7 Tension Rupture	59.1%	Pass
2.25 - 2	Pole + Reinf.	TP45.124x45.077x1.2	Reinf. 8 Tension Rupture	71.0%	Pass
2 - 0	Pole + Reinf.	TP45.5x45.124x1.175	Reinf. 8 Tension Rupture	71.6%	Pass
				Summary	
			Pole	85.1%	Pass
			Reinforcement	90.5%	Pass
			Overall	90.5%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*											
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12
169 - 164	426	n/a	426	12.86	n/a	12.86	3.6%												
164 - 159	506	n/a	506	13.62	n/a	13.62	12.4%												
159 - 154	596	n/a	596	14.37	n/a	14.37	25.2%												
154 - 149	695	n/a	695	15.13	n/a	15.13	37.9%												
149 - 144	804	n/a	804	15.89	n/a	15.89	50.1%												
144 - 139	925	n/a	925	16.65	n/a	16.65	60.5%												
139 - 136.66	985	n/a	985	17.00	n/a	17.00	65.0%												
136.66 - 131.66	1298	n/a	1298	21.62	n/a	21.62	62.2%												
131.66 - 126.66	1474	n/a	1474	22.56	n/a	22.56	68.4%												
126.66 - 121.66	1664	n/a	1664	23.49	n/a	23.49	74.5%												
121.66 - 116.66	1870	n/a	1870	24.42	n/a	24.42	79.8%												
116.66 - 111.66	2093	n/a	2093	25.36	n/a	25.36	84.5%												
111.66 - 111	2124	n/a	2124	25.48	n/a	25.48	85.1%												
111 - 110.75	2135	1674	3809	25.53	18.00	43.53	47.3%						76.5%						
110.75 - 105.75	2378	1790	4168	26.46	18.00	44.46	51.5%						83.2%						
105.75 - 101.5	2598	1892	4491	27.25	18.00	45.25	54.9%						88.6%						
101.5 - 101.25	2612	5093	7705	27.30	48.00	75.30	32.3%						52.1%						60.4%
101.25 - 101	2625	5109	7734	27.35	48.00	75.35	32.4%						52.3%						60.6%
101 - 100.75	2639	3215	5853	27.39	30.00	57.39	43.2%												80.7%
100.75 - 95.75	2918	3424	6342	28.32	30.00	58.32	46.3%												86.5%
95.75 - 92.16	3129	3578	6708	28.99	30.00	58.99	48.5%												90.5%
92.16 - 86.83	3878	5292	9170	35.17	43.50	78.67	40.1%				70.7%								74.9%
86.83 - 81.83	4261	5615	9876	36.29	43.50	79.79	42.4%				74.6%								78.9%
81.83 - 81.5	4287	5636	9923	36.36	43.50	79.86	42.5%				74.8%								79.2%
81.5 - 81.25	4307	5911	10218	36.42	45.00	81.42	41.5%											67.3%	
81.25 - 76.25	4716	6257	10974	37.54	45.00	82.54	43.7%											70.6%	
76.25 - 71.25	5151	6613	11765	38.66	45.00	83.66	45.7%											73.9%	
71.25 - 66.25	5612	6979	12591	39.78	45.00	84.78	47.7%											77.0%	
66.25 - 61.25	6099	7355	13455	40.90	45.00	85.90	49.6%											80.0%	
61.25 - 56.25	6614	7741	14356	42.02	45.00	87.02	51.4%											82.9%	
56.25 - 51.25	7157	8137	15295	43.14	45.00	88.14	53.5%											85.7%	
51.25 - 48.66	7450	8346	15796	43.72	45.00	88.72	54.5%											87.1%	
48.66 - 42.33	7721	12538	20258	44.24	69.00	113.24	47.5%		72.3%									74.5%	
42.33 - 37.4	8312	13139	21452	45.34	69.00	114.34	49.3%		74.5%									76.7%	
37.4 - 37.15	8343	13170	21513	45.40	69.00	114.40	49.4%		74.6%					76.8%		72.7%			
37.15 - 32.15	8975	13796	22771	46.52	69.00	115.52	51.2%		76.7%					79.0%		74.8%			
32.15 - 27.15	9638	14436	24074	47.64	69.00	116.64	52.9%		78.8%					81.1%		76.8%			
27.15 - 22.15	10332	15091	25423	48.75	69.00	117.75	54.6%		80.8%					83.2%		78.8%			
22.15 - 19.5	10714	15444	26158	49.35	69.00	118.35	55.5%		81.8%					84.2%		79.8%			
19.5 - 19.25	10750	17315	28066	49.40	77.50	126.90	52.0%	75.0%						78.8%		73.5%			
19.25 - 14.25	11497	18072	29569	50.52	77.50	128.02	53.6%	76.8%						80.6%		75.3%			
14.25 - 9.25	12277	18845	31122	51.64	77.50	129.14	55.2%	78.5%						82.4%		77.0%			
9.25 - 9	12317	18884	31201	51.70	77.50	129.20	55.2%	78.6%						82.5%		77.1%			
9 - 8.75	12357	20125	32482	51.75	82.50	134.25	53.3%	75.7%						79.5%			65.3%		
8.75 - 7	12640	20418	33058	52.14	82.50	134.64	53.8%	76.3%						80.1%			65.8%		
7 - 6.75	12680	19237	31918	52.20	77.50	129.70	55.9%	79.4%						83.3%	77.9%				
6.75 - 5	12968	19515	32482	52.59	77.50	130.09	56.5%	79.9%						83.9%	78.4%				
5 - 4.75	13009	33772	46781	52.65	117.50	170.15	39.6%	56.7%		66.3%				60.9%	53.6%				
4.75 - 3	13301	34230	47531	53.04	117.50	170.54	40.0%	57.2%		66.8%				61.4%	54.1%				
3 - 2.75	13343	34565	47909	53.09	122.50	175.59	39.9%	56.7%				52.9%		59.0%	56.3%				
2.75 - 2.25	13428	34700	48127	53.20	122.50	175.70	40.0%	56.8%				53.0%		59.1%	56.5%				
2.25 - 2	13470	26940	40410	53.26	90.00	143.26	47.4%					63.6%		71.0%	71.0%				
2 - 0	13812	27354	41166	53.71	90.00	143.71	48.0%					64.2%		71.6%	71.6%				

Note: Section capacity checked in 5 degree increments.
Rating per TIA-222-H Section 15.5.

PAUL J. FORD & COMPANY

Date:	11/18/2020
Job #:	37520-2262.002.7805

Applied Reactions for RISA 3D		
TNX Moment =	5158	k-ft
TNX Axial =	72	kips
TNX Shear =	49	kips
Total Unfactored Axial =	**60.00**	**kips**
Side Bending Moment =	**5158**	**k-ft**
Corner Bending Moment (Mx) =	**3647.3**	**k-ft**
Corner Bending Moment (Mz)=	**3647.3**	**k-ft**

Micropile Spring Constant		
Number of Piles =	6	
B.C. =	117.5	in
Ag =	4.03	in^2
E =	29000	ksi
Lu =	10	ft
k = An*E / Lu =	973.92	k/in

Helical Anchor Spring Constant		
Number of Piles =	6	
B.C. =	300	in
Ag =	8.28	in^2
E =	29000	ksi
Lu =	65	ft
k = An*E / Lu =	307.85	k/in

Micropile Capacity		
Max Tension from RISA =	123.887	kips
Anchor Type =	Micropile	
Ultimate Load, Pu' =	418	kips
An =		in^2
Capacity (Kips)= 0.8*Pu =	334.4	
Ratio = 123.887 / 334.4 =	**37.0%**	

Helical Anchor Capacity		
Max Tension from RISA =	95.478	kips
Anchors per	2	
Helical Anchor Type =	RD4500.337	
Design Torque =	21000	ft-lbs
Ultimate Capacity =	140	kips
Installed Torque =	15000	ft-lbs
Installed Capacity =	100	kips
Total Capacity =	105	kips
Ratio = 95.478 / 105 =	**90.9%**	

			Load Distribution
Micropile Effective Moment =	43670	k-in	33.7%
Anchor Effective Moment =	85930	k-in	66.3%
Total Effective Moment =	129600	k-in	

Reaction for Helical Load transfer at Base plate:

Moment =	**3420.0**	**k-ft**
Axial =	**47.7**	**kips**
Shear =	**49.0**	**kips**

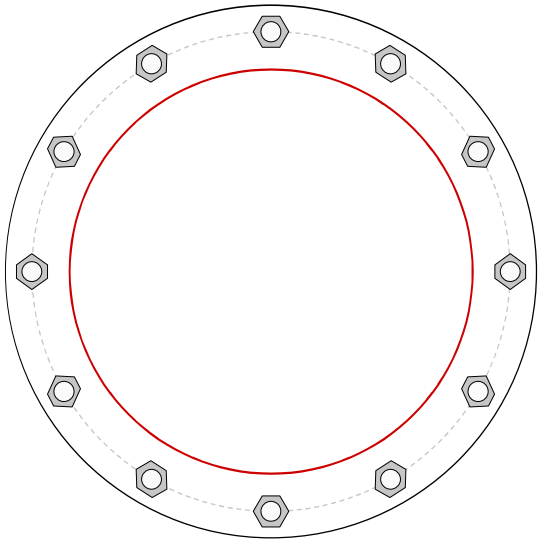
Monopole Base Plate Connection

Site Info	
BU #	828054
Site Name	South Windsor/Rt 5
Order #	531442 Rev. 2

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	3420.00
Axial Force (kips)	47.70
Shear Force (kips)	49.00

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(12) 2-1/4" ø bolts (A354-BC N; Fy=109 ksi, Fu=125 ksi) on 54" BC

Base Plate Data

60" OD x 2.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

45.5" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_t = 249.18	ϕPn_t = 304.69	**Stress Rating**
Vu = 4.08	ϕVn = 186.38	**63.7%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	36.42	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**64.2%**	**Pass**

(Global) Model Settings

Display Sections for Member Calcs	2
Max Internal Sections for Member Calcs	100
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	None
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3

General Material Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]
1	gen_Conc3NW	3155	1372	.15	.6	.145
2	gen_Conc4NW	3644	1584	.15	.6	.145
3	gen_Conc3LW	2085	906	.15	.6	.11
4	gen_Conc4LW	2408	1047	.15	.6	.11
5	gen_Alum	10600	4077	.3	1.29	.173
6	gen_Steel	29000	11154	.3	.65	.49
7	RIGID	1e+6		.3	0	0

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	HR1A	W10X33	Beam	None	A36 Gr.36	Typical	9.71	36.6	171	.583

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Di...
1	CENTER	0	0	0	0	
2	N2	0	0	12.49995	0	
3	N4	10.824885	0	6.249975	0	
4	N6	10.824885	0	-6.249975	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Di...
5	N8	-0.	0	-12.49995	0	
6	N10	-10.824885	0	-6.249975	0	
7	N12	-10.824885	0	6.249975	0	
8	N8A	4.895638	0	0	0	
9	N10A	2.447819	0	-4.239899	0	
10	N12A	-2.447819	0	-4.239899	0	
11	N14	-4.895638	0	0.	0	
12	N16	-2.447819	0	4.239899	0	
13	N18	2.447819	0	4.239899	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N14	Reaction	S973.92	Reaction			
2	N16	Reaction	S973.92	Reaction			
3	N18	Reaction	S973.92	Reaction			
4	N8A	Reaction	S973.92	Reaction			
5	N10A	Reaction	S973.92	Reaction			
6	N12A	Reaction	S973.92	Reaction			
7	N10	Reaction	S307.85	Reaction			
8	N8	Reaction	S307.85	Reaction			
9	N6	Reaction	S307.85	Reaction			
10	N4	Reaction	S307.85	Reaction			
11	N2	Reaction	S307.85	Reaction			
12	N12	Reaction	S307.85	Reaction			
13	CENTER						

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	CENTER	N2			RIGID	None	None	RIGID	Typical
2	M2	CENTER	N4			RIGID	None	None	RIGID	Typical
3	M3	CENTER	N6			RIGID	None	None	RIGID	Typical
4	M4	CENTER	N8			RIGID	None	None	RIGID	Typical
5	M5	CENTER	N10			RIGID	None	None	RIGID	Typical
6	M6	CENTER	N12			RIGID	None	None	RIGID	Typical
7	M7	CENTER	N8A			RIGID	None	None	RIGID	Typical
8	M8	CENTER	N10A			RIGID	None	None	RIGID	Typical
9	M9	CENTER	N12A			RIGID	None	None	RIGID	Typical
10	M10	CENTER	N14			RIGID	None	None	RIGID	Typical
11	M11	CENTER	N16			RIGID	None	None	RIGID	Typical
12	M12	CENTER	N18			RIGID	None	None	RIGID	Typical

Load Combinations

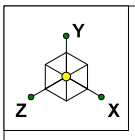
	Description	So...	P...	S...	BLC	Factor	BLC	Fact...	B...	...	...	...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.2 Dead + Wind 0	Yes	Y		1	1.2	2	1																		
2	0.9 Dead + Wind 0	Yes	Y		1	.9	2	1																		
3	1.2 Dead + Wind ...	Yes	Y		1	1.2	3	1																		
4	0.9 Dead + Wind ...	Yes	Y		1	.9	3	1																		
5	1.2 Dead + Wind ...	Yes	Y		1	1.2	4	1																		
6	0.9 Dead + Wind ...	Yes	Y		1	.9	4	1																		
7	1.2 Dead + Wind ...	Yes	Y		1	1.2	5	1																		
8	0.9 Dead + Wind ...	Yes	Y		1	.9	5	1																		
9	1.2 Dead + Wind ...	Yes	Y		1	1.2	6	1																		

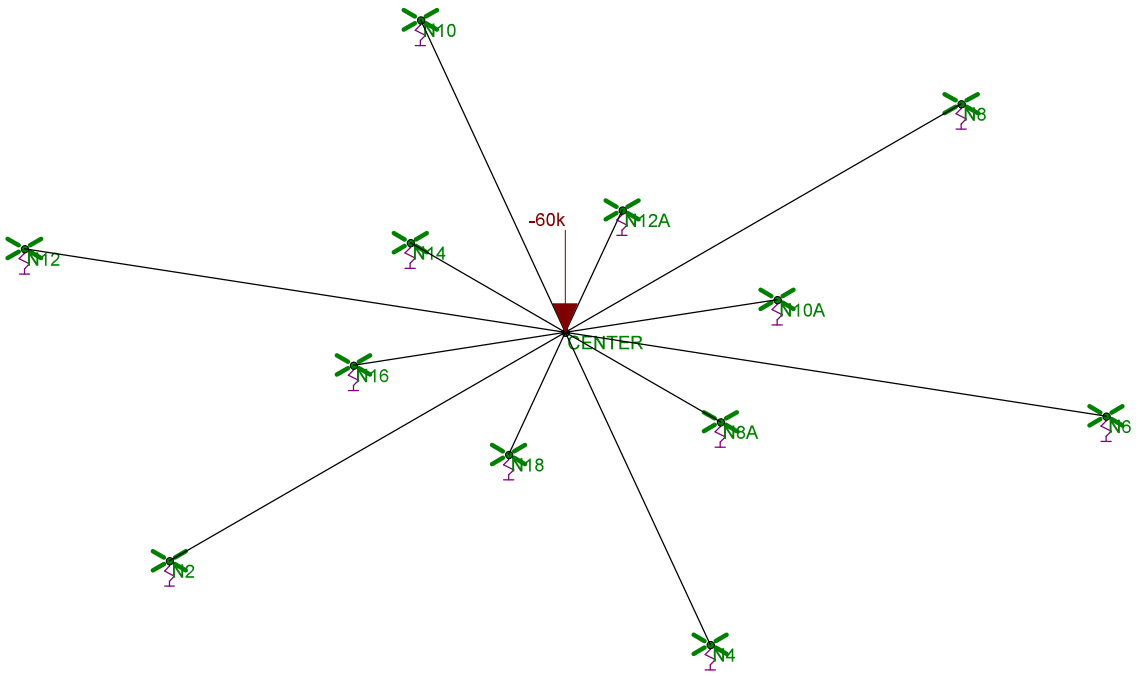
Load Combinations (Continued)

	Description	So...	P...	S...	BLC	Factor	BLC	Fact...	B.....	...	...	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact...
10	0.9 Dead + Wind ...	Yes	Y		1	.9	6	1															
11	1.2 Dead + Wind ...	Yes	Y		1	1.2	2	-1															
12	0.9 Dead + Wind ...	Yes	Y		1	.9	2	-1															
13	1.2 Dead + Wind ...	Yes	Y		1	1.2	3	-1															
14	0.9 Dead + Wind ...	Yes	Y		1	.9	3	-1															
15	1.2 Dead + Wind ...	Yes	Y		1	1.2	4	-1															
16	0.9 Dead + Wind ...	Yes	Y		1	.9	4	-1															
17	1.2 Dead + Wind ...	Yes	Y		1	1.2	5	-1															
18	0.9 Dead + Wind ...	Yes	Y		1	.9	5	-1															
19	1.2 Dead + Wind ...	Yes	Y		1	1.2	6	-1															
20	0.9 Dead + Wind ...	Yes	Y		1	.9	6	-1															

Basic Load Cases

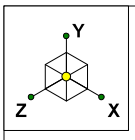
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	None		-1		1				
2	Wind 0	None				1				
3	Wind 30	None				2				
4	Wind 45	None				2				
5	Wind 60	None				2				
6	Wind 90	None				1				

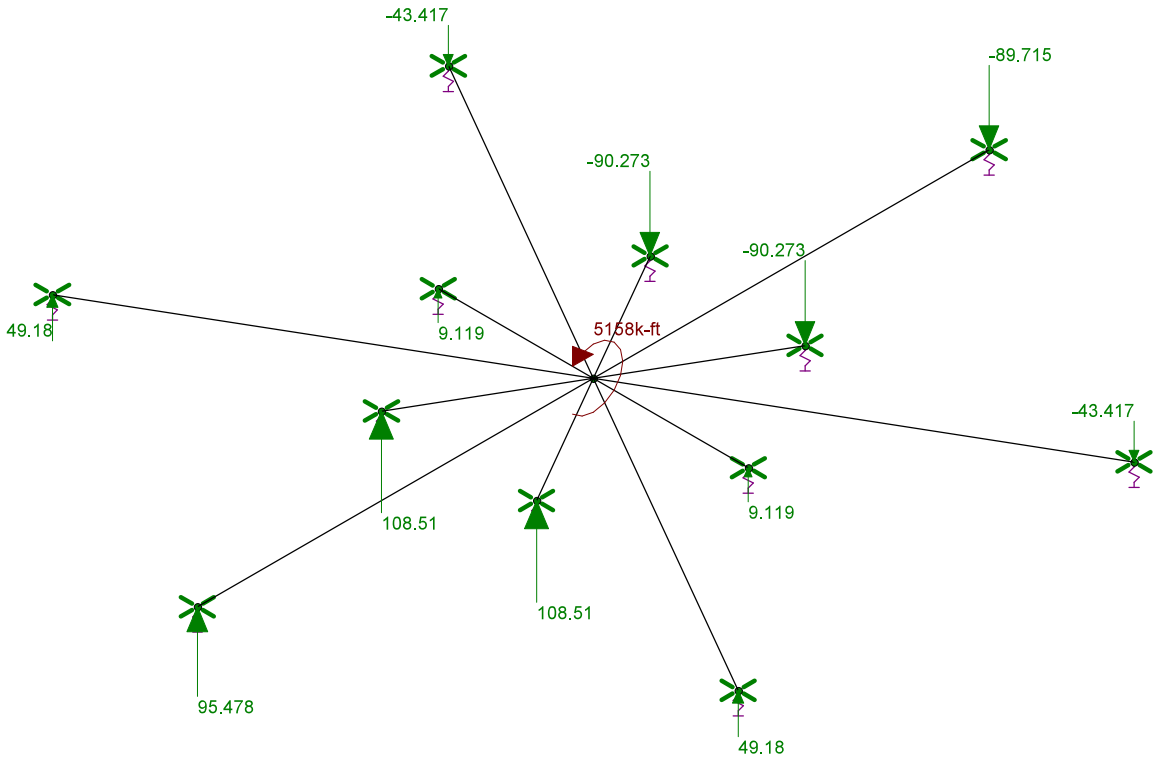




Loads: BLC 1, Dead

Paul J. Ford and Company	BU 828054 / South Windsor- Rt 5	SK - 1
NCM		Nov 18, 2020 at 11:01 AM
37520-2262.002.7805		37520-2262.001.7805_Composite ...





Loads: BLC 2, Wind 0
Results for LC 1, 1.2 Dead + Wind 0
Y-direction Reaction Units are k and k-ft

Paul J. Ford and Company	BU 828054 / South Windsor- Rt 5	SK - 2
NCM		Nov 18, 2020 at 11:01 AM
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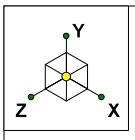

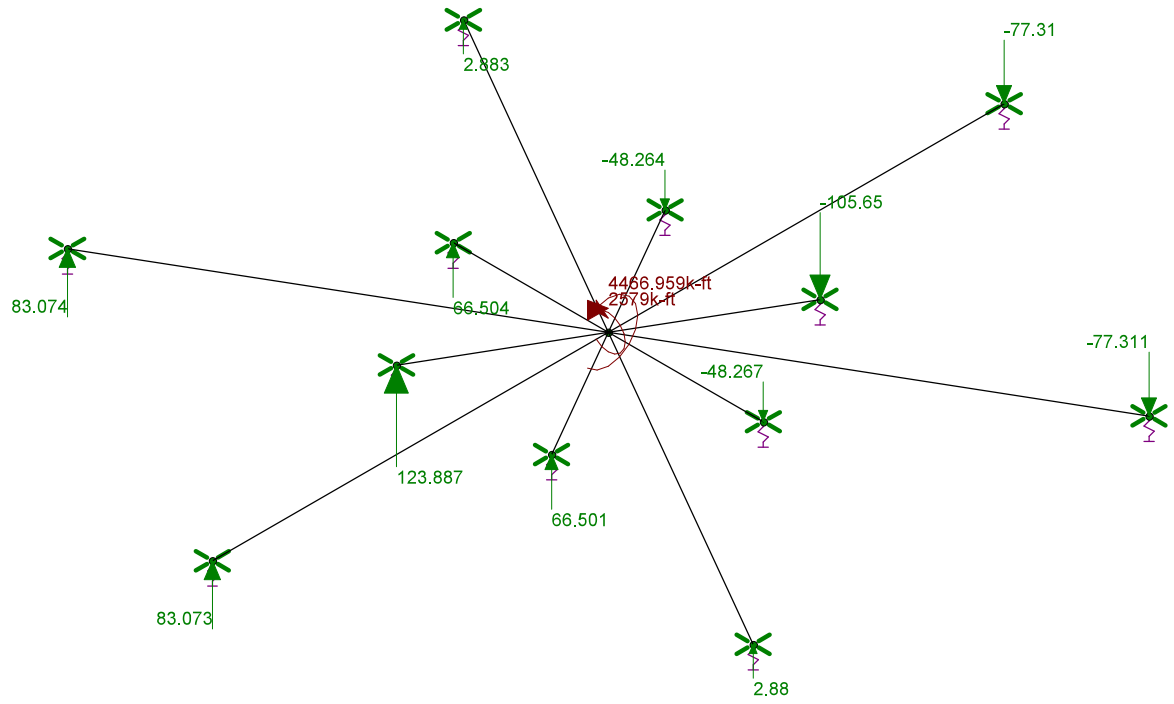

Loads: BLC 3, Wind 30
Results for LC 3, 1.2 Dead + Wind 30
Y-direction Reaction Units are k and k-ft

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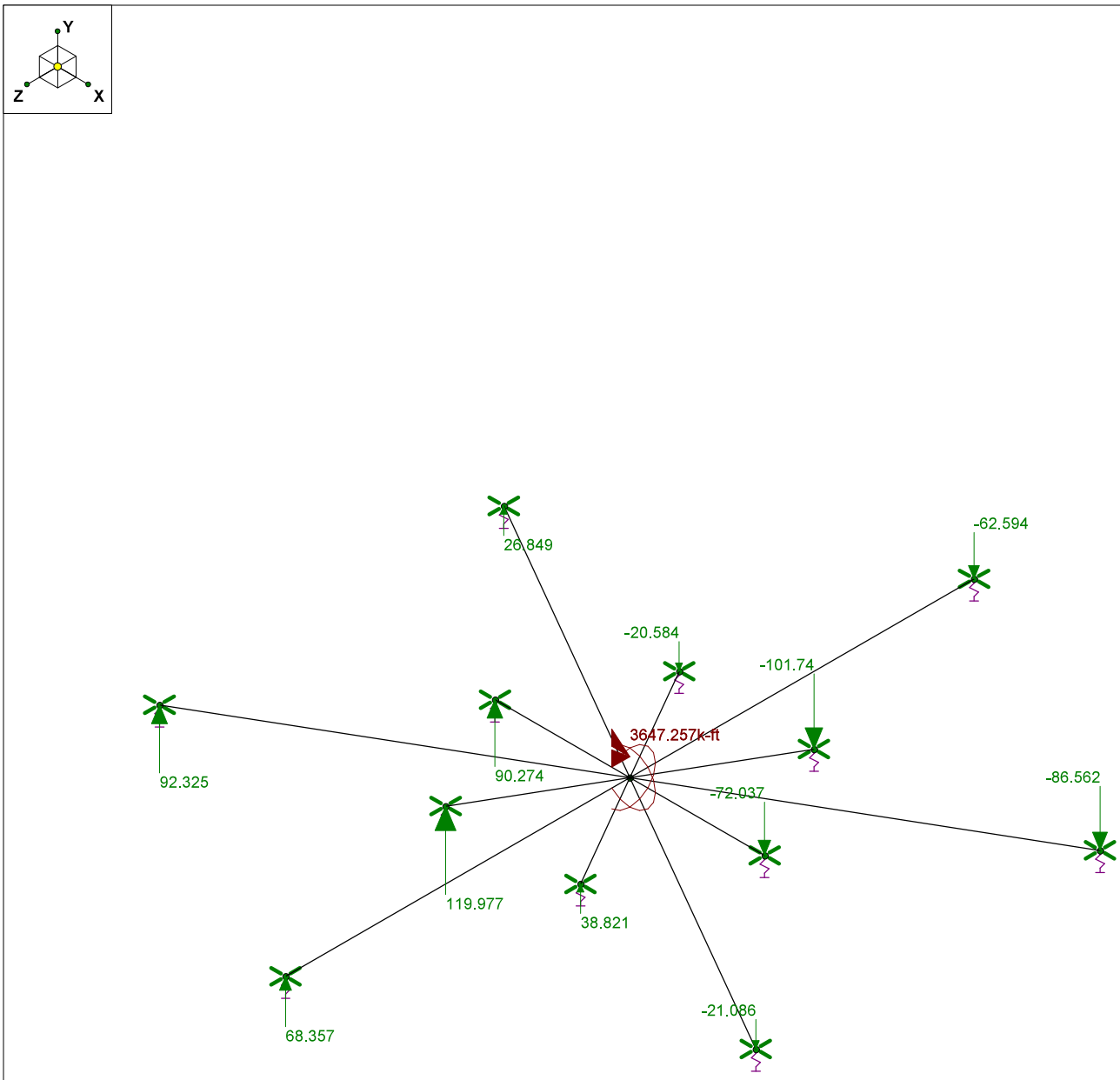

Loads: BLC 4, Wind 45
Results for LC 5, 1.2 Dead + Wind 45
Y-direction Reaction Units are k and k-ft

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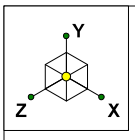

