CROWN CASTLE

1 Cityplace Dr, Suite 490

Creve Coeur, MO 63141

Phone: (314) 513-0147

www.crowncastle.com

February 16, 2022

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 #841287; AT&T Site ID#CTL02108
600 Connecticut Ave NORWALK, Connecticut 06850
Latitude: 41° 5′ 49.45″ / Longitude: -73° 26′ 56.61″

Dear Ms. Bachman:

AT&T currently maintains twelve (12) antennas at the 153-foot mount on the existing 150-foot Monopole Tower located at 600 Connecticut Ave NORWALK. The property is owned by HOME DEPOT USA INC and tower is owned by Crown Castle. AT&T now intends to replace twelve (12) antennas. This modification/proposal includes hardware that is both 4G(LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Planned Modifications:

Tower:

REMOVE AND REPLACE

(3) Powerwave - 7770 Antennas (**REMOVE**), Quintel QD6616-7 Antennas (**REPLACE**)

(3) Quintel – QS66512-2 Antennas (**REMOVE**), (3) CCI-DMP65R-BU4EA-K Antennas (**REPLACE**)

(3) Andrew – SBNHH-1D65A Antennas (**REMOVE**), (3) Ericsson – AIR6449 N77D Antennas (antennas stacked) (**REPLACE**)

(3) Andrew – SBNHH-1D65A Antennas (**REMOVE**), (3) Ericsson – AIR6419 N77G Antennas (antennas stacked) (**REPLACE**)

(3) Ericsson – 11 B12 RRU (**REMOVE),** (3) Ericsson 4449 B5 B12 RRUs (**REPLACE**)

REMOVE

(6) Powerwave – LGP21401 TMAs
(6) Coax Cables 1 5/8”
(1) Platform Mount and Corner Steel
(1) Raycap DC6-48-60-18-8F Squid

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RELOCATE
(3) Ericsson – 4478 RRU
(3) Ericsson –32 B66A RRU
(3) Ericsson –32 B30 RRU
(3) Ericsson –32 B2 RRU
(2) Raycap DC6-48-60-18-8F Squid

INSTALL
(3) Commscope Sector Frames
(1) DC Cable 7/8"
(1) Fiber Cable 3/8"
(1) Raycap DC9-48-60-24-8C-EV Squid
(6) Commscope RRH Mount

Ground:

REMOVE:
(1) Battery Pack
(6) Powerwave LGP 21901 Diplexers
(6) CCI Triplexers
(1) XMU
(1) 5216
(3) RRU 12 B5

INSTALL:
(1) Battery Pack with (8) Batteries
(1) 6648 XCEDE Cable
(5) Rectifiers

The Facility was approved by the Connecticut Siting Council by way of a Certificate of Environmental Compatibility on September 14, 1984.

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 Harry W. Rilling, Mayor of the City of Norwalk, Steven Kleppin, Director of Planning and Zoning for the City of Norwalk. A copy was also sent to 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.

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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,

Colin Robinson

Colin Robinson
Project Manager
NETWORK BUILDING + CONSULTING
100 Apollo Drive Suite 303
Chelmsford, MA 01824
crobinson@nbcllc.com
(360) 561-3311

cc:

Harry W. Rilling, Mayor *(Via Federal Express)*
125 East Ave.
Norwalk, CT 06856
(203) 854-7701

Steven Kleppin, Director of Planning and Zoning *(Via Federal Express)*
125 East Ave.
Room 129
Norwalk, CT 06856
(203) 854-7780

HOME DEPOT USA INC *(Via Federal Express)*
PO Box 7247-7491
The Home Depot-Receivables
Philadelphia, PA 19170

Colin Robinson

From: TrackingUpdates@fedex.com
Sent: Thursday, February 17, 2022 10:32 AM
To: Colin Robinson
Subject: FedEx Shipment 776065377504: Your package has been delivered

Hi. Your package was delivered Thu, 02/17/2022 at 10:23am.

Delivered to 125 EAST AVE, NORWALK, CT 06856
Received by M.HICKMAN

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776065377504
FROM	NB+C 100 Apollo Dr. Suite 303 CHELMSFORD, MA, US, 01824
TO	City of Norwalk Harry W. Rilling

	125 East Ave. NORWALK, CT, US, 06856
REFERENCE	100788 NB+C
SHIPPER REFERENCE	100788 NB+C
SHIP DATE	Wed 2/16/2022 06:55 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	NORWALK, CT, US, 06856
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Colin Robinson

From: TrackingUpdates@fedex.com
Sent: Thursday, February 17, 2022 10:32 AM
To: Colin Robinson
Subject: FedEx Shipment 776065403104: Your package has been delivered

Hi. Your package was delivered Thu, 02/17/2022 at 10:23am.

Delivered to 125 EAST AVE, NORWALK, CT 06856
Received by M.HICKMAN

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776065403104
FROM	NB+C 100 Apollo Dr. Suite 303 CHELMSFORD, MA, US, 01824
TO	City of Norwalk Planning and Zoning Steven Kleppin

	125 East Ave. Room 129 NORWALK, CT, US, 06856
REFERENCE	100788 NB+C
SHIPPER REFERENCE	100788 NB+C
SHIP DATE	Wed 2/16/2022 06:55 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	NORWALK, CT, US, 06856
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Colin Robinson

From: TrackingUpdates@fedex.com
Sent: Thursday, February 17, 2022 10:38 AM
To: Colin Robinson
Subject: FedEx Shipment 776065496671: Your package has been delivered

Hi. Your package was delivered Thu, 02/17/2022 at 10:28am.

Delivered to 400 WHITE CLAY CENTER DR, PHILADELPHIA, PA 19170
Received by T.GALLUCIO

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776065496671
FROM	NB+C 100 Apollo Dr. Suite 303 CHELMSFORD, MA, US, 01824
TO	HOME DEPOT USA INC PO Box 7247-7491

	The Home Depot-Receivables PHILADELPHIA, PA, US, 19170
REFERENCE	100788 NB+C
SHIPPER REFERENCE	100788 NB+C
SHIP DATE	Wed 2/16/2022 06:55 PM
DELIVERED TO	Mailroom
PACKAGING TYPE	FedEx Envelope
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	PHILADELPHIA, PA, US, 19170
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Exhibit A

Original Facility Approval

DOCKET NO. 45

AN APPLICATION SUBMITTED BY THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN FAIRFIELD COUNTY.	:	CONNECTICUT SITING COUNCIL
	:	September 14, 1984

DECISION AND ORDER

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut, revisions of 1958, revised to 1983, as amended, be issued to the Southern New England Telephone Company for the construction, operation, and maintenance of a telecommunications tower and associated equipment to provide cellular service at each of the following sites:

Kaechele Place, Bridgeport, Connecticut;
Connecticut Avenue, Norwalk, Connecticut;
Nells Rock Road, Shelton, Connecticut;
Newfield Avenue, Stamford, Connecticut; and
Bayberry Lane, (former Nike site), Westport, Connecticut.

The facilities shall be constructed, operated, and maintained as specified in the Council's record on this matter, and subject to the following conditions:

1. The towers shall be no taller than necessary to provide the proposed service, and in no event shall exceed

   a) 167' at the Bridgeport site,
   b) 167' at the Norwalk site,
   c) 189.5' at the Shelton site,
   d) 167' at the Stamford site,
   e) 117' at the Westport site;

2. A fence not lower than eight feet shall surround each tower and its associated equipment;

3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;

4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;
5. Unless necessary to comply with condition number six, below, no lights shall be installed on any of these towers;
6. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
7. The applicant shall submit a development and management plan (D&M) for the Bridgeport, Stamford, and Westport sites pursuant to sections 16-50j-85 through 16-50j-87 of the regulations of state agencies, except that irrelevant items in section 16-50j-86 need only be identified as such. The D&M plans shall include appropriate evergreen screening of the sites, erosion control measures, reseeding plans, and tree removal plans. The applicant shall consult with the Stamford Environmental Protection Board in the preparation of a drainage and erosion control plan for the Stamford tower. The applicant shall comply with the reporting requirements of section 16-50j-87 for all sites;
8. Construction activities shall take place during daylight working hours;
9. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and

removed, or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;

10. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the Bridgeport Post, the Norwalk Hour, the Stamford Advocate, and the Shelton Suburban News, and the Westport News.

The parties to this proceeding are

The Southern New England Telephone Company Room 314 227 Church Street New Haven, Connecticut 06506	(Applicant)
Attention: Mr. Peter J. Tyrrell Senior Attorney	(its attorney)
Rolnick Observatory 52 Sawyer Road Fairfield, Connecticut	represented by: Frederick H. Bump Director
Mr. Adam Norton 40 Highland Road Westport, Connecticut 06880	
Representative John Wayne Fox 13 Apple Tree Drive Stamford, Connecticut 06906	(service waived)
Mr. George C. Lenfest 4 Highland Road Westport, Connecticut	

Mr. William Seiden
First Selectman
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

Mr. Arthur L. Schimel
174 Bayberry Lane
Westport, Connecticut

Mr. Seymour Bendremer
11 Apache Trail
Westport, Connecticut

Ms. Gladys Floch
32 Woody Lane
Westport, Connecticut

Ms. Helen S. Cohen (service waived)
15 Highland Road
Westport, Connecticut

Mr. Jack Braverman
226 Bayberry Lane
Westport, Connecticut

Mr. Kevin Gavin (service waived)
191 Bayberry Lane
Westport, Connecticut

Mr. A.B. Beiser
12 Highland Road
Westport, Connecticut

Mr. Edward V. Polusky (service waived)
4 Hooper Road
Westport, Connecticut

Ms. Lois Schine represented by:

Mary D. Mix, Esquire
830 Post Road - East
Suite 100
Westport, Connecticut 06880

Mr. Allen Witt
3 Apache Trail
Westport, Connecticut

Ms. Gayle Shiller (service waived)
5 Apache Trail
Westport, Connecticut

Mrs. Ronnie Hammer
3 Hooper Road
Westport, Connecticut

Mr. Paul Rosenblatt (service waived)
7 Apache Trail
Westport, Connecticut

Mr. Henry J. Wolfson (service waived)
179 Bayberry Lane
Westport, Connecticut

Mr. Melvin H. Barr (service waived)
Planning Director
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

Mr. Mark Infeld (service waived)
6 Apache Trail
Westport, Connecticut

Ms. Barbara Saipe (service waived)
Representative Town
Meeting Member
District #8
Town Hall
P.O. Box 549
Westport, Connecticut 06881

Ms. Peggy Goldenberg (service waived)
201 Bayberry Lane
Westport, Connecticut

Ms. Martha Hauhuth (service waived)
Board of Selectman
Town Hall
P.O. Box 549
Westport, Connecticut 06881

Ms. Meg Coffee
32 Otter Trail
Westport, Connecticut (service waived)

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut, this 14th day of September, 1984.

Council Members	Vote Cast
Gloria Dibble Pond Chairperson	Yes
Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
Commissioner Stanley Pac	Absent
Owen L. Clark	Yes
Fred J. Doocy	Yes
Mortimer A. Gelston	Yes
James G. Horsfall	Yes
Janet Sitty	Yes
Colin C. Tait	Absent

STATE OF CONNECTICUT)
: ss. New Britain, September 14, 1984
COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Christopher S. Wood

Christopher S. Wood, Executive Director
Connecticut Siting Council

Exhibit B

Property Card

600 CONNECTICUT AVE

Location	600 CONNECTICUT AVE	**Mblu**	5/ 69/ 61/ 0/
Acct#	22907	**Owner**	HOME DEPOT USA INC
Assessment	$25,550,000	**Appraisal**	$36,500,000
PID	22907	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$17,485,450	$19,014,550	$36,500,000
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$12,239,815	$13,310,185	$25,550,000

Owner of Record

Owner	HOME DEPOT USA INC	**Sale Price**	$17,750,000
Co-Owner		**Certificate**	
Address	ATTN PROP TAX DEPT #6204 PO BOX 105842 ATLANTA, GA 30348-5842	**Book & Page**	3254/22
		Sale Date	09/06/1996
		Instrument	25

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
HOME DEPOT USA INC	$17,750,000		3254/22	25	09/06/1996
BTS NORWALK LIMITED PRTNR	$17,750,000		3254/22		09/06/1996
HOBBS ENGINEERING COMPANY	$0		2237/206		08/08/1988
HOBBS INTERNATIONAL INC	$0		1357/237	07	06/24/1981
HOBBS EQUIPMENT COMPANY INC	$0		0/0		

Building Information

Building 1 : Section 1

Year Built: 1996

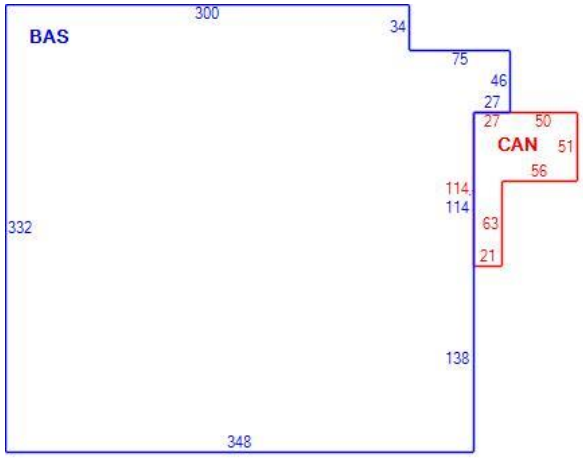
Building Photo

Living Area:	115,146
Replacement Cost:	$16,046,089
Building Percent Good:	86
Replacement Cost Less Depreciation:	$17,409,120

Building Attributes	
Field	**Description**
Style:	Retail
Model:	Commercial
Grade	A
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Precast Panel
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air
AC Percent	100
Heat Percent	100
Bldg Use	Commercial Improved
Total Rooms	0
Bedrooms	0
Full Baths	0
Half Baths	2
Extra Fixtures	2
FBM Area	
Heat/AC	Heat/AC Pkg
Frame	Steel
Plumbing	Average
Foundation	Slab
Partitions	Light
Wall Height	26.00
% Sprinkler	100.00
# of Heat Systems	1
Insulation	Typical


(http://images.vgsi.com/photos/NorwalkCTPhotos//00\00\67/32.jpg)

Building Layout



(ParcelSketch.ashx?pid=22907&bid=22907)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	115,146	115,146
CAN	Canopy	5,250	0
		120,396	115,146

Building 2 : Section 1

Year Built:	1996
Living Area:	172,328
Replacement Cost:	$7,229,160
Building Percent Good:	86
Replacement Cost Less Depreciation:	$17,409,120

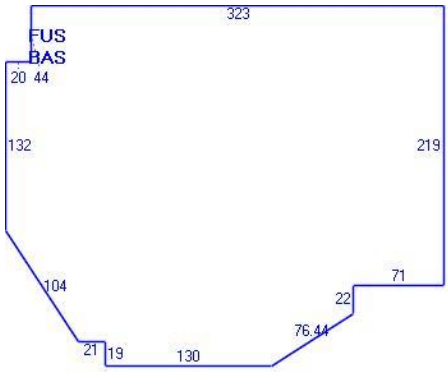
Building Attributes : Bldg 2 of 2	
Field	**Description**
Style:	Parking Garage
Model:	Commercial
Grade	C
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar and Gravel
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Percent	0
Heat Percent	100
Bldg Use	Commercial Improved
Total Rooms	0
Bedrooms	0
Full Baths	0
Half Baths	0
Extra Fixtures	0
FBM Area	
Heat/AC	None
Frame	Masonry
Plumbing	Average
Foundation	Poured Conc
Partitions	Average
Wall Height	8.00
% Sprinkler	0.00
# of Heat Systems	0
Insulation	None

Extra Features

Building Photo

(http://images.vgsi.com/photos/NorwalkCTPhotos//00\00\90/30.jpg)

Building Layout



(ParcelSketch.ashx?pid=22907&bid=50840)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	86,164	86,164
FUS	Finished Upper Story	86,164	86,164
		172,328	172,328

Extra Features				Legend
Code	Description	Size	Value	Bldg #
ELV1	Commercial	2.00 STOP	$0	1
SPR	Sprinklers	115146.00 S.F.	$0	1

Land

Land Use

Use Code	201V
Description	Commercial Improved
Zone	B2
Neighborhood	C320

Land Line Valuation

Size (Acres)	9.75
Frontage	
Depth	
Assessed Value	$13,310,185
Appraised Value	$19,014,550

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
LT1	Light 1			7.00 UNITS	$0	1
PAV1	Paving Asph.			5000.00 S.F.	$0	1
FUEL	Fuel Cell	Ext	Energy Cell	200.00 KW	$0	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	$17,485,450	$19,014,550	$36,500,000
2019	$17,485,450	$19,014,550	$36,500,000
2018	$17,485,450	$19,014,550	$36,500,000

Assessment			
Valuation Year	Improvements	Land	Total
2020	$12,239,815	$13,310,185	$25,550,000
2019	$12,239,810	$13,310,190	$25,550,000
2018	$12,239,810	$13,310,190	$25,550,000

Exhibit C

Construction Drawings

AT&T SITE NUMBER: CTL02108
AT&T SITE NAME: NORWALK WEST
AT&T FA CODE: 10034974
AT&T PACE NUMBER: MRCTB052331, MRCTB051034, MRCTB051147, MRCTB050724
AT&T PROJECT: 5G NR 1SR CBAND, BBU RECONFIGURATION WITH NEW IDS, 4TXRX ANTENNA RETROFIT

BUSINESS UNIT #: 841287
SITE ADDRESS: 600 CONNECTICUT AVE NORWALK, CT 06850
COUNTY: FAIRFIELD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	NORWALK WEST- CT AVE
SITE ADDRESS:	600 CONNECTICUT AVE NORWALK, CT 06850
COUNTY:	FAIRFIELD
MAP/PARCEL #:	5-69-61-0
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.097069°
LONGITUDE:	-73.449058°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	92'
CURRENT ZONING:	B2
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	HOME DEPOT USA INC ATTN PROP TAX DEPT #6204 PO BOX 105842 ATLANTA, GA 30348
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 AVAILABLE
TELCO PROVIDER:	NOT AVAILABLE

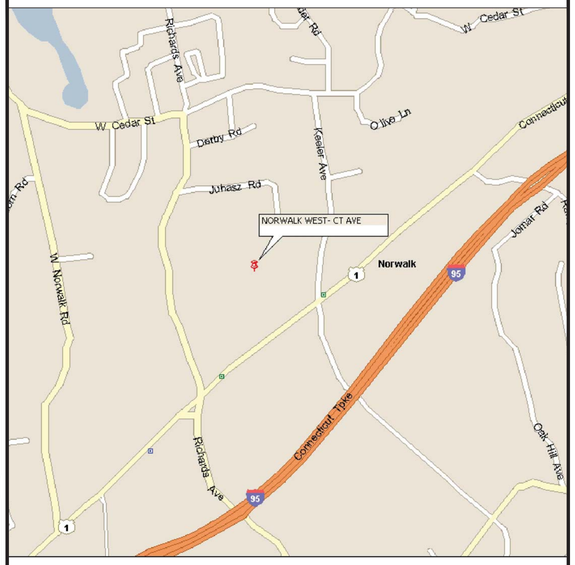
DRAWING INDEX

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
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM
ATTACHED	MOUNT SPECS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. 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. TULSA, OK 74119 MARVIN PHILLIPS marvin.phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3530 TORINGDON WAY, SUITE 300 CHARLOTTE, NC 28277 PAUL PEDICONE - PROJECT MANAGER PAUL.PEDICONE@CROWNCASTLE.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.D'AMICO@CROWNCASTLE.COM

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 EXISTING PLATFORM
- REMOVE CORNER STEEL FROM EXISTING MOUNT
- REMOVE (3) POWERWAVE - 7770 ANTENNAS
- REMOVE (3) QUINTEL - QS66512-2 ANTENNAS
- REMOVE (6) ANDREW - SBNHH-1D65A ANTENNAS
- REMOVE (3) ERICSSON - RRUS-11 B12 RADIOS
- REMOVE (6) POWERWAVE- LGP21401 TMAS
- REMOVE (1) RAYCAP - DC6-48-60-18-8F SQUID
- REMOVE (6) COAX CABLES (1-5/8")
- RELOCATE ALL EXISTING EQUIPMENT TO NEW MOUNT
- INSTALL (3) COMMSCOPE - MCG22HDX14-12-H10 SECTOR FRAMES PER MOUNT REPLACEMENT ANALYSIS BY INFINIGY ENGINEERING, PLLC DATED 1/24/22
- INSTALL (3) QUINTEL - QD6616-7 ANTENNAS
- INSTALL (3) ERICSSON - AIR6449 N77D+AIR6419 N77G STACKED ANTENNAS
- INSTALL (3) CCI - DMP65R-BU4EA-K ANTENNAS
- INSTALL (3) ERICSSON - 4449 B5/B12 RADIOS
- INSTALL Y-CABLES ON NEW RRUS 4449 B5/B12 RADIOS
- INSTALL (6) COMMSCOPE - RR-FA2 DUAL RRH MOUNTS
- INSTALL (1) RAYCAP - DC9-48-60-24-EC-EV SQUID
- INSTALL (1) DC CABLE (RUN ON OUTSIDE OF TOWER)
- INSTALL (1) FIBER CABLE (RUN ON OUTSIDE OF TOWER)

GROUND SCOPE OF WORK:
- REMOVE (6) POWERWAVE LGP 21901 DIPLEXERS
- REMOVE (6) CCI TRIPLEXER TPX-070821 TRIPLEXER
- REMOVE (3) RRUS 12 B5
- REMOVE (1) XMU
- REMOVE (1) 5216
- INSTALL (1) 6648-XCEDE CABLE
- INSTALL (5) GE RECTIFIERS IN EXISTING POWER PLANT
- INSTALL (1) BATTERY RACK
- INSTALL (8) BATTERIES
- RECYCLE LEGACY BATTERY STACK AND PUT NEW BATTERY RACK IN PLACE

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	2018 SBC / 2015 IBC (AMENDED)
MECHANICAL	2018 SBC / 2015 IMC (AMENDED)
ELECTRICAL	2018 SBC / 2017 NEC (AMENDED)

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	10/27/21
MOUNT REPLACEMENT ANALYSIS:	INFINIGY ENGINEERING, PLLC
DATED:	1/24/22
AC ELECTRICAL POWER DESIGN:	N/A
DATED:	N/A
RFDS REVISION:	-
DATED:	8/25/21
ORDER ID:	556497
REVISION:	1

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:
CTL02108

BU #: **841287**
NORWALK WEST- CT AVE

600 CONNECTICUT AVE
NORWALK, CT 06850

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/17/21	AN	PRELIMINARY REVIEW	STH
0	11/17/21	AN	CONSTRUCTION	STH
1	12/9/21	STH	CONSTRUCTION	STH
2	2/10/22	JHW	CONSTRUCTION	LR

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

SHEET NUMBER: T-1
REVISION: 2

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.

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

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).

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ATLANTA, GA 30324-3300

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3530 TORINGDON WAY, SUITE 300
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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:
CTL02108

BU #: **841287**
NORWALK WEST- CT AVE

600 CONNECTICUT AVE
NORWALK, CT 06850

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

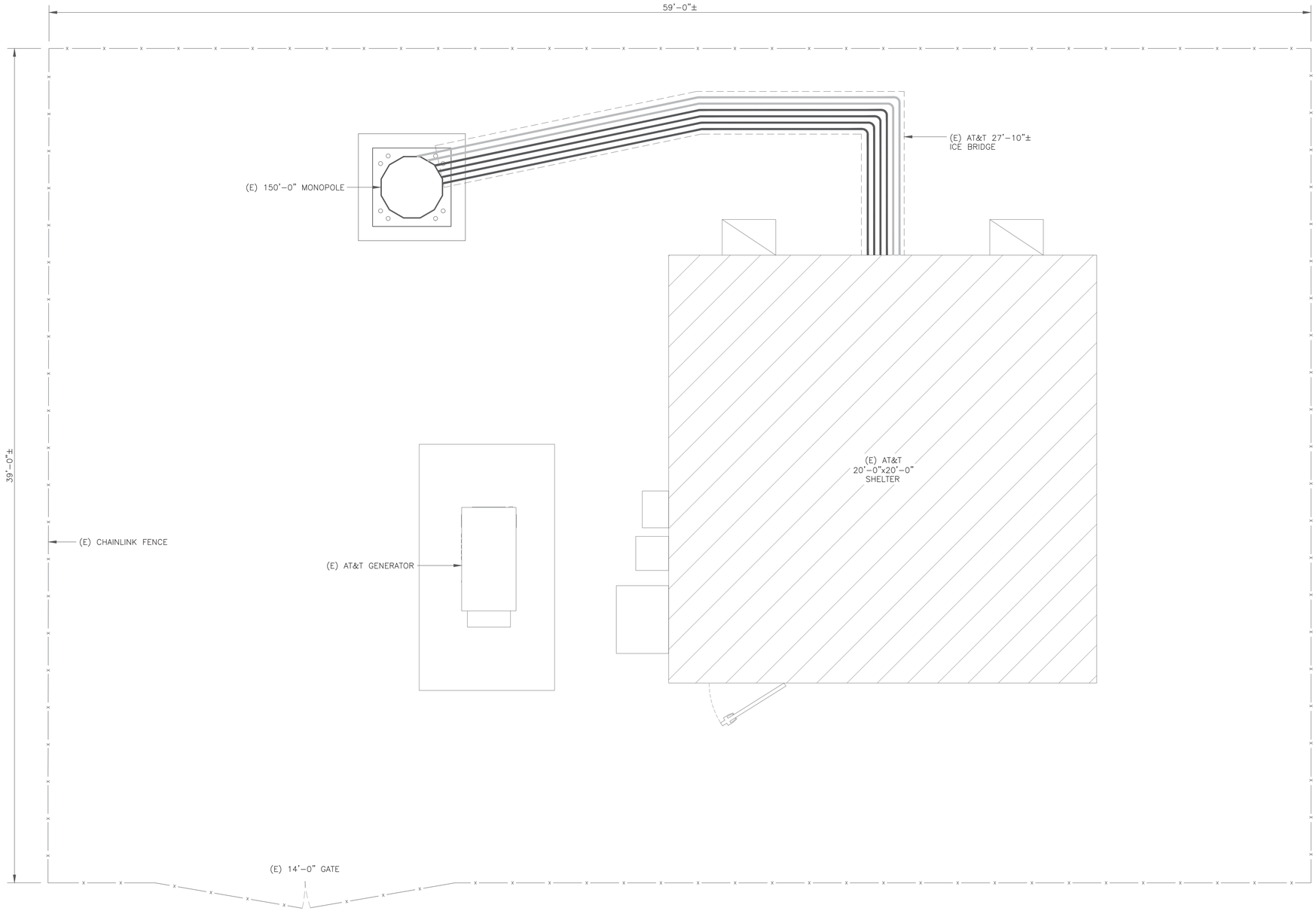
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/17/21	AN	PRELIMINARY REVIEW	STH
0	11/17/21	AN	CONSTRUCTION	STH
1	12/9/21	STH	CONSTRUCTION	STH
2	2/10/22	JHW	CONSTRUCTION	LR

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED PROFESSIONAL ENGINEER
2/10/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
T-2	2



1 SITE PLAN

SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

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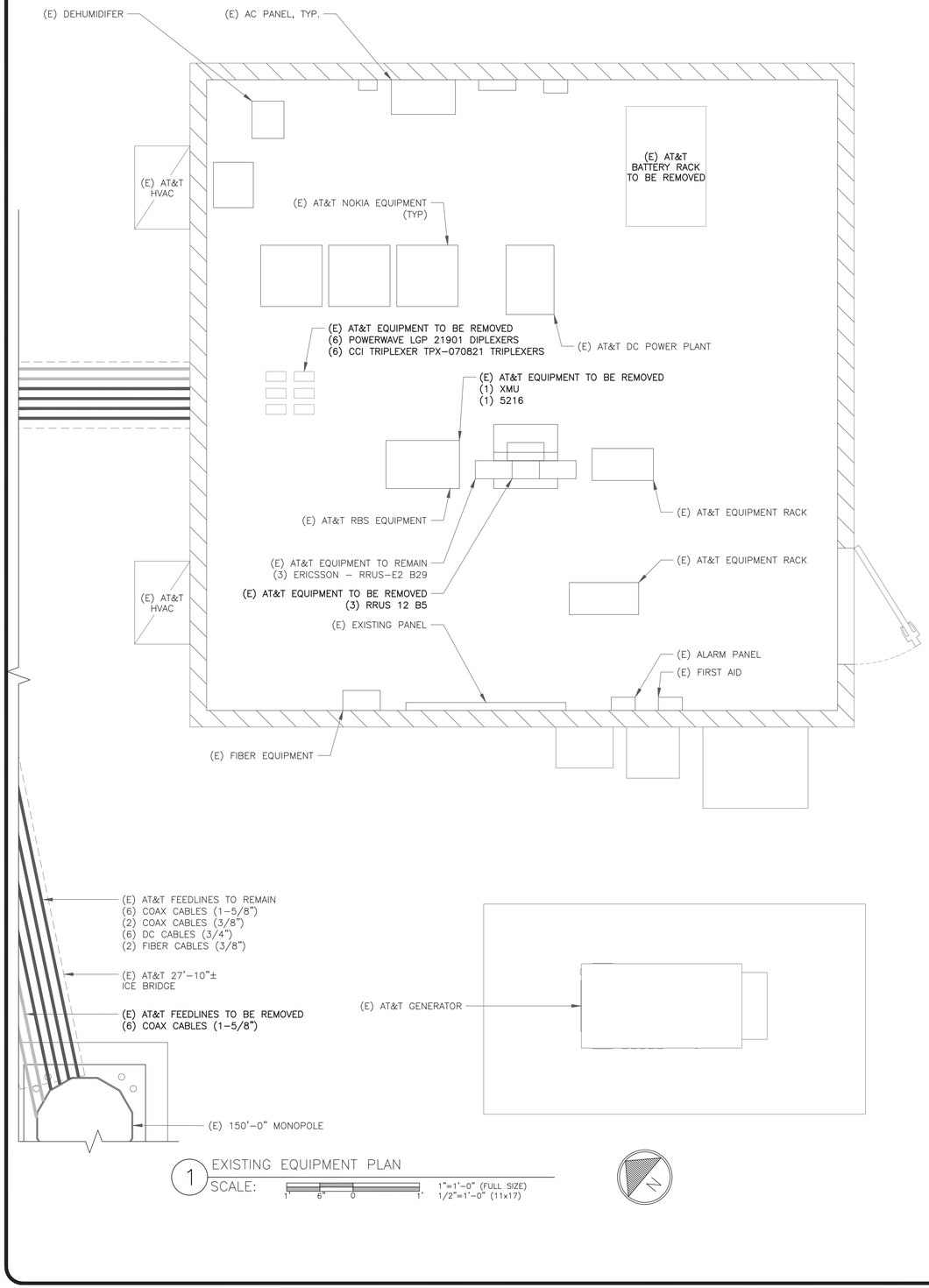
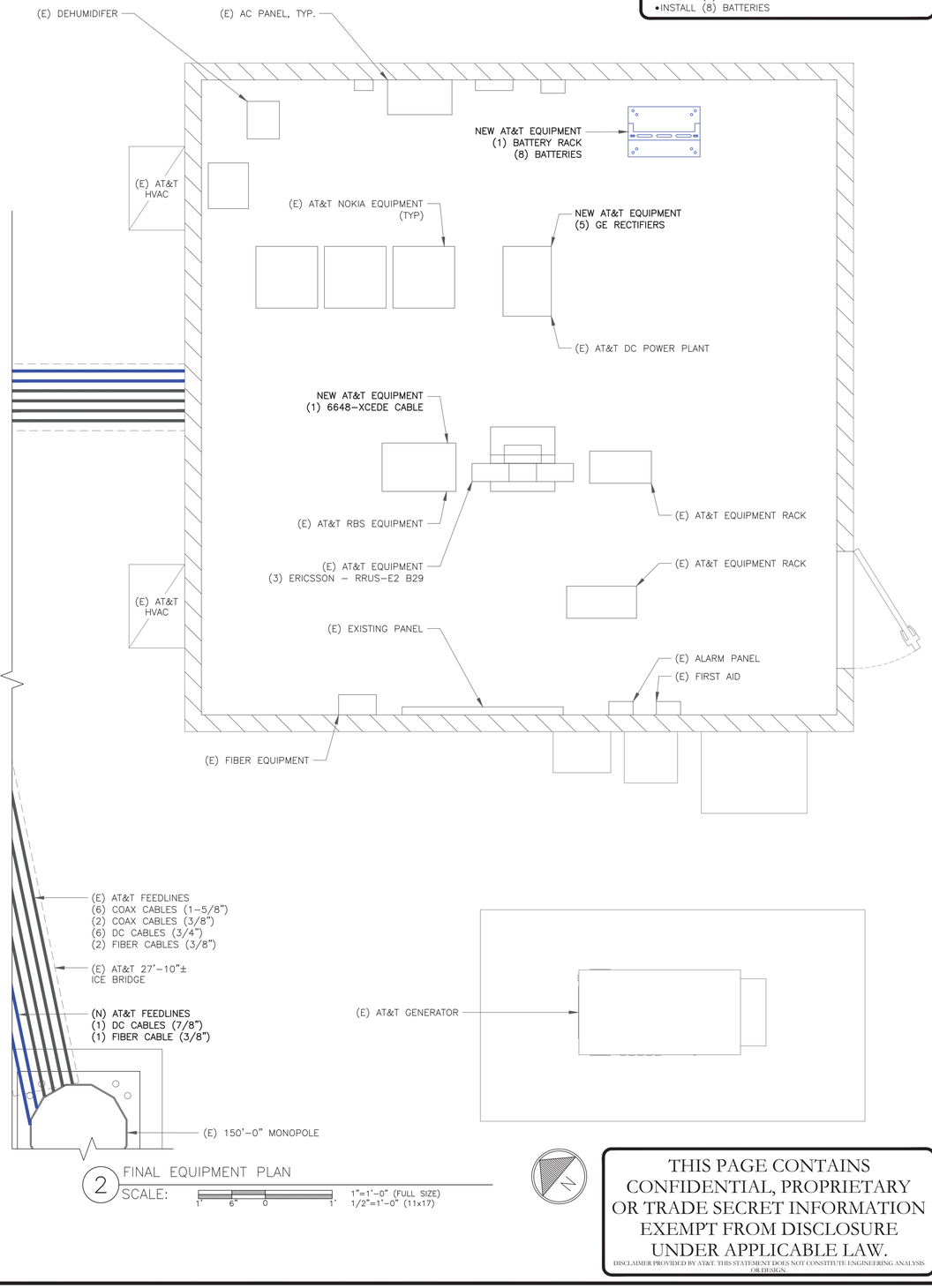
SHEET NUMBER: C-1.1

REVISION: 2



1 EXISTING EQUIPMENT PLAN

SCALE: 1' 6" 0 1' — 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN

SCALE: 1' 6" 0 1' — 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

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.