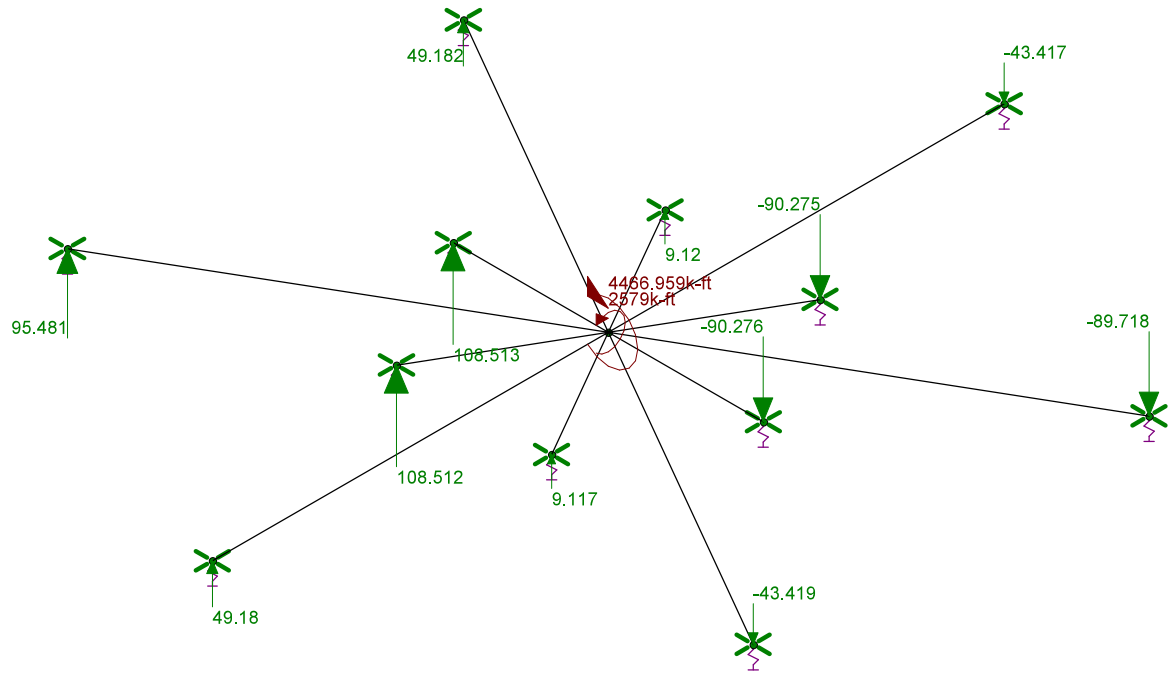

Loads: BLC 5, Wind 60
Results for LC 7, 1.2 Dead + Wind 60
Y-direction Reaction Units are k and k-ft

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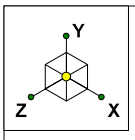

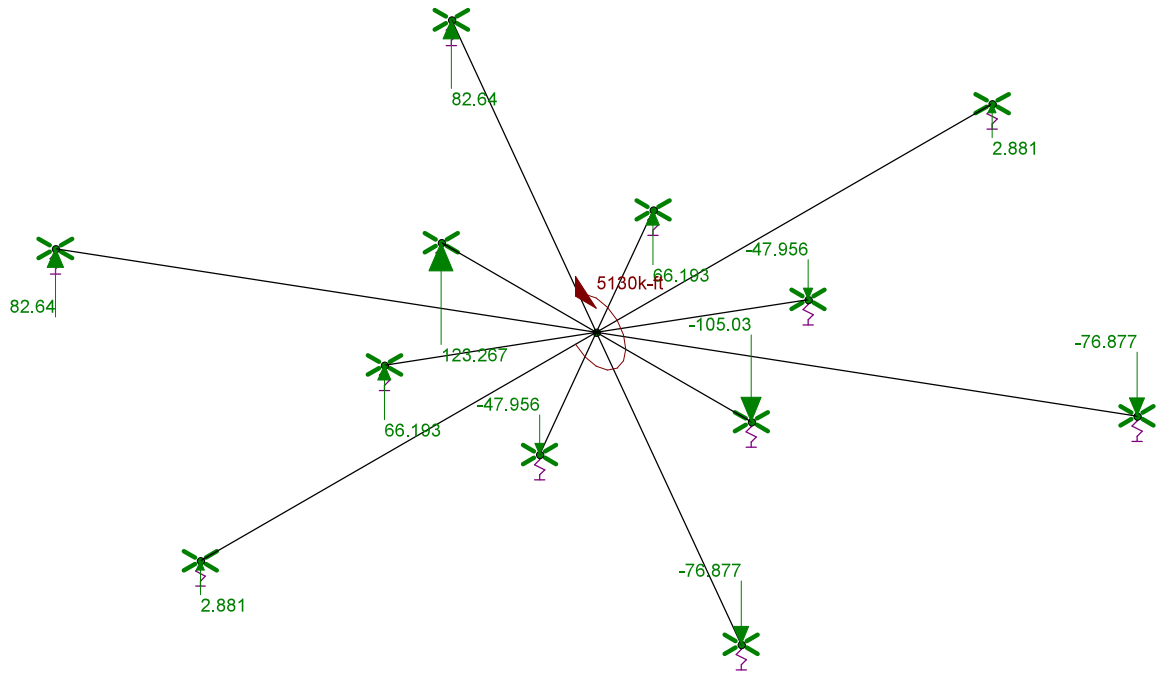

Loads: BLC 6, Wind 90
Results for LC 9, 1.2 Dead + Wind 90
Y-direction Reaction Units are k and k-ft

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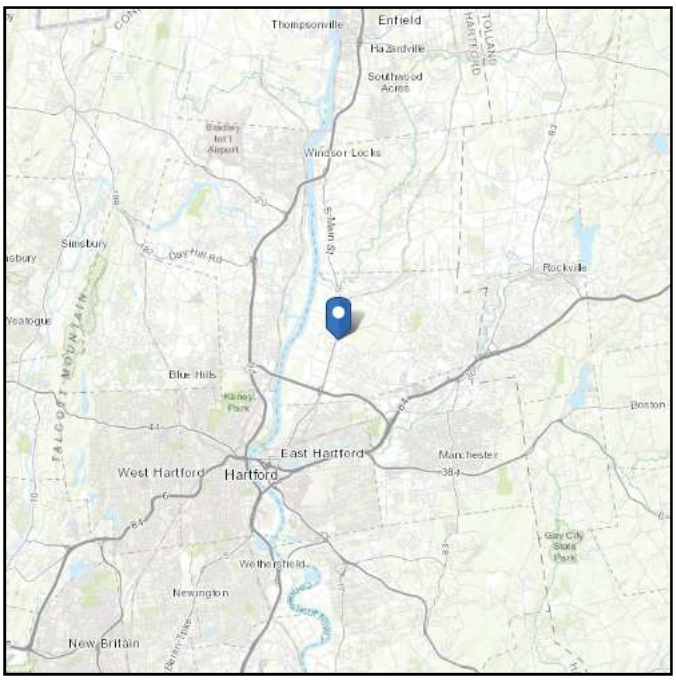
ASCE 7 Hazards Report

Address:
300 Governors Hwy
South Windsor, Connecticut
06074

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 70.11 ft (NAVD 88)
Latitude: 41.832274
Longitude: -72.603035



Wind

Results:

Wind Speed:	122 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	93 Vmph
100-year MRI	100 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Wed Jan 16 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

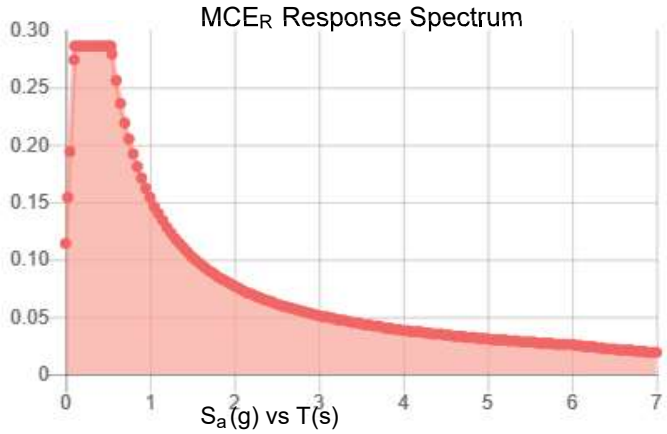
Seismic

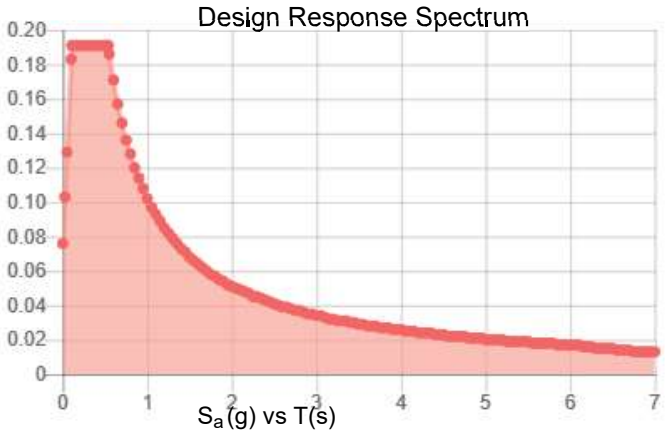
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.179	S_{DS} :	0.191
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.089
S_{MS} :	0.286	PGA_M :	0.143
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Wed Jan 16 2019

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Wed Jan 16 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Exhibit E

Mount Analysis

Date: **November 9, 2020**

Darcy Tarr
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
(704) 405-6589

Infinigy Engineering, PLLC
1033 Watervliet Shaker Road
Albany, NY 12205
518-690-0790
structural@infinigy.com

Subject:	**Mount Analysis Report**	
Carrier Designation:	**AT&T Mobility Equipment Change-Out**	
	Carrier Site Number:	25940
	Carrier Site Name:	CTL01135
	Carrier FA Number:	10035346
Crown Castle Designation:	**Crown Castle BU Number:**	828054
	Crown Castle Site Name:	South Windsor/Rt 5
	Crown Castle JDE Job Number:	621947
	Crown Castle Order Number:	531442 Rev. 2
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:** 1039-Z0001-B	
Site Data:	**300 Governors Highway, South Windsor, Hartford County, CT, 06074** **Latitude 41°50'0.40" Longitude -72°36'11.00"**	
Structure Information:	**Tower Height & Type:**	**169.0 ft Monopole**
	Mount Elevation:	**156.0 ft**
	Mount Type:	**13.5 ft Platform**

Dear Darcy Tarr,

Infinigy Engineering, PLLC is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of AT&T Mobility's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient**
***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 117 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Alex Mercado, E.I.T.

Respectfully Submitted by:
John S. Stevens, P.E.
518-690-0790
structural@infinigy.com
CT PE License No. PEN.0024705

11-9-2020

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 13.5 ft Platform , mapped by Infinigy Engineering.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.184
Seismic S_1:	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
156.0	158.0	3	CCI ANTENNAS	DMP65R-BU8D	13.5 ft Platform
		3	CCI ANTENNAS	OPA65R-BU8D	
		3	ERICSSON	RADIO 4415 B30	
		3	ERICSSON	RADIO 4449 B5/B12	
		3	ERICSSON	RRUS 8843 B2/B66A	
		2	RAYCAP	DC6-48-60-18-8F	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	AT&T Mobility Application	531442 Rev. 2	CCI Sites
Mount Mapping Documents	Infinigy Engineering	9334554	CCI Sites
Mount Manufacturer Drawings	Site Pro 1	HRK14	Infinigy
Loading Documents	AT&T Mobility	RFDS ID: 4099017	TSA

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Mount Analysis Tool V2.1.4, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy Engineering, PLLC should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe(s)	MP3	156.0	48.1	Pass
	Horizontal(s)	HOR3		19.5	Pass
	Standoff(s)	SA1		30.2	Pass
	Handrail(s)	HR3		27.4	Pass
	Mount Connection(s)	--		6.4	Pass

Structure Rating (max from all components) =	48.1%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in "Appendix D – Additional Calculations" for detailed mount connection calculations.

4.1) Recommendations

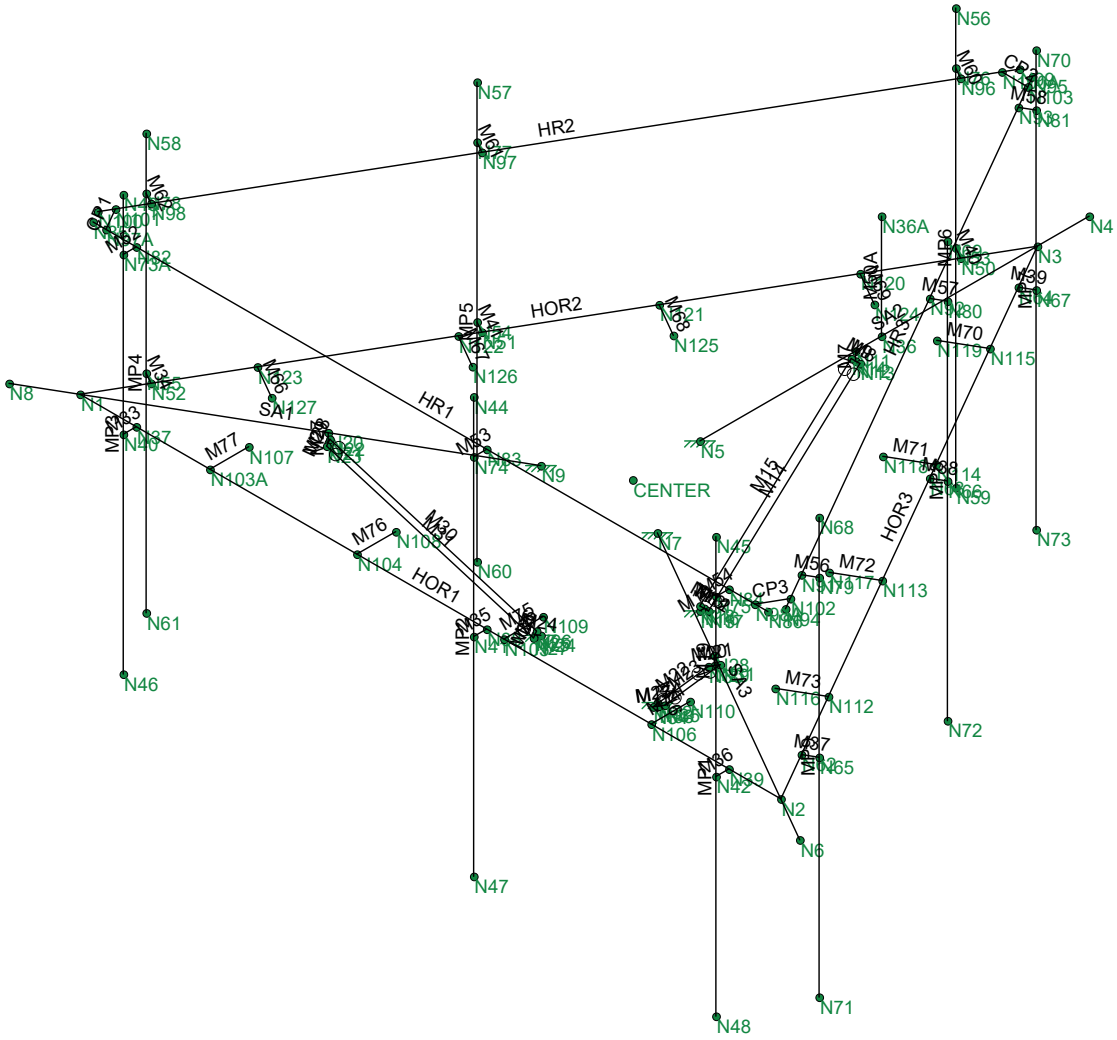
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Installation of Handrail Kit Site Pro 1 HRK14.

No structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



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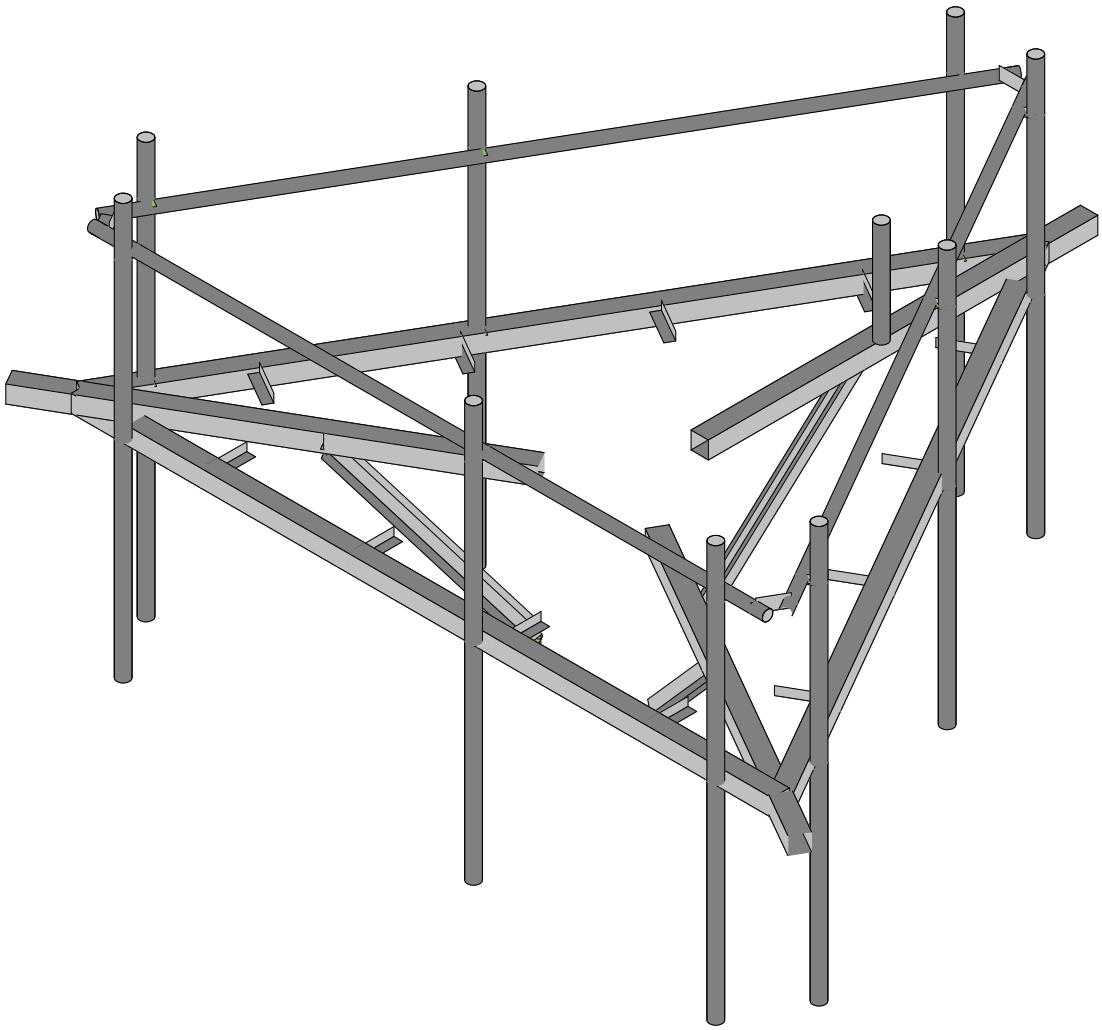

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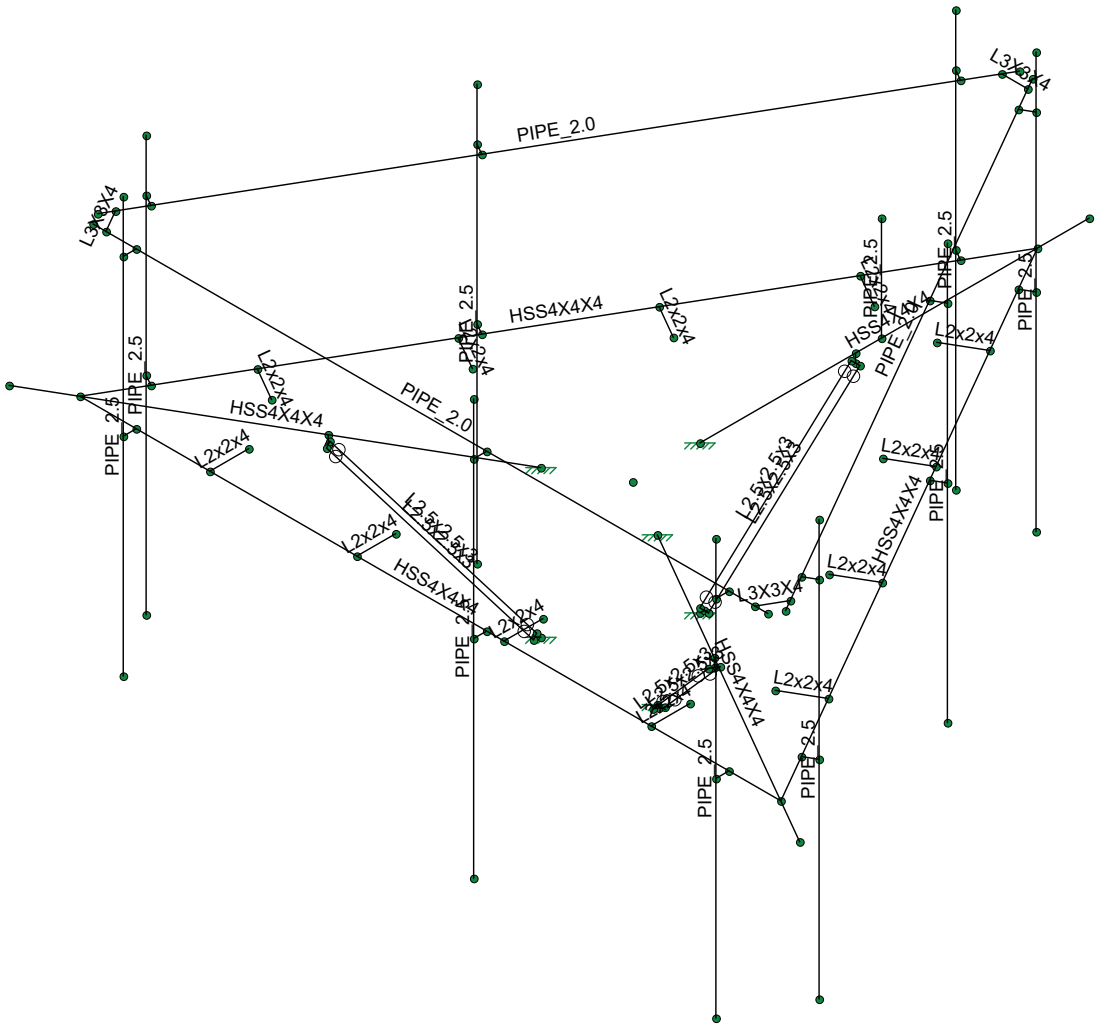

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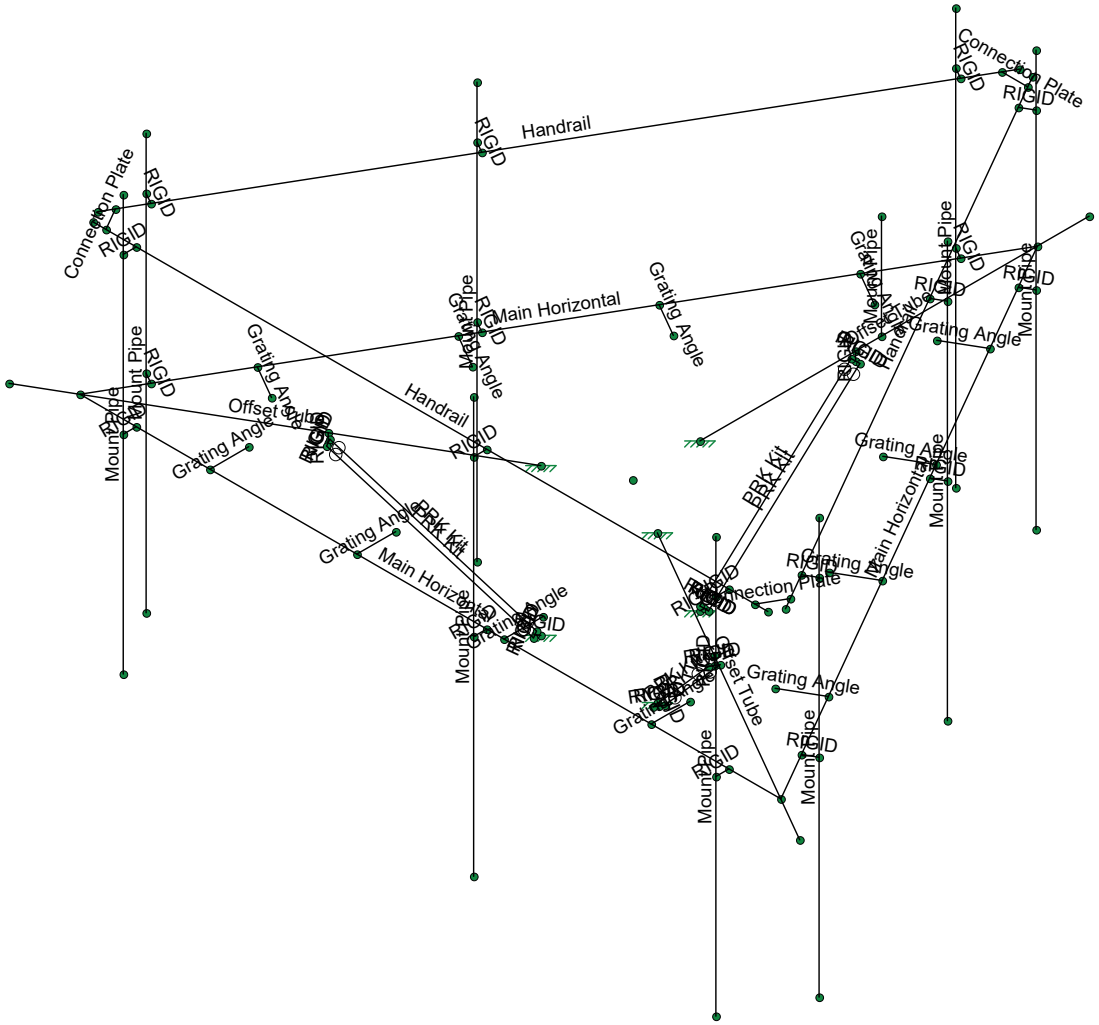

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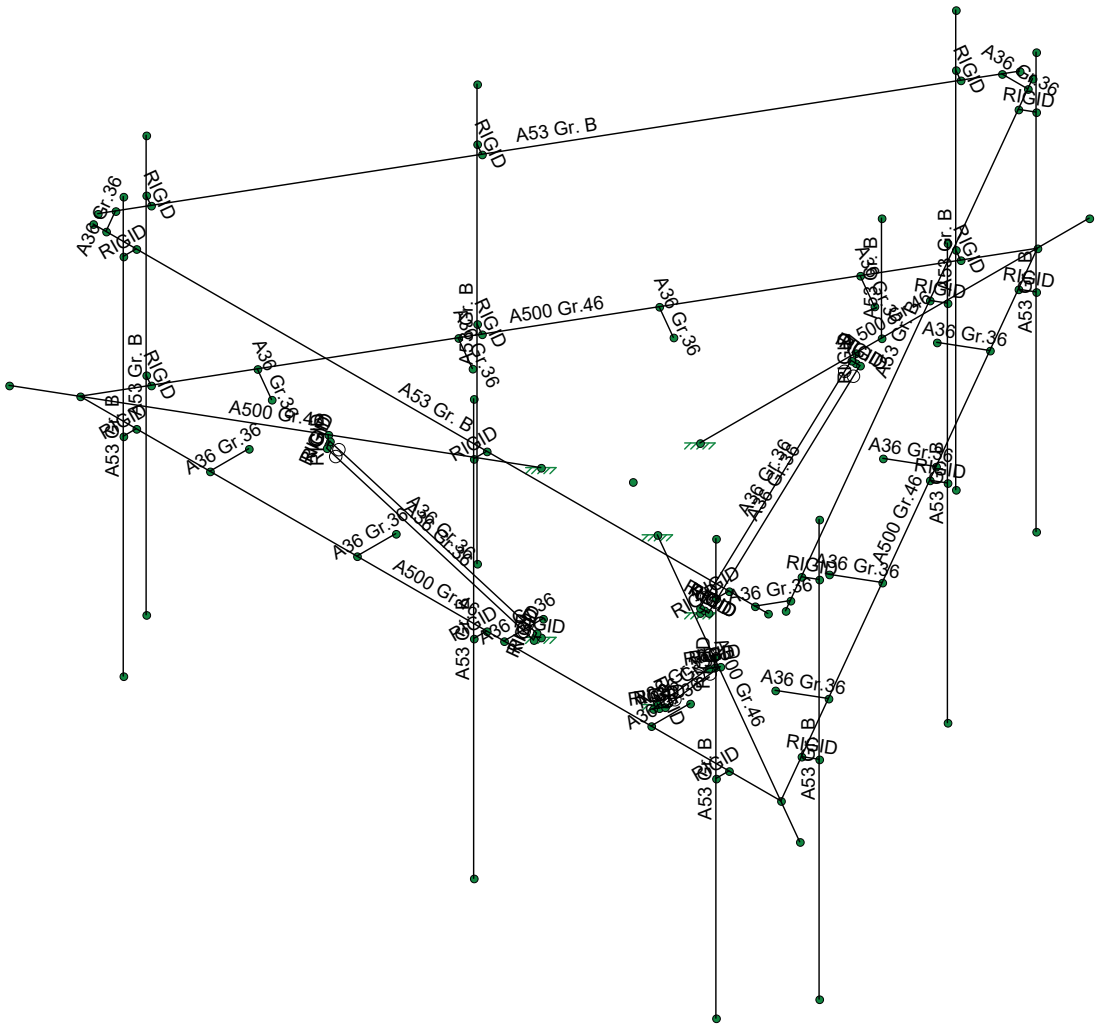

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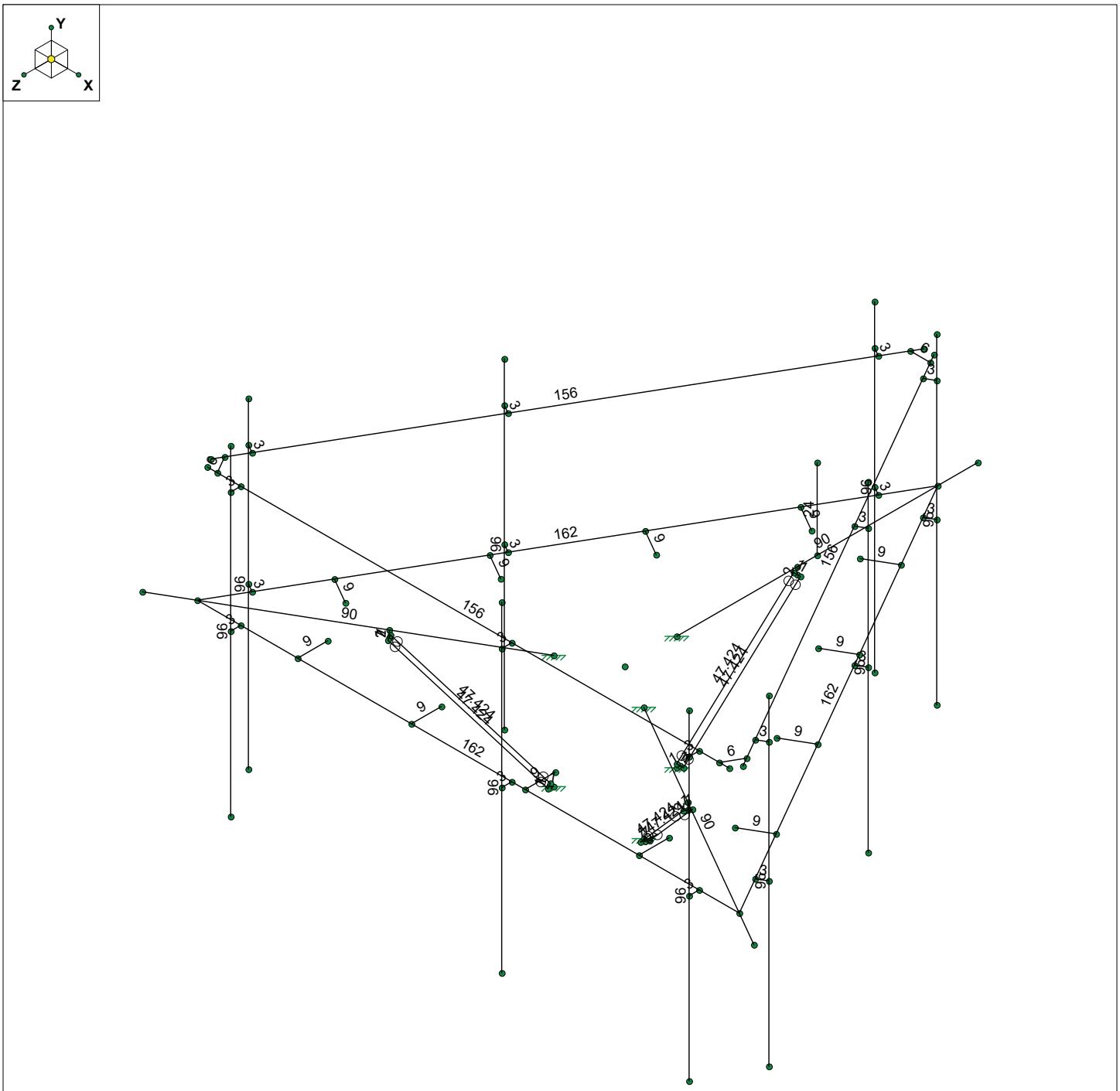

Member Length (in) Displayed

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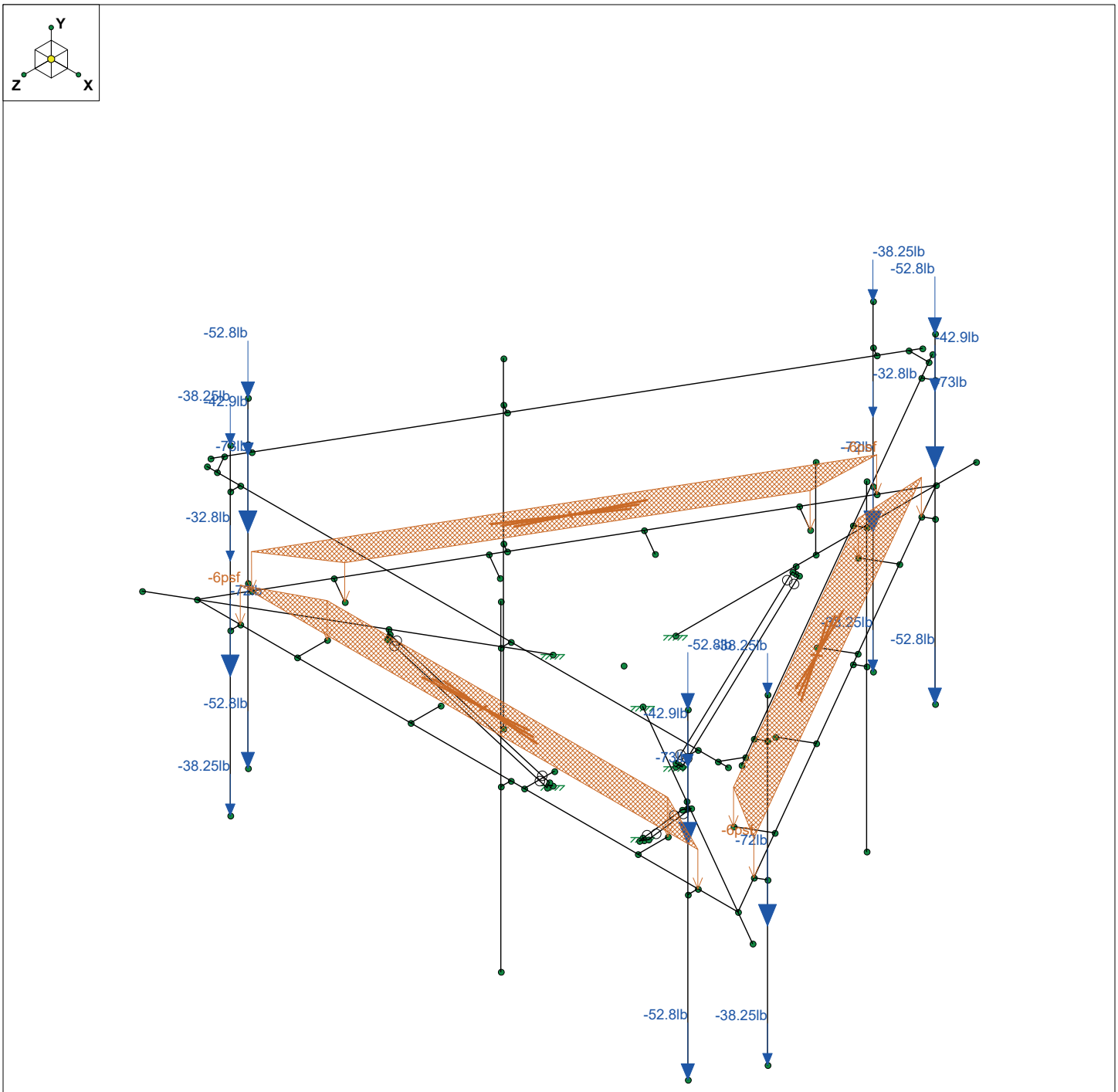

Loads: BLC 1, Self Weight

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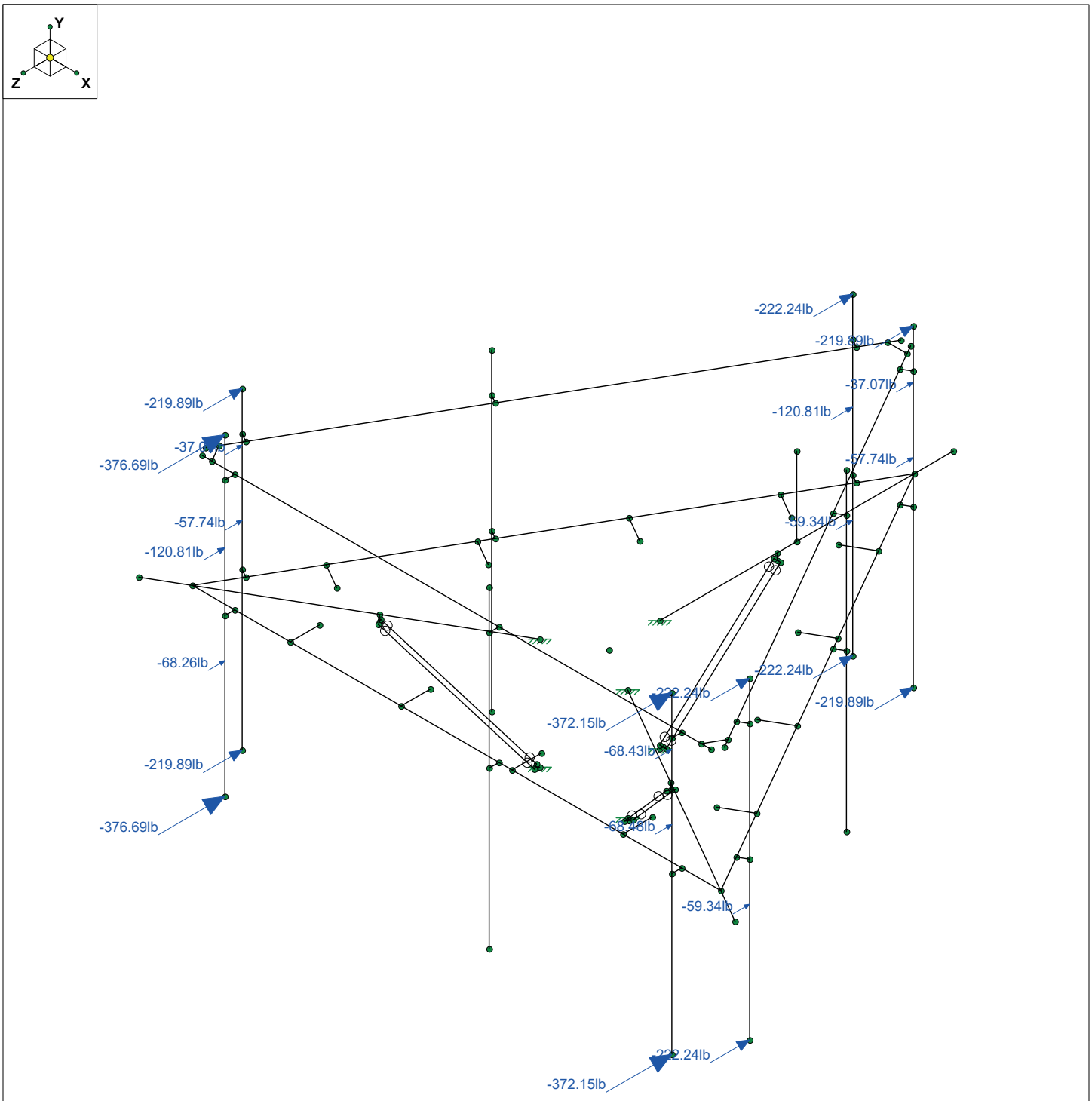

Loads: BLC 2, Wind Load AZI 0

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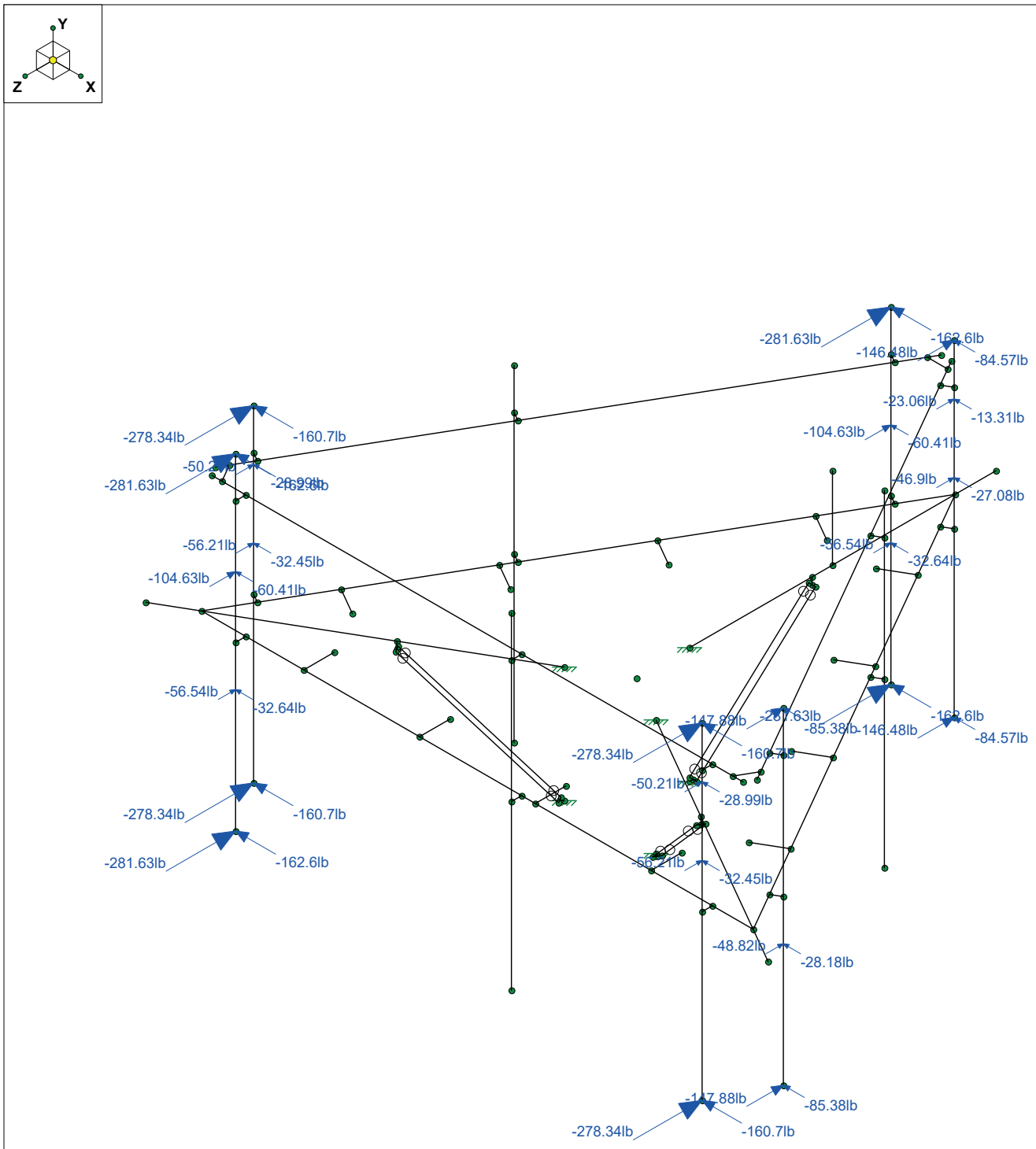

Loads: BLC 3, Wind Load AZI 30

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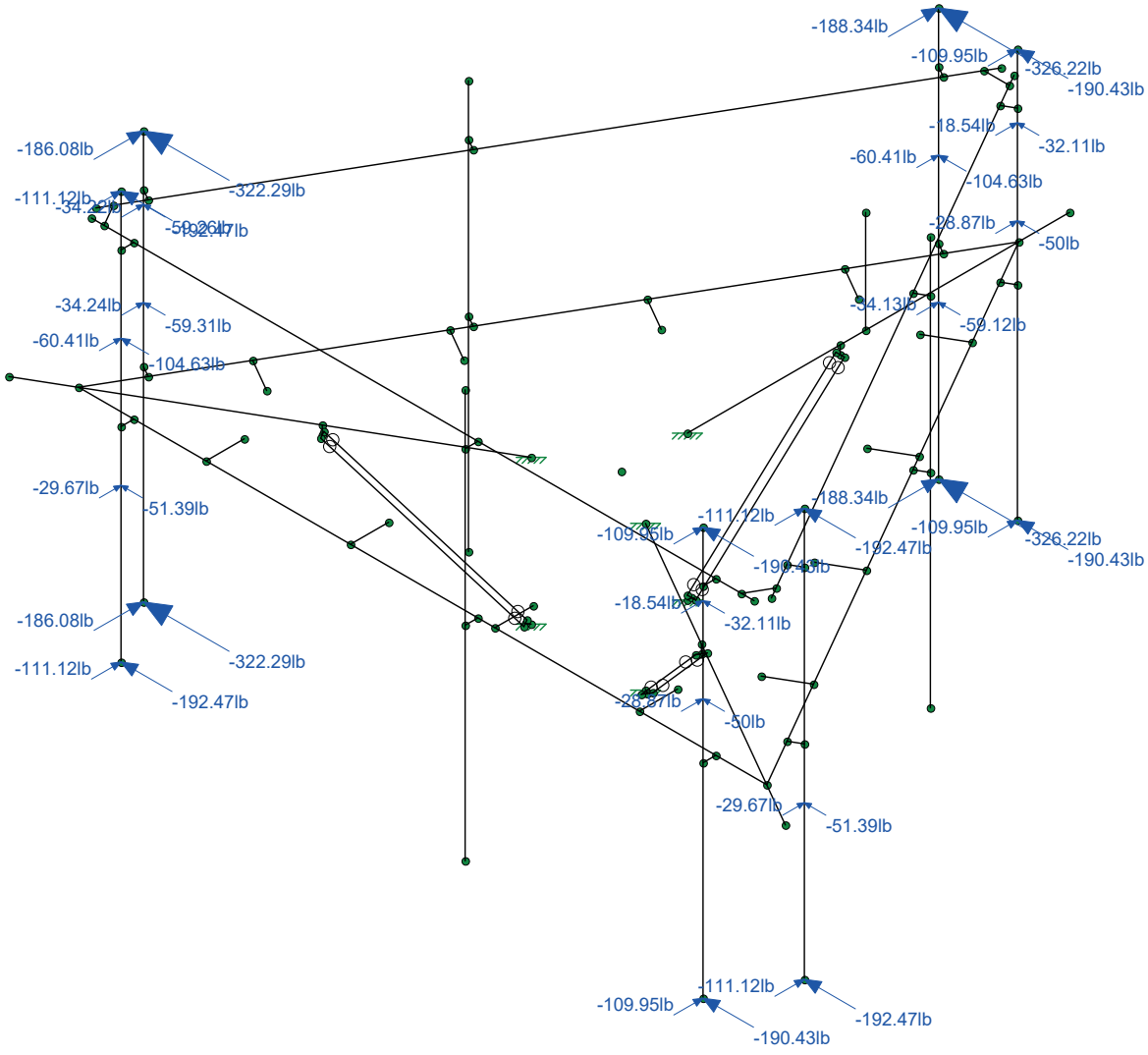

Loads: BLC 4, Wind Load AZI 60

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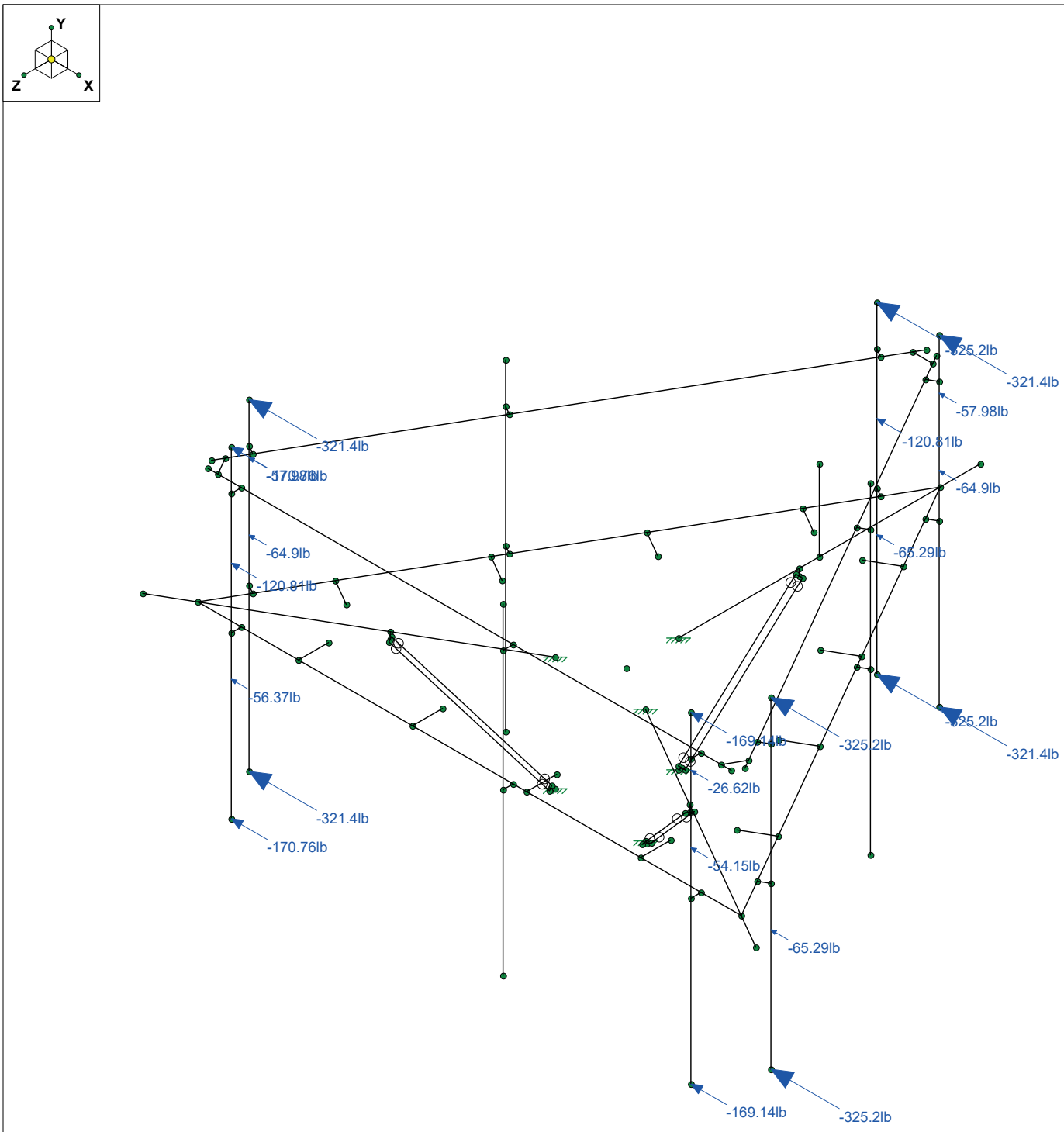

Loads: BLC 5, Wind Load AZI 90

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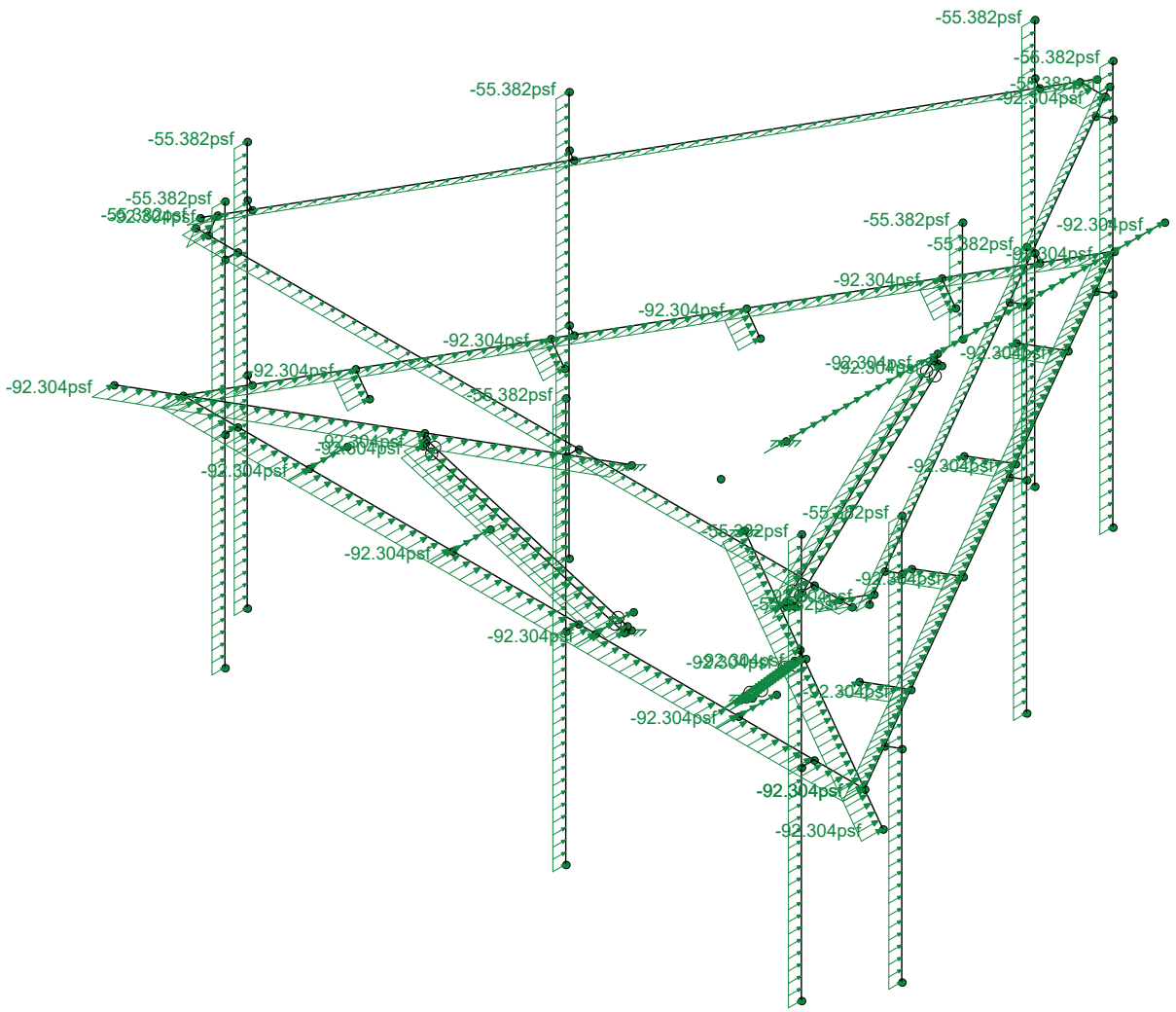