GROUND SCOPE OF WORK:

- REMOVE (6) POWERWAVE LGP 21901 DIPLEXER
- REMOVE (6) CCI TRIPLEXER TPX-070821 TRIPLEXER
- REMOVE (3) RRUS 12 B5
- REMOVE (1) XMU
- REMOVE (1) 5216
- RECYCLE LEGACY BATTERY STACK
- INSTALL (1) 6648-XCEDE CABLE
- INSTALL (5) GE RECTIFIERS IN EXISTING POWER PLANT
- INSTALL (1) BATTERY RACK
- INSTALL (8) BATTERIES

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No. 23924
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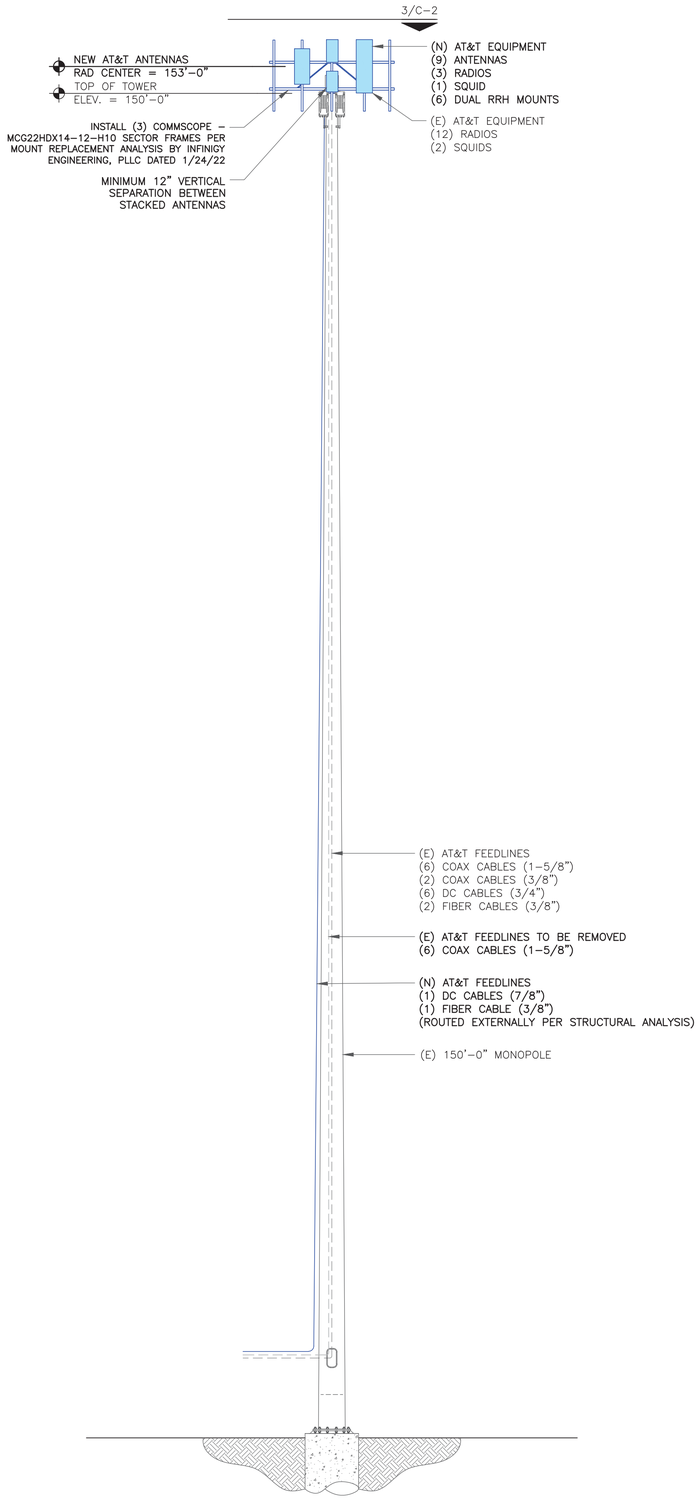
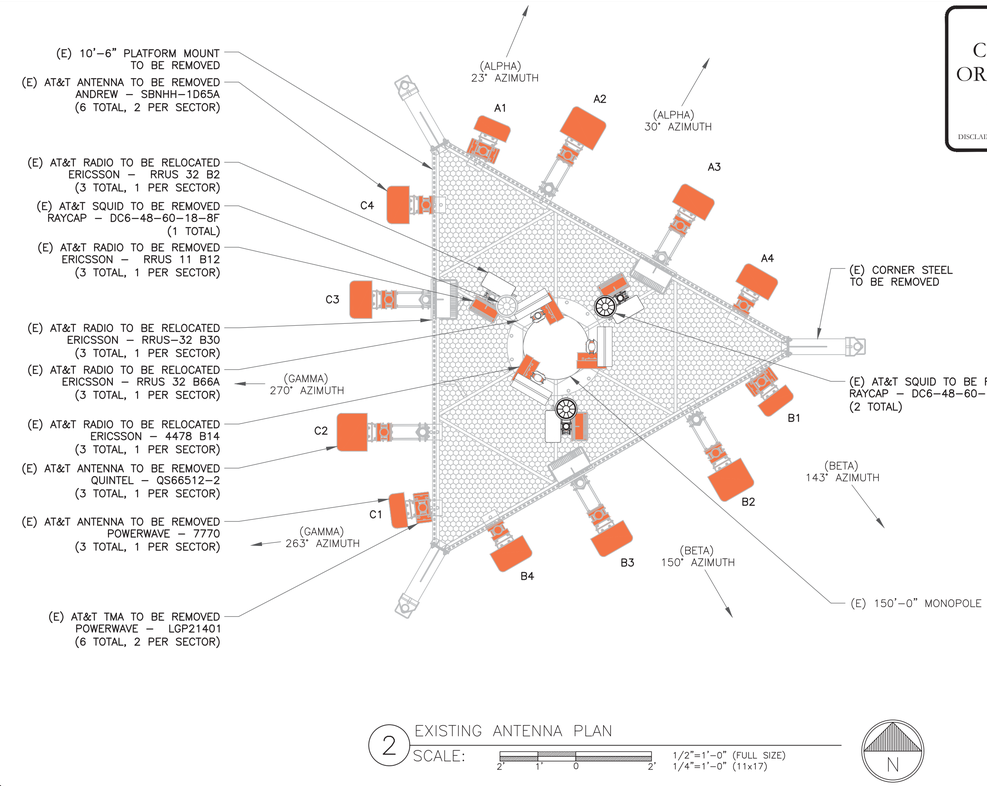
SHEET NUMBER: C-1.2

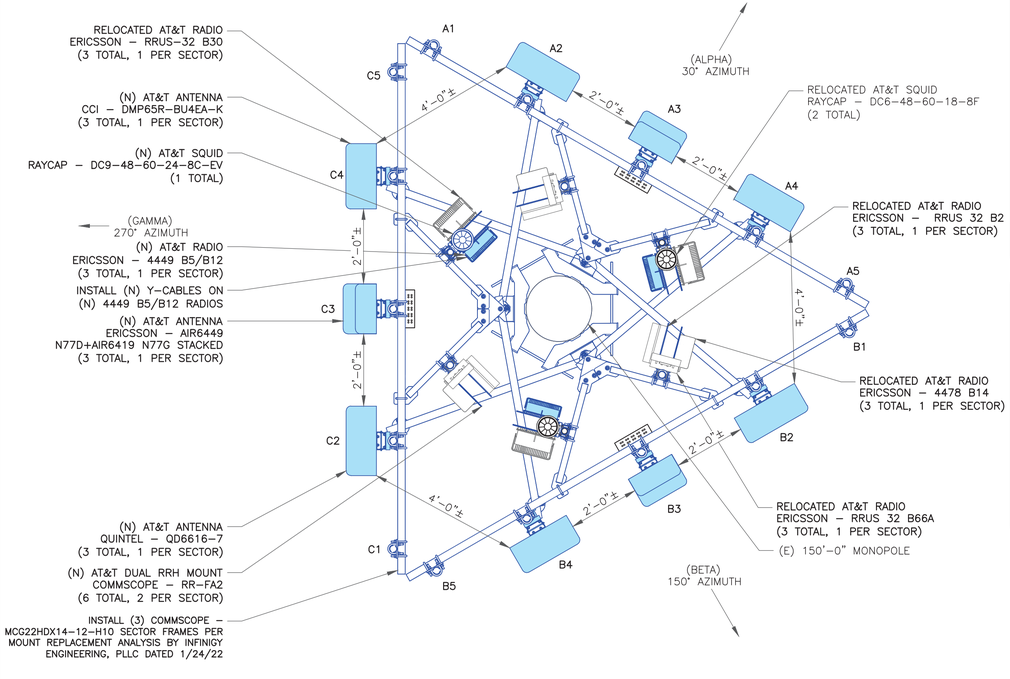
REVISION: 2



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)

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"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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SHEET NUMBER: C-2
REVISION: 2

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	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE
ALPHA SECTOR																		
A1	–	–	–	–	–	–	–	–	–	–	-	(2) DC6-48-60-18-8F (1) DC9-48-60-24-8C-EV	(3) 3/8" FIBER (6) 3/4" DC LINES (1) PWRT-606-S DC (1) FB-L98B-235-XXX FIBER LINE	–	–	–	–	–
A2	LTE 700/ LTE 1900 /LTE AWS /5G AWS /5G 1900	NEW	30°	QUINTEL – QD6616-7	153'-0"	0°	2°/3°/0°/0°/4°/4°/ 0°	1-5/8"	203'-0"	2	–			(1) ERICSSON – 4478 B14 (1) ERICSSON – RRUS 32 B2 (1) ERICSSON – RRUS 32 B66A (1) ERICSSON – RRUS-E2 B29	TOWER TOWER TOWER GROUND	N	N	N
A3	5G CBAND	NEW	30°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	153'-0"	0°	0°	3/8"	203'-0"	1	–			–	–	N	N	N
A4	LTE 700 / 5G 850 / LTE WCS	NEW	30°	CCI – DMP65R-BU4EA-K	153'-0"	0°	2°/2°/3°	–	–	–	–			**(1) ERICSSON – 4449 B5/B12** (1) ERICSSON – RRUS-32 B30	TOWER TOWER	N	N	N
A5	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–
BETA SECTOR																		
B1	–	–	–	–	–	–	–	–	–	–	-	–	–	–	–	–	–	–
B2	LTE 700/ LTE 1900 /LTE AWS /5G AWS /5G 1900	NEW	30°	QUINTEL – QD6616-7	153'-0"	0°	2°/3°/0°/0°/4°/4°/ 0°	1-5/8"	203'-0"	2	–			(1) ERICSSON – 4478 B14 (1) ERICSSON – RRUS 32 B2 (1) ERICSSON – RRUS 32 B66A (1) ERICSSON – RRUS-E2 B29	TOWER TOWER TOWER GROUND	N	N	N
B3	5G CBAND	NEW	30°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	153'-0"	0°	0°	3/8"	203'-0"	1	–	–	–	–	–	N	N	N
B4	LTE 700 / 5G 850 / LTE WCS	NEW	30°	CCI – DMP65R-BU4EA-K	153'-0"	0°	2°/2°/3°	–	–	–	–			**(1) ERICSSON – 4449 B5/B12** (1) ERICSSON – RRUS-32 B30	TOWER TOWER	N	N	N
B5	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–
GAMMA SECTOR																		
C1	–	–	–	–	–	–	–	–	–	–	-	–	–	–	–	–	–	–
C2	LTE 700/ LTE 1900 /LTE AWS /5G AWS /5G 1900	NEW	30°	QUINTEL – QD6616-7	153'-0"	0°	2°/3°/0°/0°/4°/4°/ 0°	1-5/8"	203'-0"	2	–			(1) ERICSSON – 4478 B14 (1) ERICSSON – RRUS 32 B2 (1) ERICSSON – RRUS 32 B66A (1) ERICSSON – RRUS-E2 B29	TOWER TOWER TOWER GROUND	N	N	N
C3	5G CBAND	NEW	30°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	153'-0"	0°	0°	–	–	–	–	–	–	–	–	N	N	N
C4	LTE 700 / 5G 850 / LTE WCS	NEW	30°	CCI – DMP65R-BU4EA-K	153'-0"	0°	2°/2°/3°	–	–	–	–			**(1) ERICSSON – 4449 B5/B12** (1) ERICSSON – RRUS-32 B30	TOWER TOWER	N	N	N
C5	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–

NOTE: BOLD DENOTES NEW EQUIPMENT

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

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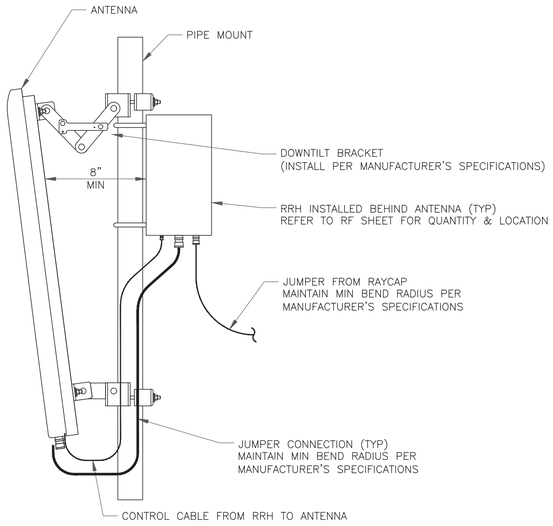
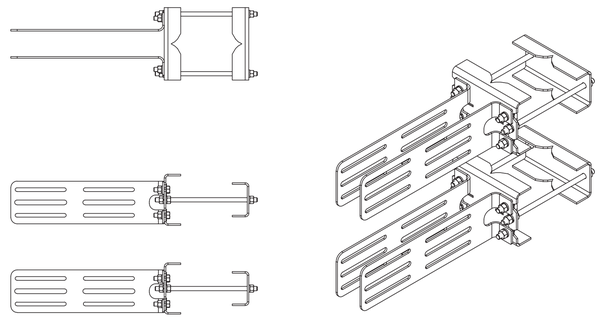
SHEET NUMBER: C-3

REVISION: 2

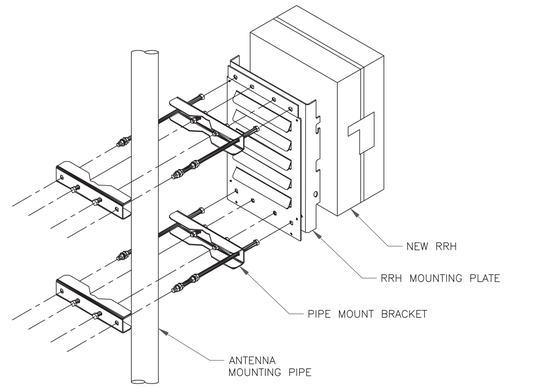


1 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE



COMMSCOPE – RR-FA2
FAST ACCESS DUAL RRH MOUNT

2 COMMSCOPE – RR-FA2
SCALE: NOT TO SCALE



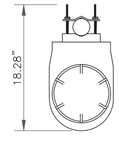
NOTE:
ANTENNA NOT SHOWN FOR CLARITY

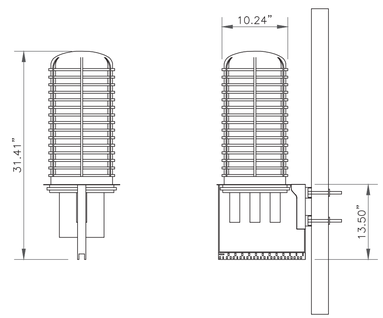
3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

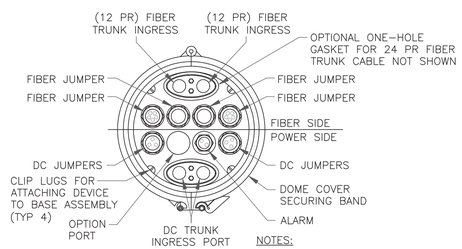
RAYCAP
DC9-48-60-24-8C-EV

RAYCAP – DC9-48-60-24-8C-EV
SIZE: 10.24x31.40 IN.
WEIGHT: 26.2 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 330 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



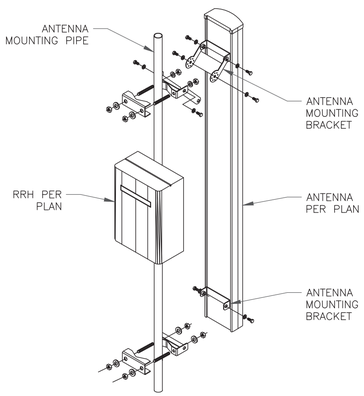




NOTES:
1. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

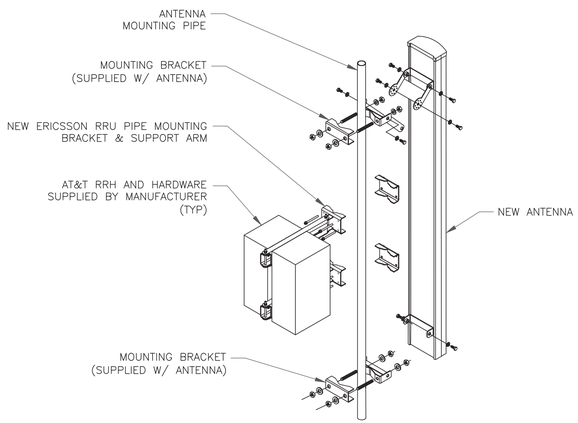
6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

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.



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

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:
CTL02108

BU #: **841287**
NORWALK WEST- CT AVE

600 CONNECTICUT AVE
NORWALK, CT 06850

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/17/21	AN	PRELIMINARY REVIEW	STH
0	11/17/21	AN	CONSTRUCTION	STH
1	12/9/21	STH	CONSTRUCTION	STH
2	2/10/22	JHW	CONSTRUCTION	LR

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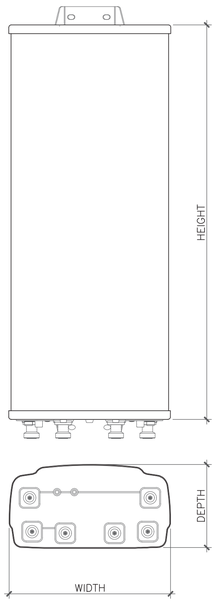
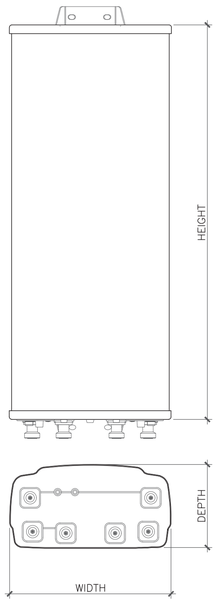
PEC.0001564
Expires 2/10/22

SHEET NUMBER: C-4
REVISION: 2



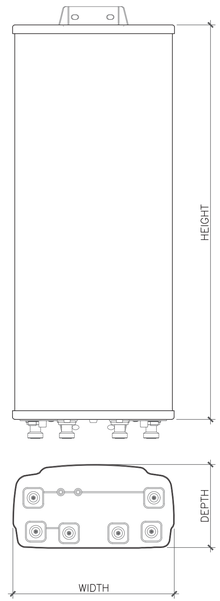
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
QD6616-7	72.0"	22.0"	9.6"	130.0 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



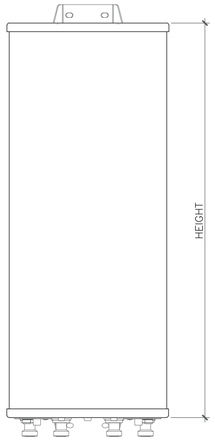
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR6449 N77D	30.63"	15.87"	10.55"	96.80 lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



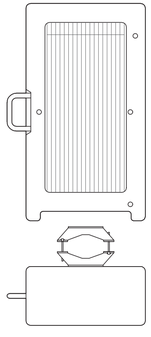
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR6419 N77G	27.95"	15.75"	6.68"	66.20 lbs

3 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
DMP65R-BU4EA-K	48.0"	20.7"	9.7"	75.6 lbs

4 ANTENNA DETAIL
SCALE: NOT TO SCALE



ERICSSON - 4449 B5/B12
WEIGHT (FULLY EQUIPPED): 71.00 LBS
SIZE (HxWxD): 17.9x13.19x9.44 IN.
CONNECTOR TYPE: 4.3-10 FEMALE (4 TOTAL PORTS)

5 ERICSSON - 4478 B12A
SCALE: NOT TO SCALE

OVP SPECIFICATIONS	
MANUFACTURER	RAYCAP
MODEL #	DC9-48-60-24-8C-EV
WIDTH	10.24"
DEPTH	18.28"
HEIGHT	31.41"
WEIGHT	26.20 LBS

6 OVP SPECS
SCALE: NOT TO SCALE

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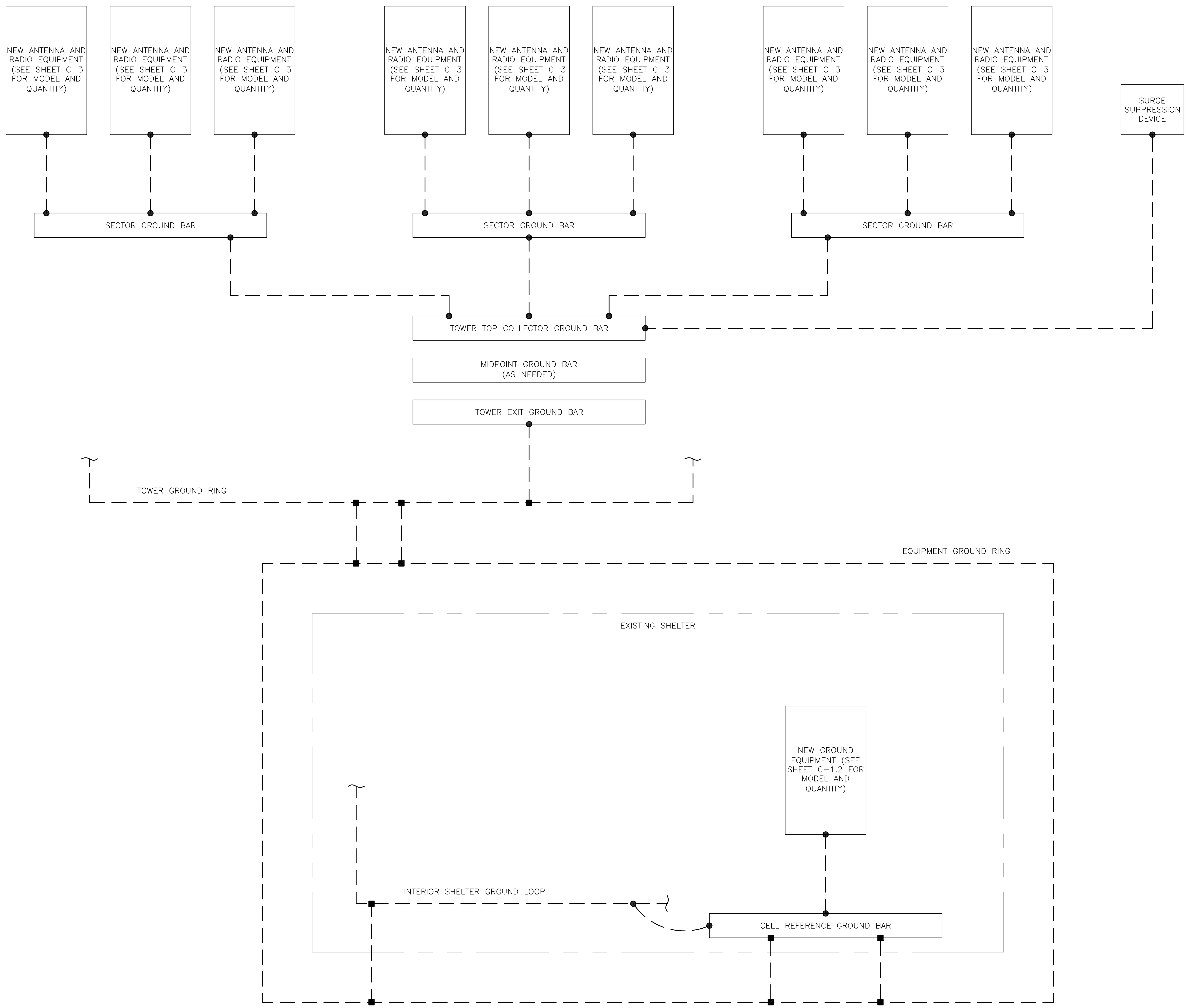
SHEET NUMBER: C-5

REVISION: 2



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.

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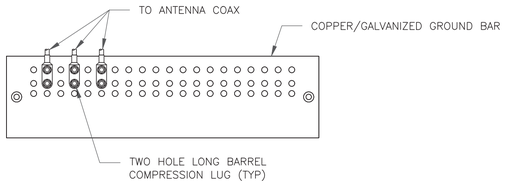
Expires 2/10/22

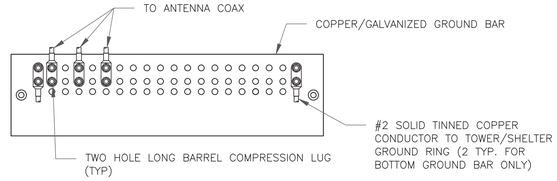
SHEET NUMBER: G-1
REVISION: 2



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

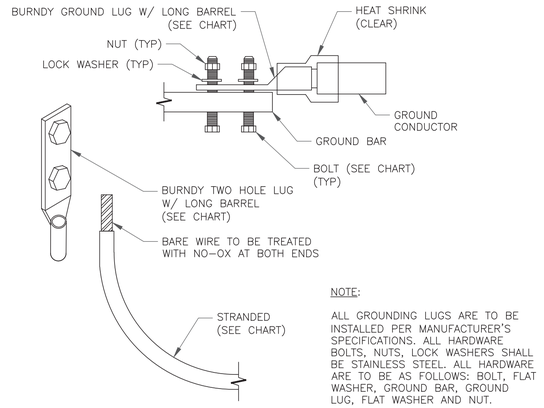


NOTES:

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

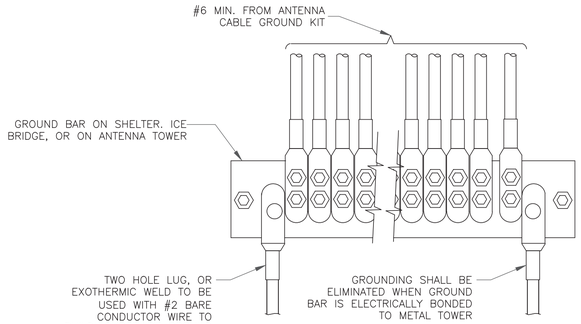
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



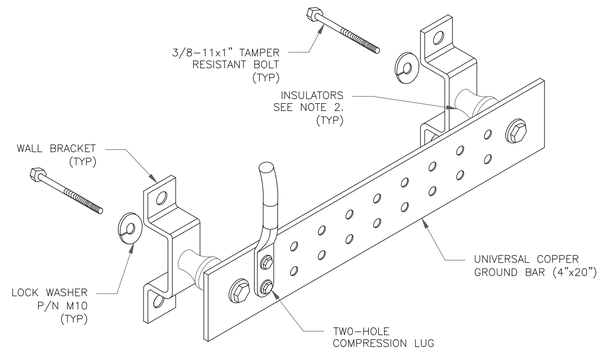
NOTE:

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

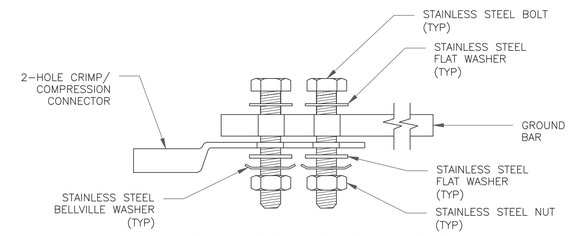


NOTES:

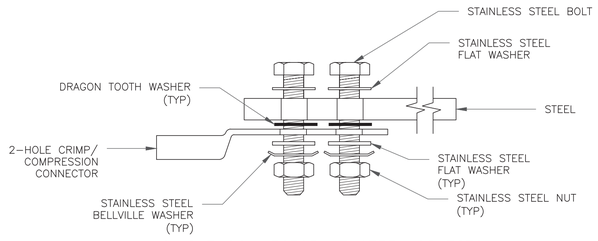
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

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

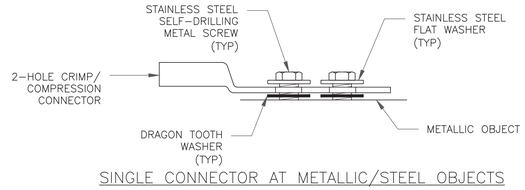
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

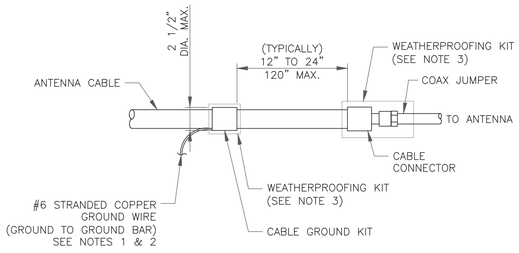


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

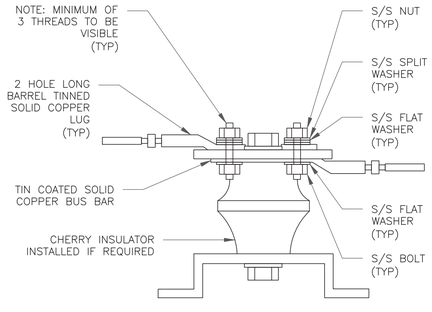
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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

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Expires 2/10/22

SHEET NUMBER: G-2

REVISION: 2

Diagram - Sector A Diagram File Name - C_Band_DoD_700DE(Bottom)_RRUS-32_2xDCFiber_1xDC-9_5216+1xXMU.vsd

Atoll Site Name - CTL02108 Location Name - NORWALK WEST- CT AVE 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

Antenna 1
Empty

Antenna 2
LTE 700(DE) / 700(B14) / PCS /AWS
16 Port Antenna
Broadband Low 700 DE +45/-45
Broadband Low 700 B14 +45/-45
Broadband Low 700 B14 +45/-45
Broadband Low 850 +45/-45
Broadband Hi 4Tx/4Rx +45/-45
Broadband Hi 4Tx/4Rx +45/-45
Broadband Hi 4Tx/4Rx +45/-45
Broadband Hi Tx/4Rx +45/-45
RET RET RET RET RET RET RET RET

Antenna 3
DoD + C band
AIR DoD +45/-45
AIR C-BAND +45/-45

Antenna 4
LTE 700(BC) / WCS/ 5G 850
Broadband Octo Low 700/850 +45/-45
Broadband Octo Low 700/850 +45/-45
Broadband Octo High 4Tx/4Rx +45/-45
Broadband Octo High 4Tx/4Rx +45/-45
RET RET RET RET

(Y- Cable)

Fiber/DC Demarcation Box (Squid)
Fiber/DC Demarcation Box (Squid)
Fiber/DC-9 Demarcation Box (Squid)

DC Plant

6673 Fronthaul Gateway

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

Fiber Demarcation Box

5216 XMU XMU

6630

IDLe

UMTS 1[1] NodeB

Diagram - Sector	B	Diagram File Name - C_Band_DoD_700DE(Bottom)_RRUS-32_2xDCFiber_1xDC-9_5216+1xXMU.vsd					
Atoll Site Name -	CTL02108	Location Name -	NORWALK WEST- CT AVE	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