Loads: BLC 14, Distr. Wind Load Z

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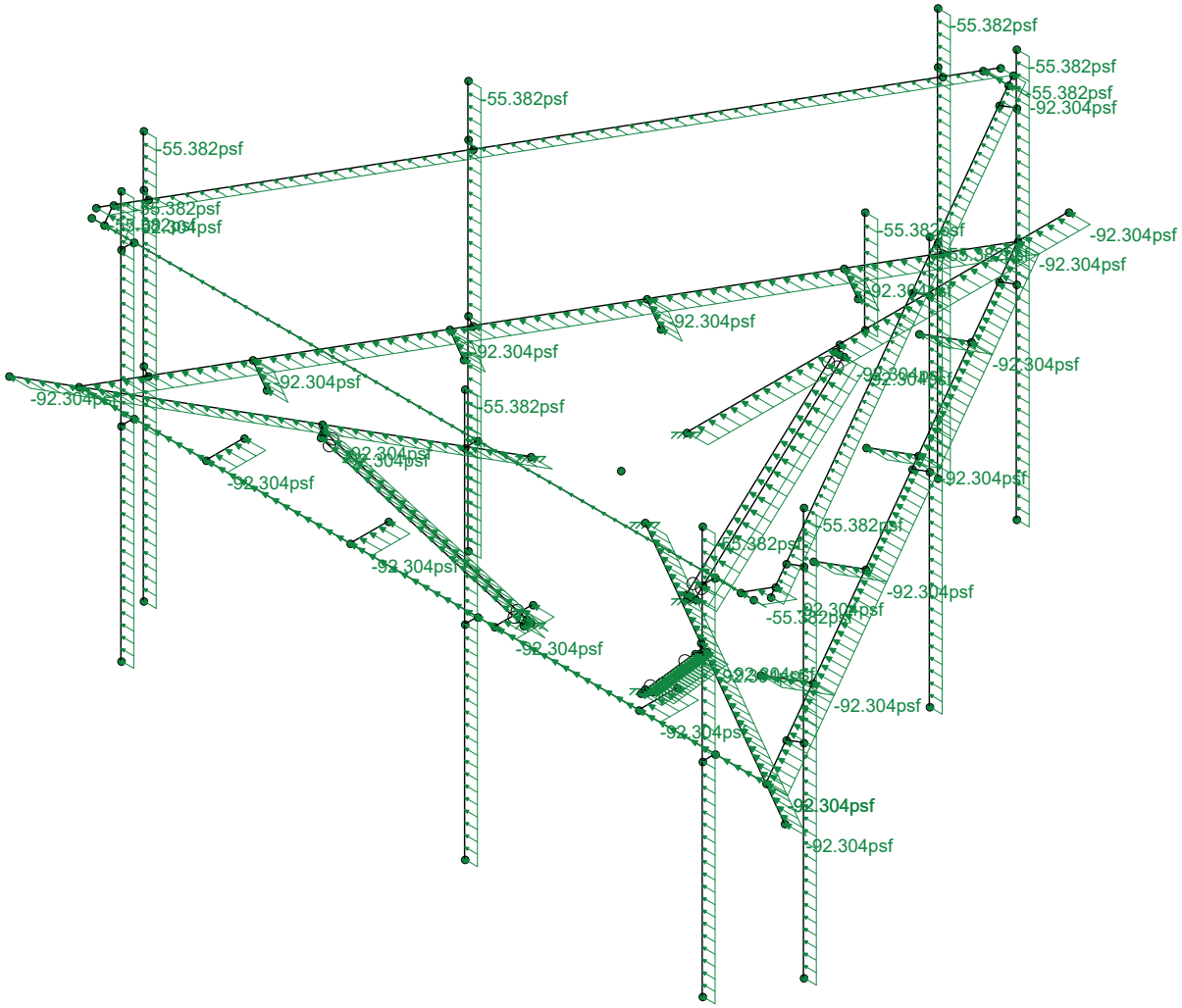

Loads: BLC 15, Distr. Wind Load X

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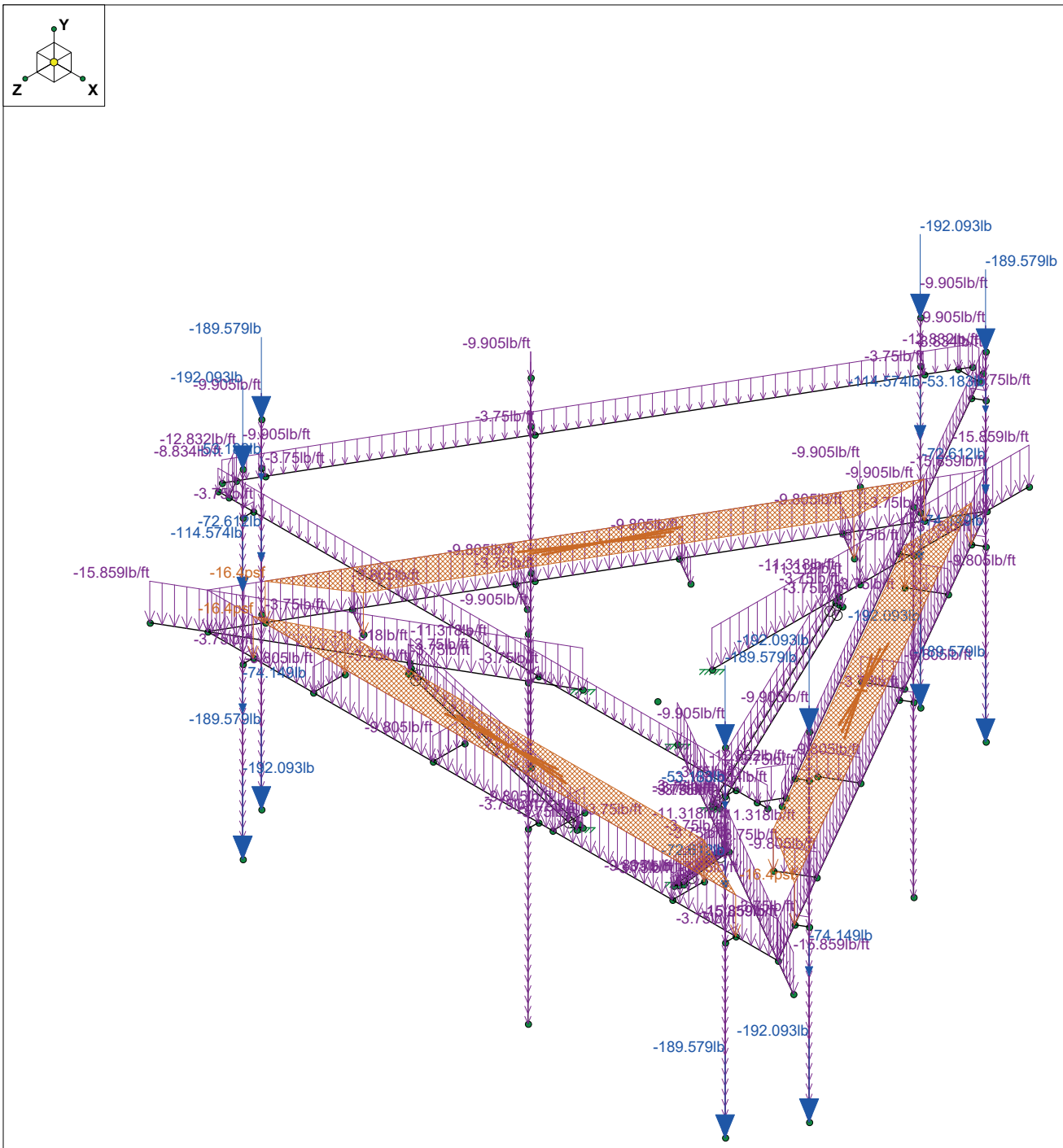

Loads: BLC 16, Ice Weight

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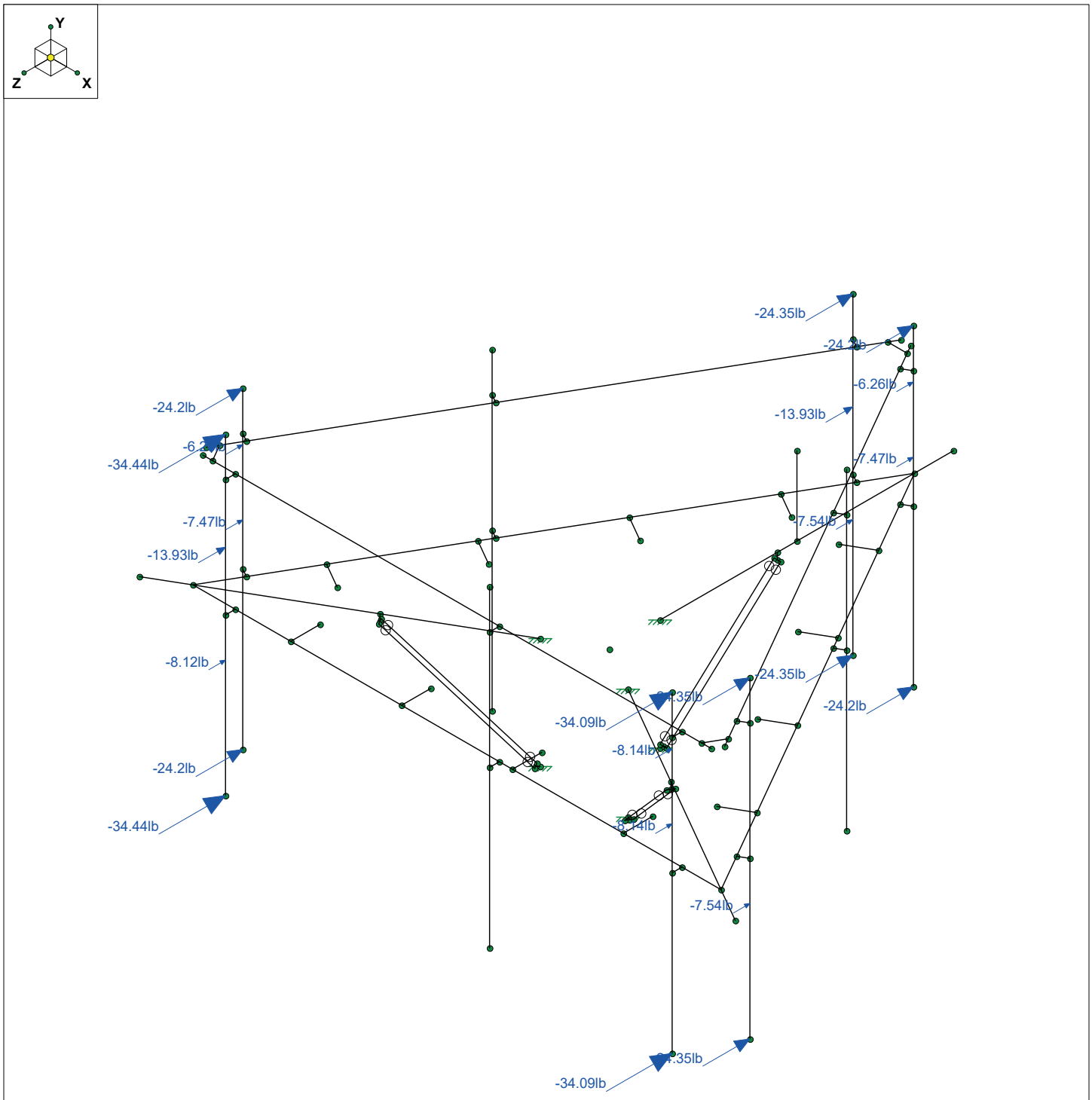

Loads: BLC 17, Ice Wind Load AZI 0

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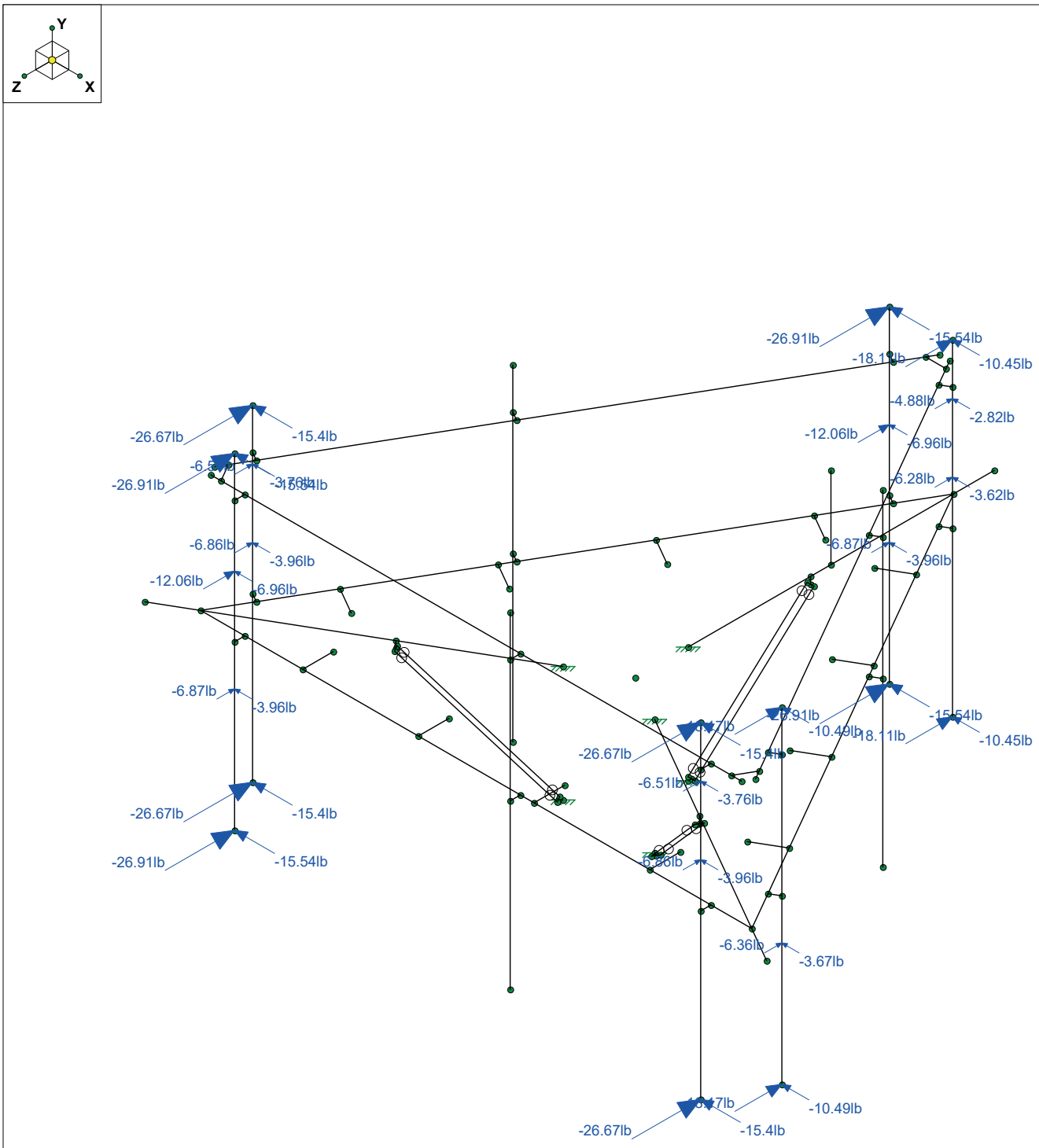

Loads: BLC 18, Ice Wind Load AZI 30

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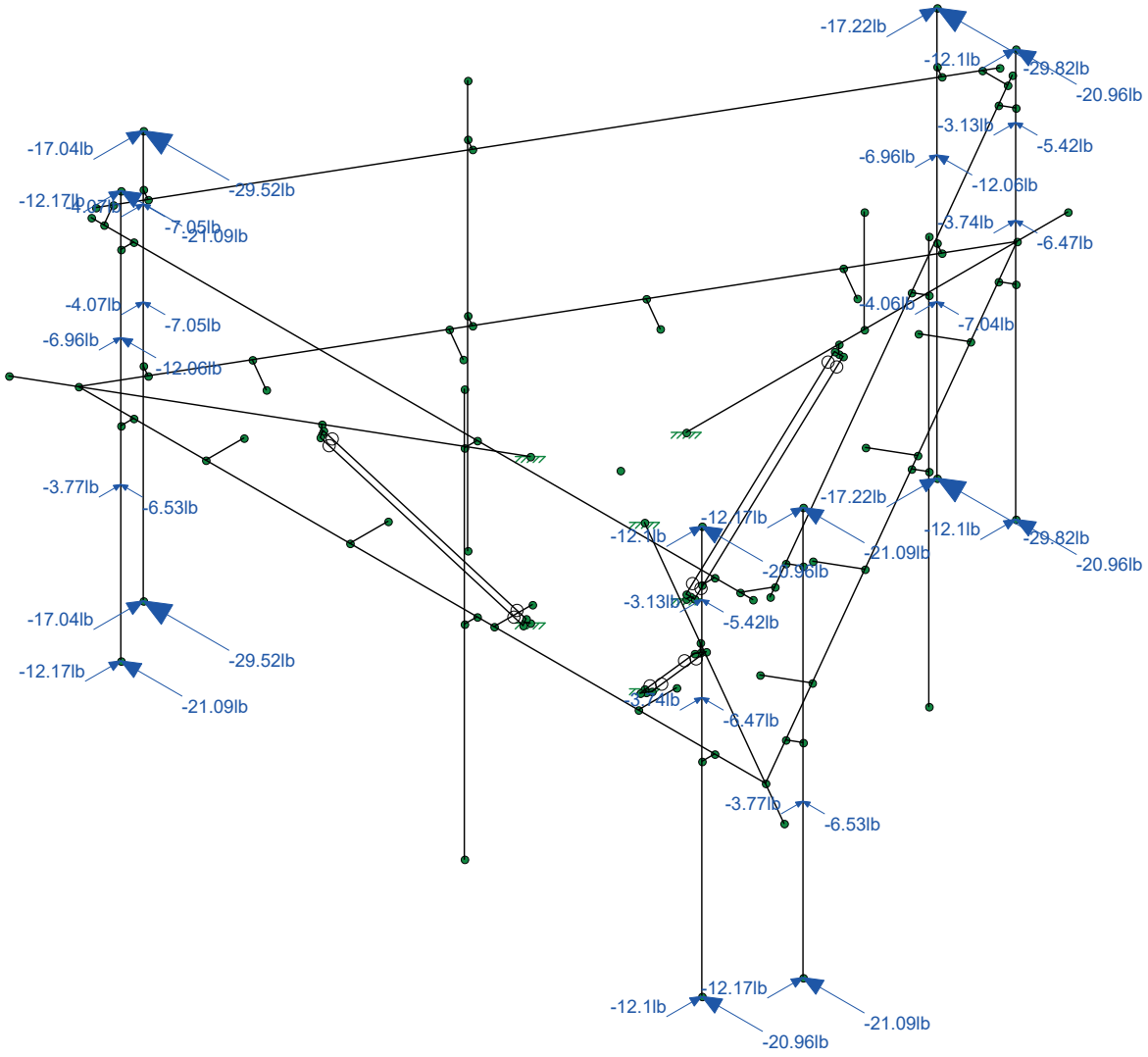

Loads: BLC 19, Ice Wind Load AZI 60

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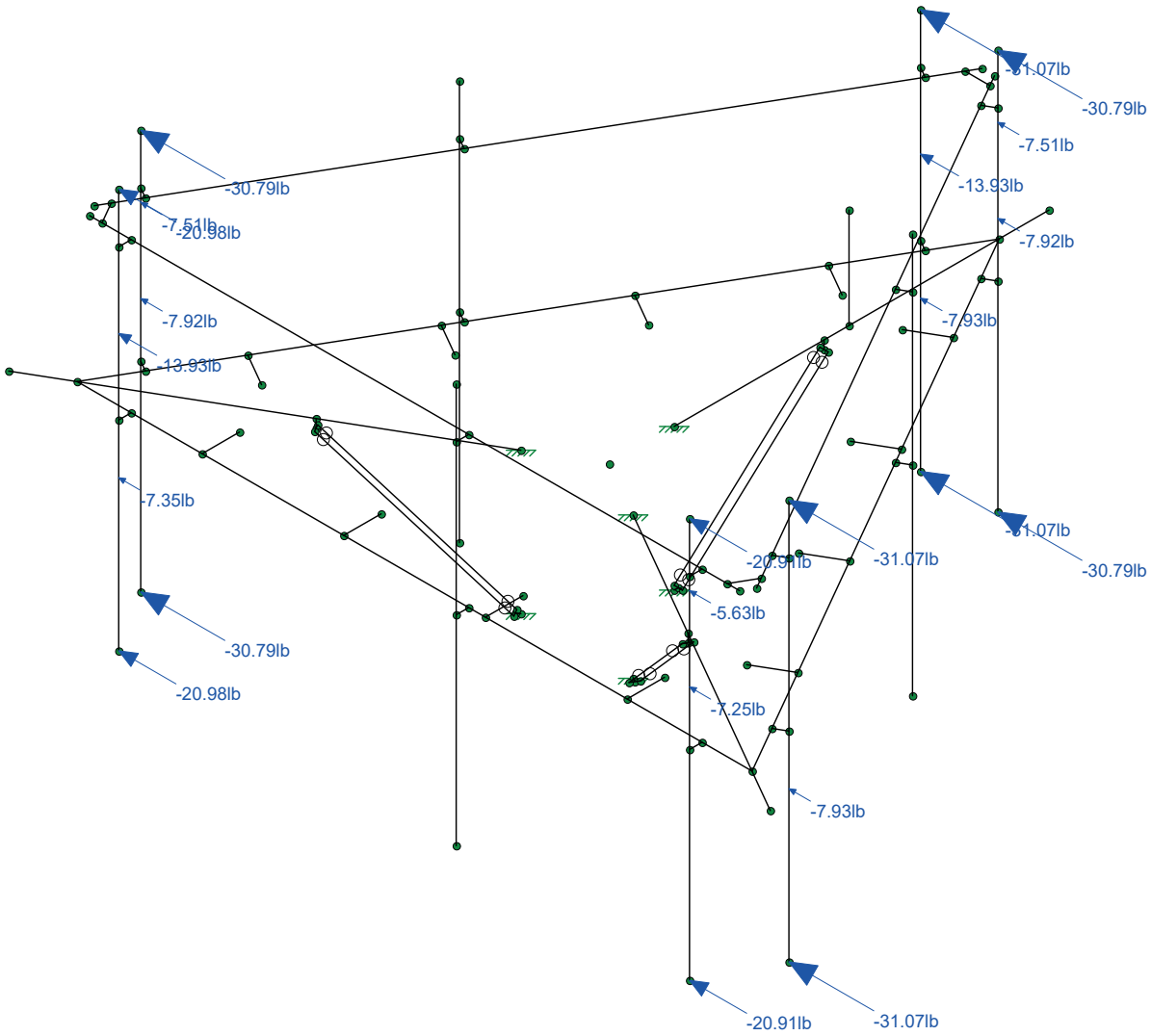

Loads: BLC 20, Ice Wind Load AZI 90

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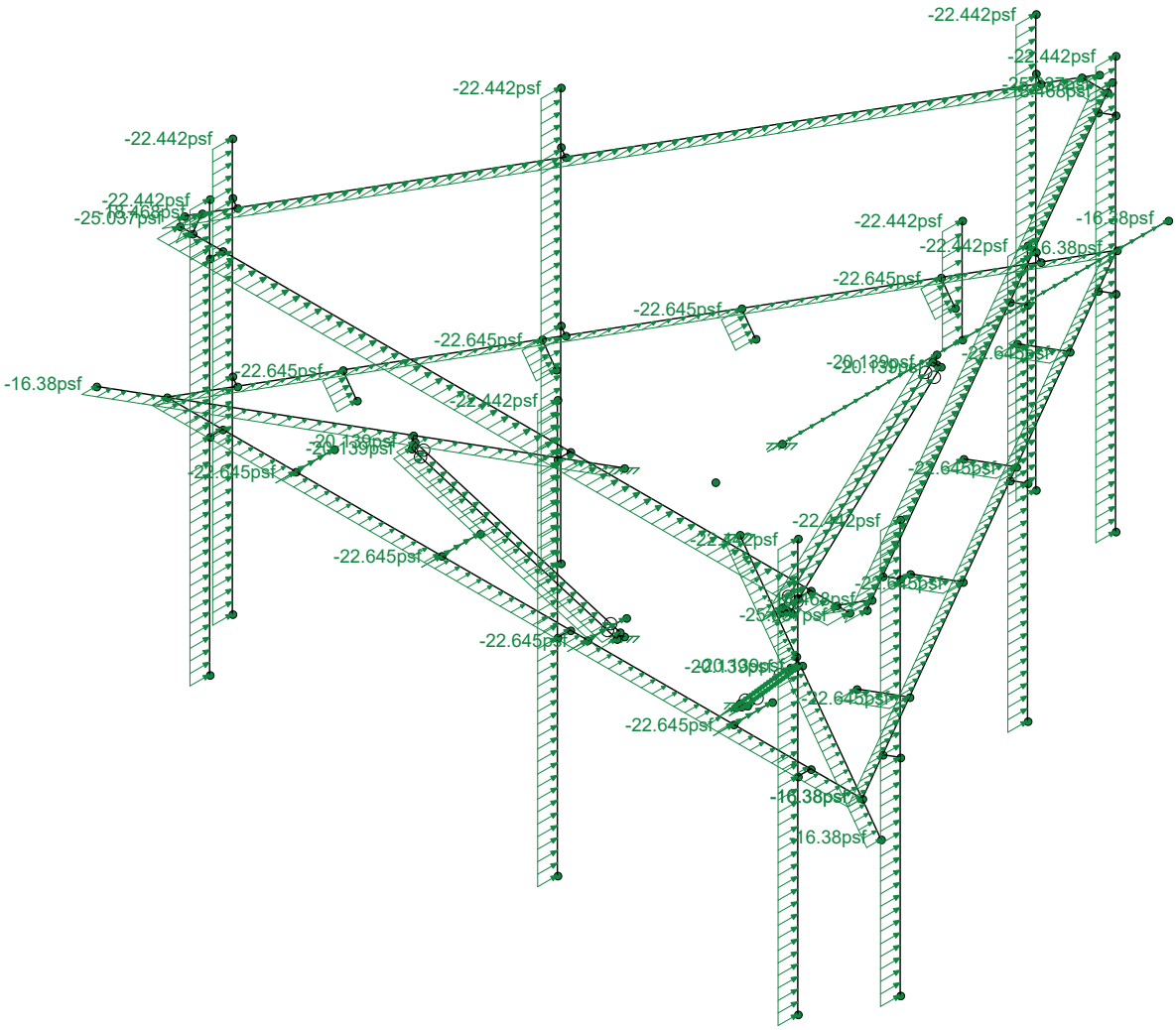

Loads: BLC 29, Distr. Ice Wind Load Z

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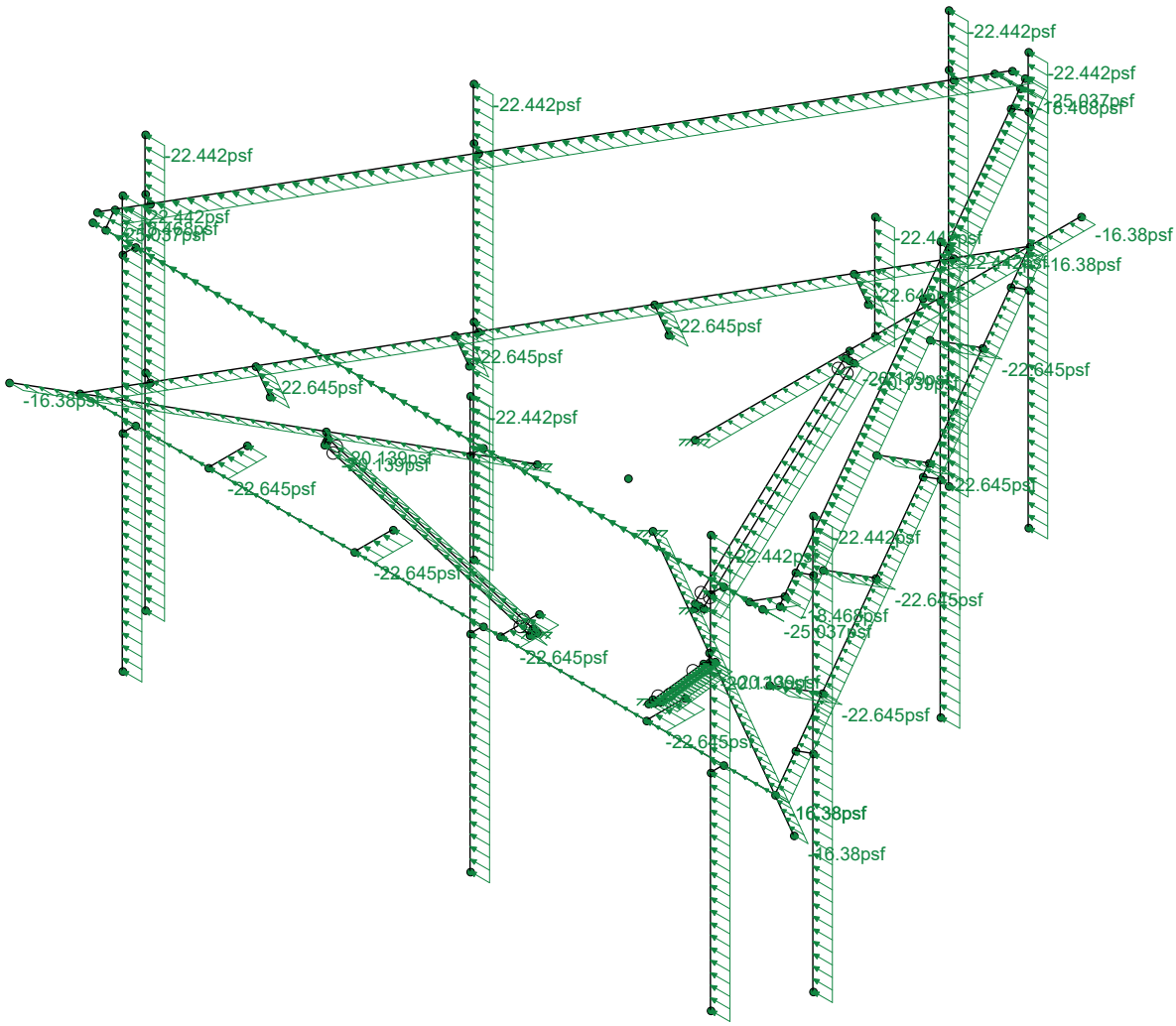

Loads: BLC 30, Distr. Ice Wind Load X

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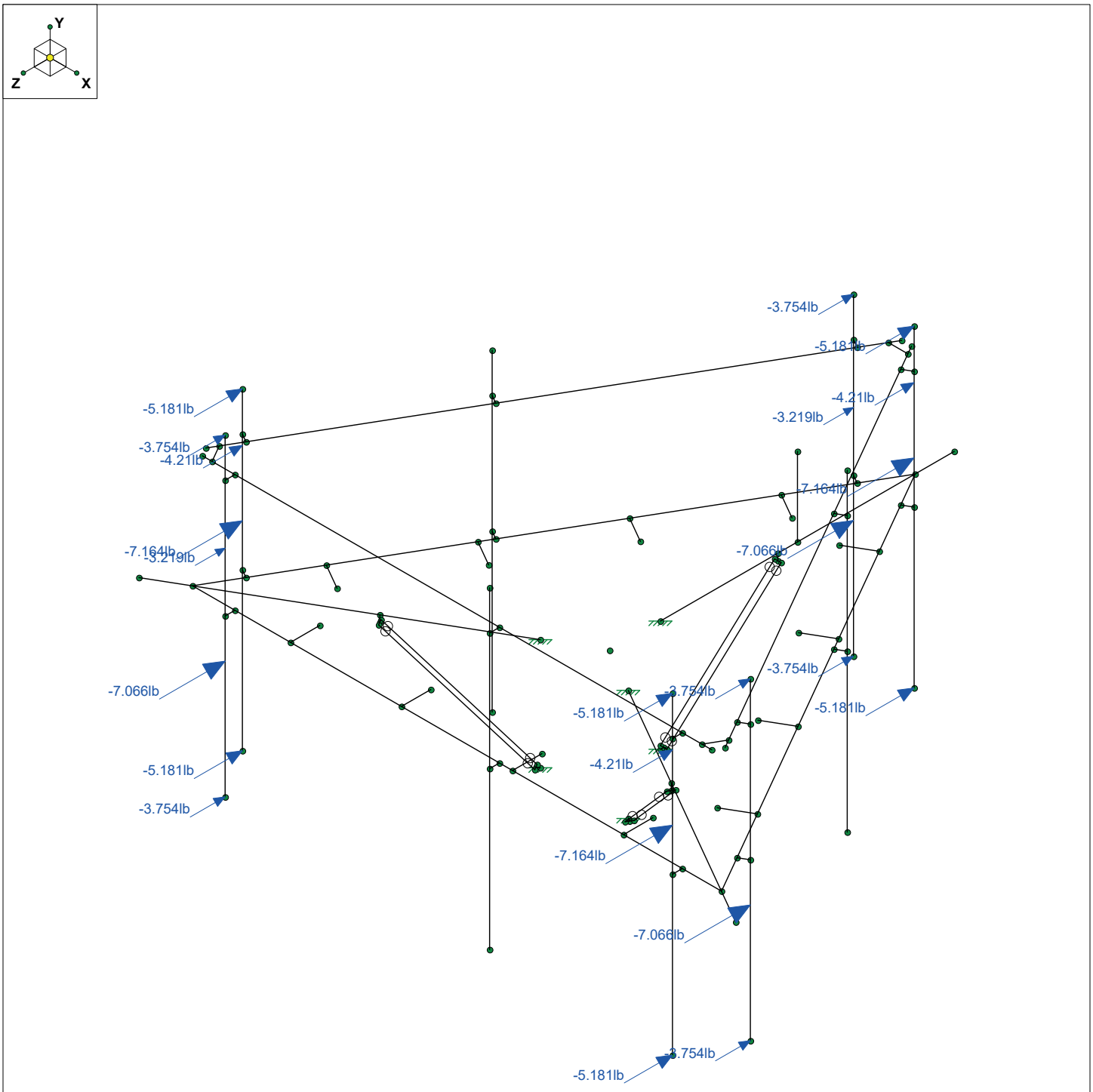
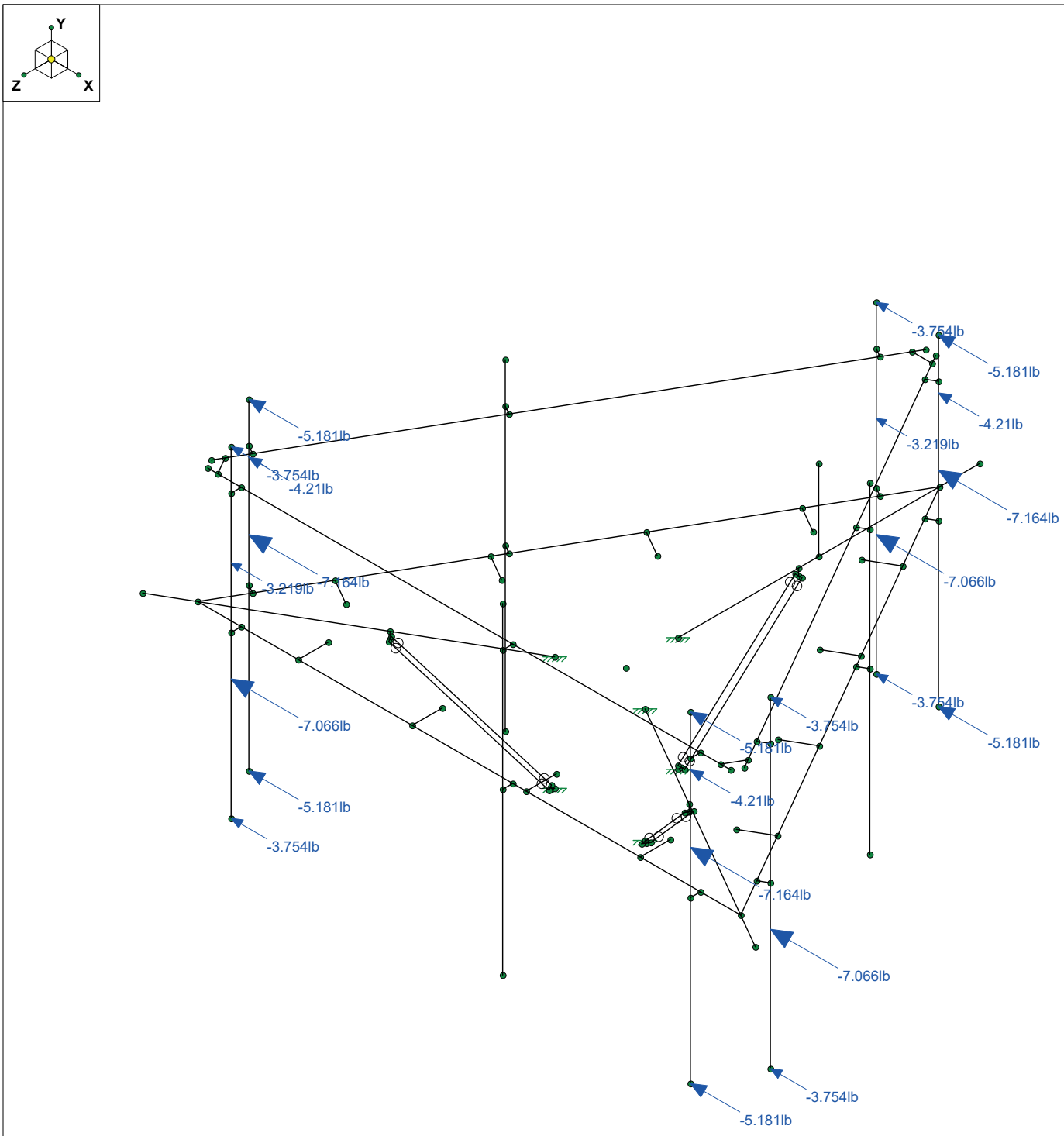


Loads: BLC 31, Seismic Load Z

Infinigy Engineering, PLLC.	828054	Seismic Loading 0
AM		Nov 9, 2020 at 9:59 AM
1039-Z0001-B		828054_loaded.r3d



Loads: BLC 32, Seismic Load X

Infinigy Engineering, PLLC.	828054	Seismic Loading 90
AM		Nov 9, 2020 at 10:00 AM
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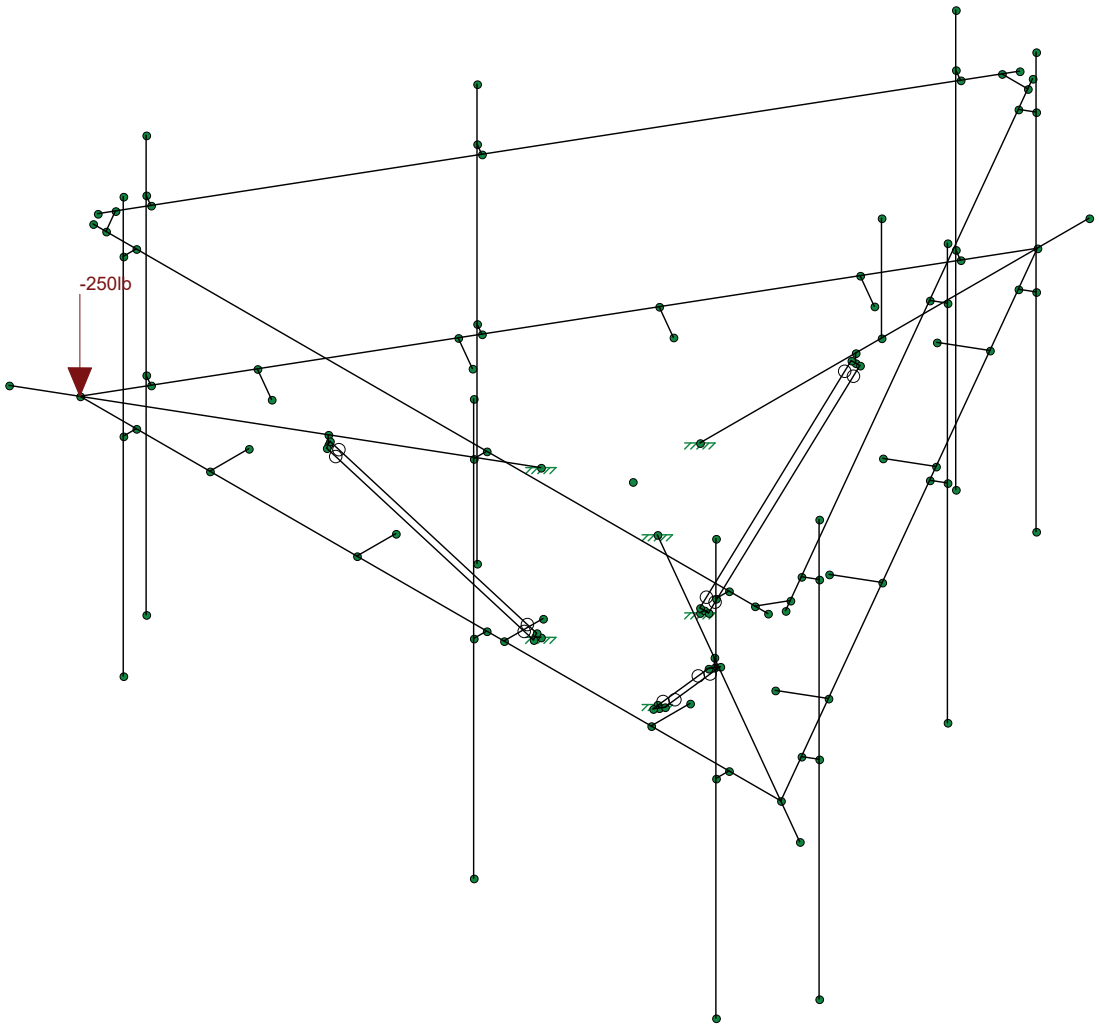
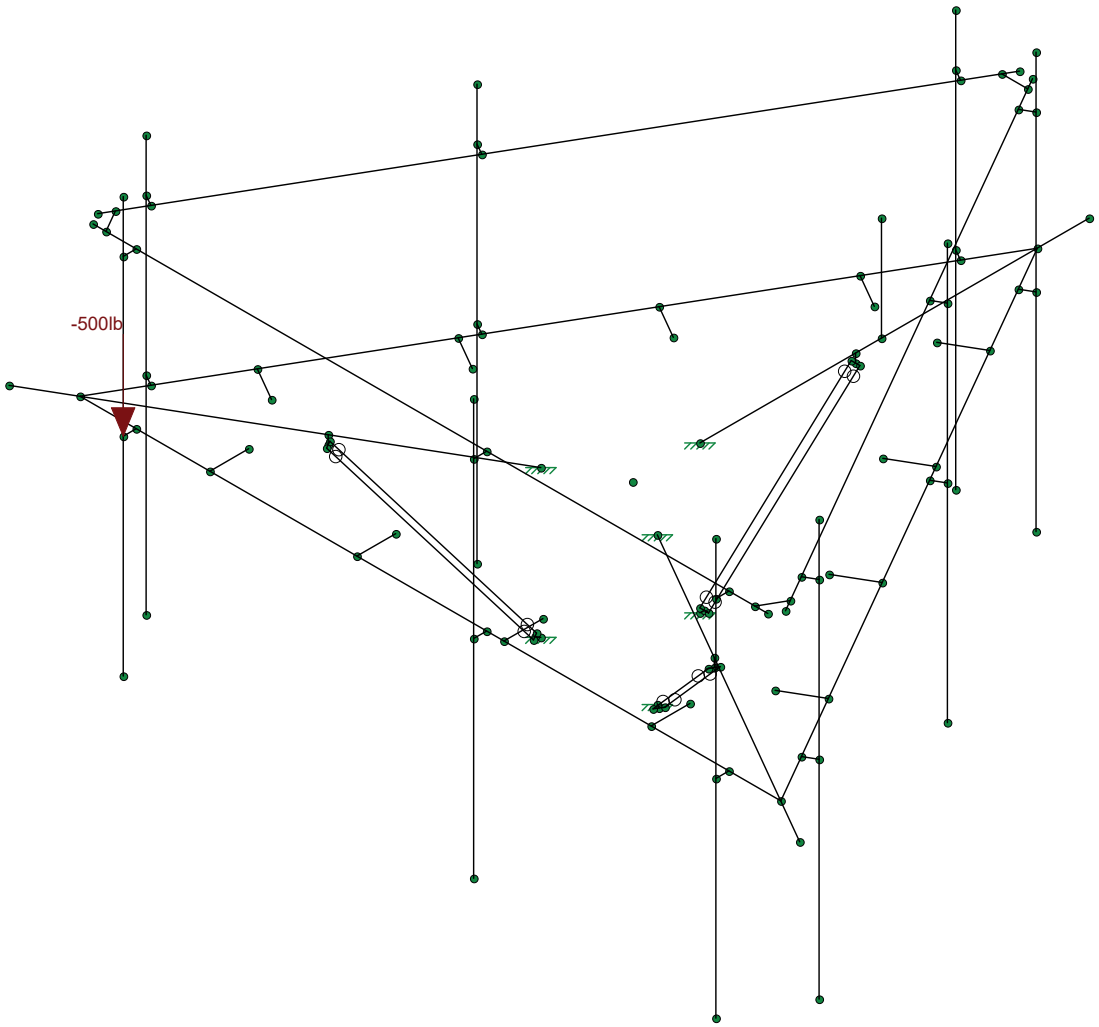


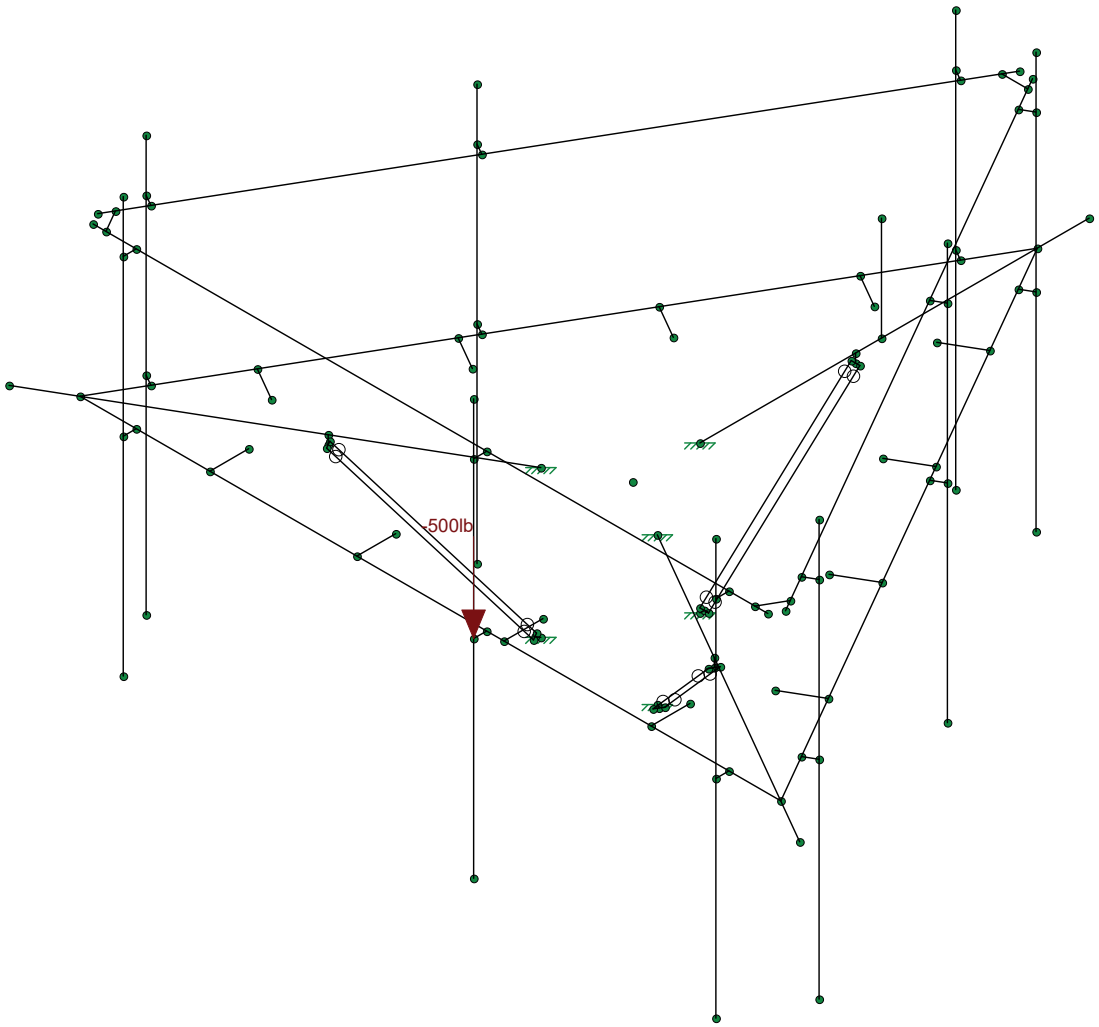
Loads: BLC 33, Service Live Loads

Infinigy Engineering, PLLC.	828054	Service
AM		Nov 9, 2020 at 10:00 AM
1039-Z0001-B		828054_loaded.r3d



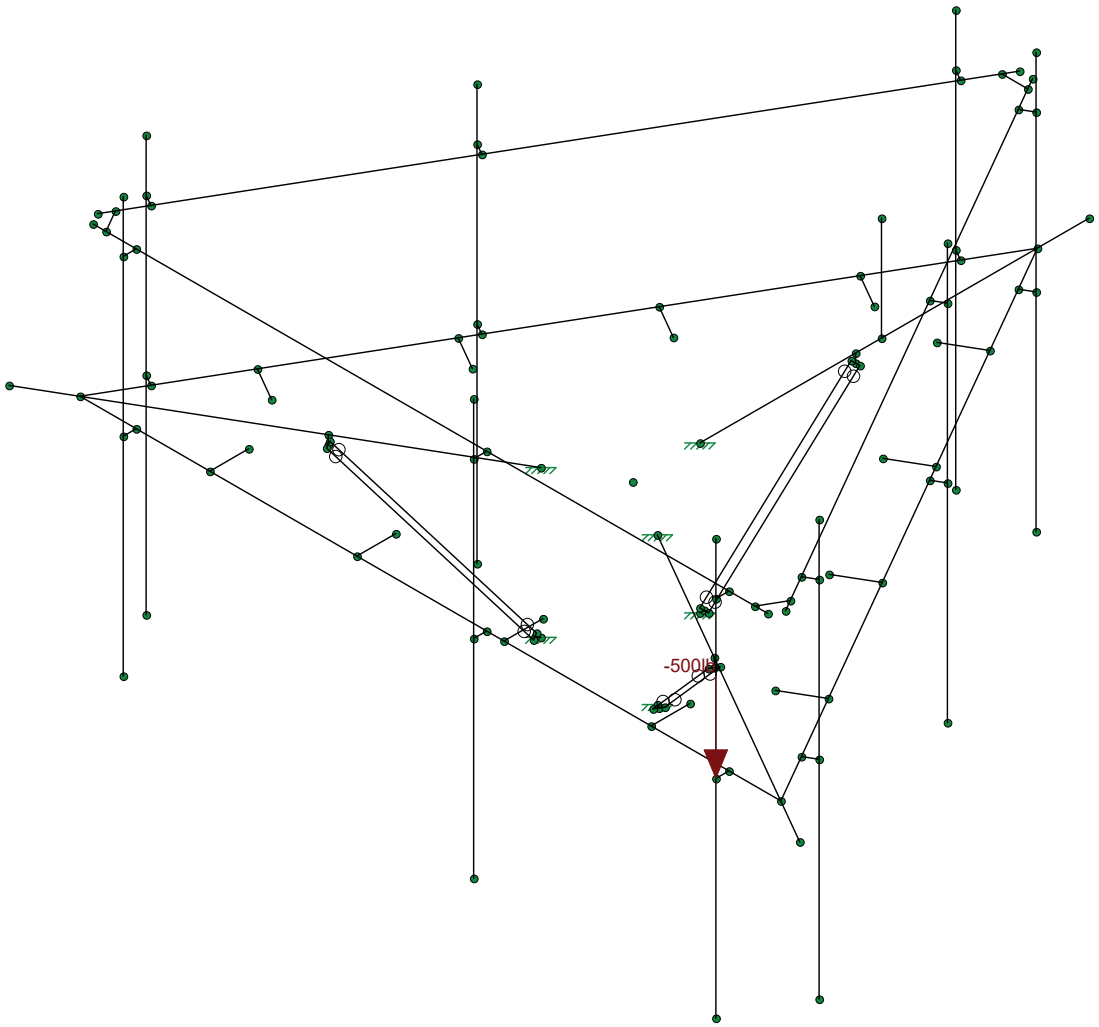
Loads: BLC 34, Maintenance Load 1

Infinigy Engineering, PLLC.	828054	Maintenance Load 1
AM		Nov 9, 2020 at 10:00 AM
1039-Z0001-B		828054_loaded.r3d