Antenna 1
Empty

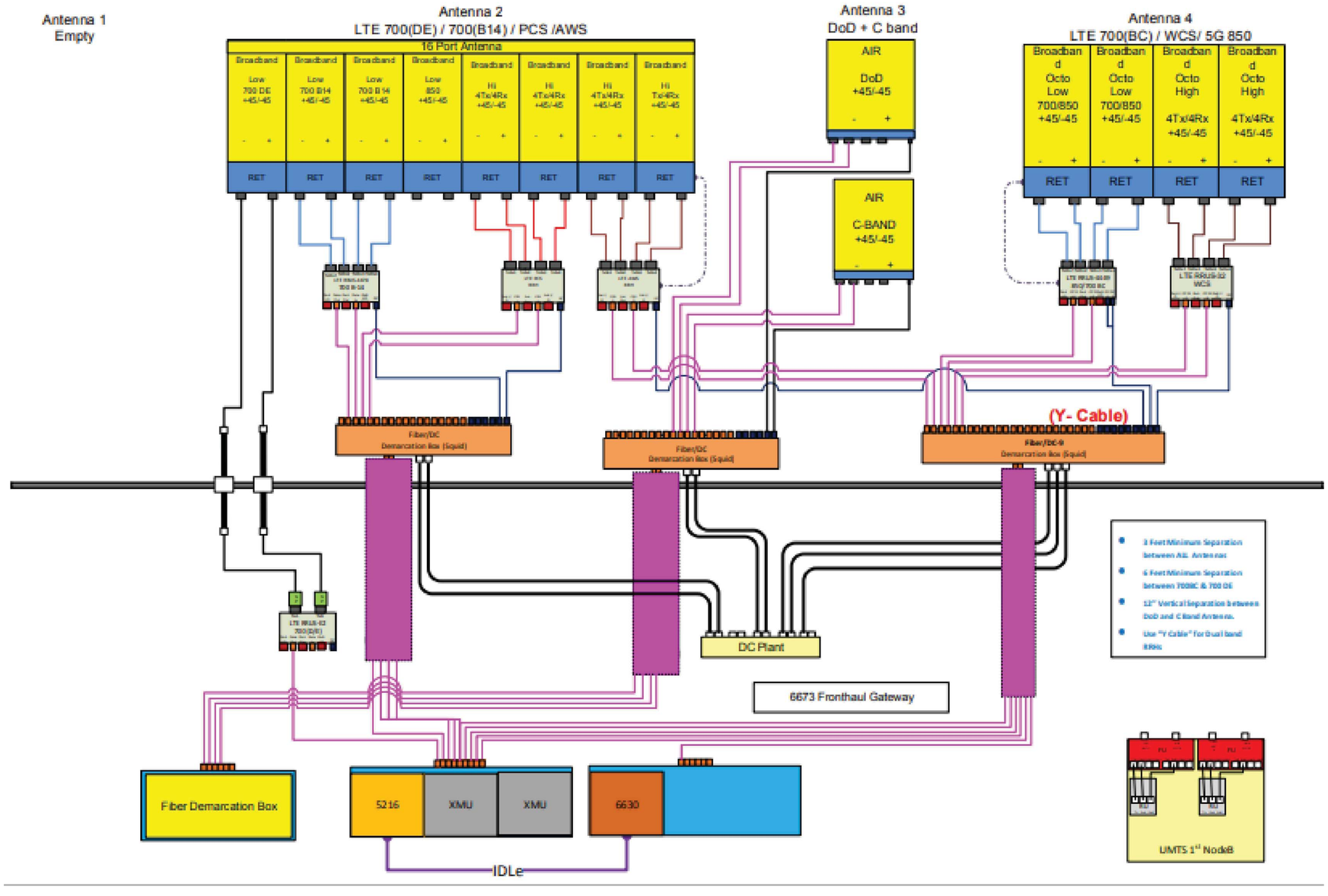
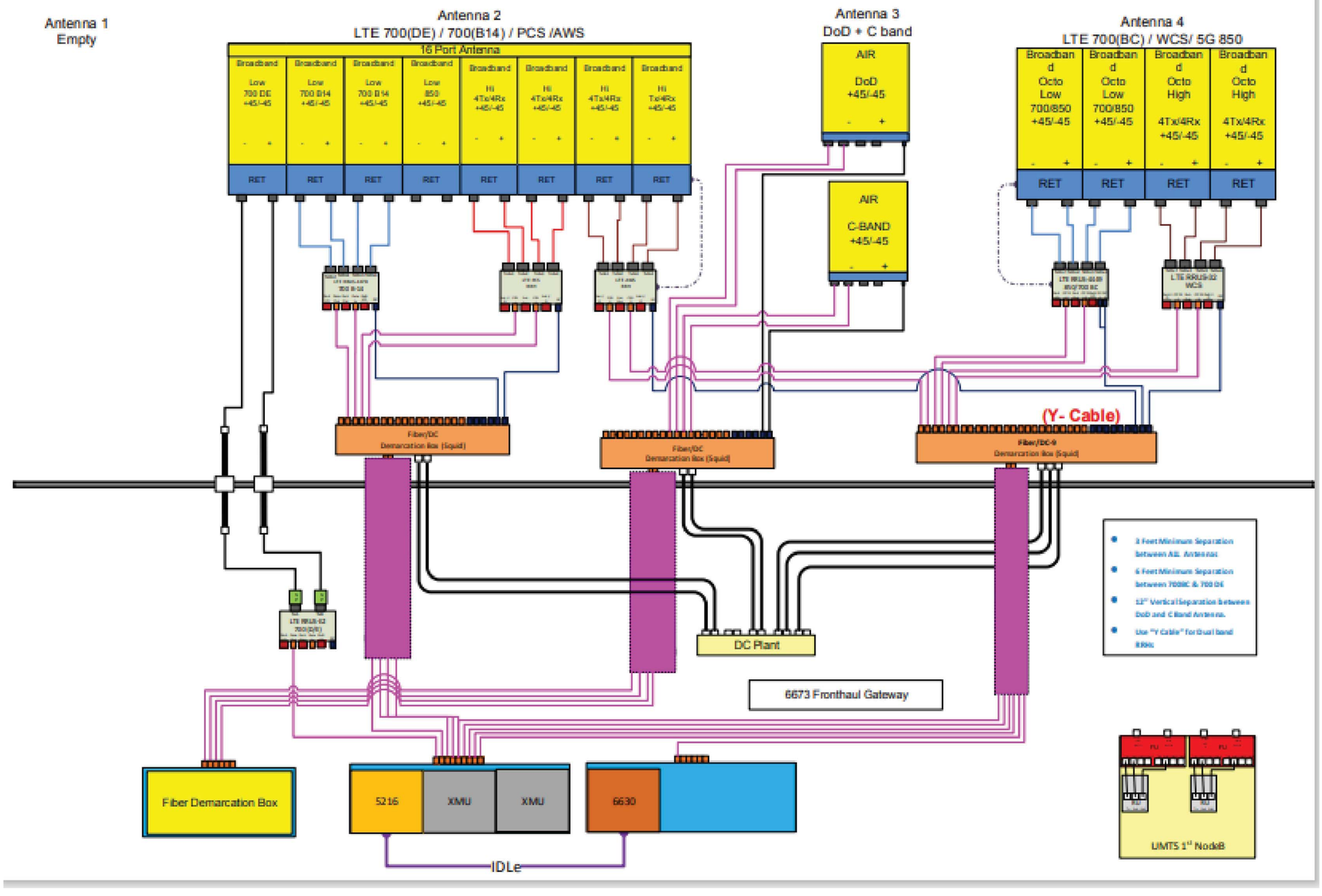


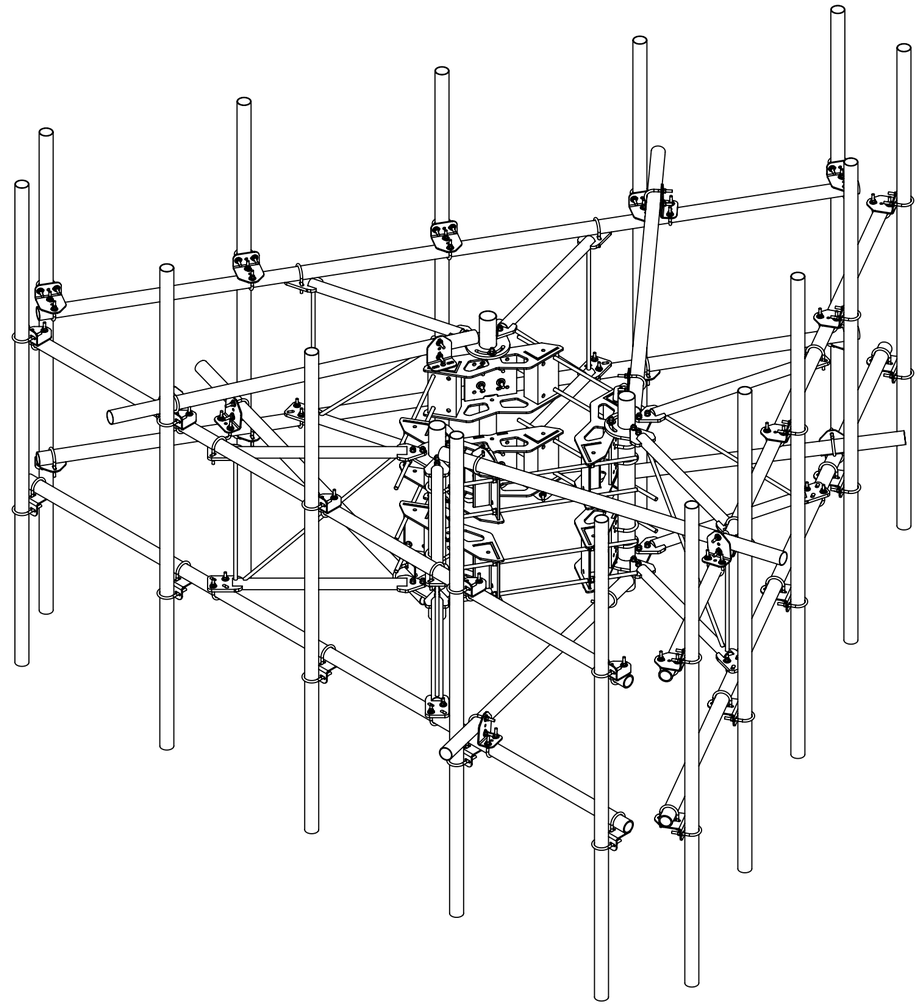
Diagram - Sector	C	Diagram File Name - C_Band_DoD_700DE(Bottom)_RRUS-32_2xDCFiber_1xDC-9_5216+1xXMU.vsd					
Atoll Site Name -	CTL02108	Location Name -	NORWALK WEST- CT AVE	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

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



REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000033016	INITIAL RELEASE	RJC	01/11/19

NOTES:
1.0 GENERAL
1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
1.2 FOR PATENT INFO: https://www.commscope.com/ProductPatent/ProductPatent.aspx
2.0 DESIGN NOTES
2.1 Any hazards or obstructions to the climbing facility and safety climb must be identified prior to installing the appurtenance. Additional products may be required to maintain the integrity of the safety climb. During installation, temporary and/or permanent precautionary measures should be taken to preserve the climbing facility and/or safety climb
3.0 MANUFACTURING/SPECIAL REQUIRMENTS
4.0 TEST
5.0 PACKAGING



MCG22HDX14-15-WLL SHOWN FOR REFERENCE

PATENT PENDING

TOP LEVEL ZNSK COMPONENTS

PART NO.	DESCRIPTION	PACK KIT	RING MOUNT	PIPE BUNDLE	WEIGHT (LBS)	AT&T RATING
MCG22HDX12-12-H10	TRIPLE SECTR FRM MONO 12'6" FACE W/12 AP	G22HDXPKM34	MC-RM1550-3D	PB12TEB0607B0612K	2007	HEAVY 10
MCG22HDX12-15-WLL	TRIPLE SECTR FRM MONO 12'6" FACE W/15 AP	G22HDXPKM35	MC-RM1550-3D	PB15TEB0607B0612K	2141	HEAVY WLL
MCG22HDX14-12-H10	TRIPLE SECTR FRM MONO 14'6" FACE W/12 AP	G22HDXPKM34	MC-RM1550-3D	PB12TEB0607B0614K	2076	HEAVY 10
MCG22HDX14-15-WLL	TRIPLE SECTR FRM MONO 14'6" FACE W/15 AP	G22HDXPKM35	MC-RM1550-3D	PB15TEB0607B0614P	2374	HEAVY WLL

PACK KIT COMPONENTS

PACK KIT	CROSSOVER KIT	HARDWARE KIT
G22HDXPKM34	XA30304 (QTY 3)	G22HDXMHK
G22HDXPKM35	XA30305 (QTY 3)	G22HDXMHK

DENSITY	lbs/in³
MASS	lbs
VOLUME	in³
SURFACE AREA	in²
HEIGHT	
LENGTH	
WIDTH	

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES
0 PLACE X ± .25
1 PLACE .X ± 0.12
2 PLACE .XX ± 0.06
ANGLES ± 2°

SAP MATERIAL MASTER: SEE TABLE

FINISH: GALV A123

MATERIAL: A500, A529, A572, A1011/A1018

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994

	NAME	DATE
CE	RJC	01/11/19
RW		
RV		
AD		
RE	BCAMPBELLCON	02/06/2019

ECN 008000033016

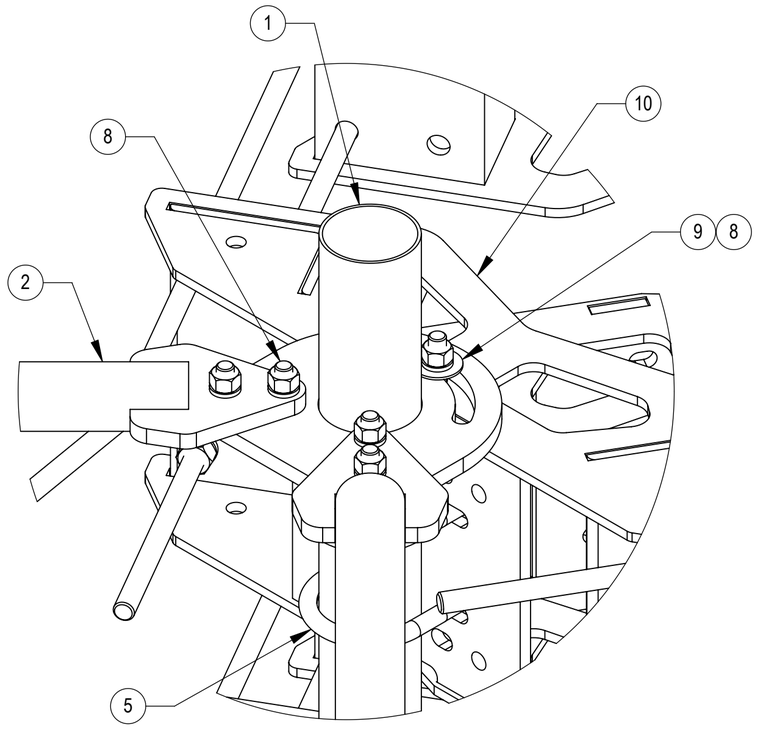
TITLE: MCG22HDX SECTOR FRAME SERIES

SCALE: 1:24

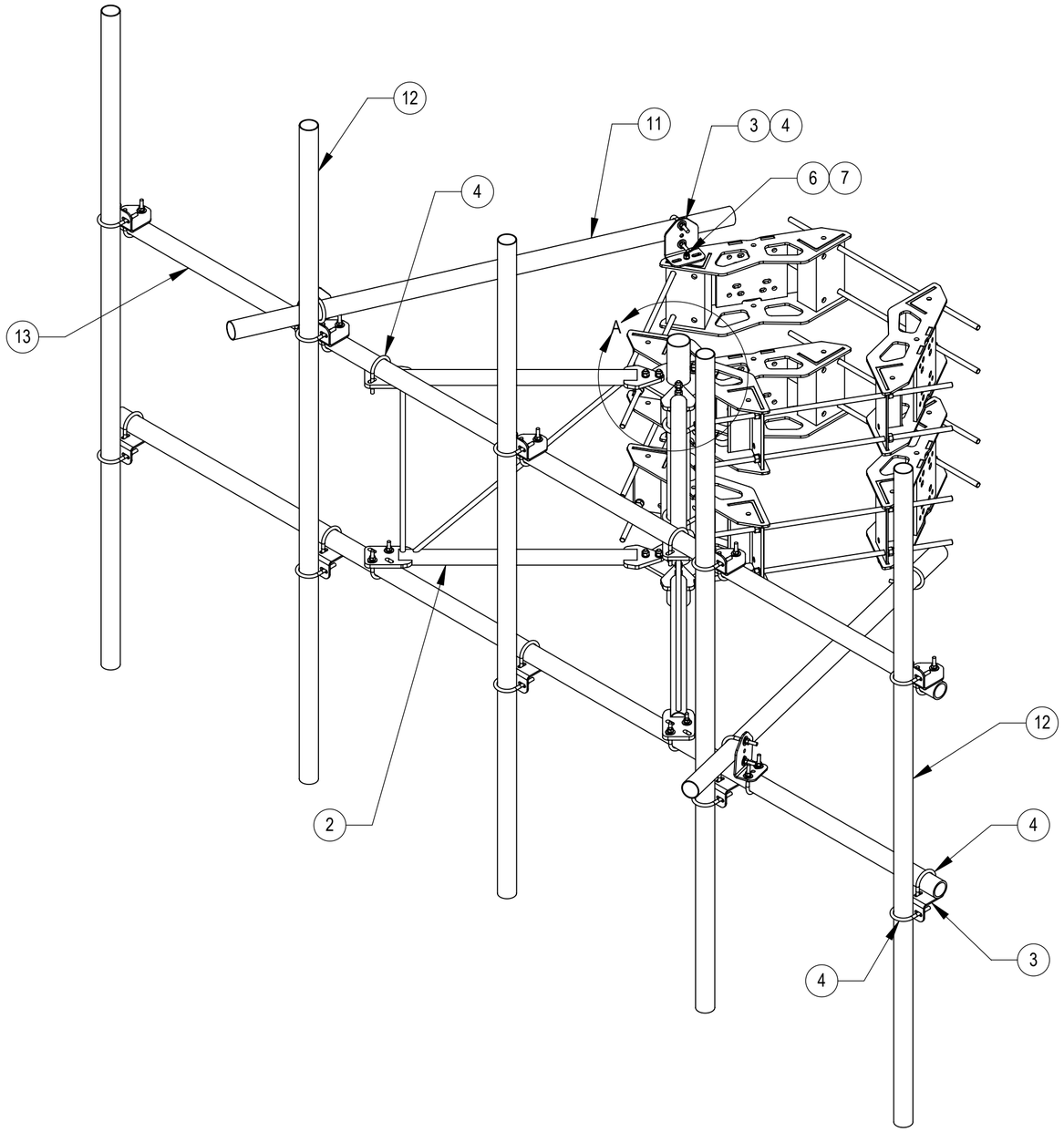
DOCUMENT NO.: MCG22HDX

SIZE	WORK AREA 24	MODEL			DRAWING			SHEET
		VERSION	STATUS	REVISION	VERSION	STATUS	REVISION	
C		00	RE	A	00	RE	A	1 OF 7

NOTES:



DETAIL A
SCALE 1 : 4



SINGLE SECTOR OF MCG22HDX14-5-WLL SHOWN FOR REFERENCE

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	SFG2270	BACK VERTICAL ARM MOUNT	3	36.90 LBS	
2	SFG2278	ARM, STANDOFF - SFG22	6	40.92 LBS	
3	XAU01	ANGLE, CROSSOVER, 1.9-3.5" X 1.9-3.5" OD	42	2.98 LBS	FOR "H10" MODELS, QTY IS 36
4	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	90	0.71 LBS	FOR "H10" MODELS, QTY IS 78
5	GUB-53560	5/8" X 3-5/8" X 6" GALV U-BOLT	12	1.30 LBS	
6	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	6	0.13 LBS	
7	GWF-04	1/2" GALV FLAT WASHER	6	0.03 LBS	
8	GB-05225	5/8" X 2-1/4" GALV BOLT KIT	30	0.28 LBS	
9	GWF-05	5/8" GALV FLAT WASHER	6	0.06 LBS	
10	MC-RM1550-3	12" - 50" OD RINGMOUNT	2	230.43 LBS	
11	MT546084120	2.88" OD X .120" WALL X 84" LONG PIPE	6	24.81 LBS	
12	MT546120120	2.88 OD X .120" WALL X 120" LONG PIPE	15	35.44 LBS	FOR "H10" MODELS, QTY IS 12
13	MT546174276	2.88" OD X .276" WALL X 174" LONG PIPE	6	111.49 LBS	FOR 12'6" FACE MODELS, PART NO. IS MT-546-150; FOR 14'6" FACE "H10" MODEL, PART NO. IS MT-546-174

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA

TITLE
MCG22HDX SECTOR FRAME SERIES

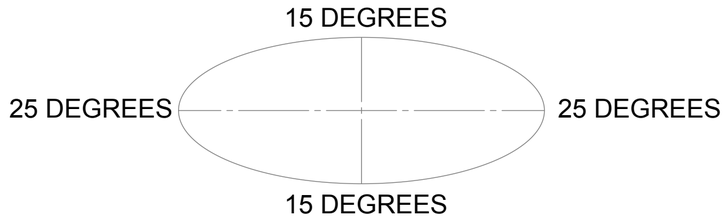
SIZE	SCALE	DOCUMENT NO.			
C	1:16	MCG22HDX			
		DRAWING			SHEET
		VERSION	STATUS	REVISION	
		01	RE	A	2 OF 7

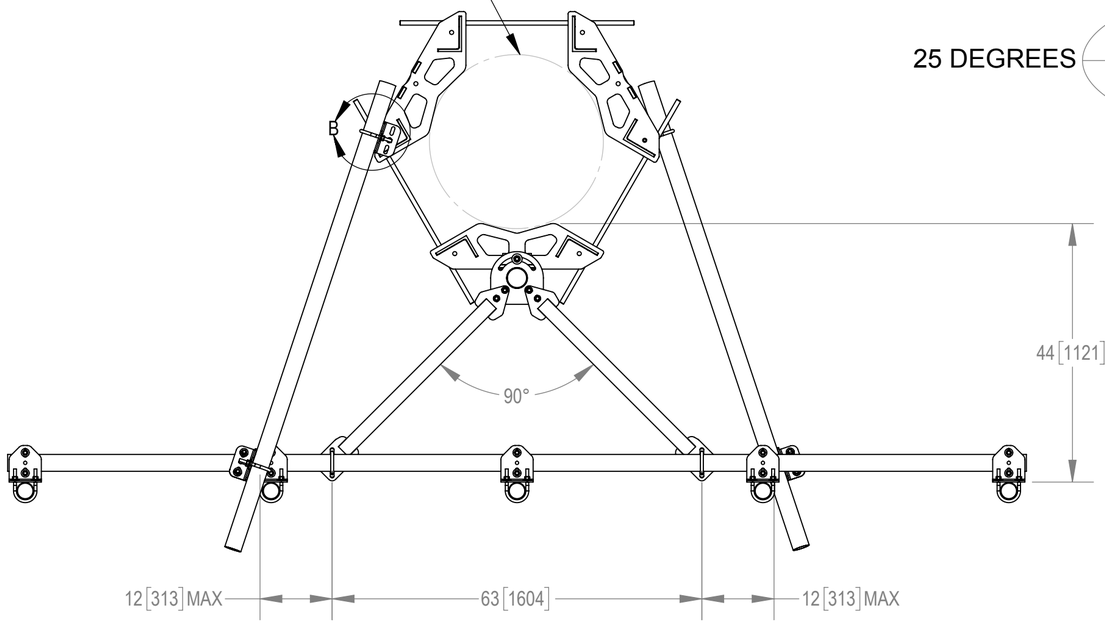
NOTES:

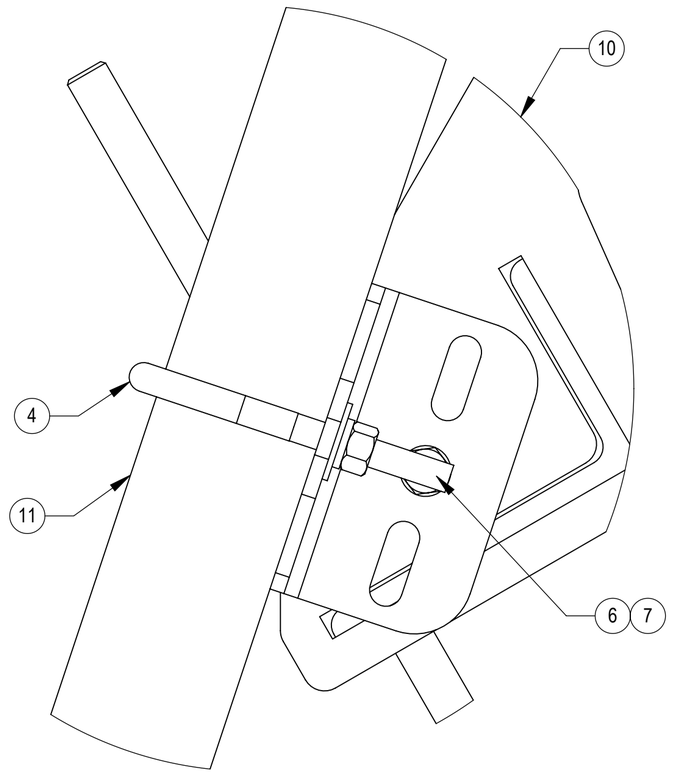
12'6" FACE MODELS: ∅ 12" - 50" POLE
14'6" FACE MODELS: ∅ 24" - 50" POLE

ALLOWABLE TIEBACK ANGLE

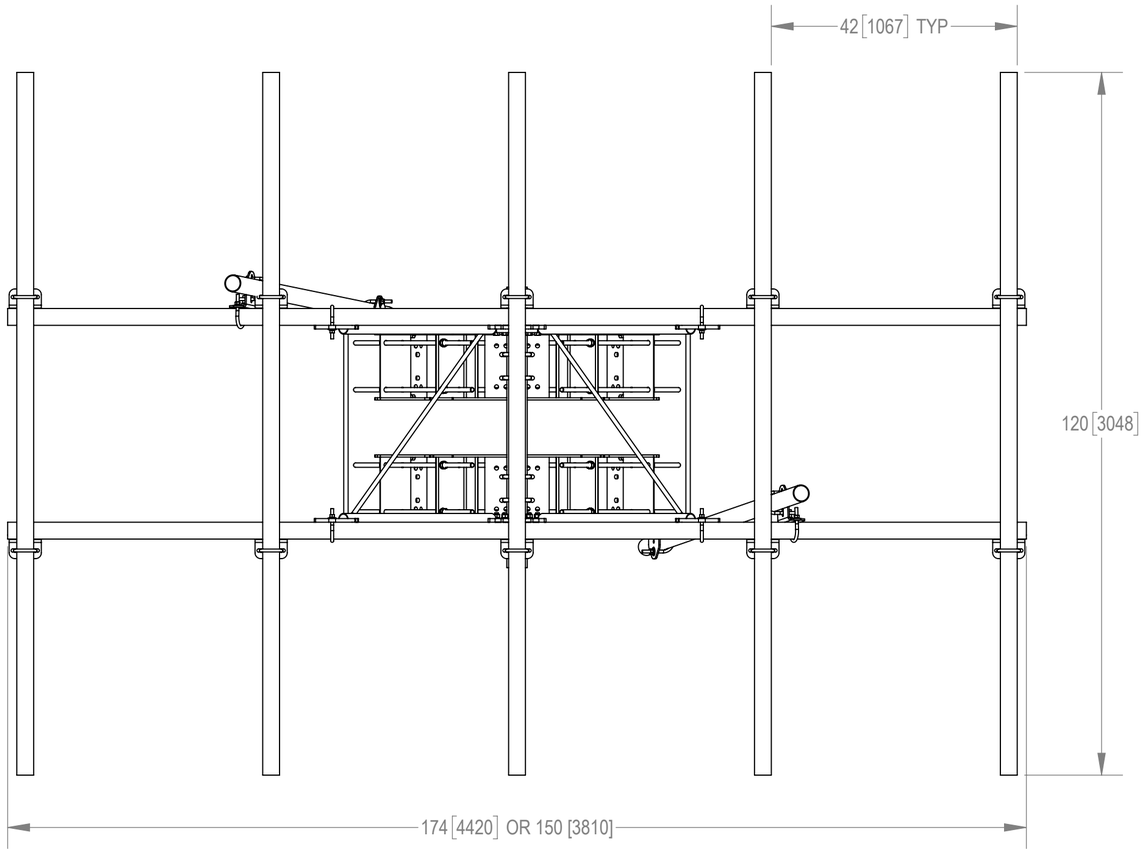
±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL

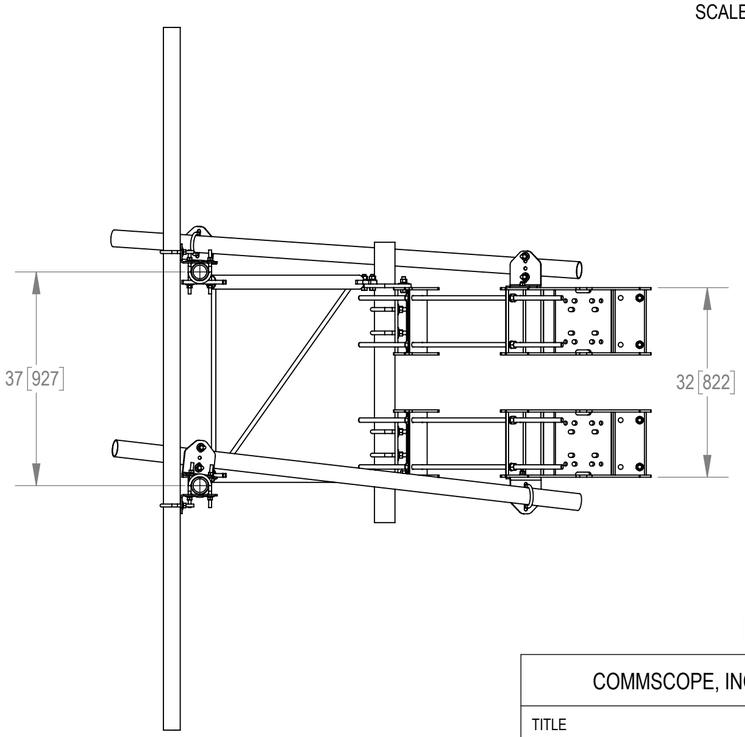






DETAIL B
SCALE 1 : 2





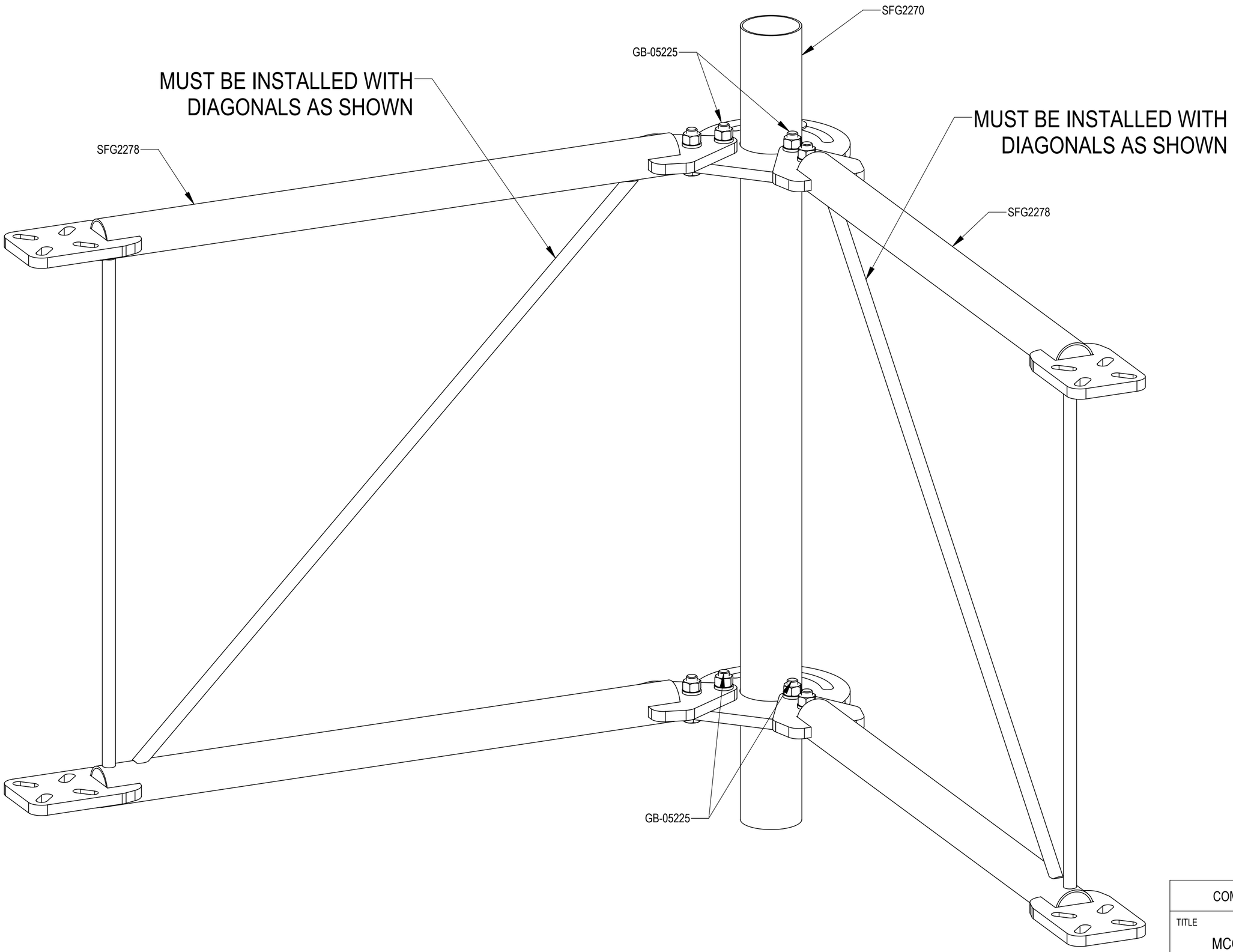
PATENT PENDING

SINGLE SECTOR OF "WLL" MODEL SHOWN FOR REFERENCE

COMMSCOPE, INC. OF NORTH CAROLINA					
TITLE: MCG22HDX SECTOR FRAME SERIES					
SIZE: C	SCALE: 1:20	DOCUMENT NO.: MCG22HDX			
		DRAWING			SHEET
		VERSION	STATUS	REVISION	
		01	RE	A	3 OF 7

NOTES:

STEP 1: ATTACH STANDOFF ARMS (SFG2278) TO BACK VERTICAL ARM MOUNT (SFG2270) USING (GB-05225) BOLT KITS



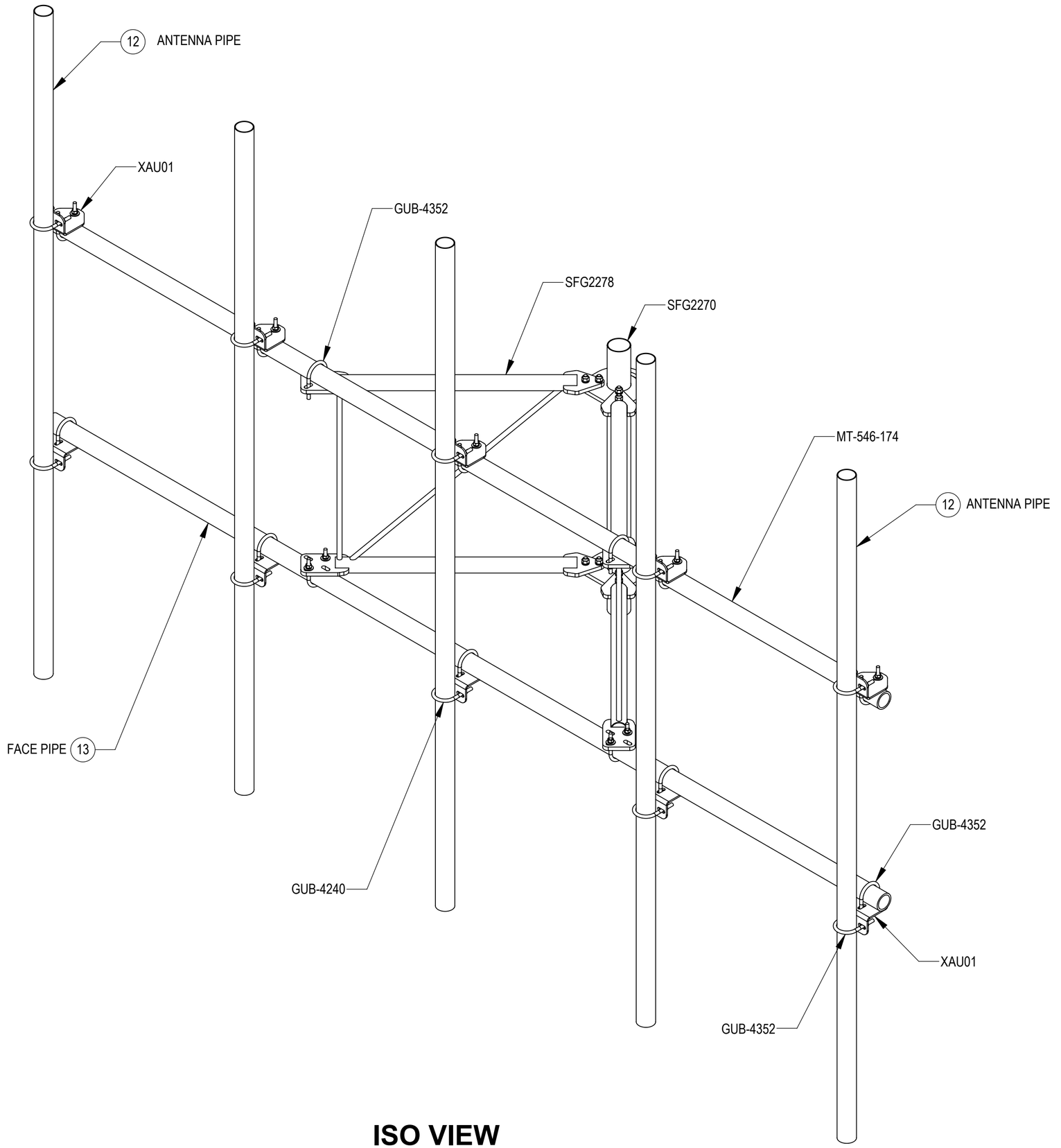
ISO VIEW

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA			
TITLE: MCG22HDX SECTOR FRAME SERIES			
SIZE: C	SCALE: 1:4	DOCUMENT NO.: MCG22HDX	
		DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 4 OF 7

NOTES:

STEP 2: ATTACH FACE PIPES TO STANDOFF ARMS USING (GUB-4352) U-BOLTS AND THEN ATTACH ANTENNA PIPES USING (XAU01) CROSSOVER ANGLES AND (GUB-4240 & GUB-4352) U-BOLTS



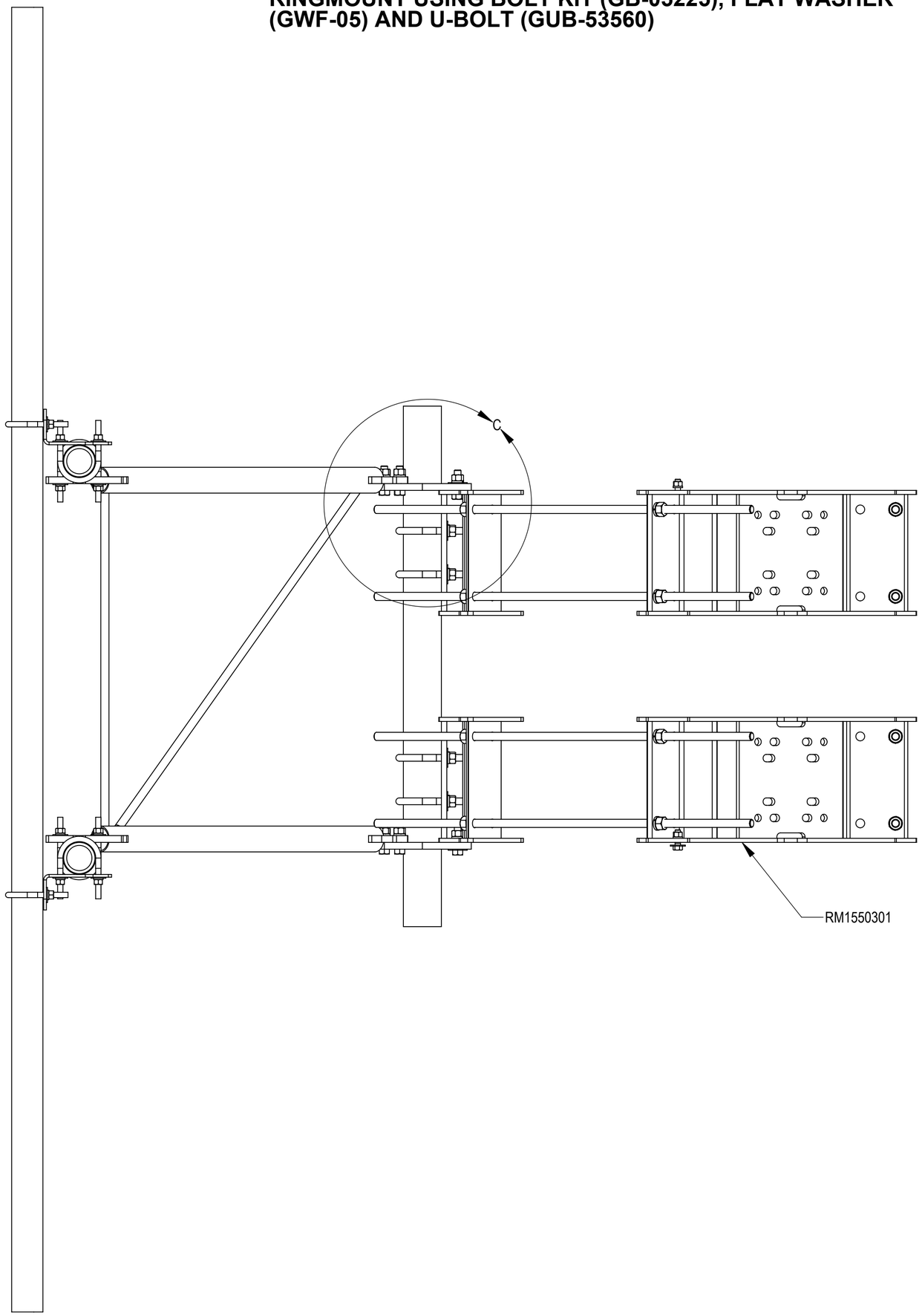
ISO VIEW

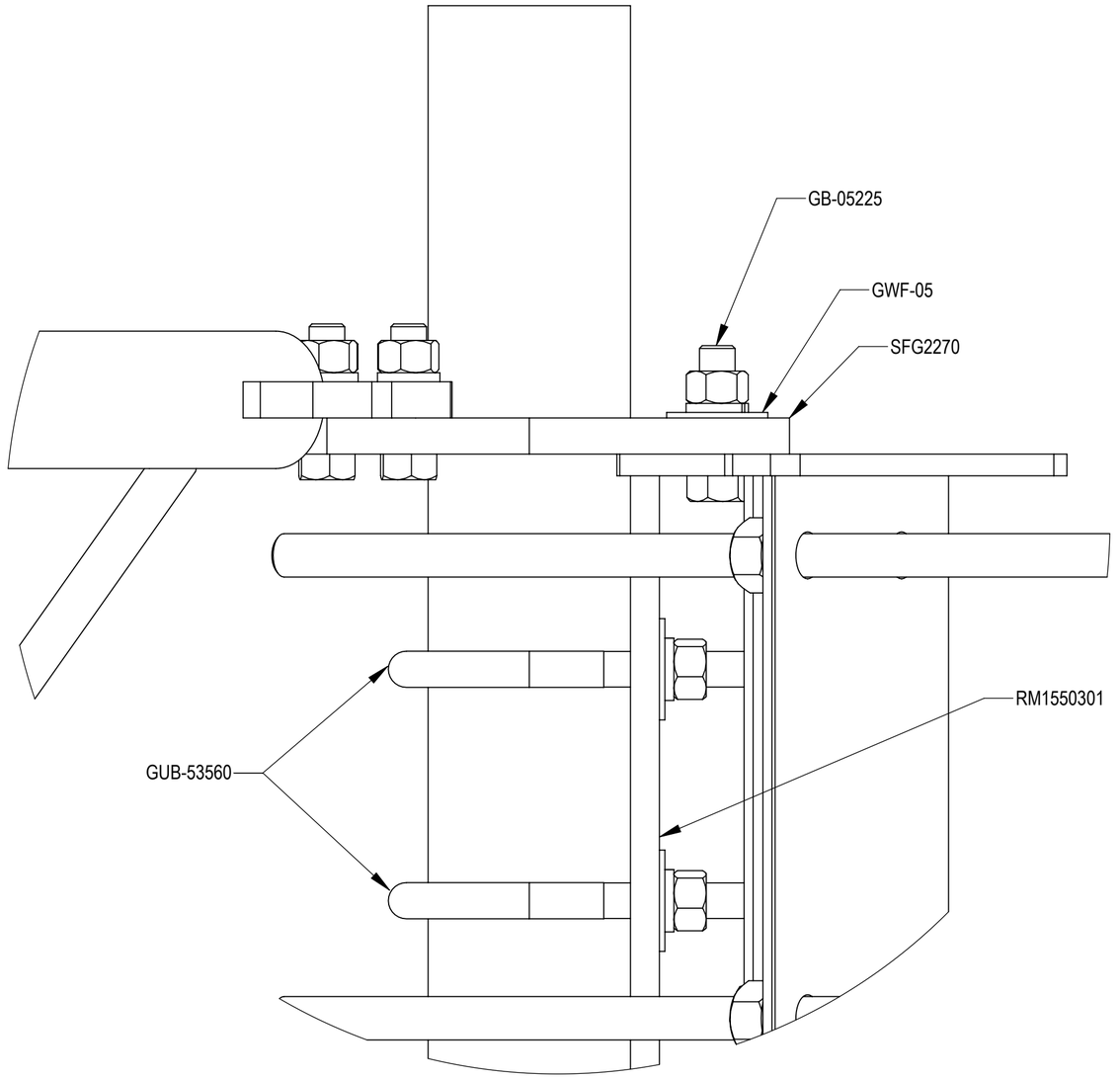
PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA			
TITLE: MCG22HDX SECTOR FRAME SERIES			
SIZE: C	SCALE: 1:12	DOCUMENT NO.: MCG22HDX	
		DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 5 OF 7

NOTES:

STEP 3: ATTACH BACK VERTICAL ARM MOUNT (SFG2270) TO RINGMOUNT USING BOLT KIT (GB-05225), FLAT WASHER (GWF-05) AND U-BOLT (GUB-53560)





DETAIL C
SCALE 1 : 2

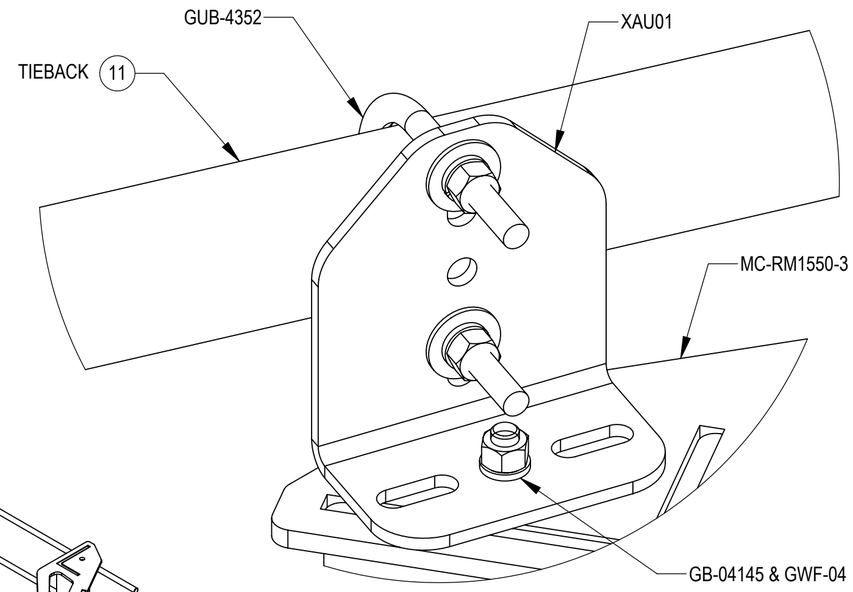
PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA				
TITLE: MCG22HDX SECTOR FRAME SERIES				
SIZE: C	SCALE: 1:8	DOCUMENT NO.: MCG22HDX		
		DRAWING		SHEET
		VERSION: 01	STATUS: RE	REVISION: A
				6 OF 7

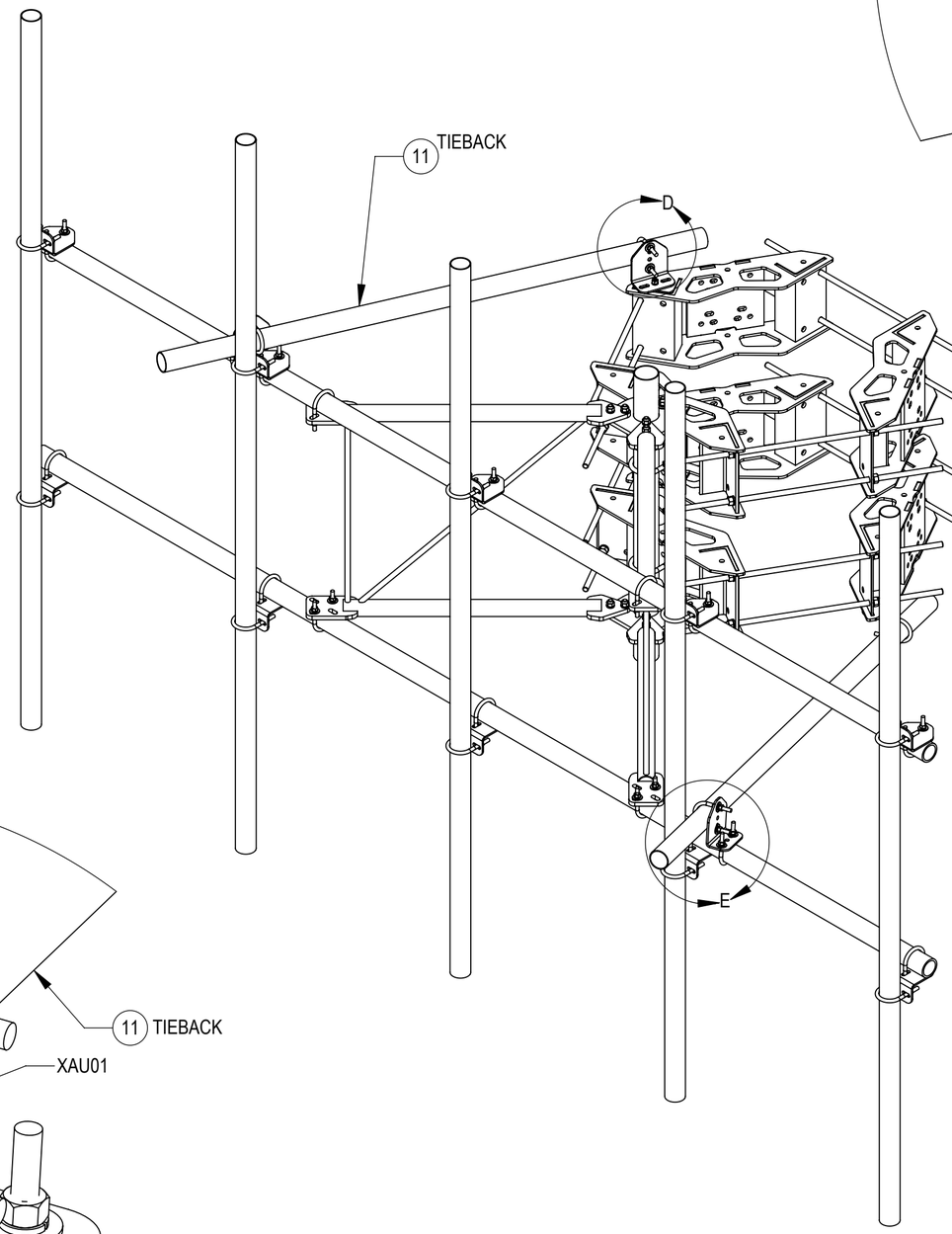
NOTES:

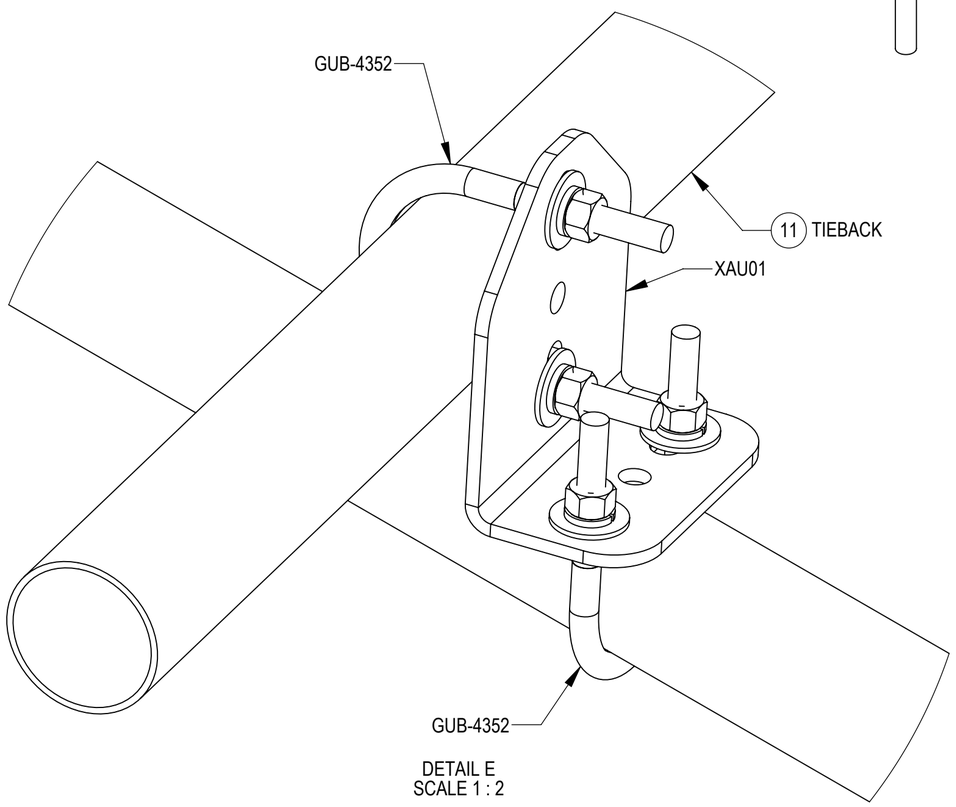
STEP 4: ATTACH TIE BACK PIPES (MT-651-96) TO FACE PIPES USING CROSSOVER ANGLES (XAU01) AND U-BOLTS (GUB-4240 & GUB-4352)

STEP 5: ATTACH TIE BACK PIPES (MT-651-96) TO RINGMOUNT (MC-RM1550-3) USING CROSSOVER ANGLES (XAU01), BOLT KIT (GB-04145), FLAT WASHER (GWF-04) AND U-BOLT (GUB-4240)



DETAIL D
SCALE 1 : 2





DETAIL E
SCALE 1 : 2

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA					
TITLE: MCG22HDX SECTOR FRAME SERIES					
SIZE: C	SCALE: 1:16	DOCUMENT NO.: MCG22HDX			
		DRAWING			SHEET
		VERSION: 01	STATUS: RE	REVISION: A	7 OF 7

Exhibit D

Structural Analysis Report

Date: **October 27, 2021**

MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CTL02108
	Site Name:	Norwalk West
	FA Number:	10034974
Crown Castle Designation:	**BU Number:**	841287
	Site Name:	Norwalk West- CT Ave
	JDE Job Number:	649394
	Work Order Number:	2030891
	Order Number:	556497 Rev. 1
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN9-908 / 2101398	
Site Data:	**600 Connecticut Ave, Norwalk, Fairfield County, CT 06850** **Latitude *41° 5' 49.45"*, Longitude *-73° 26' 56.61"*** **150 Foot - Valmont Monopole Tower**	

Morrison Hershfield 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:

LC5: Proposed Equipment Configuration **Sufficient Capacity - 87.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 117 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

STATE OF CONNECTICUT
G. LANCE COOKE
No. 28133
LICENSED PROFESSIONAL ENGINEER

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer

Digitally signed by G. Lance Cooke
Date: 2021.10.27 07:36:32-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150 ft Monopole tower designed by Valmont Industries.

The tower was modified per modification drawings prepared by GPD Group, in June of 2012. Per the Post Modification Inspection completed by GPD Group, in December of 2015, these modifications were properly installed and are considered in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	117 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 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)
152.0	154.0	3	ericsson	AIR 6449 N77 w/ Mount Pipe	6 6 5 1	1-5/8 3/4 3/8 7/8
	153.0	3	cci antennas	DMP65R-BU4E w/ Mount Pipe		
		3	quintel technology	QD6616-7 w/ Mount Pipe		
		3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 32 B66		
		3	ericsson	RRUS 4449 B5/B12		
		2	raycap	DC6-48-60-18-8F		
		1	raycap	DC9-48-60-24-8C-EV		
	152.0	3	cci	C-Band Antenna E w/ Mount Pipe		
		1	-	Pipe Mount [PM 601-3]		
		1	-	Side Arm Mount [SO 202-3]		
		1	-	Side Arm Mount [SO 102-3]		
		1	-	Platform Mount [LP 603-1]		

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5344374	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4710140	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5968178	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5344563	CCISITES
4-POST-MODIFICATION INSPECTION	6044141	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), 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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

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 Table 1 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	150 - 145	Pole	TP15.254x14.5x0.25	Pole	20.0	Pass
L2	145 - 140	Pole	TP16.008x15.254x0.25	Pole	30.8	Pass
L3	140 - 139.58	Pole	TP16.071x16.008x0.25	Pole	31.6	Pass
L4	139.58 - 139.33	Pole + Reinf.	TP16.109x16.071x0.55	Reinf. 5 Tension Rupture	23.8	Pass
L5	139.33 - 134.33	Pole + Reinf.	TP16.863x16.109x0.525	Reinf. 5 Tension Rupture	31.6	Pass
L6	134.33 - 129.33	Pole + Reinf.	TP17.617x16.863x0.5125	Reinf. 5 Tension Rupture	38.8	Pass
L7	129.33 - 124.33	Pole + Reinf.	TP18.371x17.617x0.5	Reinf. 5 Tension Rupture	45.6	Pass
L8	124.33 - 119.33	Pole + Reinf.	TP19.125x18.371x0.4875	Reinf. 5 Tension Rupture	51.9	Pass
L9	119.33 - 114.33	Pole + Reinf.	TP19.88x19.125x0.475	Reinf. 5 Tension Rupture	57.9	Pass
L10	114.33 - 110	Pole + Reinf.	TP20.533x19.88x0.4625	Reinf. 5 Tension Rupture	62.8	Pass
L11	110 - 109.75	Pole + Reinf.	TP20.571x20.533x0.5625	Reinf. 4 Tension Rupture	52.8	Pass
L12	109.75 - 104.75	Pole + Reinf.	TP21.325x20.571x0.55	Reinf. 4 Tension Rupture	57.6	Pass
L13	104.75 - 99.75	Pole + Reinf.	TP22.079x21.325x0.5375	Reinf. 4 Tension Rupture	62.2	Pass
L14	99.75 - 94.75	Pole + Reinf.	TP22.833x22.079x0.525	Reinf. 4 Tension Rupture	66.6	Pass
L15	94.75 - 89.75	Pole + Reinf.	TP23.587x22.833x0.5125	Reinf. 4 Tension Rupture	70.7	Pass
L16	89.75 - 84.75	Pole + Reinf.	TP24.341x23.587x0.5	Reinf. 4 Tension Rupture	74.7	Pass
L17	84.75 - 81.5	Pole + Reinf.	TP24.832x24.341x0.5	Reinf. 4 Tension Rupture	77.2	Pass
L18	81.5 - 81.25	Pole + Reinf.	TP24.869x24.832x0.5	Reinf. 3 Tension Rupture	77.4	Pass
L19	81.25 - 76.25	Pole + Reinf.	TP25.624x24.869x0.4875	Reinf. 3 Tension Rupture	81.1	Pass
L20	76.25 - 71.25	Pole + Reinf.	TP26.378x25.624x0.475	Reinf. 3 Tension Rupture	84.7	Pass
L21	71.25 - 70	Pole + Reinf.	TP27.17x26.378x0.475	Reinf. 3 Tension Rupture	85.5	Pass
L22	70 - 65	Pole + Reinf.	TP26.82x26.066x0.5375	Reinf. 3 Tension Rupture	80.9	Pass
L23	65 - 60	Pole + Reinf.	TP27.574x26.82x0.5313	Reinf. 3 Tension Rupture	83.5	Pass
L24	60 - 55	Pole + Reinf.	TP28.329x27.574x0.525	Reinf. 3 Tension Rupture	86.0	Pass
L25	55 - 51.25	Pole + Reinf.	TP28.894x28.329x0.5188	Reinf. 3 Tension Rupture	87.8	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L26	51.25 - 51	Pole + Reinf.	TP28.932x28.894x0.6	Reinf. 2 Tension Rupture	74.4	Pass
L27	51 - 46	Pole + Reinf.	TP29.686x28.932x0.6	Reinf. 2 Tension Rupture	76.5	Pass
L28	46 - 41	Pole + Reinf.	TP30.44x29.686x0.5875	Reinf. 2 Tension Rupture	78.5	Pass
L29	41 - 36	Pole + Reinf.	TP31.194x30.44x0.575	Reinf. 2 Tension Rupture	80.3	Pass
L30	36 - 31	Pole + Reinf.	TP31.948x31.194x0.575	Reinf. 2 Tension Rupture	82.1	Pass
L31	31 - 30	Pole + Reinf.	TP32.552x31.948x0.575	Reinf. 2 Tension Rupture	82.5	Pass
L32	30 - 26.25	Pole + Reinf.	TP32.04x31.474x0.6375	Reinf. 2 Tension Rupture	77.9	Pass
L33	26.25 - 26	Pole + Reinf.	TP32.078x32.04x0.6375	Reinf. 1 Tension Rupture	77.9	Pass
L34	26 - 21	Pole + Reinf.	TP32.832x32.078x0.625	Reinf. 1 Tension Rupture	79.3	Pass
L35	21 - 16	Pole + Reinf.	TP33.586x32.832x0.625	Reinf. 1 Tension Rupture	80.5	Pass
L36	16 - 11	Pole + Reinf.	TP34.341x33.586x0.6125	Reinf. 1 Tension Rupture	81.7	Pass
L37	11 - 6	Pole + Reinf.	TP35.095x34.341x0.6125	Reinf. 1 Tension Rupture	82.7	Pass
L38	6 - 1	Pole + Reinf.	TP35.849x35.095x0.6	Reinf. 1 Tension Rupture	83.8	Pass
L39	1 - 0	Pole + Reinf.	TP36x35.849x0.6	Reinf. 1 Tension Rupture	84.0	Pass
					Summary	
				Pole	60.3	Pass
				Reinforcement	87.8	Pass
				Overall	87.8	Pass

Table 4 - Tower Component Stresses vs. Capacity - LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Connection	110	69.2	Pass
1	Anchor Rods	0	65.7	Pass
1	Base Plate		57.6	Pass
1	Base Foundation (Structure)	0	32.9	Pass
1	Base Foundation (Soil Interaction)		50.0	Pass

Structure Rating (max from all components) =	87.8%*

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) *Rating per TIA-222-H, Section 15.5.

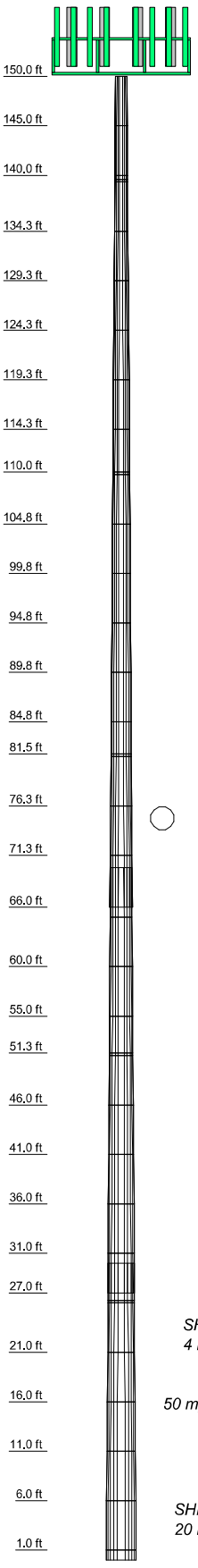
4.1) Recommendations

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

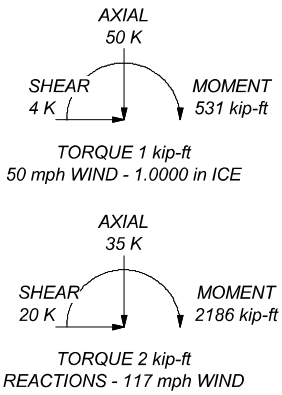
APPENDIX A

TNXTOWER OUTPUT

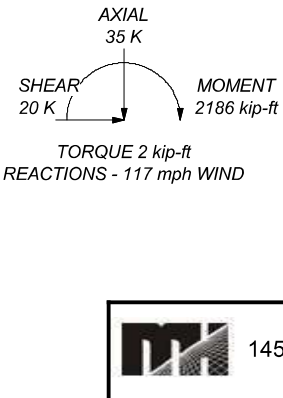
Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	1.00
Number of Sides	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Thickness (in)	0.2500	0.2500	0.2500	0.2500	0.5250	0.5125	0.5000	0.4875	0.4750	0.4625	0.4500	0.5500	0.5375	0.5250	0.5125	0.5000	0.4875	0.4750	0.4625	0.4750	0.4750	0.5375	0.5310	0.5250	0.5188	0.5125	0.6000	0.5875	0.5750	0.5750	0.5750	0.5750	0.6250	0.6250	0.6250	0.6125	0.6125	0.6000	0.6000
Socket Length (ft)																					4.00								3.00										
Top Dia (in)	14.5000	15.2541	15.9083	16.5624	16.1988	16.8630	17.6172	18.3713	19.1254	19.8796	20.5337	21.3249	22.0791	22.8332	23.5874	24.3415	25.0957	25.8498	26.6040	27.3581	28.1123	28.8664	29.6206	30.3747	31.1289	31.8830	32.6372	33.3913	34.1455	34.8996	35.6538	36.4079	37.1621	37.9162	38.6704	39.4245	40.1787	40.9328	41.6870
Bot Dia (in)	15.2541	16.0083	16.7624	17.5166	16.8630	17.6172	18.3713	19.1254	19.8796	20.6337	21.3249	22.0791	22.8332	23.5874	24.3415	25.0957	25.8498	26.6040	27.3581	28.1123	28.8664	29.6206	30.3747	31.1289	31.8830	32.6372	33.3913	34.1455	34.8996	35.6538	36.4079	37.1621	37.9162	38.6704	39.4245	40.1787	40.9328	41.6870	42.4411
Grade	A572-65																																						
Weight (K)	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.6	0.6	0.6	0.6	0.4	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.6	0.0	0.9	0.9	0.9	0.9	0.7	0.8	1.0	1.1	1.1	1.1	1.1	1.1	21.9



ALL REACTIONS ARE FACTORED



TORQUE 1 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 2 kip-ft
REACTIONS - 117 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 117 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCI POLE RATING: 87.8%

Morrison Hershfield
Consulting Engineers
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379-8500
FAX: (770) 379-8501

Job: CN9-908 / 2101398			
Project: 841287 / Norwalk West- CT Ave			
Client: Crown Castle USA	Drawn by: KYR	App'd:	
Code: TIA-222-H	Date: 10/27/21	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

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

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 89.00 ft.
Basic wind speed of 117 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Maximum demand-capacity ratio is: 1.05.
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	150.00-145.00	5.00	0.00	12	14.5000	15.2541	0.2500	1.0000	A572-65 (65 ksi)
L2	145.00-140.00	5.00	0.00	12	15.2541	16.0083	0.2500	1.0000	A572-65 (65 ksi)
L3	140.00-139.58	0.42	0.00	12	16.0083	16.0712	0.2500	1.0000	A572-65 (65 ksi)
L4	139.58-139.33	0.25	0.00	12	16.0712	16.1089	0.5500	2.2000	A572-65 (65 ksi)
L5	139.33-134.33	5.00	0.00	12	16.1089	16.8630	0.5250	2.1000	A572-65 (65 ksi)
L6	134.33-129.33	5.00	0.00	12	16.8630	17.6172	0.5125	2.0500	A572-65 (65 ksi)
L7	129.33-124.33	5.00	0.00	12	17.6172	18.3713	0.5000	2.0000	A572-65 (65 ksi)
L8	124.33-119.33	5.00	0.00	12	18.3713	19.1254	0.4875	1.9500	A572-65 (65 ksi)
L9	119.33-114.33	5.00	0.00	12	19.1254	19.8796	0.4750	1.9000	A572-65 (65 ksi)
L10	114.33-110.00	4.33	0.00	12	19.8796	20.5331	0.4625	1.8500	A572-65 (65 ksi)
L11	110.00-109.75	0.25	0.00	12	20.5331	20.5708	0.5625	2.2500	A572-65 (65 ksi)
L12	109.75-104.75	5.00	0.00	12	20.5708	21.3249	0.5500	2.2000	A572-65 (65 ksi)
L13	104.75-99.75	5.00	0.00	12	21.3249	22.0791	0.5375	2.1500	A572-65 (65 ksi)
L14	99.75-94.75	5.00	0.00	12	22.0791	22.8332	0.5250	2.1000	A572-65 (65 ksi)
L15	94.75-89.75	5.00	0.00	12	22.8332	23.5874	0.5125	2.0500	A572-65 (65 ksi)
L16	89.75-84.75	5.00	0.00	12	23.5874	24.3415	0.5000	2.0000	A572-65 (65 ksi)
L17	84.75-81.50	3.25	0.00	12	24.3415	24.8317	0.5000	2.0000	A572-65 (65 ksi)
L18	81.50-81.25	0.25	0.00	12	24.8317	24.8694	0.5000	2.0000	A572-65 (65 ksi)
L19	81.25-76.25	5.00	0.00	12	24.8694	25.6235	0.4875	1.9500	A572-65 (65 ksi)
L20	76.25-71.25	5.00	0.00	12	25.6235	26.3777	0.4750	1.9000	A572-65 (65 ksi)
L21	71.25-66.00	5.25	4.00	12	26.3777	27.1695	0.4750	1.9000	A572-65 (65 ksi)
L22	66.00-65.00	5.00	0.00	12	26.0662	26.8203	0.5375	2.1500	A572-65 (65 ksi)
L23	65.00-60.00	5.00	0.00	12	26.8203	27.5745	0.5313	2.1250	A572-65 (65 ksi)
L24	60.00-55.00	5.00	0.00	12	27.5745	28.3286	0.5250	2.1000	A572-65 (65 ksi)
L25	55.00-51.25	3.75	0.00	12	28.3286	28.8942	0.5188	2.0750	A572-65 (65 ksi)
L26	51.25-51.00	0.25	0.00	12	28.8942	28.9319	0.6000	2.4000	A572-65 (65 ksi)
L27	51.00-46.00	5.00	0.00	12	28.9319	29.6861	0.6000	2.4000	A572-65 (65 ksi)
L28	46.00-41.00	5.00	0.00	12	29.6861	30.4402	0.5875	2.3500	A572-65 (65 ksi)
L29	41.00-36.00	5.00	0.00	12	30.4402	31.1943	0.5750	2.3000	A572-65 (65 ksi)
L30	36.00-31.00	5.00	0.00	12	31.1943	31.9485	0.5750	2.3000	A572-65 (65 ksi)
L31	31.00-27.00	4.00	3.00	12	31.9485	32.5518	0.5750	2.3000	A572-65 (65 ksi)
L32	27.00-26.25	3.75	0.00	12	31.4743	32.0400	0.6375	2.5500	A572-65 (65 ksi)
L33	26.25-26.00	0.25	0.00	12	32.0400	32.0777	0.6375	2.5500	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
L34	26.00-21.00	5.00	0.00	12	32.0777	32.8320	0.6250	2.5000	A572-65 (65 ksi)
L35	21.00-16.00	5.00	0.00	12	32.8320	33.5863	0.6250	2.5000	A572-65 (65 ksi)
L36	16.00-11.00	5.00	0.00	12	33.5863	34.3406	0.6125	2.4500	A572-65 (65 ksi)
L37	11.00-6.00	5.00	0.00	12	34.3406	35.0949	0.6125	2.4500	A572-65 (65 ksi)
L38	6.00-1.00	5.00	0.00	12	35.0949	35.8491	0.6000	2.4000	A572-65 (65 ksi)
L39	1.00-0.00	1.00		12	35.8491	36.0000	0.6000	2.4000	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	14.9233	11.4713	297.3216	5.1015	7.5110	39.5848	602.4541	5.6458	3.2160	12.864
	15.7041	12.0783	347.0683	5.3715	7.9016	43.9236	703.2545	5.9446	3.4181	13.672
L2	15.7041	12.0783	347.0683	5.3715	7.9016	43.9236	703.2545	5.9446	3.4181	13.672
	16.4848	12.6854	402.0757	5.6415	8.2923	48.4879	814.7144	6.2434	3.6202	14.481
L3	16.4848	12.6854	402.0757	5.6415	8.2923	48.4879	814.7144	6.2434	3.6202	14.481
	16.5499	12.7360	406.9093	5.6640	8.3249	48.8788	824.5086	6.2683	3.6371	14.548
L4	16.4441	27.4880	845.2358	5.5566	8.3249	101.5315	1712.6769	13.5288	2.8331	5.151
	16.4831	27.5548	851.4110	5.5701	8.3444	102.0338	1725.1895	13.5616	2.8432	5.169
L5	16.4919	26.3445	816.6344	5.5790	8.3444	97.8662	1654.7227	12.9660	2.9102	5.543
	17.2727	27.6194	941.0201	5.8490	8.7350	107.7293	1906.7619	13.5934	3.1123	5.928
L6	17.2771	26.9824	920.7250	5.8535	8.7350	105.4059	1865.6384	13.2799	3.1458	6.138
	18.0578	28.2270	1054.0918	6.1235	9.1257	115.5082	2135.8757	13.8924	3.3479	6.532
L7	18.0622	27.5586	1030.6385	6.1279	9.1257	112.9382	2088.3530	13.5635	3.3814	6.763
	18.8430	28.7728	1172.9499	6.3979	9.5163	123.2566	2376.7145	14.1611	3.5835	7.167
L8	18.8474	28.0731	1146.0275	6.4024	9.5163	120.4275	2322.1625	13.8167	3.6170	7.419
	19.6281	29.2569	1297.2069	6.6724	9.9070	130.9388	2628.4929	14.3993	3.8191	7.834
L9	19.6325	28.5258	1266.4900	6.6769	9.9070	127.8383	2566.2521	14.0395	3.8526	8.111
	20.4133	29.6793	1426.4189	6.9468	10.2976	138.5194	2890.3115	14.6072	4.0547	8.536
L10	20.4177	28.9169	1391.5674	6.9513	10.2976	135.1349	2819.6928	14.2320	4.0882	8.839
	21.0943	29.8901	1536.8611	7.1853	10.6361	144.4942	3114.0973	14.7110	4.2634	9.218
L11	21.0590	36.1717	1841.3557	7.1495	10.6361	173.1225	3731.0858	17.8026	3.9954	7.103
	21.0980	36.2400	1851.8055	7.1630	10.6557	173.7858	3752.2600	17.8362	4.0055	7.121
L12	21.1024	35.4568	1814.0500	7.1674	10.6557	170.2426	3675.7571	17.4508	4.0390	7.344
	21.8832	36.7924	2026.8613	7.4374	11.0463	183.4875	4106.9705	18.1081	4.2411	7.711
L13	21.8876	35.9779	1984.3739	7.4419	11.0463	179.6412	4020.8795	17.7072	4.2746	7.953
	22.6683	37.2831	2208.2740	7.7119	11.4370	193.0822	4474.5618	18.3496	4.4767	8.329
L14	22.6727	36.4372	2160.6757	7.7164	11.4370	188.9204	4378.1148	17.9333	4.5102	8.591
	23.4535	37.7120	2395.4971	7.9863	11.8276	202.5344	4853.9266	18.5607	4.7123	8.976
L15	23.4579	36.8348	2342.3946	7.9908	11.8276	198.0447	4746.3265	18.1289	4.7458	9.26
	24.2386	38.0793	2587.9296	8.2608	12.2182	211.8086	5243.8471	18.7415	4.9479	9.654
L16	24.2430	37.1706	2528.9148	8.2653	12.2182	206.9785	5124.2670	18.2943	4.9814	9.963
	25.0238	38.3848	2784.9151	8.5353	12.6089	220.8691	5642.9929	18.8918	5.1835	10.367
L17	25.0238	38.3848	2784.9151	8.5353	12.6089	220.8691	5642.9929	18.8918	5.1835	10.367
	25.5313	39.1740	2960.2470	8.7107	12.8628	230.1400	5998.2630	19.2803	5.3149	10.63
L18	25.5313	39.1740	2960.2470	8.7107	12.8628	230.1400	5998.2630	19.2803	5.3149	10.63
	25.5703	39.2347	2974.0309	8.7242	12.8823	230.8611	6026.1930	19.3101	5.3250	10.65
L19	25.5747	38.2735	2904.1445	8.7287	12.8823	225.4361	5884.5841	18.8370	5.3585	10.992
	26.3554	39.4573	3182.0425	8.9987	13.2730	239.7383	6447.6809	19.4197	5.5606	11.406
L20	26.3599	38.4647	3105.0795	9.0032	13.2730	233.9398	6291.7329	18.9311	5.5941	11.777
	27.1406	39.6181	3392.8790	9.2732	13.6636	248.3147	6874.8928	19.4988	5.7962	12.203
L21	27.1406	39.6181	3392.8790	9.2732	13.6636	248.3147	6874.8928	19.4988	5.7962	12.203
	27.9604	40.8292	3713.6486	9.5566	14.0738	263.8696	7524.8588	20.0949	6.0084	12.649
L22	27.4207	44.1838	3675.4112	9.1393	13.5023	272.2066	7447.3795	21.7459	5.5452	10.317
	27.5768	45.4890	4010.8532	9.4093	13.8929	288.6974	8127.0760	22.3883	5.7473	10.693
L23	27.5790	44.9708	3967.0441	9.4115	13.8929	285.5441	8038.3069	22.1332	5.7641	10.85
	28.3598	46.2608	4318.3324	9.6815	14.2836	302.3285	8750.1121	22.7682	5.9662	11.231
L24	28.3620	45.7271	4270.4880	9.6837	14.2836	298.9789	8653.1664	22.5055	5.9830	11.396
	29.1427	47.0020	4637.7233	9.9537	14.6742	316.0456	9397.2847	23.1330	6.1851	11.781

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
L25	29.1449	46.4529	4585.6033	9.9559	14.6742	312.4938	9291.6755	22.8627	6.2018	11.955
	29.7305	47.3977	4871.1223	10.1584	14.9672	325.4530	9870.2143	23.3277	6.3534	12.248
L26	29.7018	54.6644	5585.8100	10.1293	14.9672	373.2033	11318.3654	26.9042	6.1357	10.226
	29.7409	54.7373	5608.1720	10.1428	14.9867	374.2090	11363.6769	26.9400	6.1458	10.243
L27	29.7409	54.7373	5608.1720	10.1428	14.9867	374.2090	11363.6769	26.9400	6.1458	10.243
	30.5216	56.1943	6068.0343	10.4128	15.3774	394.6078	12295.4826	27.6571	6.3479	10.58
L28	30.5260	55.0472	5949.2806	10.4173	15.3774	386.8851	12054.8555	27.0926	6.3814	10.862
	31.3068	56.4739	6423.9301	10.6873	15.7680	407.4023	13016.6239	27.7947	6.5835	11.206
L29	31.3112	55.2954	6295.1519	10.6917	15.7680	399.2352	12755.6844	27.2147	6.6170	11.508
	32.0919	56.6917	6784.1812	10.9617	16.1587	419.8477	13746.5904	27.9019	6.8191	11.859
L30	32.0919	56.6917	6784.1812	10.9617	16.1587	419.8477	13746.5904	27.9019	6.8191	11.859
	32.8727	58.0880	7297.9029	11.2317	16.5493	440.9791	14787.5298	28.5892	7.0212	12.211
L31	32.8727	58.0880	7297.9029	11.2317	16.5493	440.9791	14787.5298	28.5892	7.0212	12.211
	33.4973	59.2050	7727.0668	11.4477	16.8618	458.2578	15657.1323	29.1389	7.1829	12.492
L32	32.8283	63.3003	7682.9959	11.0396	16.3037	471.2426	15567.8326	31.1545	6.7266	10.552
	32.9454	64.4615	8113.6405	11.2421	16.5967	488.8697	16440.4354	31.7260	6.8782	10.789
L33	32.9454	64.4615	8113.6405	11.2421	16.5967	488.8697	16440.4354	31.7260	6.8782	10.789
	32.9844	64.5390	8142.9088	11.2556	16.6163	490.0564	16499.7408	31.7641	6.8883	10.805
L34	32.9888	63.2986	7992.7696	11.2601	16.6163	481.0207	16195.5182	31.1537	6.9218	11.075
	33.7697	64.8166	8581.7036	11.5301	17.0070	504.5987	17388.8580	31.9008	7.1240	11.398
L35	33.7697	64.8166	8581.7036	11.5301	17.0070	504.5987	17388.8580	31.9008	7.1240	11.398
	34.5506	66.3346	9198.8792	11.8001	17.3977	528.7410	18639.4231	32.6479	7.3261	11.722
L36	34.5550	65.0326	9025.1617	11.8046	17.3977	518.7559	18287.4245	32.0071	7.3596	12.016
	35.3359	66.5202	9658.7928	12.0747	17.7884	542.9820	19571.3329	32.7392	7.5618	12.346
L37	35.3359	66.5202	9658.7928	12.0747	17.7884	542.9820	19571.3329	32.7392	7.5618	12.346
	36.1168	68.0078	10321.4086	12.3447	18.1791	567.7611	20913.9722	33.4714	7.7639	12.676
L38	36.1212	66.6441	10121.7672	12.3492	18.1791	556.7792	20509.4446	32.8002	7.7974	12.996
	36.9021	68.1013	10800.3741	12.6192	18.5699	581.6078	21884.4860	33.5174	7.9996	13.333
L39	36.9021	68.1013	10800.3741	12.6192	18.5699	581.6078	21884.4860	33.5174	7.9996	13.333
	37.0583	68.3928	10939.6357	12.6732	18.6480	586.6385	22166.6677	33.6609	8.0400	13.4

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 150.00-145.00				1	1	1			
L2 145.00-140.00				1	1	1			
L3 140.00-				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
139.58									
L4 139.58-139.33				1	1	0.887801			
L5 139.33-134.33				1	1	0.907703			
L6 134.33-129.33				1	1	0.909673			
L7 129.33-124.33				1	1	0.913516			
L8 124.33-119.33				1	1	0.91915			
L9 119.33-114.33				1	1	0.926523			
L10 114.33-110.00				1	1	0.937588			
L11 110.00-109.75				1	1	0.907889			
L12 109.75-104.75				1	1	0.910758			
L13 104.75-99.75				1	1	0.915055			
L14 99.75-94.75				1	1	0.920745			
L15 94.75-89.75				1	1	0.927808			
L16 89.75-84.75				1	1	0.936239			
L17 84.75-81.50				1	1	0.92745			
L18 81.50-81.25				1	1	0.926789			
L19 81.25-76.25				1	1	0.936947			
L20 76.25-71.25				1	1	0.948466			
L21 71.25-66.00				1	1	0.945416			
L22 66.00-65.00				1	1	0.950058			
L23 65.00-60.00				1	1	0.950611			
L24 60.00-55.00				1	1	0.951766			
L25 55.00-51.25				1	1	0.955828			
L26 51.25-51.00				1	1	0.939592			
L27 51.00-46.00				1	1	0.928734			
L28 46.00-41.00				1	1	0.937574			
L29 41.00-36.00				1	1	0.947356			
L30 36.00-31.00				1	1	0.937648			
L31 31.00-27.00				1	1	0.935762			
L32 27.00-26.25				1	1	0.944252			
L33 26.25-26.00				1	1	0.943825			
L34 26.00-21.00				1	1	0.953833			
L35 21.00-16.00				1	1	0.945736			
L36 16.00-11.00				1	1	0.95679			

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
L37 11.00-6.00				1	1	0.949253			
L38 6.00-1.00				1	1	0.961324			
L39 1.00-0.00				1	1	0.95989			

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
Safety Line 3/8	A	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	0.400 0.400	0.3750		0.22
Climbing Pegs	A	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	0.350 0.450	0.7050		1.80
LDF7-50A(1-5/8)	B	No	Surface Ar (CaAa)	150.00 - 0.00	2	2	-0.490 -0.360	1.9800		0.82
WR-VG86ST-BRD(3/4)	B	No	Surface Ar (CaAa)	150.00 - 0.00	3	1	-0.100 -0.100	0.7950		0.58
***										
PWRT-606-S(7/8)	B	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	-0.050 -0.050	0.9200		0.89
FB-L98B-235-XXX(3/8)	B	No	Surface Ar (CaAa)	150.00 - 0.00	1	1	-0.070 -0.070	0.3900		0.06
******										
MP3-05	A	No	Surface Af (CaAa)	51.25 - 0.50	1	1	0.125 0.125	5.3300	14.8400	0.00
MP3-05	B	No	Surface Af (CaAa)	51.25 - 0.50	1	1	-0.125 -0.125	5.3300	14.8400	0.00
MP3-05	C	No	Surface Af (CaAa)	51.25 - 0.50	1	1	-0.375 -0.375	5.3300	14.8400	0.00
MP3-05	C	No	Surface Af (CaAa)	51.25 - 0.50	1	1	0.375 0.375	5.3300	14.8400	0.00
***										
MP3-04	A	No	Surface Af (CaAa)	110.00 - 51.25	1	1	0.125 0.125	4.7800	12.7800	0.00
MP3-04	B	No	Surface Af (CaAa)	110.00 - 51.25	1	1	-0.125 -0.125	4.7800	12.7800	0.00
MP3-04	C	No	Surface Af (CaAa)	110.00 - 51.25	1	1	-0.375 -0.375	4.7800	12.7800	0.00
MP3-04	C	No	Surface Af (CaAa)	110.00 - 51.25	1	1	0.375 0.375	4.7800	12.7800	0.00
***										
MP3-03	A	No	Surface Af (CaAa)	140.75 - 110.75	1	1	0.125 0.125	4.0600	11.2600	0.00
MP3-03	B	No	Surface Af (CaAa)	140.75 - 110.75	1	1	-0.125 -0.125	4.0600	11.2600	0.00
MP3-03	C	No	Surface Af (CaAa)	140.75 - 110.75	1	1	-0.375 -0.375	4.0600	11.2600	0.00
MP3-03	C	No	Surface Af (CaAa)	140.75 - 110.75	1	1	0.375 0.375	4.0600	11.2600	0.00
******										

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
******									
LDF2-50(3/8)	B	No	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.08

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
LDF7-50A(1-5/8)	B	No	No	Inside Pole	150.00 - 0.00	4	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-009-XXX(3/8)	B	No	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	B	No	No	Inside Pole	150.00 - 0.00	3	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
******									

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	150.00-145.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	3.033	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	0.000	0.000	1.048	0.000	0.01
		B	0.000	0.000	3.540	0.000	0.05
		C	0.000	0.000	1.015	0.000	0.00
L3	140.00-139.58	A	0.000	0.000	0.327	0.000	0.00
		B	0.000	0.000	0.535	0.000	0.00
		C	0.000	0.000	0.564	0.000	0.00
L4	139.58-139.33	A	0.000	0.000	0.196	0.000	0.00
		B	0.000	0.000	0.321	0.000	0.00
		C	0.000	0.000	0.338	0.000	0.00
L5	139.33-134.33	A	0.000	0.000	3.923	0.000	0.01
		B	0.000	0.000	6.416	0.000	0.05
		C	0.000	0.000	6.767	0.000	0.00
L6	134.33-129.33	A	0.000	0.000	3.923	0.000	0.01
		B	0.000	0.000	6.416	0.000	0.05
		C	0.000	0.000	6.767	0.000	0.00
L7	129.33-124.33	A	0.000	0.000	3.923	0.000	0.01
		B	0.000	0.000	6.416	0.000	0.05
		C	0.000	0.000	6.767	0.000	0.00
L8	124.33-119.33	A	0.000	0.000	3.923	0.000	0.01
		B	0.000	0.000	6.416	0.000	0.05
		C	0.000	0.000	6.767	0.000	0.00
L9	119.33-114.33	A	0.000	0.000	3.923	0.000	0.01
		B	0.000	0.000	6.416	0.000	0.05
		C	0.000	0.000	6.767	0.000	0.00
L10	114.33-110.00	A	0.000	0.000	2.892	0.000	0.01
		B	0.000	0.000	5.052	0.000	0.04
		C	0.000	0.000	4.849	0.000	0.00
L11	110.00-109.75	A	0.000	0.000	0.226	0.000	0.00
		B	0.000	0.000	0.351	0.000	0.00
		C	0.000	0.000	0.398	0.000	0.00
L12	109.75-104.75	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L13	104.75-99.75	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L14	99.75-94.75	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L15	94.75-89.75	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L16	89.75-84.75	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05

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	7.967	0.000	0.00
L17	84.75-81.50	A	0.000	0.000	2.940	0.000	0.01
		B	0.000	0.000	4.560	0.000	0.03
		C	0.000	0.000	5.178	0.000	0.00
L18	81.50-81.25	A	0.000	0.000	0.226	0.000	0.00
		B	0.000	0.000	0.351	0.000	0.00
		C	0.000	0.000	0.398	0.000	0.00
L19	81.25-76.25	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L20	76.25-71.25	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L21	71.25-66.00	A	0.000	0.000	4.750	0.000	0.01
		B	0.000	0.000	7.367	0.000	0.05
		C	0.000	0.000	8.365	0.000	0.00
L22	66.00-65.00	A	0.000	0.000	0.905	0.000	0.00
		B	0.000	0.000	1.403	0.000	0.01
		C	0.000	0.000	1.593	0.000	0.00
L23	65.00-60.00	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L24	60.00-55.00	A	0.000	0.000	4.523	0.000	0.01
		B	0.000	0.000	7.016	0.000	0.05
		C	0.000	0.000	7.967	0.000	0.00
L25	55.00-51.25	A	0.000	0.000	3.393	0.000	0.01
		B	0.000	0.000	5.262	0.000	0.04
		C	0.000	0.000	5.975	0.000	0.00
L26	51.25-51.00	A	0.000	0.000	0.249	0.000	0.00
		B	0.000	0.000	0.374	0.000	0.00
		C	0.000	0.000	0.444	0.000	0.00
L27	51.00-46.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L28	46.00-41.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L29	41.00-36.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L30	36.00-31.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L31	31.00-27.00	A	0.000	0.000	3.985	0.000	0.01
		B	0.000	0.000	5.979	0.000	0.04
		C	0.000	0.000	7.107	0.000	0.00
L32	27.00-26.25	A	0.000	0.000	0.747	0.000	0.00
		B	0.000	0.000	1.121	0.000	0.01
		C	0.000	0.000	1.333	0.000	0.00
L33	26.25-26.00	A	0.000	0.000	0.249	0.000	0.00
		B	0.000	0.000	0.374	0.000	0.00
		C	0.000	0.000	0.444	0.000	0.00
L34	26.00-21.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L35	21.00-16.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L36	16.00-11.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L37	11.00-6.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L38	6.00-1.00	A	0.000	0.000	4.982	0.000	0.01
		B	0.000	0.000	7.474	0.000	0.05
		C	0.000	0.000	8.883	0.000	0.00
L39	1.00-0.00	A	0.000	0.000	0.552	0.000	0.00
		B	0.000	0.000	1.051	0.000	0.01

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	0.888	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-145.00	A	0.987	0.000	0.000	2.515	0.000	0.03
		B		0.000	0.000	7.723	0.000	0.13
		C		0.000	0.000	0.000	0.000	0.00
L2	145.00-140.00	A	0.984	0.000	0.000	3.163	0.000	0.03
		B		0.000	0.000	8.364	0.000	0.13
		C		0.000	0.000	1.310	0.000	0.01
L3	140.00-139.58	A	0.982	0.000	0.000	0.573	0.000	0.00
		B		0.000	0.000	1.006	0.000	0.01
		C		0.000	0.000	0.728	0.000	0.00
L4	139.58-139.33	A	0.982	0.000	0.000	0.343	0.000	0.00
		B		0.000	0.000	0.603	0.000	0.01
		C		0.000	0.000	0.437	0.000	0.00
L5	139.33-134.33	A	0.980	0.000	0.000	6.863	0.000	0.06
		B		0.000	0.000	12.055	0.000	0.16
		C		0.000	0.000	8.726	0.000	0.06
L6	134.33-129.33	A	0.976	0.000	0.000	6.852	0.000	0.06
		B		0.000	0.000	12.036	0.000	0.15
		C		0.000	0.000	8.719	0.000	0.06
L7	129.33-124.33	A	0.972	0.000	0.000	6.841	0.000	0.06
		B		0.000	0.000	12.016	0.000	0.15
		C		0.000	0.000	8.712	0.000	0.06
L8	124.33-119.33	A	0.969	0.000	0.000	6.829	0.000	0.06
		B		0.000	0.000	11.996	0.000	0.15
		C		0.000	0.000	8.704	0.000	0.06
L9	119.33-114.33	A	0.965	0.000	0.000	6.817	0.000	0.06
		B		0.000	0.000	11.975	0.000	0.15
		C		0.000	0.000	8.696	0.000	0.06
L10	114.33-110.00	A	0.961	0.000	0.000	5.246	0.000	0.04
		B		0.000	0.000	9.708	0.000	0.13
		C		0.000	0.000	6.226	0.000	0.04
L11	110.00-109.75	A	0.959	0.000	0.000	0.370	0.000	0.00
		B		0.000	0.000	0.627	0.000	0.01
		C		0.000	0.000	0.494	0.000	0.00
L12	109.75-104.75	A	0.956	0.000	0.000	7.392	0.000	0.06
		B		0.000	0.000	12.531	0.000	0.15
		C		0.000	0.000	9.879	0.000	0.06
L13	104.75-99.75	A	0.952	0.000	0.000	7.379	0.000	0.06
		B		0.000	0.000	12.508	0.000	0.15
		C		0.000	0.000	9.870	0.000	0.06
L14	99.75-94.75	A	0.947	0.000	0.000	7.364	0.000	0.06
		B		0.000	0.000	12.483	0.000	0.15
		C		0.000	0.000	9.861	0.000	0.06
L15	94.75-89.75	A	0.942	0.000	0.000	7.349	0.000	0.06
		B		0.000	0.000	12.456	0.000	0.15
		C		0.000	0.000	9.851	0.000	0.06
L16	89.75-84.75	A	0.937	0.000	0.000	7.334	0.000	0.06
		B		0.000	0.000	12.429	0.000	0.15
		C		0.000	0.000	9.840	0.000	0.06
L17	84.75-81.50	A	0.932	0.000	0.000	4.758	0.000	0.04
		B		0.000	0.000	8.063	0.000	0.10
		C		0.000	0.000	6.390	0.000	0.04
L18	81.50-81.25	A	0.930	0.000	0.000	0.366	0.000	0.00
		B		0.000	0.000	0.620	0.000	0.01
		C		0.000	0.000	0.491	0.000	0.00
L19	81.25-76.25	A	0.927	0.000	0.000	7.305	0.000	0.06
		B		0.000	0.000	12.379	0.000	0.15
		C		0.000	0.000	9.821	0.000	0.06
L20	76.25-71.25	A	0.921	0.000	0.000	7.287	0.000	0.06
		B		0.000	0.000	12.347	0.000	0.15

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
		C		0.000	0.000	9.809	0.000	0.06
L21	71.25-66.00	A	0.915	0.000	0.000	7.630	0.000	0.06
		B		0.000	0.000	12.928	0.000	0.16
		C		0.000	0.000	10.286	0.000	0.06
L22	66.00-65.00	A	0.910	0.000	0.000	1.453	0.000	0.01
		B		0.000	0.000	2.462	0.000	0.03
		C		0.000	0.000	1.959	0.000	0.01
L23	65.00-60.00	A	0.906	0.000	0.000	7.241	0.000	0.05
		B		0.000	0.000	12.268	0.000	0.15
		C		0.000	0.000	9.779	0.000	0.06
L24	60.00-55.00	A	0.899	0.000	0.000	7.219	0.000	0.05
		B		0.000	0.000	12.228	0.000	0.15
		C		0.000	0.000	9.764	0.000	0.06
L25	55.00-51.25	A	0.891	0.000	0.000	5.398	0.000	0.04
		B		0.000	0.000	9.143	0.000	0.11
		C		0.000	0.000	7.312	0.000	0.04
L26	51.25-51.00	A	0.888	0.000	0.000	0.382	0.000	0.00
		B		0.000	0.000	0.632	0.000	0.01
		C		0.000	0.000	0.533	0.000	0.00
L27	51.00-46.00	A	0.883	0.000	0.000	7.632	0.000	0.06
		B		0.000	0.000	12.607	0.000	0.15
		C		0.000	0.000	10.650	0.000	0.06
L28	46.00-41.00	A	0.874	0.000	0.000	7.603	0.000	0.06
		B		0.000	0.000	12.557	0.000	0.15
		C		0.000	0.000	10.631	0.000	0.06
L29	41.00-36.00	A	0.863	0.000	0.000	7.571	0.000	0.06
		B		0.000	0.000	12.501	0.000	0.14
		C		0.000	0.000	10.610	0.000	0.06
L30	36.00-31.00	A	0.851	0.000	0.000	7.535	0.000	0.05
		B		0.000	0.000	12.438	0.000	0.14
		C		0.000	0.000	10.586	0.000	0.06
L31	31.00-27.00	A	0.839	0.000	0.000	5.999	0.000	0.04
		B		0.000	0.000	9.899	0.000	0.11
		C		0.000	0.000	8.449	0.000	0.05
L32	27.00-26.25	A	0.832	0.000	0.000	1.125	0.000	0.01
		B		0.000	0.000	1.856	0.000	0.02
		C		0.000	0.000	1.584	0.000	0.01
L33	26.25-26.00	A	0.830	0.000	0.000	0.374	0.000	0.00
		B		0.000	0.000	0.616	0.000	0.01
		C		0.000	0.000	0.527	0.000	0.00
L34	26.00-21.00	A	0.822	0.000	0.000	7.446	0.000	0.05
		B		0.000	0.000	12.283	0.000	0.14
		C		0.000	0.000	10.527	0.000	0.06
L35	21.00-16.00	A	0.802	0.000	0.000	7.388	0.000	0.05
		B		0.000	0.000	12.181	0.000	0.14
		C		0.000	0.000	10.488	0.000	0.06
L36	16.00-11.00	A	0.777	0.000	0.000	7.313	0.000	0.05
		B		0.000	0.000	12.050	0.000	0.13
		C		0.000	0.000	10.438	0.000	0.05
L37	11.00-6.00	A	0.742	0.000	0.000	7.208	0.000	0.05
		B		0.000	0.000	11.865	0.000	0.13
		C		0.000	0.000	10.368	0.000	0.05
L38	6.00-1.00	A	0.679	0.000	0.000	7.019	0.000	0.04
		B		0.000	0.000	11.534	0.000	0.12
		C		0.000	0.000	10.241	0.000	0.05
L39	1.00-0.00	A	0.559	0.000	0.000	0.832	0.000	0.01
		B		0.000	0.000	1.681	0.000	0.02
		C		0.000	0.000	1.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	150.00-145.00	0.8717	-2.6908	1.2204	-3.2862
L2	145.00-140.00	0.7335	-2.7422	1.1177	-3.3151

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L3	140.00-139.58	0.3802	-2.7966	0.7064	-3.1615
L4	139.58-139.33	0.3816	-2.8076	0.7089	-3.1730
L5	139.33-134.33	0.3874	-2.8540	0.7206	-3.2294
L6	134.33-129.33	0.3984	-2.9412	0.7424	-3.3356
L7	129.33-124.33	0.4090	-3.0262	0.7638	-3.4394
L8	124.33-119.33	0.4194	-3.1090	0.7846	-3.5410
L9	119.33-114.33	0.4295	-3.1898	0.8048	-3.6403
L10	114.33-110.00	0.4835	-3.2271	0.8880	-3.7397
L11	110.00-109.75	0.4053	-3.3295	0.7868	-3.7686
L12	109.75-104.75	0.4101	-3.3720	0.7964	-3.8193
L13	104.75-99.75	0.4191	-3.4518	0.8144	-3.9145
L14	99.75-94.75	0.4280	-3.5299	0.8319	-4.0077
L15	94.75-89.75	0.4366	-3.6063	0.8489	-4.0988
L16	89.75-84.75	0.4451	-3.6811	0.8654	-4.1879
L17	84.75-81.50	0.4520	-3.7418	0.8786	-4.2601
L18	81.50-81.25	0.4549	-3.7672	0.8842	-4.2903
L19	81.25-76.25	0.4591	-3.8048	0.8923	-4.3349
L20	76.25-71.25	0.4672	-3.8754	0.9073	-4.4185
L21	71.25-66.00	0.4752	-3.9466	0.9222	-4.5023
L22	66.00-65.00	0.4751	-3.9451	0.9218	-4.5005
L23	65.00-60.00	0.4797	-3.9860	0.9284	-4.5448
L24	60.00-55.00	0.4873	-4.0531	0.9418	-4.6228
L25	55.00-51.25	0.4939	-4.1108	0.9529	-4.6892
L26	51.25-51.00	0.4695	-4.1922	0.9223	-4.7350
L27	51.00-46.00	0.4732	-4.2278	0.9284	-4.7747
L28	46.00-41.00	0.4803	-4.2945	0.9395	-4.8481
L29	41.00-36.00	0.4872	-4.3600	0.9496	-4.9190
L30	36.00-31.00	0.4940	-4.4245	0.9587	-4.9871
L31	31.00-27.00	0.5001	-4.4815	0.9659	-5.0457
L32	27.00-26.25	0.4978	-4.4603	0.9612	-5.0205
L33	26.25-26.00	0.4985	-4.4667	0.9584	-5.0197
L34	26.00-21.00	0.5020	-4.4995	0.9616	-5.0515
L35	21.00-16.00	0.5085	-4.5615	0.9659	-5.1084
L36	16.00-11.00	0.5149	-4.6222	0.9667	-5.1575
L37	11.00-6.00	0.5213	-4.6821	0.9615	-5.1940
L38	6.00-1.00	0.5275	-4.7407	0.9399	-5.1973
L39	1.00-0.00	0.7053	-4.2570	1.1065	-4.7795