Loads: BLC 35, Maintenance Load 2

Infinigy Engineering, PLLC.	828054	Maintenance Load 2
AM		Nov 9, 2020 at 10:00 AM
1039-Z0001-B		828054_loaded.r3d



Loads: BLC 36, Maintenance Load 3

Infinigy Engineering, PLLC.	828054	Maintenance Load 3
AM		Nov 9, 2020 at 10:00 AM
1039-Z0001-B		828054_loaded.r3d

APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	AT&T Mobility
Engineer:	Alex Mercado

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil	
Ground Elevation:	70.37	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	156.0	ft
Tower Height AGL:	169.0	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.95	
Ground Ele. Factor (K_e):	1.00	*Rev H Only
Rooftop Speed-Up (K_s):	1.00	*Rev H Only
Topographic Factor (K_{zt}):	1.00	
Gust Effect Factor (G_h):	1.0	

CODE STANDARDS		
Building Code:	2018 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	117	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	92.30	psf
Round Pressure:	55.38	psf
Ice Wind Pressure:	10.11	psf

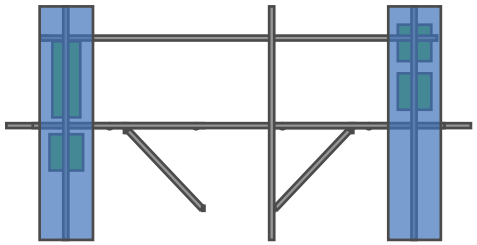
SEISMIC DATA		
Short-Period Accel. (S_s):	0.18	g
1-Second Accel. (S_1):	0.06	g
Short-Period Design (S_{DS}):	0.20	
1-Second Design (S_{D1}):	0.09	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

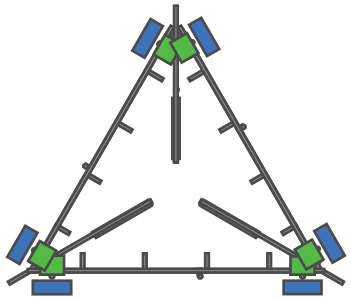
Infinigy Load Calculator V2.1.4

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.4

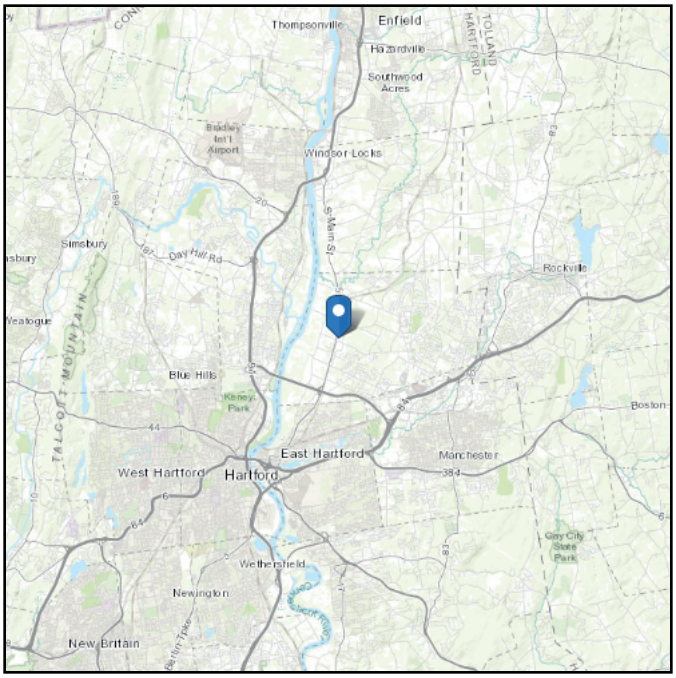
APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
CCI ANTENNAS DMP65R-BU8D	158.0	3	0.90	46.28	17.87	8.12	744.30	338.28	105.60	10.36	MP1
CCI ANTENNAS OPA65R-BU8D	158.0	3	0.90	46.28	18.09	8.20	753.37	341.52	76.50	7.51	MP3
ERICSSON RADIO 4415 B30	158.0	3	0.90	46.28	1.64	0.64	68.43	26.62	42.90	4.21	MP1
ERICSSON RADIO 4449 B5/B12	158.0	3	0.90	46.28	1.64	1.30	68.48	54.15	73.00	7.16	MP1
RAYCAP DC6-48-60-18-8F	158.0	2	0.90	46.28	2.90	2.90	120.81	120.81	32.80	3.22	MP3
ERICSSON RRUS 8843 B2/B66A	158.0	3	0.90	46.28	1.64	1.35	68.26	56.37	72.00	7.07	MP3

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	70.37 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.83344
Soil Class:	D - Default (see Section 11.4.3)	**Longitude:**	-72.60306



Wind

Results:

Wind Speed:	117 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph
Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4
Date Accessed:	Fri Nov 06 2020

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

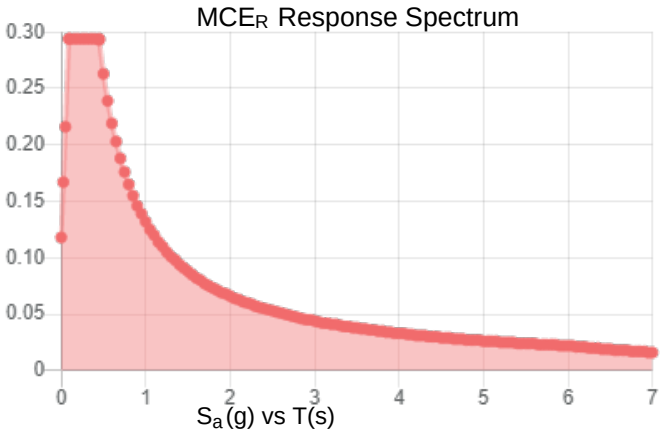
Seismic

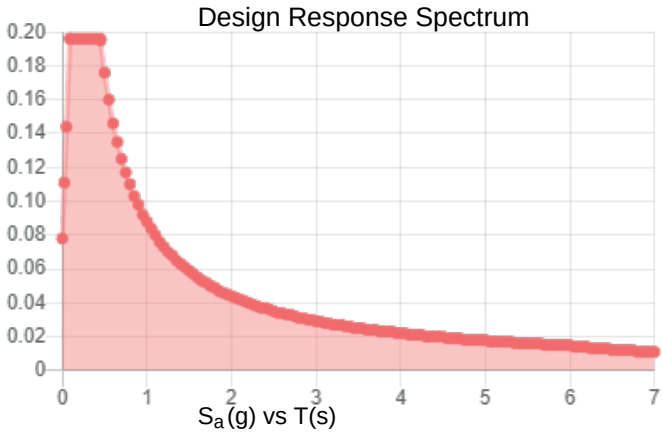
Site Soil Class: D - Default (see Section 11.4.3)

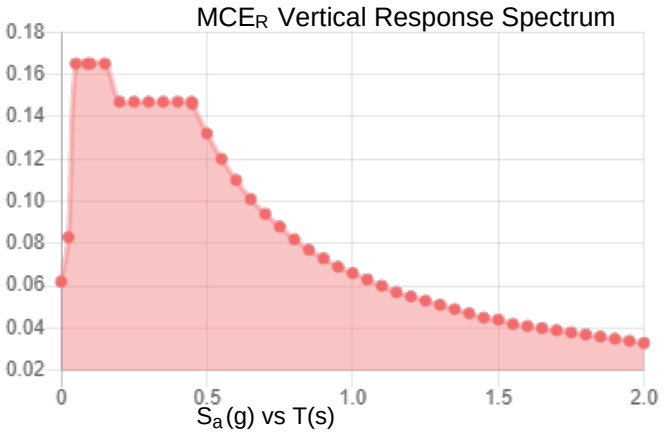
Results:

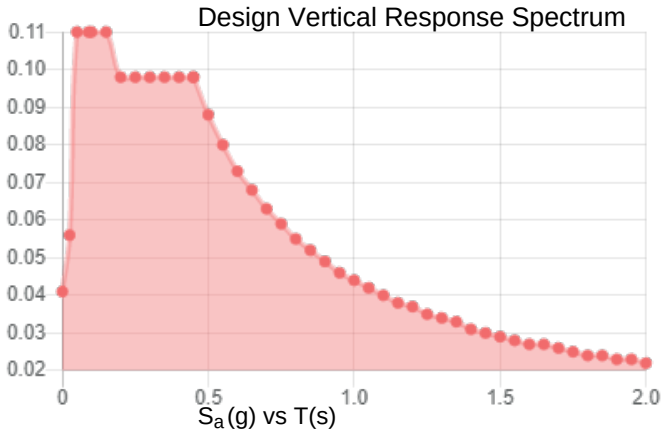
S_S :	0.184	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.098
F_v :	2.4	PGA_M :	0.157
S_{MS} :	0.294	F_{PGA} :	1.6
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.196	C_v :	0.7

Seismic Design Category B









Data Accessed: Fri Nov 06 2020

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Nov 06 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	HOR1	N2	N1			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
2	HOR2	N3	N1			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
3	HOR3	N2	N3			Main Horizontal	Beam	Tube	A500 Gr.46	Typical
4	SA2	N4	N5			Offset Tube	Beam	Tube	A500 Gr.46	Typical
5	SA3	N6	N7			Offset Tube	Beam	Tube	A500 Gr.46	Typical
6	SA1	N8	N9			Offset Tube	Beam	Tube	A500 Gr.46	Typical
7	M7	N11	N12			RIGID	None	None	RIGID	Typical
8	M8	N13	N12			RIGID	None	None	RIGID	Typical
9	M9	N14	N12			RIGID	None	None	RIGID	Typical
10	M10	N15	N16			RIGID	None	None	RIGID	Typical
11	M11	N16	N17			RIGID	None	None	RIGID	Typical
12	M12	N17	N16			RIGID	None	None	RIGID	Typical
13	M13	N18	N16			RIGID	None	None	RIGID	Typical
14	M14	N13	N17			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
15	M15	N14	N18			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
16	M16	N33	N32			RIGID	None	None	RIGID	Typical
17	M17	N34	N33			RIGID	None	None	RIGID	Typical
18	M19	N28	N29			RIGID	None	None	RIGID	Typical
19	M20	N30	N29			RIGID	None	None	RIGID	Typical
20	M21	N31	N29			RIGID	None	None	RIGID	Typical
21	M22	N30	N34			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
22	M23	N31	N35			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
23	M23A	N35	N33			RIGID	None	None	RIGID	Typical
24	M24	N24	N25			RIGID	None	None	RIGID	Typical
25	M25	N27	N25			RIGID	None	None	RIGID	Typical
26	M26	N26	N25			RIGID	None	None	RIGID	Typical
27	M27	N20	N21			RIGID	None	None	RIGID	Typical
28	M28	N22	N21			RIGID	None	None	RIGID	Typical
29	M29	N23	N21			RIGID	None	None	RIGID	Typical
30	M30	N22	N26			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
31	M31	N23	N27			PRK Kit	Beam	Single Angle	A36 Gr.36	Typical
32	M33	N37	N40			RIGID	None	None	RIGID	Typical
33	M34	N52	N55			RIGID	None	None	RIGID	Typical
34	M35	N38	N41			RIGID	None	None	RIGID	Typical
35	M36	N39	N42			RIGID	None	None	RIGID	Typical
36	M37	N62	N65			RIGID	None	None	RIGID	Typical
37	M38	N63	N66			RIGID	None	None	RIGID	Typical
38	M39	N64	N67			RIGID	None	None	RIGID	Typical
39	M40	N50	N53			RIGID	None	None	RIGID	Typical
40	M41	N51	N54			RIGID	None	None	RIGID	Typical
41	MP3	N43	N46			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
42	MP2	N44	N47			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
43	MP1	N45	N48			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
44	MP9	N68	N71			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
45	MP8	N69	N72			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
46	MP7	N70	N73			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
47	MP6	N56	N59			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
48	MP5	N57	N60			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
49	MP4	N58	N61			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
50	M50A	N36A	N36			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
51	HR1	N86	N85			Handrail	Beam	Pipe	A53 Gr. B	Typical
52	M52	N82	N73A			RIGID	None	None	RIGID	Typical
53	M53	N83	N74			RIGID	None	None	RIGID	Typical
54	M54	N84	N75			RIGID	None	None	RIGID	Typical
55	HR3	N95	N94			Handrail	Beam	Pipe	A53 Gr. B	Typical
56	M56	N91	N79			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
57	M57	N92	N80			RIGID	None	None	RIGID	Typical
58	M58	N93	N81			RIGID	None	None	RIGID	Typical
59	HR2	N100	N99			Handrail	Beam	Pipe	A53 Gr. B	Typical
60	M60	N96	N76			RIGID	None	None	RIGID	Typical
61	M61	N97	N77			RIGID	None	None	RIGID	Typical
62	M62	N98	N78			RIGID	None	None	RIGID	Typical
63	CP1	N101	N97A			Connection Pl...	Beam	Single Angle	A36 Gr.36	Typical
64	CP3	N102	N98A			Connection Pl...	Beam	Single Angle	A36 Gr.36	Typical
65	CP2	N103	N100A			Connection Pl...	Beam	Single Angle	A36 Gr.36	Typical
66	M66	N123	N127			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
67	M67	N122	N126			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
68	M68	N121	N125			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
69	M69	N120	N124			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
70	M70	N115	N119			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
71	M71	N114	N118			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
72	M72	N113	N117			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
73	M73	N112	N116			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
74	M74	N106	N110			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
75	M75	N105	N109			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
76	M76	N104	N108			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
77	M77	N103A	N107			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		37	76	0
3	Total General		37	76	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2.5x2.5x3	6	284.5	72.698
7	A36 Gr.36	L3X3X4	3	18	7.35
8	A36 Gr.36	L2x2x4	12	108	28.91
9	A500 Gr.46	HSS4X4X4	6	756	722.444
10	A53 Gr. B	PIPE_2.0	3	468	135.362
11	A53 Gr. B	PIPE_2.5	10	888	405.407
12	Total HR Steel		40	2522.5	1372.171

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(Plate/Wall)
1	Self Weight	DL		-1			23		3	
2	Wind Load AZI 0	WLZ					46			
3	Wind Load AZI 30	None					46			
4	Wind Load AZI 60	None					46			
5	Wind Load AZI 90	WLX					46			
6	Wind Load AZI 120	None					46			
7	Wind Load AZI 150	None					46			
8	Wind Load AZI 180	None					46			
9	Wind Load AZI 210	None					46			
10	Wind Load AZI 240	None					46			
11	Wind Load AZI 270	None					46			
12	Wind Load AZI 300	None					46			
13	Wind Load AZI 330	None					46			
14	Distr. Wind Load Z	WLZ						77		
15	Distr. Wind Load X	WLX						77		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(Plate/Wall)
16	Ice Weight	OL1					23	77	3	
17	Ice Wind Load AZI ...	OL2					46			
18	Ice Wind Load AZI ...	None					46			
19	Ice Wind Load AZI ...	None					46			
20	Ice Wind Load AZI ...	OL3					46			
21	Ice Wind Load AZI ...	None					46			
22	Ice Wind Load AZI ...	None					46			
23	Ice Wind Load AZI ...	None					46			
24	Ice Wind Load AZI ...	None					46			
25	Ice Wind Load AZI ...	None					46			
26	Ice Wind Load AZI ...	None					46			
27	Ice Wind Load AZI ...	None					46			
28	Ice Wind Load AZI ...	None					46			
29	Distr. Ice Wind Loa...	OL2						77		
30	Distr. Ice Wind Loa...	OL3						77		
31	Seismic Load Z	ELZ			-.098		23			
32	Seismic Load X	ELX	-.098				23			
33	Service Live Loads	LL				1				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	BLC 1 Transient Ar...	None						30		
44	BLC 16 Transient ...	None						30		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Yes	Y		1	1.4																		
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15													
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5												
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866												
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1												
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866												
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.8...	15	.5												
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15													
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.8...	15	-.5												
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.8...												
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1												
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.8...												
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5												
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15													
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5												
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866												
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1												
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866												
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.8...	15	.5												
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15													
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.8...	15	-.5												
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.8...												
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1												

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.8...												
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5												
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																
27	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	17	1	29	1	30												
28	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5											
29	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866											
30	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	20	1	29		30	1											
31	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866											
32	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	22	1	29	-.8...	30	.5											
33	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	23	1	29	-1	30												
34	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	24	1	29	-.8...	30	-.5											
35	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.8...											
36	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	26	1	29		30	-1											
37	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.8...											
38	1.2D + 1.0Di +1.0Wi A...	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5											
39	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	1	32															
40	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	.866	32	.5															
41	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	.5	32	.866															
42	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31		32	1															
43	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	-.5	32	.866															
44	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	-.8...	32	.5															
45	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	-1	32																
46	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	-.8...	32	-.5															
47	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	-.5	32	-.8...															
48	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31		32	-1															
49	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	.5	32	-.8...															
50	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.239	31	.866	32	-.5															
51	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	1	32																
52	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	.866	32	.5															
53	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	.5	32	.866															
54	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31		32	1															
55	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	-.5	32	.866															
56	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	-.8...	32	.5															
57	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	-1	32																
58	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	-.8...	32	-.5															
59	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	-.5	32	-.8...															
60	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31		32	-1															
61	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	.5	32	-.8...															
62	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.861	31	.866	32	-.5															
63	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	2	.263	14	.263	15		33	1.5											
64	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	3	.263	14	.228	15	.131	33	1.5											
65	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	4	.263	14	.131	15	.228	33	1.5											
66	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	5	.263	14		15	.263	33	1.5											
67	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	6	.263	14	-.1...	15	.228	33	1.5											
68	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	7	.263	14	-.2...	15	.131	33	1.5											
69	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	8	.263	14	-.2...	15		33	1.5											
70	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	9	.263	14	-.2...	15	-.1...	33	1.5											
71	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	10	.263	14	-.1...	15	-.2...	33	1.5											
72	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	11	.263	14		15	-.2...	33	1.5											
73	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	12	.263	14	.131	15	-.2...	33	1.5											
74	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	13	.263	14	.228	15	-.1...	33	1.5											
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																	
76	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	2	.066	14	.066	15												
77	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	3	.066	14	.057	15	.033											
78	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	4	.066	14	.033	15	.057											
79	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	5	.066	14		15	.066											
80	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	6	.066	14	-.0...	15	.057											

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
81	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	7	.066	14	-.0...	15	.033										
82	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	8	.066	14	-.0...	15											
83	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	9	.066	14	-.0...	15	-.0...										
84	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	10	.066	14	-.0...	15	-.0...										
85	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	11	.066	14		15	-.0...										
86	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	12	.066	14	.033	15	-.0...										
87	1.2DL + 1.5LM-MP1 + ...	Yes	Y		1	1.2	34	1.5	13	.066	14	.057	15	-.0...										
88	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	2	.066	14	.066	15											
89	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	3	.066	14	.057	15	.033										
90	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	4	.066	14	.033	15	.057										
91	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	5	.066	14		15	.066										
92	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	6	.066	14	-.0...	15	.057										
93	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	7	.066	14	-.0...	15	.033										
94	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	8	.066	14	-.0...	15											
95	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	9	.066	14	-.0...	15	-.0...										
96	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	10	.066	14	-.0...	15	-.0...										
97	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	11	.066	14		15	-.0...										
98	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	12	.066	14	.033	15	-.0...										
99	1.2DL + 1.5LM-MP2 + ...	Yes	Y		1	1.2	35	1.5	13	.066	14	.057	15	-.0...										
100	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	2	.066	14	.066	15											
101	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	3	.066	14	.057	15	.033										
102	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	4	.066	14	.033	15	.057										
103	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	5	.066	14		15	.066										
104	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	6	.066	14	-.0...	15	.057										
105	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	7	.066	14	-.0...	15	.033										
106	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	8	.066	14	-.0...	15											
107	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	9	.066	14	-.0...	15	-.0...										
108	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	10	.066	14	-.0...	15	-.0...										
109	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	11	.066	14		15	-.0...										
110	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	12	.066	14	.033	15	-.0...										
111	1.2DL + 1.5LM-MP3 + ...	Yes	Y		1	1.2	36	1.5	13	.066	14	.057	15	-.0...										
112	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	2	.066	14	.066	15											
113	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	3	.066	14	.057	15	.033										
114	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	4	.066	14	.033	15	.057										
115	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	5	.066	14		15	.066										
116	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	6	.066	14	-.0...	15	.057										
117	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	7	.066	14	-.0...	15	.033										
118	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	8	.066	14	-.0...	15											
119	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	9	.066	14	-.0...	15	-.0...										
120	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	10	.066	14	-.0...	15	-.0...										
121	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	11	.066	14		15	-.0...										
122	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	12	.066	14	.033	15	-.0...										
123	1.2DL + 1.5LM-MP4 + ...	Yes	Y		1	1.2	37	1.5	13	.066	14	.057	15	-.0...										
124	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	2	.066	14	.066	15											
125	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	3	.066	14	.057	15	.033										
126	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	4	.066	14	.033	15	.057										
127	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	5	.066	14		15	.066										
128	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	6	.066	14	-.0...	15	.057										
129	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	7	.066	14	-.0...	15	.033										
130	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	8	.066	14	-.0...	15											
131	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	9	.066	14	-.0...	15	-.0...										
132	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	10	.066	14	-.0...	15	-.0...										
133	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	11	.066	14		15	-.0...										
134	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	12	.066	14	.033	15	-.0...										
135	1.2DL + 1.5LM-MP5 + ...	Yes	Y		1	1.2	38	1.5	13	.066	14	.057	15	-.0...										
136	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	2	.066	14	.066	15											
137	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	3	.066	14	.057	15	.033										

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
138	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	4	.066	14	.033	15	.057												
139	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	5	.066	14		15	.066												
140	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	6	.066	14	-.0...	15	.057												
141	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	7	.066	14	-.0...	15	.033												
142	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	8	.066	14	-.0...	15													
143	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	9	.066	14	-.0...	15	-.0...												
144	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	10	.066	14	-.0...	15	-.0...												
145	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	11	.066	14		15	-.0...												
146	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	12	.066	14	.033	15	-.0...												
147	1.2DL + 1.5LM-MP6 + ...	Yes	Y		1	1.2	39	1.5	13	.066	14	.057	15	-.0...												
148	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	2	.066	14	.066	15													
149	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	3	.066	14	.057	15	.033												
150	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	4	.066	14	.033	15	.057												
151	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	5	.066	14		15	.066												
152	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	6	.066	14	-.0...	15	.057												
153	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	7	.066	14	-.0...	15	.033												
154	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	8	.066	14	-.0...	15													
155	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	9	.066	14	-.0...	15	-.0...												
156	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	10	.066	14	-.0...	15	-.0...												
157	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	11	.066	14		15	-.0...												
158	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	12	.066	14	.033	15	-.0...												
159	1.2DL + 1.5LM-MP7 + ...	Yes	Y		1	1.2	40	1.5	13	.066	14	.057	15	-.0...												
160	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	2	.066	14	.066	15													
161	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	3	.066	14	.057	15	.033												
162	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	4	.066	14	.033	15	.057												
163	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	5	.066	14		15	.066												
164	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	6	.066	14	-.0...	15	.057												
165	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	7	.066	14	-.0...	15	.033												
166	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	8	.066	14	-.0...	15													
167	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	9	.066	14	-.0...	15	-.0...												
168	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	10	.066	14	-.0...	15	-.0...												
169	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	11	.066	14		15	-.0...												
170	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	12	.066	14	.033	15	-.0...												
171	1.2DL + 1.5LM-MP8 + ...	Yes	Y		1	1.2	41	1.5	13	.066	14	.057	15	-.0...												
172	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	2	.066	14	.066	15													
173	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	3	.066	14	.057	15	.033												
174	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	4	.066	14	.033	15	.057												
175	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	5	.066	14		15	.066												
176	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	6	.066	14	-.0...	15	.057												
177	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	7	.066	14	-.0...	15	.033												
178	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	8	.066	14	-.0...	15													
179	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	9	.066	14	-.0...	15	-.0...												
180	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	10	.066	14	-.0...	15	-.0...												
181	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	11	.066	14		15	-.0...												
182	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	12	.066	14	.033	15	-.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	N15	max	73.234	17	5113.239	27	-1171.145	20	426.09	27	118.051	11	101.318	11
2		min	-73.233	23	1034.867	20	-5516.034	27	86.239	20	-117.409	17	-100.649	17
3	N5	max	839.69	5	-418.039	20	5613.602	2	-395.144	24	2363.387	23	159.173	135
4		min	-839.098	11	-1934.035	27	-3243.958	20	-1670.98	27	-2364.874	5	-98.327	165
5	N9	max	4793.712	6	-437.911	24	1789.806	24	868.179	29	1539.33	15	1448.965	33
6		min	-2755.884	24	-1938.655	31	-2975.286	6	187.215	20	-1539.045	9	310.512	16
7	N7	max	2819.687	16	-416.478	16	1756.859	16	771.409	38	1191.888	19	-304.561	24

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
8		min	-4726.275	10	-1796.092	35	-2862.593	10	150.973	20	-1193.747	13	-1361.264	33
9	N24	max	-1060.82	24	5098.035	31	2749.084	30	4.058	23	71.219	3	-66.587	21
10		min	-4756.661	31	1055.199	24	601.104	23	-217.453	31	-69.202	21	-366.944	28
11	N32	max	4457.196	35	4781.861	35	2575.972	36	6.672	17	63.572	11	341.149	34
12		min	1009.128	16	1000.785	16	572.849	17	-206.707	35	-61.515	17	67.957	15
13	Totals:	max	7024.895	17	9181.335	37	7089.979	2						
14		min	-7024.895	23	2308.698	54	-7089.977	20						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*...	phi*...	phi*...	phi*...	...	Eqn
1	MP3	PIPE_...	.481	48	8	.056	48		8	3003..	50715	3596..	3596..	....	H1-...
2	MP6	PIPE_...	.480	48	4	.056	48		4	3003..	50715	3596..	3596..	....	H1-...
3	MP9	PIPE_...	.480	48	12	.053	48		12	3003..	50715	3596..	3596..	....	H1-...
4	MP1	PIPE_...	.460	48	8	.046	48		6	3003..	50715	3596..	3596..	....	H1-...
5	MP7	PIPE_...	.460	48	12	.050	48		10	3003..	50715	3596..	3596..	....	H1-...
6	MP4	PIPE_...	.459	48	4	.049	48		2	3003..	50715	3596..	3596..	....	H1-...
7	SA1	HSS4X...	.302	52.105	35	.080	52.105	y	28	1102..	1395..	1618..	1618..	....	H1-...
8	SA2	HSS4X...	.298	14.211	30	.081	52.105	y	30	1102..	1395..	1618..	1618..	....	H1-...
9	SA3	HSS4X...	.282	52.105	37	.076	52.105	y	33	1102..	1395..	1618..	1618..	....	H1-...
10	HR3	PIPE_...	.274	8.211	23	.229	4.105		5	5820..	32130	1871..	1871..	....	H1-...
11	HR2	PIPE_...	.274	8.211	15	.226	4.105		9	5820..	32130	1871..	1871..	....	H1-...
12	HR1	PIPE_...	.270	8.211	13	.230	4.105		13	5820..	32130	1871..	1871..	....	H1-...
13	M14	L2.5x2....	.252	23.712	37	.009	0	z	5	1753..	2919..	872....	1718..	....	H2-1
14	M31	L2.5x2....	.248	23.712	31	.007	47.424	z	9	1753..	2919..	872....	1718..	....	H2-1
15	M15	L2.5x2....	.246	23.712	27	.009	0	z	5	1753..	2919..	872....	1718..	....	H2-1
16	M30	L2.5x2....	.244	23.712	29	.007	0	z	9	1753..	2919..	872....	1718..	....	H2-1
17	M22	L2.5x2....	.237	23.712	34	.006	0	z	13	1753..	2919..	872....	1718..	....	H2-1
18	M23	L2.5x2....	.231	23.712	34	.006	47.424	z	13	1753..	2919..	872....	1718..	....	H2-1
19	HOR3	HSS4X...	.195	162	31	.075	0	y	12	6506..	1395..	1618..	1618..	....	H1-...
20	HOR2	HSS4X...	.195	162	36	.072	0	y	4	6506..	1395..	1618..	1618..	....	H1-...
21	HOR1	HSS4X...	.194	162	38	.071	162	y	8	6506..	1395..	1618..	1618..	....	H1-...
22	MP5	PIPE_...	.180	48	7	.027	48		7	3003..	50715	3596..	3596..	....	H1-...
23	MP8	PIPE_...	.174	48	3	.029	48		3	3003..	50715	3596..	3596..	....	H1-...
24	CP1	L3X3X4	.172	0	9	.155	6	y	9	4639..	46656	1688..	3755..	....	H2-1
25	CP2	L3X3X4	.172	0	5	.157	6	y	5	4639..	46656	1688..	3755..	....	H2-1
26	MP2	PIPE_...	.167	48	5	.028	48		5	3003..	50715	3596..	3596..	....	H1-...
27	CP3	L3X3X4	.157	6	2	.155	0	y	13	4639..	46656	1688..	3755..	....	H2-1
28	M76	L2x2x4	.017	0	30	.003	0	y	38	2972..	3058..	690....	1576..	....	H2-1
29	M75	L2x2x4	.017	0	30	.003	0	y	38	2972..	3058..	690....	1576..	....	H2-1
30	M72	L2x2x4	.017	0	33	.003	0	y	32	2972..	3058..	690....	1576..	....	H2-1
31	M68	L2x2x4	.017	0	27	.003	0	y	35	2972..	3058..	690....	1576..	....	H2-1
32	M71	L2x2x4	.017	0	33	.003	0	y	32	2972..	3058..	690....	1576..	....	H2-1
33	M67	L2x2x4	.017	0	27	.003	0	y	35	2972..	3058..	690....	1576..	....	H2-1
34	M77	L2x2x4	.014	0	30	.002	0	y	38	2972..	3058..	690....	1576..	....	H2-1
35	M73	L2x2x4	.014	0	33	.002	0	y	32	2972..	3058..	690....	1576..	....	H2-1
36	M69	L2x2x4	.014	0	27	.002	0	y	35	2972..	3058..	690....	1576..	....	H2-1
37	M74	L2x2x4	.012	0	30	.002	0	y	38	2972..	3058..	690....	1576..	....	H2-1
38	M66	L2x2x4	.012	0	27	.002	0	y	35	2972..	3058..	690....	1576..	....	H2-1
39	M70	L2x2x4	.012	0	33	.002	0	y	32	2972..	3058..	690....	1576..	....	H2-1
40	M50A	PIPE_...	.008	24	2	.002	24		2	4908..	50715	3596..	3596..	....	H1-...

Joint Boundary Conditions

	Joint Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N15	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N5	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N7	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N24	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	HOR1						Yes				None
2	HOR2						Yes				None
3	HOR3						Yes				None
4	SA2						Yes				None
5	SA3						Yes				None
6	SA1						Yes				None
7	M7						Yes	** NA **			None
8	M8						Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14	BenPIN	BenPIN				Yes	Default			None
15	M15	BenPIN	BenPIN				Yes	Default			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M19						Yes	** NA **			None
19	M20						Yes	** NA **			None
20	M21						Yes	** NA **			None
21	M22	BenPIN	BenPIN				Yes	Default			None
22	M23	BenPIN	BenPIN				Yes	Default			None
23	M23A						Yes	** NA **			None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30	BenPIN	BenPIN				Yes	Default			None
31	M31	BenPIN	BenPIN				Yes	Default			None
32	M33						Yes	** NA **			None
33	M34						Yes	** NA **			None
34	M35						Yes	** NA **			None
35	M36						Yes	** NA **			None
36	M37						Yes	** NA **			None
37	M38						Yes	** NA **			None
38	M39						Yes	** NA **			None
39	M40						Yes	** NA **			None
40	M41						Yes	** NA **			None
41	MP3						Yes	** NA **			None
42	MP2						Yes	** NA **			None
43	MP1						Yes	** NA **			None
44	MP9						Yes	** NA **			None
45	MP8						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
46	MP7						Yes	** NA **			None
47	MP6						Yes	** NA **			None
48	MP5						Yes	** NA **			None
49	MP4						Yes	** NA **			None
50	M50A						Yes	** NA **			None
51	HR1						Yes				None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	M54						Yes	** NA **			None
55	HR3						Yes				None
56	M56						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	HR2						Yes				None
60	M60						Yes	** NA **			None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None
63	CP1						Yes				None
64	CP3						Yes				None
65	CP2						Yes				None
66	M66						Yes				None
67	M67						Yes				None
68	M68						Yes				None
69	M69						Yes				None
70	M70						Yes				None
71	M71						Yes				None
72	M72						Yes				None
73	M73						Yes				None
74	M74						Yes				None
75	M75						Yes				None
76	M76						Yes				None
77	M77						Yes				None

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-52.8	0
2	MP1	Y	-52.8	%100
3	MP3	Y	-38.25	0
4	MP3	Y	-38.25	%100
5	MP1	Y	-42.9	15
6	MP1	Y	-73	35
7	MP3	Y	-32.8	30
8	MP3	Y	-72	60
9	MP4	Y	-52.8	0
10	MP4	Y	-52.8	%100
11	MP6	Y	-38.25	0
12	MP6	Y	-38.25	%100
13	MP4	Y	-42.9	15
14	MP4	Y	-73	35
15	MP6	Y	-32.8	30
16	MP6	Y	-72	60
17	MP7	Y	-52.8	0
18	MP7	Y	-52.8	%100
19	MP9	Y	-38.25	0
20	MP9	Y	-38.25	%100

Member Point Loads (BLC 1 : Self Weight) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP7	Y	-42.9	15
22	MP7	Y	-73	35
23	MP9	Y	-72	60

Member Point Loads (BLC 2 : Wind Load AZI_0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-372.15	0
3	MP1	X	0	%100
4	MP1	Z	-372.15	%100
5	MP3	X	0	0
6	MP3	Z	-376.69	0
7	MP3	X	0	%100
8	MP3	Z	-376.69	%100
9	MP1	X	0	15
10	MP1	Z	-68.43	15
11	MP1	X	0	35
12	MP1	Z	-68.48	35
13	MP3	X	0	30
14	MP3	Z	-120.81	30
15	MP3	X	0	60
16	MP3	Z	-68.26	60
17	MP4	X	0	0
18	MP4	Z	-219.89	0
19	MP4	X	0	%100
20	MP4	Z	-219.89	%100
21	MP6	X	0	0
22	MP6	Z	-222.24	0
23	MP6	X	0	%100
24	MP6	Z	-222.24	%100
25	MP4	X	0	15
26	MP4	Z	-37.07	15
27	MP4	X	0	35
28	MP4	Z	-57.74	35
29	MP6	X	0	30
30	MP6	Z	-120.81	30
31	MP6	X	0	60
32	MP6	Z	-59.34	60
33	MP7	X	0	0
34	MP7	Z	-219.89	0
35	MP7	X	0	%100
36	MP7	Z	-219.89	%100
37	MP9	X	0	0
38	MP9	Z	-222.24	0
39	MP9	X	0	%100
40	MP9	Z	-222.24	%100
41	MP7	X	0	15
42	MP7	Z	-37.07	15
43	MP7	X	0	35
44	MP7	Z	-57.74	35
45	MP9	X	0	60
46	MP9	Z	-59.34	60

Member Point Loads (BLC 3 : Wind Load AZI_30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-160.7	0

Member Point Loads (BLC 3 : Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	Z	-278.34	0
3	MP1	X	-160.7	%100
4	MP1	Z	-278.34	%100
5	MP3	X	-162.6	0
6	MP3	Z	-281.63	0
7	MP3	X	-162.6	%100
8	MP3	Z	-281.63	%100
9	MP1	X	-28.99	15
10	MP1	Z	-50.21	15
11	MP1	X	-32.45	35
12	MP1	Z	-56.21	35
13	MP3	X	-60.41	30
14	MP3	Z	-104.63	30
15	MP3	X	-32.64	60
16	MP3	Z	-56.54	60
17	MP4	X	-160.7	0
18	MP4	Z	-278.34	0
19	MP4	X	-160.7	%100
20	MP4	Z	-278.34	%100
21	MP6	X	-162.6	0
22	MP6	Z	-281.63	0
23	MP6	X	-162.6	%100
24	MP6	Z	-281.63	%100
25	MP4	X	-28.99	15
26	MP4	Z	-50.21	15
27	MP4	X	-32.45	35
28	MP4	Z	-56.21	35
29	MP6	X	-60.41	30
30	MP6	Z	-104.63	30
31	MP6	X	-32.64	60
32	MP6	Z	-56.54	60
33	MP7	X	-84.57	0
34	MP7	Z	-146.48	0
35	MP7	X	-84.57	%100
36	MP7	Z	-146.48	%100
37	MP9	X	-85.38	0
38	MP9	Z	-147.88	0
39	MP9	X	-85.38	%100
40	MP9	Z	-147.88	%100
41	MP7	X	-13.31	15
42	MP7	Z	-23.06	15
43	MP7	X	-27.08	35
44	MP7	Z	-46.9	35
45	MP9	X	-28.18	60
46	MP9	Z	-48.82	60

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-190.43	0
2	MP1	Z	-109.95	0
3	MP1	X	-190.43	%100
4	MP1	Z	-109.95	%100
5	MP3	X	-192.47	0
6	MP3	Z	-111.12	0
7	MP3	X	-192.47	%100
8	MP3	Z	-111.12	%100

Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
9	MP1	X	-32.11	15
10	MP1	Z	-18.54	15
11	MP1	X	-50	35
12	MP1	Z	-28.87	35
13	MP3	X	-104.63	30
14	MP3	Z	-60.41	30
15	MP3	X	-51.39	60
16	MP3	Z	-29.67	60
17	MP4	X	-322.29	0
18	MP4	Z	-186.08	0
19	MP4	X	-322.29	%100
20	MP4	Z	-186.08	%100
21	MP6	X	-326.22	0
22	MP6	Z	-188.34	0
23	MP6	X	-326.22	%100
24	MP6	Z	-188.34	%100
25	MP4	X	-59.26	15
26	MP4	Z	-34.22	15
27	MP4	X	-59.31	35
28	MP4	Z	-34.24	35
29	MP6	X	-104.63	30
30	MP6	Z	-60.41	30
31	MP6	X	-59.12	60
32	MP6	Z	-34.13	60
33	MP7	X	-190.43	0
34	MP7	Z	-109.95	0
35	MP7	X	-190.43	%100
36	MP7	Z	-109.95	%100
37	MP9	X	-192.47	0
38	MP9	Z	-111.12	0
39	MP9	X	-192.47	%100
40	MP9	Z	-111.12	%100
41	MP7	X	-32.11	15
42	MP7	Z	-18.54	15
43	MP7	X	-50	35
44	MP7	Z	-28.87	35
45	MP9	X	-51.39	60
46	MP9	Z	-29.67	60

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-169.14	0
2	MP1	Z	0	0
3	MP1	X	-169.14	%100
4	MP1	Z	0	%100
5	MP3	X	-170.76	0
6	MP3	Z	0	0
7	MP3	X	-170.76	%100
8	MP3	Z	0	%100
9	MP1	X	-26.62	15
10	MP1	Z	0	15
11	MP1	X	-54.15	35
12	MP1	Z	0	35
13	MP3	X	-120.81	30
14	MP3	Z	0	30
15	MP3	X	-56.37	60

Member Point Loads (BLC 5 : Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
16	MP3	Z	0	60
17	MP4	X	-321.4	0
18	MP4	Z	0	0
19	MP4	X	-321.4	%100
20	MP4	Z	0	%100
21	MP6	X	-325.2	0
22	MP6	Z	0	0
23	MP6	X	-325.2	%100
24	MP6	Z	0	%100
25	MP4	X	-57.98	15
26	MP4	Z	0	15
27	MP4	X	-64.9	35
28	MP4	Z	0	35
29	MP6	X	-120.81	30
30	MP6	Z	0	30
31	MP6	X	-65.29	60
32	MP6	Z	0	60
33	MP7	X	-321.4	0
34	MP7	Z	0	0
35	MP7	X	-321.4	%100
36	MP7	Z	0	%100
37	MP9	X	-325.2	0
38	MP9	Z	0	0
39	MP9	X	-325.2	%100
40	MP9	Z	0	%100
41	MP7	X	-57.98	15
42	MP7	Z	0	15
43	MP7	X	-64.9	35
44	MP7	Z	0	35
45	MP9	X	-65.29	60
46	MP9	Z	0	60

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-190.43	0
2	MP1	Z	109.95	0
3	MP1	X	-190.43	%100
4	MP1	Z	109.95	%100
5	MP3	X	-192.47	0
6	MP3	Z	111.12	0
7	MP3	X	-192.47	%100
8	MP3	Z	111.12	%100
9	MP1	X	-32.11	15
10	MP1	Z	18.54	15
11	MP1	X	-50	35
12	MP1	Z	28.87	35
13	MP3	X	-104.63	30
14	MP3	Z	60.41	30
15	MP3	X	-51.39	60
16	MP3	Z	29.67	60
17	MP4	X	-190.43	0
18	MP4	Z	109.95	0
19	MP4	X	-190.43	%100
20	MP4	Z	109.95	%100
21	MP6	X	-192.47	0
22	MP6	Z	111.12	0

Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP6	X	-192.47	%100
24	MP6	Z	111.12	%100
25	MP4	X	-32.11	15
26	MP4	Z	18.54	15
27	MP4	X	-50	35
28	MP4	Z	28.87	35
29	MP6	X	-104.63	30
30	MP6	Z	60.41	30
31	MP6	X	-51.39	60
32	MP6	Z	29.67	60
33	MP7	X	-322.29	0
34	MP7	Z	186.08	0
35	MP7	X	-322.29	%100
36	MP7	Z	186.08	%100
37	MP9	X	-326.22	0
38	MP9	Z	188.34	0
39	MP9	X	-326.22	%100
40	MP9	Z	188.34	%100
41	MP7	X	-59.26	15
42	MP7	Z	34.22	15
43	MP7	X	-59.31	35
44	MP7	Z	34.24	35
45	MP9	X	-59.12	60
46	MP9	Z	34.13	60

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-160.7	0
2	MP1	Z	278.34	0
3	MP1	X	-160.7	%100
4	MP1	Z	278.34	%100
5	MP3	X	-162.6	0
6	MP3	Z	281.63	0
7	MP3	X	-162.6	%100
8	MP3	Z	281.63	%100
9	MP1	X	-28.99	15
10	MP1	Z	50.21	15
11	MP1	X	-32.45	35
12	MP1	Z	56.21	35
13	MP3	X	-60.41	30
14	MP3	Z	104.63	30
15	MP3	X	-32.64	60
16	MP3	Z	56.54	60
17	MP4	X	-84.57	0
18	MP4	Z	146.48	0
19	MP4	X	-84.57	%100
20	MP4	Z	146.48	%100
21	MP6	X	-85.38	0
22	MP6	Z	147.88	0
23	MP6	X	-85.38	%100
24	MP6	Z	147.88	%100
25	MP4	X	-13.31	15
26	MP4	Z	23.06	15
27	MP4	X	-27.08	35
28	MP4	Z	46.9	35
29	MP6	X	-60.41	30

Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
30	MP6	Z	104.63	30
31	MP6	X	-28.18	60
32	MP6	Z	48.82	60
33	MP7	X	-160.7	0
34	MP7	Z	278.34	0
35	MP7	X	-160.7	%100
36	MP7	Z	278.34	%100
37	MP9	X	-162.6	0
38	MP9	Z	281.63	0
39	MP9	X	-162.6	%100
40	MP9	Z	281.63	%100
41	MP7	X	-28.99	15
42	MP7	Z	50.21	15
43	MP7	X	-32.45	35
44	MP7	Z	56.21	35
45	MP9	X	-32.64	60
46	MP9	Z	56.54	60

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	372.15	0
3	MP1	X	0	%100
4	MP1	Z	372.15	%100
5	MP3	X	0	0
6	MP3	Z	376.69	0
7	MP3	X	0	%100
8	MP3	Z	376.69	%100
9	MP1	X	0	15
10	MP1	Z	68.43	15
11	MP1	X	0	35
12	MP1	Z	68.48	35
13	MP3	X	0	30
14	MP3	Z	120.81	30
15	MP3	X	0	60
16	MP3	Z	68.26	60
17	MP4	X	0	0
18	MP4	Z	219.89	0
19	MP4	X	0	%100
20	MP4	Z	219.89	%100
21	MP6	X	0	0
22	MP6	Z	222.24	0
23	MP6	X	0	%100
24	MP6	Z	222.24	%100
25	MP4	X	0	15
26	MP4	Z	37.07	15
27	MP4	X	0	35
28	MP4	Z	57.74	35
29	MP6	X	0	30
30	MP6	Z	120.81	30
31	MP6	X	0	60
32	MP6	Z	59.34	60
33	MP7	X	0	0
34	MP7	Z	219.89	0
35	MP7	X	0	%100
36	MP7	Z	219.89	%100

Member Point Loads (BLC 8 : Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
37	MP9	X	0	0
38	MP9	Z	222.24	0
39	MP9	X	0	%100
40	MP9	Z	222.24	%100
41	MP7	X	0	15
42	MP7	Z	37.07	15
43	MP7	X	0	35
44	MP7	Z	57.74	35
45	MP9	X	0	60
46	MP9	Z	59.34	60

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	160.7	0
2	MP1	Z	278.34	0
3	MP1	X	160.7	%100
4	MP1	Z	278.34	%100
5	MP3	X	162.6	0
6	MP3	Z	281.63	0
7	MP3	X	162.6	%100
8	MP3	Z	281.63	%100
9	MP1	X	28.99	15
10	MP1	Z	50.21	15
11	MP1	X	32.45	35
12	MP1	Z	56.21	35
13	MP3	X	60.41	30
14	MP3	Z	104.63	30
15	MP3	X	32.64	60
16	MP3	Z	56.54	60
17	MP4	X	160.7	0
18	MP4	Z	278.34	0
19	MP4	X	160.7	%100
20	MP4	Z	278.34	%100
21	MP6	X	162.6	0
22	MP6	Z	281.63	0
23	MP6	X	162.6	%100
24	MP6	Z	281.63	%100
25	MP4	X	28.99	15
26	MP4	Z	50.21	15
27	MP4	X	32.45	35
28	MP4	Z	56.21	35
29	MP6	X	60.41	30
30	MP6	Z	104.63	30
31	MP6	X	32.64	60
32	MP6	Z	56.54	60
33	MP7	X	84.57	0
34	MP7	Z	146.48	0
35	MP7	X	84.57	%100
36	MP7	Z	146.48	%100
37	MP9	X	85.38	0
38	MP9	Z	147.88	0
39	MP9	X	85.38	%100
40	MP9	Z	147.88	%100
41	MP7	X	13.31	15
42	MP7	Z	23.06	15
43	MP7	X	27.08	35

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
44	MP7	Z	46.9	35
45	MP9	X	28.18	60
46	MP9	Z	48.82	60

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	190.43	0
2	MP1	Z	109.95	0
3	MP1	X	190.43	%100
4	MP1	Z	109.95	%100
5	MP3	X	192.47	0
6	MP3	Z	111.12	0
7	MP3	X	192.47	%100
8	MP3	Z	111.12	%100
9	MP1	X	32.11	15
10	MP1	Z	18.54	15
11	MP1	X	50	35
12	MP1	Z	28.87	35
13	MP3	X	104.63	30
14	MP3	Z	60.41	30
15	MP3	X	51.39	60
16	MP3	Z	29.67	60
17	MP4	X	322.29	0
18	MP4	Z	186.08	0
19	MP4	X	322.29	%100
20	MP4	Z	186.08	%100
21	MP6	X	326.22	0
22	MP6	Z	188.34	0
23	MP6	X	326.22	%100
24	MP6	Z	188.34	%100
25	MP4	X	59.26	15
26	MP4	Z	34.22	15
27	MP4	X	59.31	35
28	MP4	Z	34.24	35
29	MP6	X	104.63	30
30	MP6	Z	60.41	30
31	MP6	X	59.12	60
32	MP6	Z	34.13	60
33	MP7	X	190.43	0
34	MP7	Z	109.95	0
35	MP7	X	190.43	%100
36	MP7	Z	109.95	%100
37	MP9	X	192.47	0
38	MP9	Z	111.12	0
39	MP9	X	192.47	%100
40	MP9	Z	111.12	%100
41	MP7	X	32.11	15
42	MP7	Z	18.54	15
43	MP7	X	50	35
44	MP7	Z	28.87	35
45	MP9	X	51.39	60
46	MP9	Z	29.67	60

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	169.14	0

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	Z	0	0
3	MP1	X	169.14	%100
4	MP1	Z	0	%100
5	MP3	X	170.76	0
6	MP3	Z	0	0
7	MP3	X	170.76	%100
8	MP3	Z	0	%100
9	MP1	X	26.62	15
10	MP1	Z	0	15
11	MP1	X	54.15	35
12	MP1	Z	0	35
13	MP3	X	120.81	30
14	MP3	Z	0	30
15	MP3	X	56.37	60
16	MP3	Z	0	60
17	MP4	X	321.4	0
18	MP4	Z	0	0
19	MP4	X	321.4	%100
20	MP4	Z	0	%100
21	MP6	X	325.2	0
22	MP6	Z	0	0
23	MP6	X	325.2	%100
24	MP6	Z	0	%100
25	MP4	X	57.98	15
26	MP4	Z	0	15
27	MP4	X	64.9	35
28	MP4	Z	0	35
29	MP6	X	120.81	30
30	MP6	Z	0	30
31	MP6	X	65.29	60
32	MP6	Z	0	60
33	MP7	X	321.4	0
34	MP7	Z	0	0
35	MP7	X	321.4	%100
36	MP7	Z	0	%100
37	MP9	X	325.2	0
38	MP9	Z	0	0
39	MP9	X	325.2	%100
40	MP9	Z	0	%100
41	MP7	X	57.98	15
42	MP7	Z	0	15
43	MP7	X	64.9	35
44	MP7	Z	0	35
45	MP9	X	65.29	60
46	MP9	Z	0	60

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	190.43	0
2	MP1	Z	-109.95	0
3	MP1	X	190.43	%100
4	MP1	Z	-109.95	%100
5	MP3	X	192.47	0
6	MP3	Z	-111.12	0
7	MP3	X	192.47	%100
8	MP3	Z	-111.12	%100

Member Point Loads (BLC 12 : Wind Load AZI 300) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
9	MP1	X	32.11	15
10	MP1	Z	-18.54	15
11	MP1	X	50	35
12	MP1	Z	-28.87	35
13	MP3	X	104.63	30
14	MP3	Z	-60.41	30
15	MP3	X	51.39	60
16	MP3	Z	-29.67	60
17	MP4	X	190.43	0
18	MP4	Z	-109.95	0
19	MP4	X	190.43	%100
20	MP4	Z	-109.95	%100
21	MP6	X	192.47	0
22	MP6	Z	-111.12	0
23	MP6	X	192.47	%100
24	MP6	Z	-111.12	%100
25	MP4	X	32.11	15
26	MP4	Z	-18.54	15
27	MP4	X	50	35
28	MP4	Z	-28.87	35
29	MP6	X	104.63	30
30	MP6	Z	-60.41	30
31	MP6	X	51.39	60
32	MP6	Z	-29.67	60
33	MP7	X	322.29	0
34	MP7	Z	-186.08	0
35	MP7	X	322.29	%100
36	MP7	Z	-186.08	%100
37	MP9	X	326.22	0
38	MP9	Z	-188.34	0
39	MP9	X	326.22	%100
40	MP9	Z	-188.34	%100
41	MP7	X	59.26	15
42	MP7	Z	-34.22	15
43	MP7	X	59.31	35
44	MP7	Z	-34.24	35
45	MP9	X	59.12	60
46	MP9	Z	-34.13	60

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	160.7	0
2	MP1	Z	-278.34	0
3	MP1	X	160.7	%100
4	MP1	Z	-278.34	%100
5	MP3	X	162.6	0
6	MP3	Z	-281.63	0
7	MP3	X	162.6	%100
8	MP3	Z	-281.63	%100
9	MP1	X	28.99	15
10	MP1	Z	-50.21	15
11	MP1	X	32.45	35
12	MP1	Z	-56.21	35
13	MP3	X	60.41	30
14	MP3	Z	-104.63	30
15	MP3	X	32.64	60

Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
16	MP3	Z	-56.54	60
17	MP4	X	84.57	0
18	MP4	Z	-146.48	0
19	MP4	X	84.57	%100
20	MP4	Z	-146.48	%100
21	MP6	X	85.38	0
22	MP6	Z	-147.88	0
23	MP6	X	85.38	%100
24	MP6	Z	-147.88	%100
25	MP4	X	13.31	15
26	MP4	Z	-23.06	15
27	MP4	X	27.08	35
28	MP4	Z	-46.9	35
29	MP6	X	60.41	30
30	MP6	Z	-104.63	30
31	MP6	X	28.18	60
32	MP6	Z	-48.82	60
33	MP7	X	160.7	0
34	MP7	Z	-278.34	0
35	MP7	X	160.7	%100
36	MP7	Z	-278.34	%100
37	MP9	X	162.6	0
38	MP9	Z	-281.63	0
39	MP9	X	162.6	%100
40	MP9	Z	-281.63	%100
41	MP7	X	28.99	15
42	MP7	Z	-50.21	15
43	MP7	X	32.45	35
44	MP7	Z	-56.21	35
45	MP9	X	32.64	60
46	MP9	Z	-56.54	60

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-189.579	0
2	MP1	Y	-189.579	%100
3	MP3	Y	-192.093	0
4	MP3	Y	-192.093	%100
5	MP1	Y	-53.183	15
6	MP1	Y	-72.612	35
7	MP3	Y	-114.574	30
8	MP3	Y	-74.149	60
9	MP4	Y	-189.579	0
10	MP4	Y	-189.579	%100
11	MP6	Y	-192.093	0
12	MP6	Y	-192.093	%100
13	MP4	Y	-53.183	15
14	MP4	Y	-72.612	35
15	MP6	Y	-114.574	30
16	MP6	Y	-74.149	60
17	MP7	Y	-189.579	0
18	MP7	Y	-189.579	%100
19	MP9	Y	-192.093	0
20	MP9	Y	-192.093	%100
21	MP7	Y	-53.183	15
22	MP7	Y	-72.612	35