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
L1	1	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L1	2	Climbing Pegs	145.00 - 150.00	1.0000	1.0000
L1	6	LDF7-50A(1-5/8)	145.00 - 150.00	1.0000	1.0000
L1	10	WR-VG86ST-BRD(3/4)	145.00 - 150.00	1.0000	1.0000
L1	12	PWRT-606-S(7/8)	145.00 - 150.00	1.0000	1.0000
L1	13	FB-L98B-235-XXX(3/8)	145.00 - 150.00	1.0000	1.0000
L2	1	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L2	2	Climbing Pegs	140.00 - 145.00	1.0000	1.0000
L2	6	LDF7-50A(1-5/8)	140.00 - 145.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L2	10	WR-VG86ST-BRD(3/4)	140.00 - 145.00	1.0000	1.0000
L2	12	PWRT-606-S(7/8)	140.00 - 145.00	1.0000	1.0000
L2	13	FB-L98B-235-XXX(3/8)	140.00 - 145.00	1.0000	1.0000
L2	25	MP3-03	140.00 - 140.75	1.0000	1.0000
L2	26	MP3-03	140.00 - 140.75	1.0000	1.0000
L2	27	MP3-03	140.00 - 140.75	1.0000	1.0000
L2	28	MP3-03	140.00 - 140.75	1.0000	1.0000
L3	1	Safety Line 3/8	139.58 - 140.00	1.0000	1.0000
L3	2	Climbing Pegs	139.58 - 140.00	1.0000	1.0000
L3	6	LDF7-50A(1-5/8)	139.58 - 140.00	1.0000	1.0000
L3	10	WR-VG86ST-BRD(3/4)	139.58 - 140.00	1.0000	1.0000
L3	12	PWRT-606-S(7/8)	139.58 - 140.00	1.0000	1.0000
L3	13	FB-L98B-235-XXX(3/8)	139.58 - 140.00	1.0000	1.0000
L3	25	MP3-03	139.58 - 140.00	1.0000	1.0000
L3	26	MP3-03	139.58 - 140.00	1.0000	1.0000
L3	27	MP3-03	139.58 - 140.00	1.0000	1.0000
L3	28	MP3-03	139.58 - 140.00	1.0000	1.0000
L4	1	Safety Line 3/8	139.33 - 139.58	1.0000	1.0000
L4	2	Climbing Pegs	139.33 - 139.58	1.0000	1.0000
L4	6	LDF7-50A(1-5/8)	139.33 - 139.58	1.0000	1.0000
L4	10	WR-VG86ST-BRD(3/4)	139.33 - 139.58	1.0000	1.0000
L4	12	PWRT-606-S(7/8)	139.33 - 139.58	1.0000	1.0000
L4	13	FB-L98B-235-XXX(3/8)	139.33 - 139.58	1.0000	1.0000
L4	25	MP3-03	139.33 - 139.58	1.0000	1.0000
L4	26	MP3-03	139.33 - 139.58	1.0000	1.0000
L4	27	MP3-03	139.33 - 139.58	1.0000	1.0000
L4	28	MP3-03	139.33 - 139.58	1.0000	1.0000
L5	1	Safety Line 3/8	134.33 - 139.33	1.0000	1.0000
L5	2	Climbing Pegs	134.33 - 139.33	1.0000	1.0000
L5	6	LDF7-50A(1-5/8)	134.33 - 139.33	1.0000	1.0000
L5	10	WR-VG86ST-BRD(3/4)	134.33 - 139.33	1.0000	1.0000
L5	12	PWRT-606-S(7/8)	134.33 - 139.33	1.0000	1.0000
L5	13	FB-L98B-235-XXX(3/8)	134.33 - 139.33	1.0000	1.0000
L5	25	MP3-03	134.33 - 139.33	1.0000	1.0000
L5	26	MP3-03	134.33 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L5	27	MP3-03	139.33 134.33 - 139.33	1.0000	1.0000
L5	28	MP3-03	134.33 - 139.33	1.0000	1.0000
L6	1	Safety Line 3/8	129.33 - 134.33	1.0000	1.0000
L6	2	Climbing Pegs	129.33 - 134.33	1.0000	1.0000
L6	6	LDF7-50A(1-5/8)	129.33 - 134.33	1.0000	1.0000
L6	10	WR-VG86ST-BRD(3/4)	129.33 - 134.33	1.0000	1.0000
L6	12	PWRT-606-S(7/8)	129.33 - 134.33	1.0000	1.0000
L6	13	FB-L98B-235-XXX(3/8)	129.33 - 134.33	1.0000	1.0000
L6	25	MP3-03	129.33 - 134.33	1.0000	1.0000
L6	26	MP3-03	129.33 - 134.33	1.0000	1.0000
L6	27	MP3-03	129.33 - 134.33	1.0000	1.0000
L6	28	MP3-03	129.33 - 134.33	1.0000	1.0000
L7	1	Safety Line 3/8	124.33 - 129.33	1.0000	1.0000
L7	2	Climbing Pegs	124.33 - 129.33	1.0000	1.0000
L7	6	LDF7-50A(1-5/8)	124.33 - 129.33	1.0000	1.0000
L7	10	WR-VG86ST-BRD(3/4)	124.33 - 129.33	1.0000	1.0000
L7	12	PWRT-606-S(7/8)	124.33 - 129.33	1.0000	1.0000
L7	13	FB-L98B-235-XXX(3/8)	124.33 - 129.33	1.0000	1.0000
L7	25	MP3-03	124.33 - 129.33	1.0000	1.0000
L7	26	MP3-03	124.33 - 129.33	1.0000	1.0000
L7	27	MP3-03	124.33 - 129.33	1.0000	1.0000
L7	28	MP3-03	124.33 - 129.33	1.0000	1.0000
L8	1	Safety Line 3/8	119.33 - 124.33	1.0000	1.0000
L8	2	Climbing Pegs	119.33 - 124.33	1.0000	1.0000
L8	6	LDF7-50A(1-5/8)	119.33 - 124.33	1.0000	1.0000
L8	10	WR-VG86ST-BRD(3/4)	119.33 - 124.33	1.0000	1.0000
L8	12	PWRT-606-S(7/8)	119.33 - 124.33	1.0000	1.0000
L8	13	FB-L98B-235-XXX(3/8)	119.33 - 124.33	1.0000	1.0000
L8	25	MP3-03	119.33 - 124.33	1.0000	1.0000
L8	26	MP3-03	119.33 - 124.33	1.0000	1.0000
L8	27	MP3-03	119.33 - 124.33	1.0000	1.0000
L8	28	MP3-03	119.33 - 124.33	1.0000	1.0000
L9	1	Safety Line 3/8	114.33 - 119.33	1.0000	1.0000
L9	2	Climbing Pegs	114.33 - 119.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L9	6	LDF7-50A(1-5/8)	114.33 - 119.33	1.0000	1.0000
L9	10	WR-VG86ST-BRD(3/4)	114.33 - 119.33	1.0000	1.0000
L9	12	PWRT-606-S(7/8)	114.33 - 119.33	1.0000	1.0000
L9	13	FB-L98B-235-XXX(3/8)	114.33 - 119.33	1.0000	1.0000
L9	25	MP3-03	114.33 - 119.33	1.0000	1.0000
L9	26	MP3-03	114.33 - 119.33	1.0000	1.0000
L9	27	MP3-03	114.33 - 119.33	1.0000	1.0000
L9	28	MP3-03	114.33 - 119.33	1.0000	1.0000
L10	1	Safety Line 3/8	110.00 - 114.33	1.0000	1.0000
L10	2	Climbing Pegs	110.00 - 114.33	1.0000	1.0000
L10	6	LDF7-50A(1-5/8)	110.00 - 114.33	1.0000	1.0000
L10	10	WR-VG86ST-BRD(3/4)	110.00 - 114.33	1.0000	1.0000
L10	12	PWRT-606-S(7/8)	110.00 - 114.33	1.0000	1.0000
L10	13	FB-L98B-235-XXX(3/8)	110.00 - 114.33	1.0000	1.0000
L10	25	MP3-03	110.75 - 114.33	1.0000	1.0000
L10	26	MP3-03	110.75 - 114.33	1.0000	1.0000
L10	27	MP3-03	110.75 - 114.33	1.0000	1.0000
L10	28	MP3-03	110.75 - 114.33	1.0000	1.0000
L11	1	Safety Line 3/8	109.75 - 110.00	1.0000	1.0000
L11	2	Climbing Pegs	109.75 - 110.00	1.0000	1.0000
L11	6	LDF7-50A(1-5/8)	109.75 - 110.00	1.0000	1.0000
L11	10	WR-VG86ST-BRD(3/4)	109.75 - 110.00	1.0000	1.0000
L11	12	PWRT-606-S(7/8)	109.75 - 110.00	1.0000	1.0000
L11	13	FB-L98B-235-XXX(3/8)	109.75 - 110.00	1.0000	1.0000
L11	20	MP3-04	109.75 - 110.00	1.0000	1.0000
L11	21	MP3-04	109.75 - 110.00	1.0000	1.0000
L11	22	MP3-04	109.75 - 110.00	1.0000	1.0000
L11	23	MP3-04	109.75 - 110.00	1.0000	1.0000
L12	1	Safety Line 3/8	104.75 - 109.75	1.0000	1.0000
L12	2	Climbing Pegs	104.75 - 109.75	1.0000	1.0000
L12	6	LDF7-50A(1-5/8)	104.75 - 109.75	1.0000	1.0000
L12	10	WR-VG86ST-BRD(3/4)	104.75 - 109.75	1.0000	1.0000
L12	12	PWRT-606-S(7/8)	104.75 - 109.75	1.0000	1.0000
L12	13	FB-L98B-235-XXX(3/8)	104.75 - 109.75	1.0000	1.0000
L12	20	MP3-04	104.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L12	21	MP3-04	109.75 104.75 - 109.75	1.0000	1.0000
L12	22	MP3-04	104.75 - 109.75	1.0000	1.0000
L12	23	MP3-04	104.75 - 109.75	1.0000	1.0000
L13	1	Safety Line 3/8	99.75 - 104.75	1.0000	1.0000
L13	2	Climbing Pegs	99.75 - 104.75	1.0000	1.0000
L13	6	LDF7-50A(1-5/8)	99.75 - 104.75	1.0000	1.0000
L13	10	WR-VG86ST-BRD(3/4)	99.75 - 104.75	1.0000	1.0000
L13	12	PWRT-606-S(7/8)	99.75 - 104.75	1.0000	1.0000
L13	13	FB-L98B-235-XXX(3/8)	99.75 - 104.75	1.0000	1.0000
L13	20	MP3-04	99.75 - 104.75	1.0000	1.0000
L13	21	MP3-04	99.75 - 104.75	1.0000	1.0000
L13	22	MP3-04	99.75 - 104.75	1.0000	1.0000
L13	23	MP3-04	99.75 - 104.75	1.0000	1.0000
L14	1	Safety Line 3/8	94.75 - 99.75	1.0000	1.0000
L14	2	Climbing Pegs	94.75 - 99.75	1.0000	1.0000
L14	6	LDF7-50A(1-5/8)	94.75 - 99.75	1.0000	1.0000
L14	10	WR-VG86ST-BRD(3/4)	94.75 - 99.75	1.0000	1.0000
L14	12	PWRT-606-S(7/8)	94.75 - 99.75	1.0000	1.0000
L14	13	FB-L98B-235-XXX(3/8)	94.75 - 99.75	1.0000	1.0000
L14	20	MP3-04	94.75 - 99.75	1.0000	1.0000
L14	21	MP3-04	94.75 - 99.75	1.0000	1.0000
L14	22	MP3-04	94.75 - 99.75	1.0000	1.0000
L14	23	MP3-04	94.75 - 99.75	1.0000	1.0000
L15	1	Safety Line 3/8	89.75 - 94.75	1.0000	1.0000
L15	2	Climbing Pegs	89.75 - 94.75	1.0000	1.0000
L15	6	LDF7-50A(1-5/8)	89.75 - 94.75	1.0000	1.0000
L15	10	WR-VG86ST-BRD(3/4)	89.75 - 94.75	1.0000	1.0000
L15	12	PWRT-606-S(7/8)	89.75 - 94.75	1.0000	1.0000
L15	13	FB-L98B-235-XXX(3/8)	89.75 - 94.75	1.0000	1.0000
L15	20	MP3-04	89.75 - 94.75	1.0000	1.0000
L15	21	MP3-04	89.75 - 94.75	1.0000	1.0000
L15	22	MP3-04	89.75 - 94.75	1.0000	1.0000
L15	23	MP3-04	89.75 - 94.75	1.0000	1.0000
L16	1	Safety Line 3/8	84.75 - 89.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L16	2	Climbing Pegs	84.75 - 89.75	1.0000	1.0000
L16	6	LDF7-50A(1-5/8)	84.75 - 89.75	1.0000	1.0000
L16	10	WR-VG86ST-BRD(3/4)	84.75 - 89.75	1.0000	1.0000
L16	12	PWRT-606-S(7/8)	84.75 - 89.75	1.0000	1.0000
L16	13	FB-L98B-235-XXX(3/8)	84.75 - 89.75	1.0000	1.0000
L16	20	MP3-04	84.75 - 89.75	1.0000	1.0000
L16	21	MP3-04	84.75 - 89.75	1.0000	1.0000
L16	22	MP3-04	84.75 - 89.75	1.0000	1.0000
L16	23	MP3-04	84.75 - 89.75	1.0000	1.0000
L17	1	Safety Line 3/8	81.50 - 84.75	1.0000	1.0000
L17	2	Climbing Pegs	81.50 - 84.75	1.0000	1.0000
L17	6	LDF7-50A(1-5/8)	81.50 - 84.75	1.0000	1.0000
L17	10	WR-VG86ST-BRD(3/4)	81.50 - 84.75	1.0000	1.0000
L17	12	PWRT-606-S(7/8)	81.50 - 84.75	1.0000	1.0000
L17	13	FB-L98B-235-XXX(3/8)	81.50 - 84.75	1.0000	1.0000
L17	20	MP3-04	81.50 - 84.75	1.0000	1.0000
L17	21	MP3-04	81.50 - 84.75	1.0000	1.0000
L17	22	MP3-04	81.50 - 84.75	1.0000	1.0000
L17	23	MP3-04	81.50 - 84.75	1.0000	1.0000
L18	1	Safety Line 3/8	81.25 - 81.50	1.0000	1.0000
L18	2	Climbing Pegs	81.25 - 81.50	1.0000	1.0000
L18	6	LDF7-50A(1-5/8)	81.25 - 81.50	1.0000	1.0000
L18	10	WR-VG86ST-BRD(3/4)	81.25 - 81.50	1.0000	1.0000
L18	12	PWRT-606-S(7/8)	81.25 - 81.50	1.0000	1.0000
L18	13	FB-L98B-235-XXX(3/8)	81.25 - 81.50	1.0000	1.0000
L18	20	MP3-04	81.25 - 81.50	1.0000	1.0000
L18	21	MP3-04	81.25 - 81.50	1.0000	1.0000
L18	22	MP3-04	81.25 - 81.50	1.0000	1.0000
L18	23	MP3-04	81.25 - 81.50	1.0000	1.0000
L19	1	Safety Line 3/8	76.25 - 81.25	1.0000	1.0000
L19	2	Climbing Pegs	76.25 - 81.25	1.0000	1.0000
L19	6	LDF7-50A(1-5/8)	76.25 - 81.25	1.0000	1.0000
L19	10	WR-VG86ST-BRD(3/4)	76.25 - 81.25	1.0000	1.0000
L19	12	PWRT-606-S(7/8)	76.25 - 81.25	1.0000	1.0000
L19	13	FB-L98B-235-XXX(3/8)	76.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	20	MP3-04	81.25 76.25 - 81.25	1.0000	1.0000
L19	21	MP3-04	76.25 - 81.25	1.0000	1.0000
L19	22	MP3-04	76.25 - 81.25	1.0000	1.0000
L19	23	MP3-04	76.25 - 81.25	1.0000	1.0000
L20	1	Safety Line 3/8	71.25 - 76.25	1.0000	1.0000
L20	2	Climbing Pegs	71.25 - 76.25	1.0000	1.0000
L20	6	LDF7-50A(1-5/8)	71.25 - 76.25	1.0000	1.0000
L20	10	WR-VG86ST-BRD(3/4)	71.25 - 76.25	1.0000	1.0000
L20	12	PWRT-606-S(7/8)	71.25 - 76.25	1.0000	1.0000
L20	13	FB-L98B-235-XXX(3/8)	71.25 - 76.25	1.0000	1.0000
L20	20	MP3-04	71.25 - 76.25	1.0000	1.0000
L20	21	MP3-04	71.25 - 76.25	1.0000	1.0000
L20	22	MP3-04	71.25 - 76.25	1.0000	1.0000
L20	23	MP3-04	71.25 - 76.25	1.0000	1.0000
L21	1	Safety Line 3/8	66.00 - 71.25	1.0000	1.0000
L21	2	Climbing Pegs	66.00 - 71.25	1.0000	1.0000
L21	6	LDF7-50A(1-5/8)	66.00 - 71.25	1.0000	1.0000
L21	10	WR-VG86ST-BRD(3/4)	66.00 - 71.25	1.0000	1.0000
L21	12	PWRT-606-S(7/8)	66.00 - 71.25	1.0000	1.0000
L21	13	FB-L98B-235-XXX(3/8)	66.00 - 71.25	1.0000	1.0000
L21	20	MP3-04	66.00 - 71.25	1.0000	1.0000
L21	21	MP3-04	66.00 - 71.25	1.0000	1.0000
L21	22	MP3-04	66.00 - 71.25	1.0000	1.0000
L21	23	MP3-04	66.00 - 71.25	1.0000	1.0000
L22	1	Safety Line 3/8	65.00 - 66.00	1.0000	1.0000
L22	2	Climbing Pegs	65.00 - 66.00	1.0000	1.0000
L22	6	LDF7-50A(1-5/8)	65.00 - 66.00	1.0000	1.0000
L22	10	WR-VG86ST-BRD(3/4)	65.00 - 66.00	1.0000	1.0000
L22	12	PWRT-606-S(7/8)	65.00 - 66.00	1.0000	1.0000
L22	13	FB-L98B-235-XXX(3/8)	65.00 - 66.00	1.0000	1.0000
L22	20	MP3-04	65.00 - 66.00	1.0000	1.0000
L22	21	MP3-04	65.00 - 66.00	1.0000	1.0000
L22	22	MP3-04	65.00 - 66.00	1.0000	1.0000
L22	23	MP3-04	65.00 - 66.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	1	Safety Line 3/8	60.00 - 65.00	1.0000	1.0000
L23	2	Climbing Pegs	60.00 - 65.00	1.0000	1.0000
L23	6	LDF7-50A(1-5/8)	60.00 - 65.00	1.0000	1.0000
L23	10	WR-VG86ST-BRD(3/4)	60.00 - 65.00	1.0000	1.0000
L23	12	PWRT-606-S(7/8)	60.00 - 65.00	1.0000	1.0000
L23	13	FB-L98B-235-XXX(3/8)	60.00 - 65.00	1.0000	1.0000
L23	20	MP3-04	60.00 - 65.00	1.0000	1.0000
L23	21	MP3-04	60.00 - 65.00	1.0000	1.0000
L23	22	MP3-04	60.00 - 65.00	1.0000	1.0000
L23	23	MP3-04	60.00 - 65.00	1.0000	1.0000
L24	1	Safety Line 3/8	55.00 - 60.00	1.0000	1.0000
L24	2	Climbing Pegs	55.00 - 60.00	1.0000	1.0000
L24	6	LDF7-50A(1-5/8)	55.00 - 60.00	1.0000	1.0000
L24	10	WR-VG86ST-BRD(3/4)	55.00 - 60.00	1.0000	1.0000
L24	12	PWRT-606-S(7/8)	55.00 - 60.00	1.0000	1.0000
L24	13	FB-L98B-235-XXX(3/8)	55.00 - 60.00	1.0000	1.0000
L24	20	MP3-04	55.00 - 60.00	1.0000	1.0000
L24	21	MP3-04	55.00 - 60.00	1.0000	1.0000
L24	22	MP3-04	55.00 - 60.00	1.0000	1.0000
L24	23	MP3-04	55.00 - 60.00	1.0000	1.0000
L25	1	Safety Line 3/8	51.25 - 55.00	1.0000	1.0000
L25	2	Climbing Pegs	51.25 - 55.00	1.0000	1.0000
L25	6	LDF7-50A(1-5/8)	51.25 - 55.00	1.0000	1.0000
L25	10	WR-VG86ST-BRD(3/4)	51.25 - 55.00	1.0000	1.0000
L25	12	PWRT-606-S(7/8)	51.25 - 55.00	1.0000	1.0000
L25	13	FB-L98B-235-XXX(3/8)	51.25 - 55.00	1.0000	1.0000
L25	20	MP3-04	51.25 - 55.00	1.0000	1.0000
L25	21	MP3-04	51.25 - 55.00	1.0000	1.0000
L25	22	MP3-04	51.25 - 55.00	1.0000	1.0000
L25	23	MP3-04	51.25 - 55.00	1.0000	1.0000
L26	1	Safety Line 3/8	51.00 - 51.25	1.0000	1.0000
L26	2	Climbing Pegs	51.00 - 51.25	1.0000	1.0000
L26	6	LDF7-50A(1-5/8)	51.00 - 51.25	1.0000	1.0000
L26	10	WR-VG86ST-BRD(3/4)	51.00 - 51.25	1.0000	1.0000
L26	12	PWRT-606-S(7/8)	51.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			51.25		
L26	13	FB-L98B-235-XXX(3/8)	51.00 - 51.25	1.0000	1.0000
L26	15	MP3-05	51.00 - 51.25	1.0000	1.0000
L26	16	MP3-05	51.00 - 51.25	1.0000	1.0000
L26	17	MP3-05	51.00 - 51.25	1.0000	1.0000
L26	18	MP3-05	51.00 - 51.25	1.0000	1.0000
L27	1	Safety Line 3/8	46.00 - 51.00	1.0000	1.0000
L27	2	Climbing Pegs	46.00 - 51.00	1.0000	1.0000
L27	6	LDF7-50A(1-5/8)	46.00 - 51.00	1.0000	1.0000
L27	10	WR-VG86ST-BRD(3/4)	46.00 - 51.00	1.0000	1.0000
L27	12	PWRT-606-S(7/8)	46.00 - 51.00	1.0000	1.0000
L27	13	FB-L98B-235-XXX(3/8)	46.00 - 51.00	1.0000	1.0000
L27	15	MP3-05	46.00 - 51.00	1.0000	1.0000
L27	16	MP3-05	46.00 - 51.00	1.0000	1.0000
L27	17	MP3-05	46.00 - 51.00	1.0000	1.0000
L27	18	MP3-05	46.00 - 51.00	1.0000	1.0000
L28	1	Safety Line 3/8	41.00 - 46.00	1.0000	1.0000
L28	2	Climbing Pegs	41.00 - 46.00	1.0000	1.0000
L28	6	LDF7-50A(1-5/8)	41.00 - 46.00	1.0000	1.0000
L28	10	WR-VG86ST-BRD(3/4)	41.00 - 46.00	1.0000	1.0000
L28	12	PWRT-606-S(7/8)	41.00 - 46.00	1.0000	1.0000
L28	13	FB-L98B-235-XXX(3/8)	41.00 - 46.00	1.0000	1.0000
L28	15	MP3-05	41.00 - 46.00	1.0000	1.0000
L28	16	MP3-05	41.00 - 46.00	1.0000	1.0000
L28	17	MP3-05	41.00 - 46.00	1.0000	1.0000
L28	18	MP3-05	41.00 - 46.00	1.0000	1.0000
L29	1	Safety Line 3/8	36.00 - 41.00	1.0000	1.0000
L29	2	Climbing Pegs	36.00 - 41.00	1.0000	1.0000
L29	6	LDF7-50A(1-5/8)	36.00 - 41.00	1.0000	1.0000
L29	10	WR-VG86ST-BRD(3/4)	36.00 - 41.00	1.0000	1.0000
L29	12	PWRT-606-S(7/8)	36.00 - 41.00	1.0000	1.0000
L29	13	FB-L98B-235-XXX(3/8)	36.00 - 41.00	1.0000	1.0000
L29	15	MP3-05	36.00 - 41.00	1.0000	1.0000
L29	16	MP3-05	36.00 - 41.00	1.0000	1.0000
L29	17	MP3-05	36.00 - 41.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	18	MP3-05	36.00 - 41.00	1.0000	1.0000
L30	1	Safety Line 3/8	31.00 - 36.00	1.0000	1.0000
L30	2	Climbing Pegs	31.00 - 36.00	1.0000	1.0000
L30	6	LDF7-50A(1-5/8)	31.00 - 36.00	1.0000	1.0000
L30	10	WR-VG86ST-BRD(3/4)	31.00 - 36.00	1.0000	1.0000
L30	12	PWRT-606-S(7/8)	31.00 - 36.00	1.0000	1.0000
L30	13	FB-L98B-235-XXX(3/8)	31.00 - 36.00	1.0000	1.0000
L30	15	MP3-05	31.00 - 36.00	1.0000	1.0000
L30	16	MP3-05	31.00 - 36.00	1.0000	1.0000
L30	17	MP3-05	31.00 - 36.00	1.0000	1.0000
L30	18	MP3-05	31.00 - 36.00	1.0000	1.0000
L31	1	Safety Line 3/8	27.00 - 31.00	1.0000	1.0000
L31	2	Climbing Pegs	27.00 - 31.00	1.0000	1.0000
L31	6	LDF7-50A(1-5/8)	27.00 - 31.00	1.0000	1.0000
L31	10	WR-VG86ST-BRD(3/4)	27.00 - 31.00	1.0000	1.0000
L31	12	PWRT-606-S(7/8)	27.00 - 31.00	1.0000	1.0000
L31	13	FB-L98B-235-XXX(3/8)	27.00 - 31.00	1.0000	1.0000
L31	15	MP3-05	27.00 - 31.00	1.0000	1.0000
L31	16	MP3-05	27.00 - 31.00	1.0000	1.0000
L31	17	MP3-05	27.00 - 31.00	1.0000	1.0000
L31	18	MP3-05	27.00 - 31.00	1.0000	1.0000
L32	1	Safety Line 3/8	26.25 - 27.00	1.0000	1.0000
L32	2	Climbing Pegs	26.25 - 27.00	1.0000	1.0000
L32	6	LDF7-50A(1-5/8)	26.25 - 27.00	1.0000	1.0000
L32	10	WR-VG86ST-BRD(3/4)	26.25 - 27.00	1.0000	1.0000
L32	12	PWRT-606-S(7/8)	26.25 - 27.00	1.0000	1.0000
L32	13	FB-L98B-235-XXX(3/8)	26.25 - 27.00	1.0000	1.0000
L32	15	MP3-05	26.25 - 27.00	1.0000	1.0000
L32	16	MP3-05	26.25 - 27.00	1.0000	1.0000
L32	17	MP3-05	26.25 - 27.00	1.0000	1.0000
L32	18	MP3-05	26.25 - 27.00	1.0000	1.0000
L33	1	Safety Line 3/8	26.00 - 26.25	1.0000	1.0000
L33	2	Climbing Pegs	26.00 - 26.25	1.0000	1.0000
L33	6	LDF7-50A(1-5/8)	26.00 - 26.25	1.0000	1.0000
L33	10	WR-VG86ST-BRD(3/4)	26.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L33	12	PWRT-606-S(7/8)	26.25 26.00 - 26.25	1.0000	1.0000
L33	13	FB-L98B-235-XXX(3/8)	26.00 - 26.25	1.0000	1.0000
L33	15	MP3-05	26.00 - 26.25	1.0000	1.0000
L33	16	MP3-05	26.00 - 26.25	1.0000	1.0000
L33	17	MP3-05	26.00 - 26.25	1.0000	1.0000
L33	18	MP3-05	26.00 - 26.25	1.0000	1.0000
L34	1	Safety Line 3/8	21.00 - 26.00	1.0000	1.0000
L34	2	Climbing Pegs	21.00 - 26.00	1.0000	1.0000
L34	6	LDF7-50A(1-5/8)	21.00 - 26.00	1.0000	1.0000
L34	10	WR-VG86ST-BRD(3/4)	21.00 - 26.00	1.0000	1.0000
L34	12	PWRT-606-S(7/8)	21.00 - 26.00	1.0000	1.0000
L34	13	FB-L98B-235-XXX(3/8)	21.00 - 26.00	1.0000	1.0000
L34	15	MP3-05	21.00 - 26.00	1.0000	1.0000
L34	16	MP3-05	21.00 - 26.00	1.0000	1.0000
L34	17	MP3-05	21.00 - 26.00	1.0000	1.0000
L34	18	MP3-05	21.00 - 26.00	1.0000	1.0000
L35	1	Safety Line 3/8	16.00 - 21.00	1.0000	1.0000
L35	2	Climbing Pegs	16.00 - 21.00	1.0000	1.0000
L35	6	LDF7-50A(1-5/8)	16.00 - 21.00	1.0000	1.0000
L35	10	WR-VG86ST-BRD(3/4)	16.00 - 21.00	1.0000	1.0000
L35	12	PWRT-606-S(7/8)	16.00 - 21.00	1.0000	1.0000
L35	13	FB-L98B-235-XXX(3/8)	16.00 - 21.00	1.0000	1.0000
L35	15	MP3-05	16.00 - 21.00	1.0000	1.0000
L35	16	MP3-05	16.00 - 21.00	1.0000	1.0000
L35	17	MP3-05	16.00 - 21.00	1.0000	1.0000
L35	18	MP3-05	16.00 - 21.00	1.0000	1.0000
L36	1	Safety Line 3/8	11.00 - 16.00	1.0000	1.0000
L36	2	Climbing Pegs	11.00 - 16.00	1.0000	1.0000
L36	6	LDF7-50A(1-5/8)	11.00 - 16.00	1.0000	1.0000
L36	10	WR-VG86ST-BRD(3/4)	11.00 - 16.00	1.0000	1.0000
L36	12	PWRT-606-S(7/8)	11.00 - 16.00	1.0000	1.0000
L36	13	FB-L98B-235-XXX(3/8)	11.00 - 16.00	1.0000	1.0000
L36	15	MP3-05	11.00 - 16.00	1.0000	1.0000
L36	16	MP3-05	11.00 - 16.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L36	17	MP3-05	11.00 - 16.00	1.0000	1.0000
L36	18	MP3-05	11.00 - 16.00	1.0000	1.0000
L37	1	Safety Line 3/8	6.00 - 11.00	1.0000	1.0000
L37	2	Climbing Pegs	6.00 - 11.00	1.0000	1.0000
L37	6	LDF7-50A(1-5/8)	6.00 - 11.00	1.0000	1.0000
L37	10	WR-VG86ST-BRD(3/4)	6.00 - 11.00	1.0000	1.0000
L37	12	PWRT-606-S(7/8)	6.00 - 11.00	1.0000	1.0000
L37	13	FB-L98B-235-XXX(3/8)	6.00 - 11.00	1.0000	1.0000
L37	15	MP3-05	6.00 - 11.00	1.0000	1.0000
L37	16	MP3-05	6.00 - 11.00	1.0000	1.0000
L37	17	MP3-05	6.00 - 11.00	1.0000	1.0000
L37	18	MP3-05	6.00 - 11.00	1.0000	1.0000
L38	1	Safety Line 3/8	1.00 - 6.00	1.0000	1.0000
L38	2	Climbing Pegs	1.00 - 6.00	1.0000	1.0000
L38	6	LDF7-50A(1-5/8)	1.00 - 6.00	1.0000	1.0000
L38	10	WR-VG86ST-BRD(3/4)	1.00 - 6.00	1.0000	1.0000
L38	12	PWRT-606-S(7/8)	1.00 - 6.00	1.0000	1.0000
L38	13	FB-L98B-235-XXX(3/8)	1.00 - 6.00	1.0000	1.0000
L38	15	MP3-05	1.00 - 6.00	1.0000	1.0000
L38	16	MP3-05	1.00 - 6.00	1.0000	1.0000
L38	17	MP3-05	1.00 - 6.00	1.0000	1.0000
L38	18	MP3-05	1.00 - 6.00	1.0000	1.0000
L39	1	Safety Line 3/8	0.00 - 1.00	1.0000	1.0000
L39	2	Climbing Pegs	0.00 - 1.00	1.0000	1.0000
L39	6	LDF7-50A(1-5/8)	0.00 - 1.00	1.0000	1.0000
L39	10	WR-VG86ST-BRD(3/4)	0.00 - 1.00	1.0000	1.0000
L39	12	PWRT-606-S(7/8)	0.00 - 1.00	1.0000	1.0000
L39	13	FB-L98B-235-XXX(3/8)	0.00 - 1.00	1.0000	1.0000
L39	15	MP3-05	0.50 - 1.00	1.0000	1.0000
L39	16	MP3-05	0.50 - 1.00	1.0000	1.0000
L39	17	MP3-05	0.50 - 1.00	1.0000	1.0000
L39	18	MP3-05	0.50 - 1.00	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
L2	25	MP3-03	140.00 - 140.75	Auto	0.1121
L2	26	MP3-03	140.00 - 140.75	Auto	0.1121
L2	27	MP3-03	140.00 - 140.75	Auto	0.1121
L2	28	MP3-03	140.00 - 140.75	Auto	0.1121
L3	25	MP3-03	139.58 - 140.00	Auto	0.1062
L3	26	MP3-03	139.58 - 140.00	Auto	0.1062
L3	27	MP3-03	139.58 - 140.00	Auto	0.1062
L3	28	MP3-03	139.58 - 140.00	Auto	0.1062
L4	25	MP3-03	139.33 - 139.58	Auto	0.3010
L4	26	MP3-03	139.33 - 139.58	Auto	0.3010
L4	27	MP3-03	139.33 - 139.58	Auto	0.3010
L4	28	MP3-03	139.33 - 139.58	Auto	0.3010

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L5	25	MP3-03	134.33 - 139.33	Auto	0.2583
L5	26	MP3-03	134.33 - 139.33	Auto	0.2583
L5	27	MP3-03	134.33 - 139.33	Auto	0.2583
L5	28	MP3-03	134.33 - 139.33	Auto	0.2583
L6	25	MP3-03	129.33 - 134.33	Auto	0.2003
L6	26	MP3-03	129.33 - 134.33	Auto	0.2003
L6	27	MP3-03	129.33 - 134.33	Auto	0.2003
L6	28	MP3-03	129.33 - 134.33	Auto	0.2003
L7	25	MP3-03	124.33 - 129.33	Auto	0.1423
L7	26	MP3-03	124.33 - 129.33	Auto	0.1423
L7	27	MP3-03	124.33 - 129.33	Auto	0.1423
L7	28	MP3-03	124.33 - 129.33	Auto	0.1423
L8	25	MP3-03	119.33 - 124.33	Auto	0.0842
L8	26	MP3-03	119.33 - 124.33	Auto	0.0842
L8	27	MP3-03	119.33 - 124.33	Auto	0.0842
L8	28	MP3-03	119.33 - 124.33	Auto	0.0842
L9	25	MP3-03	114.33 - 119.33	Auto	0.0262
L9	26	MP3-03	114.33 - 119.33	Auto	0.0262
L9	27	MP3-03	114.33 - 119.33	Auto	0.0262
L9	28	MP3-03	114.33 - 119.33	Auto	0.0262
L10	25	MP3-03	110.75 - 114.33	Auto	0.0000
L10	26	MP3-03	110.75 - 114.33	Auto	0.0000
L10	27	MP3-03	110.75 - 114.33	Auto	0.0000
L10	28	MP3-03	110.75 - 114.33	Auto	0.0000
L11	20	MP3-04	109.75 - 110.00	Auto	0.1631
L11	21	MP3-04	109.75 - 110.00	Auto	0.1631
L11	22	MP3-04	109.75 - 110.00	Auto	0.1631
L11	23	MP3-04	109.75 - 110.00	Auto	0.1631
L12	20	MP3-04	104.75 - 109.75	Auto	0.1339
L12	21	MP3-04	104.75 - 109.75	Auto	0.1339
L12	22	MP3-04	104.75 - 109.75	Auto	0.1339
L12	23	MP3-04	104.75 - 109.75	Auto	0.1339
L13	20	MP3-04	99.75 - 104.75	Auto	0.0846
L13	21	MP3-04	99.75 - 104.75	Auto	0.0846

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	22	MP3-04	99.75 - 104.75	Auto	0.0846
L13	23	MP3-04	99.75 - 104.75	Auto	0.0846
L14	20	MP3-04	94.75 - 99.75	Auto	0.0353
L14	21	MP3-04	94.75 - 99.75	Auto	0.0353
L14	22	MP3-04	94.75 - 99.75	Auto	0.0353
L14	23	MP3-04	94.75 - 99.75	Auto	0.0353
L15	20	MP3-04	89.75 - 94.75	Auto	0.0006
L15	21	MP3-04	89.75 - 94.75	Auto	0.0006
L15	22	MP3-04	89.75 - 94.75	Auto	0.0006
L15	23	MP3-04	89.75 - 94.75	Auto	0.0006
L16	20	MP3-04	84.75 - 89.75	Auto	0.0000
L16	21	MP3-04	84.75 - 89.75	Auto	0.0000
L16	22	MP3-04	84.75 - 89.75	Auto	0.0000
L16	23	MP3-04	84.75 - 89.75	Auto	0.0000
L17	20	MP3-04	81.50 - 84.75	Auto	0.0000
L17	21	MP3-04	81.50 - 84.75	Auto	0.0000
L17	22	MP3-04	81.50 - 84.75	Auto	0.0000
L17	23	MP3-04	81.50 - 84.75	Auto	0.0000
L18	20	MP3-04	81.25 - 81.50	Auto	0.0000
L18	21	MP3-04	81.25 - 81.50	Auto	0.0000
L18	22	MP3-04	81.25 - 81.50	Auto	0.0000
L18	23	MP3-04	81.25 - 81.50	Auto	0.0000
L19	20	MP3-04	76.25 - 81.25	Auto	0.0000
L19	21	MP3-04	76.25 - 81.25	Auto	0.0000
L19	22	MP3-04	76.25 - 81.25	Auto	0.0000
L19	23	MP3-04	76.25 - 81.25	Auto	0.0000
L20	20	MP3-04	71.25 - 76.25	Auto	0.0000
L20	21	MP3-04	71.25 - 76.25	Auto	0.0000
L20	22	MP3-04	71.25 - 76.25	Auto	0.0000
L20	23	MP3-04	71.25 - 76.25	Auto	0.0000
L21	20	MP3-04	66.00 - 71.25	Auto	0.0000
L21	21	MP3-04	66.00 - 71.25	Auto	0.0000
L21	22	MP3-04	66.00 - 71.25	Auto	0.0000
L21	23	MP3-04	66.00 - 71.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L22	20	MP3-04	65.00 - 66.00	Auto	0.0000
L22	21	MP3-04	65.00 - 66.00	Auto	0.0000
L22	22	MP3-04	65.00 - 66.00	Auto	0.0000
L22	23	MP3-04	65.00 - 66.00	Auto	0.0000
L23	20	MP3-04	60.00 - 65.00	Auto	0.0000
L23	21	MP3-04	60.00 - 65.00	Auto	0.0000
L23	22	MP3-04	60.00 - 65.00	Auto	0.0000
L23	23	MP3-04	60.00 - 65.00	Auto	0.0000
L24	20	MP3-04	55.00 - 60.00	Auto	0.0000
L24	21	MP3-04	55.00 - 60.00	Auto	0.0000
L24	22	MP3-04	55.00 - 60.00	Auto	0.0000
L24	23	MP3-04	55.00 - 60.00	Auto	0.0000
L25	20	MP3-04	51.25 - 55.00	Auto	0.0000
L25	21	MP3-04	51.25 - 55.00	Auto	0.0000
L25	22	MP3-04	51.25 - 55.00	Auto	0.0000
L25	23	MP3-04	51.25 - 55.00	Auto	0.0000
L26	15	MP3-05	51.00 - 51.25	Auto	0.0000
L26	16	MP3-05	51.00 - 51.25	Auto	0.0000
L26	17	MP3-05	51.00 - 51.25	Auto	0.0000
L26	18	MP3-05	51.00 - 51.25	Auto	0.0000
L27	15	MP3-05	46.00 - 51.00	Auto	0.0000
L27	16	MP3-05	46.00 - 51.00	Auto	0.0000
L27	17	MP3-05	46.00 - 51.00	Auto	0.0000
L27	18	MP3-05	46.00 - 51.00	Auto	0.0000
L28	15	MP3-05	41.00 - 46.00	Auto	0.0000
L28	16	MP3-05	41.00 - 46.00	Auto	0.0000
L28	17	MP3-05	41.00 - 46.00	Auto	0.0000
L28	18	MP3-05	41.00 - 46.00	Auto	0.0000
L29	15	MP3-05	36.00 - 41.00	Auto	0.0000
L29	16	MP3-05	36.00 - 41.00	Auto	0.0000
L29	17	MP3-05	36.00 - 41.00	Auto	0.0000
L29	18	MP3-05	36.00 - 41.00	Auto	0.0000
L30	15	MP3-05	31.00 - 36.00	Auto	0.0000
L30	16	MP3-05	31.00 - 36.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	17	MP3-05	31.00 - 36.00	Auto	0.0000
L30	18	MP3-05	31.00 - 36.00	Auto	0.0000
L31	15	MP3-05	27.00 - 31.00	Auto	0.0000
L31	16	MP3-05	27.00 - 31.00	Auto	0.0000
L31	17	MP3-05	27.00 - 31.00	Auto	0.0000
L31	18	MP3-05	27.00 - 31.00	Auto	0.0000
L32	15	MP3-05	26.25 - 27.00	Auto	0.0000
L32	16	MP3-05	26.25 - 27.00	Auto	0.0000
L32	17	MP3-05	26.25 - 27.00	Auto	0.0000
L32	18	MP3-05	26.25 - 27.00	Auto	0.0000
L33	15	MP3-05	26.00 - 26.25	Auto	0.0000
L33	16	MP3-05	26.00 - 26.25	Auto	0.0000
L33	17	MP3-05	26.00 - 26.25	Auto	0.0000
L33	18	MP3-05	26.00 - 26.25	Auto	0.0000
L34	15	MP3-05	21.00 - 26.00	Auto	0.0000
L34	16	MP3-05	21.00 - 26.00	Auto	0.0000
L34	17	MP3-05	21.00 - 26.00	Auto	0.0000
L34	18	MP3-05	21.00 - 26.00	Auto	0.0000
L35	15	MP3-05	16.00 - 21.00	Auto	0.0000
L35	16	MP3-05	16.00 - 21.00	Auto	0.0000
L35	17	MP3-05	16.00 - 21.00	Auto	0.0000
L35	18	MP3-05	16.00 - 21.00	Auto	0.0000
L36	15	MP3-05	11.00 - 16.00	Auto	0.0000
L36	16	MP3-05	11.00 - 16.00	Auto	0.0000
L36	17	MP3-05	11.00 - 16.00	Auto	0.0000
L36	18	MP3-05	11.00 - 16.00	Auto	0.0000
L37	15	MP3-05	6.00 - 11.00	Auto	0.0000
L37	16	MP3-05	6.00 - 11.00	Auto	0.0000
L37	17	MP3-05	6.00 - 11.00	Auto	0.0000
L37	18	MP3-05	6.00 - 11.00	Auto	0.0000
L38	15	MP3-05	1.00 - 6.00	Auto	0.0000
L38	16	MP3-05	1.00 - 6.00	Auto	0.0000
L38	17	MP3-05	1.00 - 6.00	Auto	0.0000
L38	18	MP3-05	1.00 - 6.00	Auto	0.0000
L39	15	MP3-05	0.50 - 1.00	Auto	0.0000
L39	16	MP3-05	0.50 - 1.00	Auto	0.0000
L39	17	MP3-05	0.50 - 1.00	Auto	0.0000
L39	18	MP3-05	0.50 - 1.00	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRUS 32 B2	A	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	B	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B2	C	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	A	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	B	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
RRUS 32 B66	C	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	0.05 0.07 0.10
(2) DC6-48-60-18-8F	A	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
RRUS 32 B30	A	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	B	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
RRUS 32 B30	C	From Leg	4.00 0.00 1.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
Side Arm Mount [SO 102-3]	A	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	3.60 4.18 4.75	3.60 4.18 4.75	0.07 0.11 0.14
Pipe Mount [PM 601-3]	A	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	3.17 3.79 4.42	3.17 3.79 4.42	0.20 0.23 0.28
Side Arm Mount [SO 202-3]	A	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	5.70 6.97 8.33	5.70 6.97 8.33	0.33 0.40 0.49
Platform Mount [LP 603-1]	A	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice	40.62 47.28 54.60	40.62 47.28 54.60	2.06 2.79 3.65
10' x 2.875" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice	2.88 3.91 4.96	2.88 3.91 4.96	0.06 0.08 0.11
10' x 2.875" Mount Pipe	B	From Leg	4.00 0.00	0.0000	152.00	No Ice 1/2"	2.88 3.91	2.88 3.91	0.06 0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	4.96	4.96	0.11
						1" Ice			
10' x 2.875" Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	2.88	2.88	0.06
			0.00			1/2"	3.91	3.91	0.08
			0.00			Ice	4.96	4.96	0.11
						1" Ice			
4' x 2" Pipe Mount	A	From Leg	4.00	0.0000	152.00	No Ice	0.79	0.79	0.03
			0.00			1/2"	1.03	1.03	0.04
			0.00			Ice	1.28	1.28	0.04
						1" Ice			
4' x 2" Pipe Mount	B	From Leg	4.00	0.0000	152.00	No Ice	0.79	0.79	0.03
			0.00			1/2"	1.03	1.03	0.04
			0.00			Ice	1.28	1.28	0.04
						1" Ice			
4' x 2" Pipe Mount	C	From Leg	4.00	0.0000	152.00	No Ice	0.79	0.79	0.03
			0.00			1/2"	1.03	1.03	0.04
			0.00			Ice	1.28	1.28	0.04
						1" Ice			
6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	152.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	152.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
***									
DMP65R-BU4E w/ Mount Pipe	A	From Leg	4.00	0.0000	152.00	No Ice	8.00	4.76	0.09
			0.00			1/2"	8.55	5.25	0.16
			1.00			Ice	9.11	5.74	0.23
						1" Ice			
DMP65R-BU4E w/ Mount Pipe	B	From Leg	4.00	0.0000	152.00	No Ice	8.00	4.76	0.09
			0.00			1/2"	8.55	5.25	0.16
			1.00			Ice	9.11	5.74	0.23
						1" Ice			
DMP65R-BU4E w/ Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	8.00	4.76	0.09
			0.00			1/2"	8.55	5.25	0.16
			1.00			Ice	9.11	5.74	0.23
						1" Ice			
C-Band Antenna E w/ Mount Pipe	A	From Leg	4.00	0.0000	152.00	No Ice	3.87	2.32	0.08
			0.00			1/2"	4.18	2.72	0.11
			0.00			Ice	4.50	3.13	0.15
						1" Ice			
C-Band Antenna E w/ Mount Pipe	B	From Leg	4.00	0.0000	152.00	No Ice	3.87	2.32	0.08
			0.00			1/2"	4.18	2.72	0.11
			0.00			Ice	4.50	3.13	0.15
						1" Ice			
C-Band Antenna E w/ Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	3.87	2.32	0.08
			0.00			1/2"	4.18	2.72	0.11
			0.00			Ice	4.50	3.13	0.15
						1" Ice			
AIR 6449 N77 w/ Mount Pipe	A	From Leg	4.00	0.0000	152.00	No Ice	3.65	2.72	0.11
			0.00			1/2"	3.99	3.03	0.15
			2.00			Ice	4.35	3.36	0.20
						1" Ice			
AIR 6449 N77 w/ Mount Pipe	B	From Leg	4.00	0.0000	152.00	No Ice	3.65	2.72	0.11
			0.00			1/2"	3.99	3.03	0.15
			2.00			Ice	4.35	3.36	0.20
						1" Ice			
AIR 6449 N77 w/ Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	3.65	2.72	0.11
			0.00			1/2"	3.99	3.03	0.15

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			Ice	4.35	3.36	0.20
						1" Ice			
QD6616-7 w/ Mount Pipe	A	From Leg	4.00	0.0000	152.00	No Ice	12.56	6.93	0.16
			0.00			1/2"	13.30	7.60	0.25
			1.00			Ice	14.06	8.28	0.36
						1" Ice			
QD6616-7 w/ Mount Pipe	B	From Leg	4.00	0.0000	152.00	No Ice	12.56	6.93	0.16
			0.00			1/2"	13.30	7.60	0.25
			1.00			Ice	14.06	8.28	0.36
						1" Ice			
QD6616-7 w/ Mount Pipe	C	From Leg	4.00	0.0000	152.00	No Ice	12.56	6.93	0.16
			0.00			1/2"	13.30	7.60	0.25
			1.00			Ice	14.06	8.28	0.36
						1" Ice			
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	152.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	152.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	152.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			1.00			Ice	2.33	1.73	0.11
						1" Ice			
DC9-48-60-24-8C-EV	A	From Leg	4.00	0.0000	152.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			1.00			Ice	3.20	5.35	0.10
						1" Ice			
******									
bridge stiffener	A	None		0.0000	110.00	No Ice	1.55	0.54	0.09
						1/2"	1.82	1.01	0.11
						Ice	2.09	1.48	0.13
						1" Ice			
bridge stiffener	A	None		0.0000	110.00	No Ice	1.55	0.54	0.09
						1/2"	1.82	1.01	0.11
						Ice	2.09	1.48	0.13
						1" Ice			
bridge stiffener	B	None		0.0000	110.00	No Ice	1.55	0.54	0.09
						1/2"	1.82	1.01	0.11
						Ice	2.09	1.48	0.13
						1" Ice			
bridge stiffener	C	None		0.0000	110.00	No Ice	1.55	0.54	0.09
						1/2"	1.82	1.01	0.11
						Ice	2.09	1.48	0.13
						1" Ice			
******									
******									

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

Comb. No.	Description
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
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	150 - 145	Pole	Max Tension	26	0.00	0.00	-0.00
			Max. Compression	26	-10.90	-0.06	1.14
			Max. Mx	8	-5.39	-53.77	0.26
			Max. My	2	-5.44	-0.01	53.28
			Max. Vy	8	7.56	-53.77	0.26
			Max. Vx	2	-7.41	-0.01	53.28
			Max. Torque	8			1.22
L2	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.44	-0.12	1.21
			Max. Mx	8	-5.70	-92.35	0.29
			Max. My	2	-5.76	-0.02	90.96
			Max. Vy	8	7.87	-92.35	0.29
			Max. Vx	2	-7.67	-0.02	90.96
			Max. Torque	8			1.22
L3	140 - 139.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.50	-0.12	1.22
			Max. Mx	8	-5.73	-95.64	0.30

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-5.79	-0.02	94.16
			Max. Vy	8	7.89	-95.64	0.30
			Max. Vx	2	-7.69	-0.02	94.16
			Max. Torque	8			1.22
L4	139.583 - 139.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.54	-0.12	1.22
			Max. Mx	8	-5.76	-97.62	0.30
			Max. My	2	-5.82	-0.02	96.09
			Max. Vy	8	7.91	-97.62	0.30
			Max. Vx	2	-7.70	-0.02	96.09
			Max. Torque	8			1.22
L5	139.333 - 134.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.43	-0.18	1.29
			Max. Mx	8	-6.31	-138.05	0.33
			Max. My	2	-6.38	-0.03	135.34
			Max. Vy	8	8.26	-138.05	0.33
			Max. Vx	2	-8.00	-0.03	135.34
			Max. Torque	8			1.22
L6	134.333 - 129.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.33	-0.25	1.35
			Max. Mx	8	-6.88	-180.21	0.36
			Max. My	2	-6.96	-0.04	176.11
			Max. Vy	8	8.61	-180.21	0.36
			Max. Vx	2	-8.31	-0.04	176.11
			Max. Torque	10			1.24
L7	129.333 - 124.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.25	-0.31	1.42
			Max. Mx	8	-7.48	-224.10	0.39
			Max. My	2	-7.55	-0.06	218.40
			Max. Vy	8	8.95	-224.10	0.39
			Max. Vx	2	-8.61	-0.06	218.40
			Max. Torque	10			1.28
L8	124.333 - 119.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.19	-0.38	1.49
			Max. Mx	8	-8.09	-269.70	0.42
			Max. My	2	-8.17	-0.07	262.23
			Max. Vy	8	9.29	-269.70	0.42
			Max. Vx	2	-8.92	-0.07	262.23
			Max. Torque	10			1.33
L9	119.333 - 114.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.14	-0.45	1.55
			Max. Mx	8	-8.72	-317.00	0.45
			Max. My	2	-8.80	-0.08	307.58
			Max. Vy	8	9.63	-317.00	0.45
			Max. Vx	24	-9.24	168.12	288.85
			Max. Torque	10			1.37
L10	114.333 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.96	-0.51	1.62
			Max. Mx	8	-9.28	-359.34	0.47
			Max. My	2	-9.36	-0.09	348.12
			Max. Vy	8	9.92	-359.34	0.47
			Max. Vx	24	-9.62	191.88	329.71
			Max. Torque	10			1.41
L11	110 - 109.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.60	-0.52	1.62
			Max. Mx	8	-9.73	-361.88	0.48
			Max. My	2	-9.81	-0.09	350.55
			Max. Vy	8	10.15	-361.88	0.48
			Max. Vx	24	-9.84	193.31	332.17
			Max. Torque	10			1.41
L12	109.75 - 104.75	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-18.69	-0.59	1.69
			Max. Mx	8	-10.48	-413.51	0.51
			Max. My	2	-10.56	-0.11	399.96
			Max. Vy	8	10.50	-413.51	0.51
			Max. Vx	24	-10.29	222.54	382.48
			Max. Torque	10			1.45
L13	104.75 - 99.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.79	-0.67	1.76
			Max. Mx	8	-11.25	-466.84	0.53
			Max. My	2	-11.33	-0.12	450.98
			Max. Vy	8	10.84	-466.84	0.53
			Max. Vx	24	-10.75	253.09	435.06
			Max. Torque	10			1.50
L14	99.75 - 94.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.91	-0.74	1.83
			Max. Mx	8	-12.04	-521.87	0.56
			Max. My	2	-12.12	-0.13	503.59
			Max. Vy	10	11.29	-494.33	-282.25
			Max. Vx	24	-11.20	284.95	489.90
			Max. Torque	10			1.54
L15	94.75 - 89.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.04	-0.82	1.90
			Max. Mx	8	-12.85	-578.54	0.59
			Max. My	2	-12.93	-0.15	557.78
			Max. Vy	10	11.74	-551.88	-315.22
			Max. Vx	24	-11.64	318.09	546.98
			Max. Torque	10			1.59
L16	89.75 - 84.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.19	-0.90	1.97
			Max. Mx	8	-13.68	-636.83	0.62
			Max. My	2	-13.75	-0.16	613.54
			Max. Vy	10	12.18	-611.66	-349.47
			Max. Vx	24	-12.08	352.52	606.28
			Max. Torque	10			1.63
L17	84.75 - 81.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.95	-0.95	2.02
			Max. Mx	8	-14.23	-675.57	0.64
			Max. My	2	-14.30	-0.17	650.61
			Max. Vy	10	12.47	-651.70	-372.42
			Max. Vx	24	-12.37	375.58	646.00
			Max. Torque	10			1.66
L18	81.5 - 81.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-24.00	-0.96	2.02
			Max. Mx	8	-14.28	-678.58	0.64
			Max. My	2	-14.35	-0.17	653.48
			Max. Vy	10	12.49	-654.82	-374.21
			Max. Vx	24	-12.39	377.37	649.10
			Max. Torque	10			1.67
L19	81.25 - 76.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.18	-1.04	2.09
			Max. Mx	8	-15.13	-739.54	0.67
			Max. My	24	-14.81	413.94	712.11
			Max. Vy	10	12.92	-718.32	-410.61
			Max. Vx	24	-12.82	413.94	712.11
			Max. Torque	10			1.71
L20	76.25 - 71.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.36	-1.12	2.16
			Max. Mx	8	-16.00	-802.00	0.70
			Max. My	24	-15.69	451.75	777.26
			Max. Vy	10	13.35	-783.97	-448.26
			Max. Vx	24	-13.25	451.75	777.26
			Max. Torque	10			1.76
L21	71.25 - 66	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-26.66	-1.14	2.18
			Max. Mx	8	-16.23	-817.85	0.71
			Max. My	24	-15.91	461.38	793.86
			Max. Vy	10	13.43	-800.69	-457.85
			Max. Vx	24	-13.33	461.38	793.86
			Max. Torque	10			1.76
L22	66 - 65	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.71	-1.22	2.25
			Max. Mx	8	-17.81	-882.39	0.74
			Max. My	24	-17.50	500.64	861.54
			Max. Vy	10	13.84	-868.87	-496.95
			Max. Vx	24	-13.74	500.64	861.54
			Max. Torque	10			1.76
L23	65 - 60	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.03	-1.31	2.32
			Max. Mx	8	-18.82	-948.54	0.77
			Max. My	24	-18.53	540.92	930.99
			Max. Vy	10	14.16	-938.82	-537.08
			Max. Vx	24	-14.06	540.92	930.99
			Max. Torque	10			1.76
L24	60 - 55	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.36	-1.39	2.39
			Max. Mx	8	-19.84	-1016.09	0.79
			Max. My	24	-19.57	582.11	1002.02
			Max. Vy	10	14.47	-1010.35	-578.11
			Max. Vx	24	-14.37	582.11	1002.02
			Max. Torque	10			1.76
L25	55 - 51.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.37	-1.45	2.45
			Max. Mx	8	-20.63	-1067.65	0.82
			Max. My	24	-20.37	613.58	1056.30
			Max. Vy	10	14.70	-1065.00	-609.47
			Max. Vx	24	-14.59	613.58	1056.30
			Max. Torque	10			1.76
L26	51.25 - 51	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.44	-1.46	2.45
			Max. Mx	8	-20.69	-1071.12	0.82
			Max. My	24	-20.44	615.70	1059.95
			Max. Vy	10	14.71	-1068.67	-611.58
			Max. Vx	24	-14.61	615.70	1059.95
			Max. Torque	10			1.76
L27	51 - 46	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.94	-1.54	2.51
			Max. Mx	10	-21.61	-1143.21	-654.36
			Max. My	24	-21.62	658.63	1133.99
			Max. Vy	10	15.12	-1143.21	-654.36
			Max. Vx	24	-15.02	658.63	1133.99
			Max. Torque	10			1.81
L28	46 - 41	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.45	-1.61	2.56
			Max. Mx	10	-22.83	-1219.52	-698.16
			Max. My	24	-22.83	702.57	1209.79
			Max. Vy	10	15.42	-1219.52	-698.16
			Max. Vx	24	-15.32	702.57	1209.79
			Max. Torque	10			1.81
L29	41 - 36	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.98	-1.69	2.61
			Max. Mx	10	-24.06	-1297.28	-742.81
			Max. My	24	-24.07	747.36	1287.05
			Max. Vy	10	15.70	-1297.28	-742.81
			Max. Vx	24	-15.60	747.36	1287.05
			Max. Torque	10			1.81
L30	36 - 31	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.52	-1.77	2.67
			Max. Mx	10	-25.32	-1376.43	-788.25
			Max. My	24	-25.32	792.94	1365.70
			Max. Vy	10	15.97	-1376.43	-788.25
			Max. Vx	24	-15.87	792.94	1365.70
			Max. Torque	10			1.81

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L31	31 - 27	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.83	-1.78	2.68
			Max. Mx	10	-25.57	-1392.42	-797.43
			Max. My	24	-25.58	802.15	1381.59
			Max. Vy	10	16.02	-1392.42	-797.43
			Max. Vx	24	-15.92	802.15	1381.59
			Max. Torque	10			1.81
L32	27 - 26.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.86	-1.84	2.72
			Max. Mx	10	-27.26	-1452.96	-832.20
			Max. My	24	-27.26	837.02	1441.76
			Max. Vy	10	16.27	-1452.96	-832.20
			Max. Vx	24	-16.16	837.02	1441.76
			Max. Torque	10			1.81
L33	26.25 - 26	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.94	-1.85	2.73
			Max. Mx	10	-27.33	-1457.02	-834.53
			Max. My	24	-27.34	839.36	1445.80
			Max. Vy	10	16.27	-1457.02	-834.53
			Max. Vx	24	-16.17	839.36	1445.80
			Max. Torque	10			1.81
L34	26 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.62	-1.92	2.78
			Max. Mx	10	-28.73	-1539.02	-881.63
			Max. My	24	-28.73	886.58	1527.29
			Max. Vy	10	16.53	-1539.02	-881.63
			Max. Vx	24	-16.43	886.58	1527.29
			Max. Torque	10			1.81
L35	21 - 16	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.31	-2.00	2.84
			Max. Mx	10	-30.16	-1622.25	-929.43
			Max. My	24	-30.16	934.51	1610.00
			Max. Vy	10	16.78	-1622.25	-929.43
			Max. Vx	24	-16.67	934.51	1610.00
			Max. Torque	10			1.81
L36	16 - 11	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.01	-2.08	2.89
			Max. Mx	10	-31.61	-1706.69	-977.94
			Max. My	24	-31.61	983.12	1693.92
			Max. Vy	10	17.02	-1706.69	-977.94
			Max. Vx	24	-16.91	983.12	1693.92
			Max. Torque	10			1.81
L37	11 - 6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.72	-2.15	2.95
			Max. Mx	10	-33.08	-1792.29	-1027.12
			Max. My	24	-33.08	1032.41	1779.00
			Max. Vy	10	17.25	-1792.29	-1027.12
			Max. Vx	24	-17.14	1032.41	1779.00
			Max. Torque	10			1.81
L38	6 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.41	-2.22	3.00
			Max. Mx	10	-34.57	-1879.04	-1076.97
			Max. My	24	-34.57	1082.35	1865.21
			Max. Vy	10	17.47	-1879.04	-1076.97
			Max. Vx	24	-17.36	1082.35	1865.21
			Max. Torque	10			1.81
L39	1 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.74	-2.23	3.01
			Max. Mx	10	-34.87	-1896.52	-1087.01
			Max. My	24	-34.87	1092.42	1882.59
			Max. Vy	10	17.51	-1896.52	-1087.01
			Max. Vx	24	-17.40	1092.42	1882.59
			Max. Torque	10			1.81

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	38	49.74	2.24	3.88
	Max. H_x	23	26.16	17.49	10.06
	Max. H_z	24	34.88	10.08	17.38
	Max. M_x	24	1882.59	10.08	17.38
	Max. M_z	10	1896.52	-17.49	-10.06
	Max. Torsion	10	1.81	-17.49	-10.06
	Min. Vert	5	26.16	-8.02	13.82
	Min. H_x	10	34.88	-17.49	-10.06
	Min. H_z	13	26.16	-10.08	-17.38
	Min. M_x	12	-1880.34	-10.08	-17.38
	Min. M_z	22	-1895.64	17.49	10.06
	Min. Torsion	22	-1.79	17.49	10.06

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	29.06	0.00	-0.00	-0.88	-0.36	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	34.88	0.00	-15.83	-1777.67	-0.46	-0.00
0.9 Dead+1.0 Wind 0 deg - No Ice	26.16	0.00	-15.83	-1742.89	-0.34	-0.00
1.2 Dead+1.0 Wind 30 deg - No Ice	34.88	8.02	-13.82	-1555.62	-904.56	-0.60
0.9 Dead+1.0 Wind 30 deg - No Ice	26.16	8.02	-13.82	-1525.15	-886.87	-0.59
1.2 Dead+1.0 Wind 60 deg - No Ice	34.88	14.07	-8.09	-910.01	-1586.15	-1.04
0.9 Dead+1.0 Wind 60 deg - No Ice	26.16	14.07	-8.09	-892.10	-1555.28	-1.03
1.2 Dead+1.0 Wind 90 deg - No Ice	34.88	16.31	0.00	-1.11	-1843.96	-1.20
0.9 Dead+1.0 Wind 90 deg - No Ice	26.16	16.31	0.00	-0.81	-1808.05	-1.19
1.2 Dead+1.0 Wind 120 deg - No Ice	34.88	17.49	10.06	1087.01	-1896.52	-1.81
0.9 Dead+1.0 Wind 120 deg - No Ice	26.16	17.49	10.06	1066.91	-1860.81	-1.80
1.2 Dead+1.0 Wind 150 deg - No Ice	34.88	10.08	17.38	1880.34	-1093.30	-1.11
0.9 Dead+1.0 Wind 150 deg - No Ice	26.16	10.08	17.38	1845.36	-1072.66	-1.10
1.2 Dead+1.0 Wind 180 deg - No Ice	34.88	0.00	15.83	1775.40	-0.46	0.00
0.9 Dead+1.0 Wind 180 deg - No Ice	26.16	0.00	15.83	1741.23	-0.34	0.00
1.2 Dead+1.0 Wind 210 deg - No Ice	34.88	-8.02	13.82	1553.37	903.62	0.61
0.9 Dead+1.0 Wind 210 deg - No Ice	26.16	-8.02	13.82	1523.51	886.18	0.60
1.2 Dead+1.0 Wind 240 deg - No Ice	34.88	-14.07	8.09	907.78	1585.21	1.05
0.9 Dead+1.0 Wind 240 deg - No Ice	26.16	-14.07	8.09	890.47	1554.59	1.04
1.2 Dead+1.0 Wind 270 deg - No Ice	34.88	-16.31	0.00	-1.11	1843.04	1.20
0.9 Dead+1.0 Wind 270 deg - No Ice	26.16	-16.31	0.00	-0.81	1807.37	1.19
1.2 Dead+1.0 Wind 300 deg - No Ice	34.88	-17.49	-10.06	-1089.21	1895.64	1.79
0.9 Dead+1.0 Wind 300 deg	26.16	-17.49	-10.06	-1068.51	1860.17	1.78

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
- No Ice 1.2 Dead+1.0 Wind 330 deg	34.88	-10.08	-17.38	-1882.59	1092.42	1.09
- No Ice 0.9 Dead+1.0 Wind 330 deg	26.16	-10.08	-17.38	-1847.00	1072.01	1.09
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	49.74	0.00	-0.00	-3.01	-2.23	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	49.74	0.00	-3.83	-454.38	-2.29	-0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	49.74	1.92	-3.32	-393.92	-229.28	-0.16
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	49.74	3.33	-1.92	-228.73	-395.45	-0.27
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	49.74	3.85	-0.00	-3.09	-456.27	-0.32
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	49.74	3.89	2.24	260.97	-461.98	-0.56
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	49.74	2.24	3.88	454.02	-267.54	-0.36
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	49.74	0.00	3.83	448.20	-2.29	0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	49.74	-1.92	3.32	387.74	224.71	0.16
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	49.74	-3.33	1.92	222.56	390.88	0.27
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	49.74	-3.85	-0.00	-3.09	451.70	0.32
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	49.74	-3.89	-2.24	-267.14	457.41	0.56
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	49.74	-2.24	-3.88	-460.19	262.97	0.36
Dead+Wind 0 deg - Service	29.06	0.00	-3.92	-436.70	-0.38	-0.00
Dead+Wind 30 deg - Service	29.06	1.99	-3.43	-382.26	-222.15	-0.16
Dead+Wind 60 deg - Service	29.06	3.49	-2.00	-223.91	-389.38	-0.27
Dead+Wind 90 deg - Service	29.06	4.04	0.00	-0.94	-452.64	-0.31
Dead+Wind 120 deg - Service	29.06	4.34	2.49	266.24	-465.93	-0.47
Dead+Wind 150 deg - Service	29.06	2.50	4.31	461.02	-268.70	-0.28
Dead+Wind 180 deg - Service	29.06	0.00	3.92	434.83	-0.38	0.00
Dead+Wind 210 deg - Service	29.06	-1.99	3.43	380.38	221.39	0.16
Dead+Wind 240 deg - Service	29.06	-3.49	2.00	222.04	388.61	0.27
Dead+Wind 270 deg - Service	29.06	-4.04	0.00	-0.94	451.88	0.31
Dead+Wind 300 deg - Service	29.06	-4.34	-2.49	-268.11	465.17	0.47
Dead+Wind 330 deg - Service	29.06	-2.50	-4.31	-462.89	267.94	0.28