Member Point Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP9	Y	-74.149	60

Member Point Loads (BLC 17 : Ice Wind Load AZI_0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-34.09	0
3	MP1	X	0	%100
4	MP1	Z	-34.09	%100
5	MP3	X	0	0
6	MP3	Z	-34.44	0
7	MP3	X	0	%100
8	MP3	Z	-34.44	%100
9	MP1	X	0	15
10	MP1	Z	-8.14	15
11	MP1	X	0	35
12	MP1	Z	-8.14	35
13	MP3	X	0	30
14	MP3	Z	-13.93	30
15	MP3	X	0	60
16	MP3	Z	-8.12	60
17	MP4	X	0	0
18	MP4	Z	-24.2	0
19	MP4	X	0	%100
20	MP4	Z	-24.2	%100
21	MP6	X	0	0
22	MP6	Z	-24.35	0
23	MP6	X	0	%100
24	MP6	Z	-24.35	%100
25	MP4	X	0	15
26	MP4	Z	-6.26	15
27	MP4	X	0	35
28	MP4	Z	-7.47	35
29	MP6	X	0	30
30	MP6	Z	-13.93	30
31	MP6	X	0	60
32	MP6	Z	-7.54	60
33	MP7	X	0	0
34	MP7	Z	-24.2	0
35	MP7	X	0	%100
36	MP7	Z	-24.2	%100
37	MP9	X	0	0
38	MP9	Z	-24.35	0
39	MP9	X	0	%100
40	MP9	Z	-24.35	%100
41	MP7	X	0	15
42	MP7	Z	-6.26	15
43	MP7	X	0	35
44	MP7	Z	-7.47	35
45	MP9	X	0	60
46	MP9	Z	-7.54	60

Member Point Loads (BLC 18 : Ice Wind Load AZI_30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-15.4	0
2	MP1	Z	-26.67	0
3	MP1	X	-15.4	%100

Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	-26.67	%100
5	MP3	X	-15.54	0
6	MP3	Z	-26.91	0
7	MP3	X	-15.54	%100
8	MP3	Z	-26.91	%100
9	MP1	X	-3.76	15
10	MP1	Z	-6.51	15
11	MP1	X	-3.96	35
12	MP1	Z	-6.86	35
13	MP3	X	-6.96	30
14	MP3	Z	-12.06	30
15	MP3	X	-3.96	60
16	MP3	Z	-6.87	60
17	MP4	X	-15.4	0
18	MP4	Z	-26.67	0
19	MP4	X	-15.4	%100
20	MP4	Z	-26.67	%100
21	MP6	X	-15.54	0
22	MP6	Z	-26.91	0
23	MP6	X	-15.54	%100
24	MP6	Z	-26.91	%100
25	MP4	X	-3.76	15
26	MP4	Z	-6.51	15
27	MP4	X	-3.96	35
28	MP4	Z	-6.86	35
29	MP6	X	-6.96	30
30	MP6	Z	-12.06	30
31	MP6	X	-3.96	60
32	MP6	Z	-6.87	60
33	MP7	X	-10.45	0
34	MP7	Z	-18.11	0
35	MP7	X	-10.45	%100
36	MP7	Z	-18.11	%100
37	MP9	X	-10.49	0
38	MP9	Z	-18.17	0
39	MP9	X	-10.49	%100
40	MP9	Z	-18.17	%100
41	MP7	X	-2.82	15
42	MP7	Z	-4.88	15
43	MP7	X	-3.62	35
44	MP7	Z	-6.28	35
45	MP9	X	-3.67	60
46	MP9	Z	-6.36	60

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-20.96	0
2	MP1	Z	-12.1	0
3	MP1	X	-20.96	%100
4	MP1	Z	-12.1	%100
5	MP3	X	-21.09	0
6	MP3	Z	-12.17	0
7	MP3	X	-21.09	%100
8	MP3	Z	-12.17	%100
9	MP1	X	-5.42	15
10	MP1	Z	-3.13	15

Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP1	X	-6.47	35
12	MP1	Z	-3.74	35
13	MP3	X	-12.06	30
14	MP3	Z	-6.96	30
15	MP3	X	-6.53	60
16	MP3	Z	-3.77	60
17	MP4	X	-29.52	0
18	MP4	Z	-17.04	0
19	MP4	X	-29.52	%100
20	MP4	Z	-17.04	%100
21	MP6	X	-29.82	0
22	MP6	Z	-17.22	0
23	MP6	X	-29.82	%100
24	MP6	Z	-17.22	%100
25	MP4	X	-7.05	15
26	MP4	Z	-4.07	15
27	MP4	X	-7.05	35
28	MP4	Z	-4.07	35
29	MP6	X	-12.06	30
30	MP6	Z	-6.96	30
31	MP6	X	-7.04	60
32	MP6	Z	-4.06	60
33	MP7	X	-20.96	0
34	MP7	Z	-12.1	0
35	MP7	X	-20.96	%100
36	MP7	Z	-12.1	%100
37	MP9	X	-21.09	0
38	MP9	Z	-12.17	0
39	MP9	X	-21.09	%100
40	MP9	Z	-12.17	%100
41	MP7	X	-5.42	15
42	MP7	Z	-3.13	15
43	MP7	X	-6.47	35
44	MP7	Z	-3.74	35
45	MP9	X	-6.53	60
46	MP9	Z	-3.77	60

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-20.91	0
2	MP1	Z	0	0
3	MP1	X	-20.91	%100
4	MP1	Z	0	%100
5	MP3	X	-20.98	0
6	MP3	Z	0	0
7	MP3	X	-20.98	%100
8	MP3	Z	0	%100
9	MP1	X	-5.63	15
10	MP1	Z	0	15
11	MP1	X	-7.25	35
12	MP1	Z	0	35
13	MP3	X	-13.93	30
14	MP3	Z	0	30
15	MP3	X	-7.35	60
16	MP3	Z	0	60
17	MP4	X	-30.79	0

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	0	0
19	MP4	X	-30.79	%100
20	MP4	Z	0	%100
21	MP6	X	-31.07	0
22	MP6	Z	0	0
23	MP6	X	-31.07	%100
24	MP6	Z	0	%100
25	MP4	X	-7.51	15
26	MP4	Z	0	15
27	MP4	X	-7.92	35
28	MP4	Z	0	35
29	MP6	X	-13.93	30
30	MP6	Z	0	30
31	MP6	X	-7.93	60
32	MP6	Z	0	60
33	MP7	X	-30.79	0
34	MP7	Z	0	0
35	MP7	X	-30.79	%100
36	MP7	Z	0	%100
37	MP9	X	-31.07	0
38	MP9	Z	0	0
39	MP9	X	-31.07	%100
40	MP9	Z	0	%100
41	MP7	X	-7.51	15
42	MP7	Z	0	15
43	MP7	X	-7.92	35
44	MP7	Z	0	35
45	MP9	X	-7.93	60
46	MP9	Z	0	60

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-20.96	0
2	MP1	Z	12.1	0
3	MP1	X	-20.96	%100
4	MP1	Z	12.1	%100
5	MP3	X	-21.09	0
6	MP3	Z	12.17	0
7	MP3	X	-21.09	%100
8	MP3	Z	12.17	%100
9	MP1	X	-5.42	15
10	MP1	Z	3.13	15
11	MP1	X	-6.47	35
12	MP1	Z	3.74	35
13	MP3	X	-12.06	30
14	MP3	Z	6.96	30
15	MP3	X	-6.53	60
16	MP3	Z	3.77	60
17	MP4	X	-20.96	0
18	MP4	Z	12.1	0
19	MP4	X	-20.96	%100
20	MP4	Z	12.1	%100
21	MP6	X	-21.09	0
22	MP6	Z	12.17	0
23	MP6	X	-21.09	%100
24	MP6	Z	12.17	%100

Member Point Loads (BLC 21 : Ice Wind Load AZI 120) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP4	X	-5.42	15
26	MP4	Z	3.13	15
27	MP4	X	-6.47	35
28	MP4	Z	3.74	35
29	MP6	X	-12.06	30
30	MP6	Z	6.96	30
31	MP6	X	-6.53	60
32	MP6	Z	3.77	60
33	MP7	X	-29.52	0
34	MP7	Z	17.04	0
35	MP7	X	-29.52	%100
36	MP7	Z	17.04	%100
37	MP9	X	-29.82	0
38	MP9	Z	17.22	0
39	MP9	X	-29.82	%100
40	MP9	Z	17.22	%100
41	MP7	X	-7.05	15
42	MP7	Z	4.07	15
43	MP7	X	-7.05	35
44	MP7	Z	4.07	35
45	MP9	X	-7.04	60
46	MP9	Z	4.06	60

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-15.4	0
2	MP1	Z	26.67	0
3	MP1	X	-15.4	%100
4	MP1	Z	26.67	%100
5	MP3	X	-15.54	0
6	MP3	Z	26.91	0
7	MP3	X	-15.54	%100
8	MP3	Z	26.91	%100
9	MP1	X	-3.76	15
10	MP1	Z	6.51	15
11	MP1	X	-3.96	35
12	MP1	Z	6.86	35
13	MP3	X	-6.96	30
14	MP3	Z	12.06	30
15	MP3	X	-3.96	60
16	MP3	Z	6.87	60
17	MP4	X	-10.45	0
18	MP4	Z	18.11	0
19	MP4	X	-10.45	%100
20	MP4	Z	18.11	%100
21	MP6	X	-10.49	0
22	MP6	Z	18.17	0
23	MP6	X	-10.49	%100
24	MP6	Z	18.17	%100
25	MP4	X	-2.82	15
26	MP4	Z	4.88	15
27	MP4	X	-3.62	35
28	MP4	Z	6.28	35
29	MP6	X	-6.96	30
30	MP6	Z	12.06	30
31	MP6	X	-3.67	60

Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
32	MP6	Z	6.36	60
33	MP7	X	-15.4	0
34	MP7	Z	26.67	0
35	MP7	X	-15.4	%100
36	MP7	Z	26.67	%100
37	MP9	X	-15.54	0
38	MP9	Z	26.91	0
39	MP9	X	-15.54	%100
40	MP9	Z	26.91	%100
41	MP7	X	-3.76	15
42	MP7	Z	6.51	15
43	MP7	X	-3.96	35
44	MP7	Z	6.86	35
45	MP9	X	-3.96	60
46	MP9	Z	6.87	60

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	34.09	0
3	MP1	X	0	%100
4	MP1	Z	34.09	%100
5	MP3	X	0	0
6	MP3	Z	34.44	0
7	MP3	X	0	%100
8	MP3	Z	34.44	%100
9	MP1	X	0	15
10	MP1	Z	8.14	15
11	MP1	X	0	35
12	MP1	Z	8.14	35
13	MP3	X	0	30
14	MP3	Z	13.93	30
15	MP3	X	0	60
16	MP3	Z	8.12	60
17	MP4	X	0	0
18	MP4	Z	24.2	0
19	MP4	X	0	%100
20	MP4	Z	24.2	%100
21	MP6	X	0	0
22	MP6	Z	24.35	0
23	MP6	X	0	%100
24	MP6	Z	24.35	%100
25	MP4	X	0	15
26	MP4	Z	6.26	15
27	MP4	X	0	35
28	MP4	Z	7.47	35
29	MP6	X	0	30
30	MP6	Z	13.93	30
31	MP6	X	0	60
32	MP6	Z	7.54	60
33	MP7	X	0	0
34	MP7	Z	24.2	0
35	MP7	X	0	%100
36	MP7	Z	24.2	%100
37	MP9	X	0	0
38	MP9	Z	24.35	0

Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
39	MP9	X	0	%100
40	MP9	Z	24.35	%100
41	MP7	X	0	15
42	MP7	Z	6.26	15
43	MP7	X	0	35
44	MP7	Z	7.47	35
45	MP9	X	0	60
46	MP9	Z	7.54	60

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	15.4	0
2	MP1	Z	26.67	0
3	MP1	X	15.4	%100
4	MP1	Z	26.67	%100
5	MP3	X	15.54	0
6	MP3	Z	26.91	0
7	MP3	X	15.54	%100
8	MP3	Z	26.91	%100
9	MP1	X	3.76	15
10	MP1	Z	6.51	15
11	MP1	X	3.96	35
12	MP1	Z	6.86	35
13	MP3	X	6.96	30
14	MP3	Z	12.06	30
15	MP3	X	3.96	60
16	MP3	Z	6.87	60
17	MP4	X	15.4	0
18	MP4	Z	26.67	0
19	MP4	X	15.4	%100
20	MP4	Z	26.67	%100
21	MP6	X	15.54	0
22	MP6	Z	26.91	0
23	MP6	X	15.54	%100
24	MP6	Z	26.91	%100
25	MP4	X	3.76	15
26	MP4	Z	6.51	15
27	MP4	X	3.96	35
28	MP4	Z	6.86	35
29	MP6	X	6.96	30
30	MP6	Z	12.06	30
31	MP6	X	3.96	60
32	MP6	Z	6.87	60
33	MP7	X	10.45	0
34	MP7	Z	18.11	0
35	MP7	X	10.45	%100
36	MP7	Z	18.11	%100
37	MP9	X	10.49	0
38	MP9	Z	18.17	0
39	MP9	X	10.49	%100
40	MP9	Z	18.17	%100
41	MP7	X	2.82	15
42	MP7	Z	4.88	15
43	MP7	X	3.62	35
44	MP7	Z	6.28	35
45	MP9	X	3.67	60

Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
46	MP9	Z	6.36	60

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	20.96	0
2	MP1	Z	12.1	0
3	MP1	X	20.96	%100
4	MP1	Z	12.1	%100
5	MP3	X	21.09	0
6	MP3	Z	12.17	0
7	MP3	X	21.09	%100
8	MP3	Z	12.17	%100
9	MP1	X	5.42	15
10	MP1	Z	3.13	15
11	MP1	X	6.47	35
12	MP1	Z	3.74	35
13	MP3	X	12.06	30
14	MP3	Z	6.96	30
15	MP3	X	6.53	60
16	MP3	Z	3.77	60
17	MP4	X	29.52	0
18	MP4	Z	17.04	0
19	MP4	X	29.52	%100
20	MP4	Z	17.04	%100
21	MP6	X	29.82	0
22	MP6	Z	17.22	0
23	MP6	X	29.82	%100
24	MP6	Z	17.22	%100
25	MP4	X	7.05	15
26	MP4	Z	4.07	15
27	MP4	X	7.05	35
28	MP4	Z	4.07	35
29	MP6	X	12.06	30
30	MP6	Z	6.96	30
31	MP6	X	7.04	60
32	MP6	Z	4.06	60
33	MP7	X	20.96	0
34	MP7	Z	12.1	0
35	MP7	X	20.96	%100
36	MP7	Z	12.1	%100
37	MP9	X	21.09	0
38	MP9	Z	12.17	0
39	MP9	X	21.09	%100
40	MP9	Z	12.17	%100
41	MP7	X	5.42	15
42	MP7	Z	3.13	15
43	MP7	X	6.47	35
44	MP7	Z	3.74	35
45	MP9	X	6.53	60
46	MP9	Z	3.77	60

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	20.91	0
2	MP1	Z	0	0
3	MP1	X	20.91	%100

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	0	%100
5	MP3	X	20.98	0
6	MP3	Z	0	0
7	MP3	X	20.98	%100
8	MP3	Z	0	%100
9	MP1	X	5.63	15
10	MP1	Z	0	15
11	MP1	X	7.25	35
12	MP1	Z	0	35
13	MP3	X	13.93	30
14	MP3	Z	0	30
15	MP3	X	7.35	60
16	MP3	Z	0	60
17	MP4	X	30.79	0
18	MP4	Z	0	0
19	MP4	X	30.79	%100
20	MP4	Z	0	%100
21	MP6	X	31.07	0
22	MP6	Z	0	0
23	MP6	X	31.07	%100
24	MP6	Z	0	%100
25	MP4	X	7.51	15
26	MP4	Z	0	15
27	MP4	X	7.92	35
28	MP4	Z	0	35
29	MP6	X	13.93	30
30	MP6	Z	0	30
31	MP6	X	7.93	60
32	MP6	Z	0	60
33	MP7	X	30.79	0
34	MP7	Z	0	0
35	MP7	X	30.79	%100
36	MP7	Z	0	%100
37	MP9	X	31.07	0
38	MP9	Z	0	0
39	MP9	X	31.07	%100
40	MP9	Z	0	%100
41	MP7	X	7.51	15
42	MP7	Z	0	15
43	MP7	X	7.92	35
44	MP7	Z	0	35
45	MP9	X	7.93	60
46	MP9	Z	0	60

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	20.96	0
2	MP1	Z	-12.1	0
3	MP1	X	20.96	%100
4	MP1	Z	-12.1	%100
5	MP3	X	21.09	0
6	MP3	Z	-12.17	0
7	MP3	X	21.09	%100
8	MP3	Z	-12.17	%100
9	MP1	X	5.42	15
10	MP1	Z	-3.13	15

Member Point Loads (BLC 27 : Ice Wind Load AZI 300) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP1	X	6.47	35
12	MP1	Z	-3.74	35
13	MP3	X	12.06	30
14	MP3	Z	-6.96	30
15	MP3	X	6.53	60
16	MP3	Z	-3.77	60
17	MP4	X	20.96	0
18	MP4	Z	-12.1	0
19	MP4	X	20.96	%100
20	MP4	Z	-12.1	%100
21	MP6	X	21.09	0
22	MP6	Z	-12.17	0
23	MP6	X	21.09	%100
24	MP6	Z	-12.17	%100
25	MP4	X	5.42	15
26	MP4	Z	-3.13	15
27	MP4	X	6.47	35
28	MP4	Z	-3.74	35
29	MP6	X	12.06	30
30	MP6	Z	-6.96	30
31	MP6	X	6.53	60
32	MP6	Z	-3.77	60
33	MP7	X	29.52	0
34	MP7	Z	-17.04	0
35	MP7	X	29.52	%100
36	MP7	Z	-17.04	%100
37	MP9	X	29.82	0
38	MP9	Z	-17.22	0
39	MP9	X	29.82	%100
40	MP9	Z	-17.22	%100
41	MP7	X	7.05	15
42	MP7	Z	-4.07	15
43	MP7	X	7.05	35
44	MP7	Z	-4.07	35
45	MP9	X	7.04	60
46	MP9	Z	-4.06	60

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	15.4	0
2	MP1	Z	-26.67	0
3	MP1	X	15.4	%100
4	MP1	Z	-26.67	%100
5	MP3	X	15.54	0
6	MP3	Z	-26.91	0
7	MP3	X	15.54	%100
8	MP3	Z	-26.91	%100
9	MP1	X	3.76	15
10	MP1	Z	-6.51	15
11	MP1	X	3.96	35
12	MP1	Z	-6.86	35
13	MP3	X	6.96	30
14	MP3	Z	-12.06	30
15	MP3	X	3.96	60
16	MP3	Z	-6.87	60
17	MP4	X	10.45	0

Member Point Loads (BLC 28 : Ice Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	-18.11	0
19	MP4	X	10.45	%100
20	MP4	Z	-18.11	%100
21	MP6	X	10.49	0
22	MP6	Z	-18.17	0
23	MP6	X	10.49	%100
24	MP6	Z	-18.17	%100
25	MP4	X	2.82	15
26	MP4	Z	-4.88	15
27	MP4	X	3.62	35
28	MP4	Z	-6.28	35
29	MP6	X	6.96	30
30	MP6	Z	-12.06	30
31	MP6	X	3.67	60
32	MP6	Z	-6.36	60
33	MP7	X	15.4	0
34	MP7	Z	-26.67	0
35	MP7	X	15.4	%100
36	MP7	Z	-26.67	%100
37	MP9	X	15.54	0
38	MP9	Z	-26.91	0
39	MP9	X	15.54	%100
40	MP9	Z	-26.91	%100
41	MP7	X	3.76	15
42	MP7	Z	-6.51	15
43	MP7	X	3.96	35
44	MP7	Z	-6.86	35
45	MP9	X	3.96	60
46	MP9	Z	-6.87	60

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-5.181	0
2	MP1	Z	-5.181	%100
3	MP3	Z	-3.754	0
4	MP3	Z	-3.754	%100
5	MP1	Z	-4.21	15
6	MP1	Z	-7.164	35
7	MP3	Z	-3.219	30
8	MP3	Z	-7.066	60
9	MP4	Z	-5.181	0
10	MP4	Z	-5.181	%100
11	MP6	Z	-3.754	0
12	MP6	Z	-3.754	%100
13	MP4	Z	-4.21	15
14	MP4	Z	-7.164	35
15	MP6	Z	-3.219	30
16	MP6	Z	-7.066	60
17	MP7	Z	-5.181	0
18	MP7	Z	-5.181	%100
19	MP9	Z	-3.754	0
20	MP9	Z	-3.754	%100
21	MP7	Z	-4.21	15
22	MP7	Z	-7.164	35
23	MP9	Z	-7.066	60

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-5.181	0
2	MP1	X	-5.181	%100
3	MP3	X	-3.754	0
4	MP3	X	-3.754	%100
5	MP1	X	-4.21	15
6	MP1	X	-7.164	35
7	MP3	X	-3.219	30
8	MP3	X	-7.066	60
9	MP4	X	-5.181	0
10	MP4	X	-5.181	%100
11	MP6	X	-3.754	0
12	MP6	X	-3.754	%100
13	MP4	X	-4.21	15
14	MP4	X	-7.164	35
15	MP6	X	-3.219	30
16	MP6	X	-7.066	60
17	MP7	X	-5.181	0
18	MP7	X	-5.181	%100
19	MP9	X	-3.754	0
20	MP9	X	-3.754	%100
21	MP7	X	-4.21	15
22	MP7	X	-7.164	35
23	MP9	X	-7.066	60

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N37	N107	N110	N39	Y	Two Way	-6
2	N62	N116	N119	N64	Y	Two Way	-6
3	N50	N124	N127	N52	Y	Two Way	-6

Member Area Loads (BLC 16 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N37	N107	N110	N39	Y	Two Way	-16.4
2	N62	N116	N119	N64	Y	Two Way	-16.4
3	N52	N127	N124	N50	Y	Two Way	-16.4

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N1	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N40	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N41	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N42	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N65	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N66	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N67	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N53	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N54	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb...
1	N55	L	Y	-500

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	South Windsor/Rt 5
Site Number:	828054
Job Code:	1039-Z0001-B
Connection Description:	Platform to Tower

APPLIED LOADS		
Bolt Tension:	0.00	lbs
Bolt Shear:	1278.37	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.75	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	30101.39	
Shear Strength	19880.39	
Tensile Usage	0.0%	
Shear Usage	6.4%	
Interaction Check	0.00	***≤1.05***
Result	Pass	

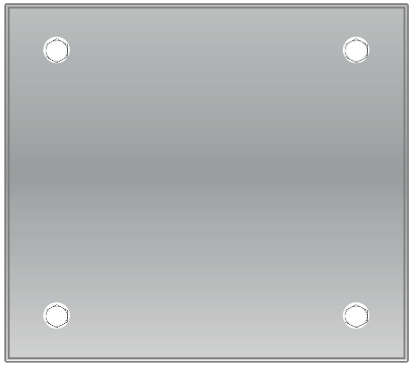


Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: 828054

CTL01135
300 Governors Highway
South Windsor, Connecticut 06074

December 9, 2020

EBI Project Number: 6220006192

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**14.78%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

December 9, 2020

Emissions Analysis for Site: 828054 - CTL01135

EBI Consulting was directed to analyze the proposed AT&T facility located at **300 Governors Highway** in **South Windsor, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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 (see below), 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.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at 300 Governors Highway in South Windsor, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 4 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

2) 2 UMTS channels (850 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 LTE/5G channels (850 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 4 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

6) 4 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 25 Watts per Channel.

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC

OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antennas used in this modeling are the Powerwave 7770 for the 850 MHz channel(s), the CCI HPA-65R-BUU-H8 for the 1900 MHz channel(s), the CCI OPA65R-BU8DA for the 2100 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector A, the Powerwave 7770 for the 850 MHz channel(s), the CCI HPA-65R-BUU-H8 for the 1900 MHz channel(s), the CCI OPA65R-BU8DA for the 2100 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector B, the Powerwave 7770 for the 850 MHz channel(s), the CCI HPA-65R-BUU-H8 for the 1900 MHz channel(s), the CCI OPA65R-BU8DA for the 2100 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerline of the proposed antennas is 158 feet above ground level (AGL).

11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

12) All calculations were done with respect to uncontrolled / general population threshold limits.

AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Frequency Bands:	850 MHz	Frequency Bands:	850 MHz	Frequency Bands:	850 MHz
Gain:	11.5 dBd	Gain:	11.5 dBd	Gain:	11.5 dBd
Height (AGL):	158 feet	Height (AGL):	158 feet	Height (AGL):	158 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	80 Watts	Total TX Power (W):	80 Watts	Total TX Power (W):	80 Watts
ERP (W):	1,130.03	ERP (W):	1,130.03	ERP (W):	1,130.03
Antenna A1 MPE %:	**0.29%**	Antenna B1 MPE %:	**0.29%**	Antenna C1 MPE %:	**0.29%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8
Frequency Bands:	1900 MHz	Frequency Bands:	1900 MHz	Frequency Bands:	1900 MHz
Gain:	14.95 dBd	Gain:	14.95 dBd	Gain:	14.95 dBd
Height (AGL):	158 feet	Height (AGL):	158 feet	Height (AGL):	158 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	5,001.73	ERP (W):	5,001.73	ERP (W):	5,001.73
Antenna A2 MPE %:	**0.72%**	Antenna B2 MPE %:	**0.72%**	Antenna C2 MPE %:	**0.72%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	CCI OPA65R-BU8DA	Make / Model:	CCI OPA65R-BU8DA	Make / Model:	CCI OPA65R-BU8DA
Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	16.05 dBd	Gain:	16.05 dBd	Gain:	16.05 dBd
Height (AGL):	158 feet	Height (AGL):	158 feet	Height (AGL):	158 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	6,443.47	ERP (W):	6,443.47	ERP (W):	6,443.47
Antenna A3 MPE %:	**0.93%**	Antenna B3 MPE %:	**0.93%**	Antenna C3 MPE %:	**0.93%**
Antenna #:	**4**	Antenna #:	**4**	Antenna #:	**4**
Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU8DA
Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz
Gain:	12.95 dBd / 13.85 dBd / 15.95 dBd	Gain:	12.95 dBd / 13.85 dBd / 15.95 dBd	Gain:	12.95 dBd / 13.85 dBd / 15.95 dBd
Height (AGL):	158 feet	Height (AGL):	158 feet	Height (AGL):	158 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts
ERP (W):	10,973.95	ERP (W):	10,973.95	ERP (W):	10,973.95
Antenna A4 MPE %:	**2.53%**	Antenna B4 MPE %:	**2.53%**	Antenna C4 MPE %:	**2.53%**

Site Composite MPE %	
Carrier	**MPE %**
AT&T (Max at Sector A):	4.46%
Sigfox	0.03%
T-Mobile	2.46%
Verizon	4.98%
Clearwire	0.12%
Sprint	2.73%
Site Total MPE % :	14.78%

AT&T MPE % Per Sector	
AT&T Sector A Total:	4.46%
AT&T Sector B Total:	4.46%
AT&T Sector C Total:	4.46%
Site Total MPE % :	14.78%

AT&T Maximum MPE Power Values (Sector A)

AT&T Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
AT&T 850 MHz UMTS	2	565.02	158.0	1.63	850 MHz UMTS	567	0.29%
AT&T 1900 MHz LTE	4	1250.43	158.0	7.20	1900 MHz LTE	1000	0.72%
AT&T 2100 MHz LTE	4	1610.87	158.0	9.28	2100 MHz LTE	1000	0.93%
AT&T 700 MHz LTE	4	788.97	158.0	4.54	700 MHz LTE	467	0.97%
AT&T 850 MHz LTE/5G	4	970.64	158.0	5.59	850 MHz LTE/5G	567	0.99%
AT&T 2300 MHz LTE	4	983.88	158.0	5.67	2300 MHz LTE	1000	0.57%
						Total:	**4.46%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	4.46%
Sector B:	4.46%
Sector C:	4.46%
AT&T Maximum MPE % (Sector A):	4.46%
Site Total:	14.78%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **14.78%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.