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-29.06	0.00	-0.00	29.06	0.00	0.000%
2	0.00	-34.88	-15.83	0.00	34.88	15.83	0.000%
3	0.00	-26.16	-15.83	0.00	26.16	15.83	0.000%
4	8.02	-34.88	-13.82	-8.02	34.88	13.82	0.000%
5	8.02	-26.16	-13.82	-8.02	26.16	13.82	0.000%
6	14.07	-34.88	-8.09	-14.07	34.88	8.09	0.000%
7	14.07	-26.16	-8.09	-14.07	26.16	8.09	0.000%
8	16.31	-34.88	0.00	-16.31	34.88	0.00	0.000%
9	16.31	-26.16	0.00	-16.31	26.16	0.00	0.000%
10	17.49	-34.88	10.06	-17.49	34.88	-10.06	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
11	17.49	-26.16	10.06	-17.49	26.16	-10.06	0.000%
12	10.08	-34.88	17.38	-10.08	34.88	-17.38	0.000%
13	10.08	-26.16	17.38	-10.08	26.16	-17.38	0.000%
14	0.00	-34.88	15.83	0.00	34.88	-15.83	0.000%
15	0.00	-26.16	15.83	0.00	26.16	-15.83	0.000%
16	-8.02	-34.88	13.82	8.02	34.88	-13.82	0.000%
17	-8.02	-26.16	13.82	8.02	26.16	-13.82	0.000%
18	-14.07	-34.88	8.09	14.07	34.88	-8.09	0.000%
19	-14.07	-26.16	8.09	14.07	26.16	-8.09	0.000%
20	-16.31	-34.88	0.00	16.31	34.88	0.00	0.000%
21	-16.31	-26.16	0.00	16.31	26.16	0.00	0.000%
22	-17.49	-34.88	-10.06	17.49	34.88	10.06	0.000%
23	-17.49	-26.16	-10.06	17.49	26.16	10.06	0.000%
24	-10.08	-34.88	-17.38	10.08	34.88	17.38	0.000%
25	-10.08	-26.16	-17.38	10.08	26.16	17.38	0.000%
26	0.00	-49.74	0.00	-0.00	49.74	0.00	0.000%
27	0.00	-49.74	-3.83	-0.00	49.74	3.83	0.000%
28	1.92	-49.74	-3.32	-1.92	49.74	3.32	0.000%
29	3.33	-49.74	-1.92	-3.33	49.74	1.92	0.000%
30	3.85	-49.74	0.00	-3.85	49.74	0.00	0.000%
31	3.89	-49.74	2.24	-3.89	49.74	-2.24	0.000%
32	2.24	-49.74	3.88	-2.24	49.74	-3.88	0.000%
33	0.00	-49.74	3.83	-0.00	49.74	-3.83	0.000%
34	-1.92	-49.74	3.32	1.92	49.74	-3.32	0.000%
35	-3.33	-49.74	1.92	3.33	49.74	-1.92	0.000%
36	-3.85	-49.74	0.00	3.85	49.74	0.00	0.000%
37	-3.89	-49.74	-2.24	3.89	49.74	2.24	0.000%
38	-2.24	-49.74	-3.88	2.24	49.74	3.88	0.000%
39	0.00	-29.06	-3.92	0.00	29.06	3.92	0.000%
40	1.99	-29.06	-3.43	-1.99	29.06	3.43	0.000%
41	3.49	-29.06	-2.00	-3.49	29.06	2.00	0.000%
42	4.04	-29.06	0.00	-4.04	29.06	0.00	0.000%
43	4.34	-29.06	2.49	-4.34	29.06	-2.49	0.000%
44	2.50	-29.06	4.31	-2.50	29.06	-4.31	0.000%
45	0.00	-29.06	3.92	0.00	29.06	-3.92	0.000%
46	-1.99	-29.06	3.43	1.99	29.06	-3.43	0.000%
47	-3.49	-29.06	2.00	3.49	29.06	-2.00	0.000%
48	-4.04	-29.06	0.00	4.04	29.06	0.00	0.000%
49	-4.34	-29.06	-2.49	4.34	29.06	2.49	0.000%
50	-2.50	-29.06	-4.31	2.50	29.06	4.31	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000377
2	Yes	5	0.00000001	0.00044529
3	Yes	5	0.00000001	0.00016376
4	Yes	7	0.00000001	0.00081630
5	Yes	7	0.00000001	0.00019324
6	Yes	7	0.00000001	0.00087140
7	Yes	7	0.00000001	0.00020689
8	Yes	6	0.00000001	0.00055301
9	Yes	6	0.00000001	0.00019401
10	Yes	7	0.00000001	0.00098547
11	Yes	7	0.00000001	0.00021453
12	Yes	8	0.00000001	0.00008547
13	Yes	7	0.00000001	0.00023050
14	Yes	5	0.00000001	0.00044468
15	Yes	5	0.00000001	0.00016362
16	Yes	7	0.00000001	0.00084090
17	Yes	7	0.00000001	0.00020053
18	Yes	7	0.00000001	0.00081903
19	Yes	7	0.00000001	0.00019268
20	Yes	6	0.00000001	0.00055291

21	Yes	6	0.00000001	0.00019400
22	Yes	8	0.00000001	0.00008735
23	Yes	7	0.00000001	0.00023575
24	Yes	7	0.00000001	0.00099852
25	Yes	7	0.00000001	0.00021823
26	Yes	4	0.00000001	0.00085683
27	Yes	7	0.00000001	0.00027566
28	Yes	7	0.00000001	0.00042100
29	Yes	7	0.00000001	0.00043324
30	Yes	7	0.00000001	0.00027884
31	Yes	7	0.00000001	0.00051252
32	Yes	7	0.00000001	0.00053521
33	Yes	7	0.00000001	0.00026975
34	Yes	7	0.00000001	0.00041094
35	Yes	7	0.00000001	0.00040215
36	Yes	7	0.00000001	0.00027592
37	Yes	7	0.00000001	0.00055139
38	Yes	7	0.00000001	0.00052217
39	Yes	5	0.00000001	0.00008900
40	Yes	6	0.00000001	0.00014281
41	Yes	6	0.00000001	0.00016928
42	Yes	5	0.00000001	0.00040941
43	Yes	6	0.00000001	0.00020652
44	Yes	6	0.00000001	0.00023798
45	Yes	5	0.00000001	0.00008843
46	Yes	6	0.00000001	0.00015460
47	Yes	6	0.00000001	0.00014058
48	Yes	5	0.00000001	0.00040869
49	Yes	6	0.00000001	0.00025289
50	Yes	6	0.00000001	0.00021367

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	35.689	49	2.2277	0.0102
L2	145 - 140	33.374	49	2.1890	0.0086
L3	140 - 139.583	31.117	49	2.1197	0.0072
L4	139.583 - 139.333	30.932	49	2.1128	0.0071
L5	139.333 - 134.333	30.822	49	2.1108	0.0071
L6	134.333 - 129.333	28.636	49	2.0629	0.0065
L7	129.333 - 124.333	26.507	49	2.0049	0.0059
L8	124.333 - 119.333	24.442	49	1.9383	0.0054
L9	119.333 - 114.333	22.451	49	1.8644	0.0049
L10	114.333 - 110	20.541	49	1.7842	0.0044
L11	110 - 109.75	18.956	49	1.7099	0.0041
L12	109.75 - 104.75	18.866	49	1.7063	0.0040
L13	104.75 - 99.75	17.119	49	1.6308	0.0037
L14	99.75 - 94.75	15.453	49	1.5517	0.0034
L15	94.75 - 89.75	13.871	49	1.4694	0.0031
L16	89.75 - 84.75	12.377	49	1.3842	0.0028
L17	84.75 - 81.5	10.974	49	1.2963	0.0025
L18	81.5 - 81.25	10.111	49	1.2389	0.0023
L19	81.25 - 76.25	10.047	49	1.2345	0.0023
L20	76.25 - 71.25	8.801	49	1.1439	0.0020
L21	71.25 - 66	7.652	49	1.0511	0.0018
L22	70 - 65	7.380	49	1.0279	0.0017
L23	65 - 60	6.328	49	0.9745	0.0016
L24	60 - 55	5.354	49	0.8869	0.0014
L25	55 - 51.25	4.471	49	0.7990	0.0012
L26	51.25 - 51	3.869	49	0.7329	0.0011

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L27	51 - 46	3.831	49	0.7291	0.0011
L28	46 - 41	3.108	49	0.6530	0.0009
L29	41 - 36	2.464	49	0.5763	0.0008
L30	36 - 31	1.901	49	0.4990	0.0007
L31	31 - 27	1.419	49	0.4227	0.0005
L32	30 - 26.25	1.332	49	0.4075	0.0005
L33	26.25 - 26	1.023	49	0.3746	0.0005
L34	26 - 21	1.003	49	0.3710	0.0005
L35	21 - 16	0.653	49	0.2983	0.0004
L36	16 - 11	0.378	49	0.2268	0.0003
L37	11 - 6	0.178	49	0.1551	0.0002
L38	6 - 1	0.053	49	0.0846	0.0001
L39	1 - 0	0.001	49	0.0139	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	RRUS 32 B2	49	35.689	2.2277	0.0102	5242
110.00	bridge stiffener	49	18.956	1.7099	0.0041	3572

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 145	145.050	22	9.0804	0.0395
L2	145 - 140	135.677	22	8.9253	0.0335
L3	140 - 139.583	126.530	22	8.6451	0.0282
L4	139.583 - 139.333	125.782	22	8.6172	0.0278
L5	139.333 - 134.333	125.333	22	8.6090	0.0276
L6	134.333 - 129.333	116.473	22	8.4145	0.0252
L7	129.333 - 124.333	107.835	22	8.1787	0.0230
L8	124.333 - 119.333	99.457	22	7.9079	0.0210
L9	119.333 - 114.333	91.375	22	7.6070	0.0191
L10	114.333 - 110	83.617	22	7.2800	0.0173
L11	110 - 109.75	77.176	22	6.9772	0.0158
L12	109.75 - 104.75	76.812	22	6.9624	0.0157
L13	104.75 - 99.75	69.711	22	6.6547	0.0143
L14	99.75 - 94.75	62.935	22	6.3321	0.0131
L15	94.75 - 89.75	56.501	22	5.9963	0.0119
L16	89.75 - 84.75	50.422	22	5.6485	0.0107
L17	84.75 - 81.5	44.710	22	5.2895	0.0096
L18	81.5 - 81.25	41.197	22	5.0552	0.0089
L19	81.25 - 76.25	40.934	22	5.0372	0.0089
L20	76.25 - 71.25	35.863	22	4.6673	0.0079
L21	71.25 - 66	31.182	22	4.2882	0.0069
L22	70 - 65	30.074	22	4.1935	0.0067
L23	65 - 60	25.788	22	3.9758	0.0062
L24	60 - 55	21.817	22	3.6180	0.0054
L25	55 - 51.25	18.220	22	3.2592	0.0047
L26	51.25 - 51	15.768	22	2.9893	0.0042
L27	51 - 46	15.612	22	2.9737	0.0042
L28	46 - 41	12.663	22	2.6630	0.0036

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L29	41 - 36	10.040	22	2.3499	0.0031
L30	36 - 31	7.746	22	2.0343	0.0026
L31	31 - 27	5.780	22	1.7229	0.0021
L32	30 - 26.25	5.426	22	1.6611	0.0020
L33	26.25 - 26	4.167	22	1.5267	0.0018
L34	26 - 21	4.088	22	1.5120	0.0018
L35	21 - 16	2.660	22	1.2155	0.0014
L36	16 - 11	1.540	22	0.9239	0.0010
L37	11 - 6	0.726	22	0.6317	0.0007
L38	6 - 1	0.216	22	0.3444	0.0004
L39	1 - 0	0.006	22	0.0566	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	RRUS 32 B2	22	145.050	9.0804	0.0395	1368
110.00	bridge stiffener	22	77.176	6.9772	0.0158	905

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	150 - 145 (1)	TP15.2541x14.5x0.25	5.00	0.00	0.0	12.0783	-5.26	706.58	0.007
L2	145 - 140 (2)	TP16.0083x15.2541x0.25	5.00	0.00	0.0	12.6854	-5.55	742.10	0.007
L3	140 - 139.583 (3)	TP16.0712x16.0083x0.25	0.42	0.00	0.0	12.7360	-5.58	745.06	0.007
L4	139.583 - 139.333 (4)	TP16.1089x16.0712x0.55	0.25	0.00	0.0	27.5548	-5.61	1611.95	0.003
L5	139.333 - 134.333 (5)	TP16.863x16.1089x0.525	5.00	0.00	0.0	27.6194	-6.13	1615.74	0.004
L6	134.333 - 129.333 (6)	TP17.6172x16.863x0.5125	5.00	0.00	0.0	28.2270	-6.68	1651.28	0.004
L7	129.333 - 124.333 (7)	TP18.3713x17.6172x0.5	5.00	0.00	0.0	28.7728	-7.25	1683.21	0.004
L8	124.333 - 119.333 (8)	TP19.1254x18.3713x0.4875	5.00	0.00	0.0	29.2569	-7.84	1711.53	0.005
L9	119.333 - 114.333 (9)	TP19.8796x19.1254x0.475	5.00	0.00	0.0	29.6793	-8.45	1736.24	0.005
L10	114.333 - 110 (10)	TP20.5331x19.8796x0.4625	4.33	0.00	0.0	29.8901	-9.00	1748.57	0.005
L11	110 - 109.75 (11)	TP20.5708x20.5331x0.5625	0.25	0.00	0.0	36.2400	-9.44	2120.04	0.004
L12	109.75 - 104.75 (12)	TP21.3249x20.5708x0.55	5.00	0.00	0.0	36.7924	-10.17	2152.36	0.005
L13	104.75 - 99.75 (13)	TP22.0791x21.3249x0.5375	5.00	0.00	0.0	37.2831	-10.93	2181.06	0.005
L14	99.75 - 94.75 (14)	TP22.8332x22.0791x0.525	5.00	0.00	0.0	37.7120	-11.72	2206.15	0.005
L15	94.75 - 89.75 (15)	TP23.5874x22.8332x0.5125	5.00	0.00	0.0	38.0793	-12.52	2227.64	0.006
L16	89.75 - 84.75	TP24.3415x23.5874x0.5	5.00	0.00	0.0	38.384	-13.34	2245.51	0.006

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(16)					8			
L17	84.75 - 81.5 (17)	TP24.8317x24.3415x0.5	3.25	0.00	0.0	39.174 0	-13.89	2291.68	0.006
L18	81.5 - 81.25 (18)	TP24.8694x24.8317x0.5	0.25	0.00	0.0	39.234 7	-13.94	2295.23	0.006
L19	81.25 - 76.25 (19)	TP25.6235x24.8694x0.4875	5.00	0.00	0.0	39.457 3	-14.80	2308.25	0.006
L20	76.25 - 71.25 (20)	TP26.3777x25.6235x0.475	5.00	0.00	0.0	39.618 1	-15.68	2317.66	0.007
L21	71.25 - 66 (21)	TP27.1695x26.3777x0.475	5.25	0.00	0.0	39.906 5	-15.90	2334.53	0.007
L22	66 - 65 (22)	TP26.8203x26.0662x0.5375	5.00	0.00	0.0	45.489 0	-17.49	2661.11	0.007
L23	65 - 60 (23)	TP27.5745x26.8203x0.5313	5.00	0.00	0.0	46.260 8	-18.52	2706.26	0.007
L24	60 - 55 (24)	TP28.3286x27.5745x0.525	5.00	0.00	0.0	47.002 0	-19.57	2749.62	0.007
L25	55 - 51.25 (25)	TP28.8942x28.3286x0.5188	3.75	0.00	0.0	47.397 7	-20.36	2772.76	0.007
L26	51.25 - 51 (26)	TP28.9319x28.8942x0.6	0.25	0.00	0.0	54.737 3	-20.43	3202.13	0.006
L27	51 - 46 (27)	TP29.6861x28.9319x0.6	5.00	0.00	0.0	56.194 3	-21.61	3287.37	0.007
L28	46 - 41 (28)	TP30.4402x29.6861x0.5875	5.00	0.00	0.0	56.473 9	-22.83	3303.72	0.007
L29	41 - 36 (29)	TP31.1943x30.4402x0.575	5.00	0.00	0.0	56.691 7	-24.06	3316.47	0.007
L30	36 - 31 (30)	TP31.9485x31.1943x0.575	5.00	0.00	0.0	58.088 0	-25.32	3398.15	0.007
L31	31 - 27 (31)	TP32.5518x31.9485x0.575	4.00	0.00	0.0	58.367 3	-25.57	3414.49	0.007
L32	27 - 26.25 (32)	TP32.04x31.4743x0.6375	3.75	0.00	0.0	64.461 5	-27.26	3771.00	0.007
L33	26.25 - 26 (33)	TP32.0777x32.04x0.6375	0.25	0.00	0.0	64.539 0	-27.33	3775.53	0.007
L34	26 - 21 (34)	TP32.832x32.0777x0.625	5.00	0.00	0.0	64.816 6	-28.73	3791.77	0.008
L35	21 - 16 (35)	TP33.5863x32.832x0.625	5.00	0.00	0.0	66.334 6	-30.16	3880.58	0.008
L36	16 - 11 (36)	TP34.3406x33.5863x0.6125	5.00	0.00	0.0	66.520 2	-31.61	3891.43	0.008
L37	11 - 6 (37)	TP35.0949x34.3406x0.6125	5.00	0.00	0.0	68.007 8	-33.08	3978.46	0.008
L38	6 - 1 (38)	TP35.8491x35.0949x0.6	5.00	0.00	0.0	68.101 3	-34.57	3983.93	0.009
L39	1 - 0 (39)	TP36x35.8491x0.6	1.00	0.00	0.0	68.392 8	-34.87	4000.98	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	150 - 145 (1)	TP15.2541x14.5x0.25	54.42	269.80	0.202	0.00	269.80	0.000
L2	145 - 140 (2)	TP16.0083x15.2541x0.25	93.99	297.84	0.316	0.00	297.84	0.000
L3	140 - 139.583 (3)	TP16.0712x16.0083x0.25	97.39	300.24	0.324	0.00	300.24	0.000
L4	139.583 - 139.333 (4)	TP16.1089x16.0712x0.55	99.43	626.74	0.159	0.00	626.74	0.000
L5	139.333 - 134.333 (5)	TP16.863x16.1089x0.525	141.61	661.73	0.214	0.00	661.73	0.000
L6	134.333 - 129.333 (6)	TP17.6172x16.863x0.5125	186.34	709.51	0.263	0.00	709.51	0.000
L7	129.333 - 124.333 (7)	TP18.3713x17.6172x0.5	233.63	757.10	0.309	0.00	757.10	0.000

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L8	124.333 - 119.333 (8)	TP19.1254x18.3713x0.4875	283.49	804.29	0.352	0.00	804.29	0.000
L9	119.333 - 114.333 (9)	TP19.8796x19.1254x0.475	335.93	850.86	0.395	0.00	850.86	0.000
L10	114.333 - 110 (10)	TP20.5331x19.8796x0.4625	383.43	887.56	0.432	0.00	887.56	0.000
L11	110 - 109.75 (11)	TP20.5708x20.5331x0.5625	386.29	1067.48	0.362	0.00	1067.48	0.000
L12	109.75 - 104.75 (12)	TP21.3249x20.5708x0.55	444.77	1127.08	0.395	0.00	1127.08	0.000
L13	104.75 - 99.75 (13)	TP22.0791x21.3249x0.5375	505.88	1186.01	0.427	0.00	1186.01	0.000
L14	99.75 - 94.75 (14)	TP22.8332x22.0791x0.525	569.61	1244.07	0.458	0.00	1244.07	0.000
L15	94.75 - 89.75 (15)	TP23.5874x22.8332x0.5125	635.94	1301.03	0.489	0.00	1301.03	0.000
L16	89.75 - 84.75 (16)	TP24.3415x23.5874x0.5	704.84	1356.69	0.520	0.00	1356.69	0.000
L17	84.75 - 81.5 (17)	TP24.8317x24.3415x0.5	750.98	1413.63	0.531	0.00	1413.63	0.000
L18	81.5 - 81.25 (18)	TP24.8694x24.8317x0.5	754.58	1418.07	0.532	0.00	1418.07	0.000
L19	81.25 - 76.25 (19)	TP25.6235x24.8694x0.4875	827.77	1472.59	0.562	0.00	1472.59	0.000
L20	76.25 - 71.25 (20)	TP26.3777x25.6235x0.475	903.44	1525.28	0.592	0.00	1525.28	0.000
L21	71.25 - 66 (21)	TP27.1695x26.3777x0.475	922.73	1547.76	0.596	0.00	1547.76	0.000
L22	66 - 65 (22)	TP26.8203x26.0662x0.5375	1001.32	1773.33	0.565	0.00	1773.33	0.000
L23	65 - 60 (23)	TP27.5745x26.8203x0.5313	1081.96	1857.05	0.583	0.00	1857.05	0.000
L24	60 - 55 (24)	TP28.3286x27.5745x0.525	1164.42	1941.31	0.600	0.00	1941.31	0.000
L25	55 - 51.25 (25)	TP28.8942x28.3286x0.5188	1227.43	1999.09	0.614	0.00	1999.09	0.000
L26	51.25 - 51 (26)	TP28.9319x28.8942x0.6	1231.66	2298.57	0.536	0.00	2298.57	0.000
L27	51 - 46 (27)	TP29.6861x28.9319x0.6	1317.61	2423.88	0.544	0.00	2423.88	0.000
L28	46 - 41 (28)	TP30.4402x29.6861x0.5875	1405.58	2502.47	0.562	0.00	2502.47	0.000
L29	41 - 36 (29)	TP31.1943x30.4402x0.575	1495.25	2578.92	0.580	0.00	2578.92	0.000
L30	36 - 31 (30)	TP31.9485x31.1943x0.575	1586.51	2708.72	0.586	0.00	2708.72	0.000
L31	31 - 27 (31)	TP32.5518x31.9485x0.575	1604.95	2735.06	0.587	0.00	2735.06	0.000
L32	27 - 26.25 (32)	TP32.04x31.4743x0.6375	1674.76	3002.88	0.558	0.00	3002.88	0.000
L33	26.25 - 26 (33)	TP32.0777x32.04x0.6375	1679.45	3010.18	0.558	0.00	3010.18	0.000
L34	26 - 21 (34)	TP32.832x32.0777x0.625	1774.00	3099.50	0.572	0.00	3099.50	0.000
L35	21 - 16 (35)	TP33.5863x32.832x0.625	1869.98	3247.79	0.576	0.00	3247.79	0.000
L36	16 - 11 (36)	TP34.3406x33.5863x0.6125	1967.36	3335.27	0.590	0.00	3335.27	0.000
L37	11 - 6 (37)	TP35.0949x34.3406x0.6125	2066.08	3487.47	0.592	0.00	3487.47	0.000
L38	6 - 1 (38)	TP35.8491x35.0949x0.6	2166.12	3572.53	0.606	0.00	3572.53	0.000
L39	1 - 0 (39)	TP36x35.8491x0.6	2186.28	3603.43	0.607	0.00	3603.43	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	150 - 145 (1)	TP15.2541x14.5x0.25	7.71	211.97	0.036	1.10	279.77	0.004
L2	145 - 140 (2)	TP16.0083x15.2541x0.25	8.12	222.63	0.036	1.14	308.60	0.004
L3	140 - 139.583 (3)	TP16.0712x16.0083x0.25	8.16	223.52	0.037	1.14	311.06	0.004
L4	139.583 - 139.333 (4)	TP16.1089x16.0712x0.55	8.19	483.59	0.017	1.15	661.84	0.002
L5	139.333 - 134.333 (5)	TP16.863x16.1089x0.525	8.69	484.72	0.018	1.19	696.61	0.002
L6	134.333 - 129.333 (6)	TP17.6172x16.863x0.5125	9.21	495.38	0.019	1.23	745.34	0.002
L7	129.333 - 124.333 (7)	TP18.3713x17.6172x0.5	9.72	504.96	0.019	1.27	793.81	0.002
L8	124.333 - 119.333 (8)	TP19.1254x18.3713x0.4875	10.24	513.46	0.020	1.31	841.79	0.002
L9	119.333 - 114.333 (9)	TP19.8796x19.1254x0.475	10.75	520.87	0.021	1.36	889.07	0.002
L10	114.333 - 110 (10)	TP20.5331x19.8796x0.4625	11.19	524.57	0.021	1.39	926.12	0.002
L11	110 - 109.75 (11)	TP20.5708x20.5331x0.5625	11.44	636.01	0.018	1.40	1119.38	0.001
L12	109.75 - 104.75 (12)	TP21.3249x20.5708x0.55	11.97	645.71	0.019	1.44	1179.98	0.001
L13	104.75 - 99.75 (13)	TP22.0791x21.3249x0.5375	12.49	654.32	0.019	1.48	1239.84	0.001
L14	99.75 - 94.75 (14)	TP22.8332x22.0791x0.525	13.01	661.85	0.020	1.53	1298.74	0.001
L15	94.75 - 89.75 (15)	TP23.5874x22.8332x0.5125	13.53	668.29	0.020	1.57	1356.45	0.001
L16	89.75 - 84.75 (16)	TP24.3415x23.5874x0.5	14.04	673.65	0.021	1.62	1412.77	0.001
L17	84.75 - 81.5 (17)	TP24.8317x24.3415x0.5	14.37	687.50	0.021	1.65	1471.46	0.001
L18	81.5 - 81.25 (18)	TP24.8694x24.8317x0.5	14.39	688.57	0.021	1.65	1476.02	0.001
L19	81.25 - 76.25 (19)	TP25.6235x24.8694x0.4875	14.90	692.48	0.022	1.70	1531.09	0.001
L20	76.25 - 71.25 (20)	TP26.3777x25.6235x0.475	15.39	695.30	0.022	1.75	1584.22	0.001
L21	71.25 - 66 (21)	TP27.1695x26.3777x0.475	15.49	700.36	0.022	1.75	1607.37	0.001
L22	66 - 65 (22)	TP26.8203x26.0662x0.5375	15.96	798.33	0.020	1.75	1845.68	0.001
L23	65 - 60 (23)	TP27.5745x26.8203x0.5313	16.32	811.88	0.020	1.74	1931.29	0.001
L24	60 - 55 (24)	TP28.3286x27.5745x0.525	16.68	824.88	0.020	1.74	2017.41	0.001
L25	55 - 51.25 (25)	TP28.8942x28.3286x0.5188	16.95	831.83	0.020	1.74	2076.24	0.001
L26	51.25 - 51 (26)	TP28.9319x28.8942x0.6	16.96	960.64	0.018	1.74	2394.07	0.001
L27	51 - 46 (27)	TP29.6861x28.9319x0.6	17.44	986.21	0.018	1.80	2523.22	0.001
L28	46 - 41 (28)	TP30.4402x29.6861x0.5875	17.78	991.12	0.018	1.80	2602.61	0.001
L29	41 - 36 (29)	TP31.1943x30.4402x0.575	18.11	994.94	0.018	1.80	2679.74	0.001
L30	36 - 31 (30)	TP31.9485x31.1943x0.575	18.42	1019.44	0.018	1.79	2813.37	0.001
L31	31 - 27 (31)	TP32.5518x31.9485x0.575	18.48	1024.35	0.018	1.79	2840.48	0.001
L32	27 - 26.25 (32)	TP32.04x31.4743x0.6375	18.76	1131.30	0.017	1.79	3124.94	0.001
L33	26.25 - 26 (33)	TP32.0777x32.04x0.6375	18.77	1132.66	0.017	1.79	3132.46	0.001
L34	26 - 21 (34)	TP32.832x32.0777x0.625	19.07	1137.53	0.017	1.79	3222.66	0.001
L35	21 - 16 (35)	TP33.5863x32.832x0.625	19.35	1164.17	0.017	1.79	3375.38	0.001
L36	16 - 11 (36)	TP34.3406x33.5863x0.61	19.63	1167.43	0.017	1.79	3463.56	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
		25						
L37	11 - 6 (37)	TP35.0949x34.3406x0.61	19.90	1193.54	0.017	1.79	3620.20	0.000
		25						
L38	6 - 1 (38)	TP35.8491x35.0949x0.6	20.15	1195.18	0.017	1.79	3705.79	0.000
L39	1 - 0 (39)	TP36x35.8491x0.6	20.20	1200.29	0.017	1.79	3737.58	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	150 - 145 (1)	0.007	0.202	0.000	0.036	0.004	0.211	1.050	4.8.2
L2	145 - 140 (2)	0.007	0.316	0.000	0.036	0.004	0.325	1.050	4.8.2
L3	140 - 139.583 (3)	0.007	0.324	0.000	0.037	0.004	0.333	1.050	4.8.2
L4	139.583 - 139.333 (4)	0.003	0.159	0.000	0.017	0.002	0.162	1.050	4.8.2
L5	139.333 - 134.333 (5)	0.004	0.214	0.000	0.018	0.002	0.218	1.050	4.8.2
L6	134.333 - 129.333 (6)	0.004	0.263	0.000	0.019	0.002	0.267	1.050	4.8.2
L7	129.333 - 124.333 (7)	0.004	0.309	0.000	0.019	0.002	0.313	1.050	4.8.2
L8	124.333 - 119.333 (8)	0.005	0.352	0.000	0.020	0.002	0.358	1.050	4.8.2
L9	119.333 - 114.333 (9)	0.005	0.395	0.000	0.021	0.002	0.400	1.050	4.8.2
L10	114.333 - 110 (10)	0.005	0.432	0.000	0.021	0.002	0.438	1.050	4.8.2
L11	110 - 109.75 (11)	0.004	0.362	0.000	0.018	0.001	0.367	1.050	4.8.2
L12	109.75 - 104.75 (12)	0.005	0.395	0.000	0.019	0.001	0.400	1.050	4.8.2
L13	104.75 - 99.75 (13)	0.005	0.427	0.000	0.019	0.001	0.432	1.050	4.8.2
L14	99.75 - 94.75 (14)	0.005	0.458	0.000	0.020	0.001	0.464	1.050	4.8.2
L15	94.75 - 89.75 (15)	0.006	0.489	0.000	0.020	0.001	0.495	1.050	4.8.2
L16	89.75 - 84.75 (16)	0.006	0.520	0.000	0.021	0.001	0.526	1.050	4.8.2
L17	84.75 - 81.5 (17)	0.006	0.531	0.000	0.021	0.001	0.538	1.050	4.8.2
L18	81.5 - 81.25 (18)	0.006	0.532	0.000	0.021	0.001	0.539	1.050	4.8.2
L19	81.25 - 76.25 (19)	0.006	0.562	0.000	0.022	0.001	0.569	1.050	4.8.2
L20	76.25 - 71.25 (20)	0.007	0.592	0.000	0.022	0.001	0.600	1.050	4.8.2
L21	71.25 - 66 (21)	0.007	0.596	0.000	0.022	0.001	0.604	1.050	4.8.2
L22	66 - 65 (22)	0.007	0.565	0.000	0.020	0.001	0.572	1.050	4.8.2
L23	65 - 60 (23)	0.007	0.583	0.000	0.020	0.001	0.590	1.050	4.8.2
L24	60 - 55 (24)	0.007	0.600	0.000	0.020	0.001	0.607	1.050	4.8.2
L25	55 - 51.25 (25)	0.007	0.614	0.000	0.020	0.001	0.622	1.050	4.8.2
L26	51.25 - 51 (26)	0.006	0.536	0.000	0.018	0.001	0.543	1.050	4.8.2
L27	51 - 46 (27)	0.007	0.544	0.000	0.018	0.001	0.551	1.050	4.8.2
L28	46 - 41 (28)	0.007	0.562	0.000	0.018	0.001	0.569	1.050	4.8.2
L29	41 - 36 (29)	0.007	0.580	0.000	0.018	0.001	0.587	1.050	4.8.2
L30	36 - 31 (30)	0.007	0.586	0.000	0.018	0.001	0.594	1.050	4.8.2
L31	31 - 27 (31)	0.007	0.587	0.000	0.018	0.001	0.595	1.050	4.8.2
L32	27 - 26.25 (32)	0.007	0.558	0.000	0.017	0.001	0.565	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L33	26.25 - 26 (33)	0.007	0.558	0.000	0.017	0.001	0.565	1.050	4.8.2
L34	26 - 21 (34)	0.008	0.572	0.000	0.017	0.001	0.580	1.050	4.8.2
L35	21 - 16 (35)	0.008	0.576	0.000	0.017	0.001	0.584	1.050	4.8.2
L36	16 - 11 (36)	0.008	0.590	0.000	0.017	0.001	0.598	1.050	4.8.2
L37	11 - 6 (37)	0.008	0.592	0.000	0.017	0.000	0.601	1.050	4.8.2
L38	6 - 1 (38)	0.009	0.606	0.000	0.017	0.000	0.615	1.050	4.8.2
L39	1 - 0 (39)	0.009	0.607	0.000	0.017	0.000	0.616	1.050	4.8.2

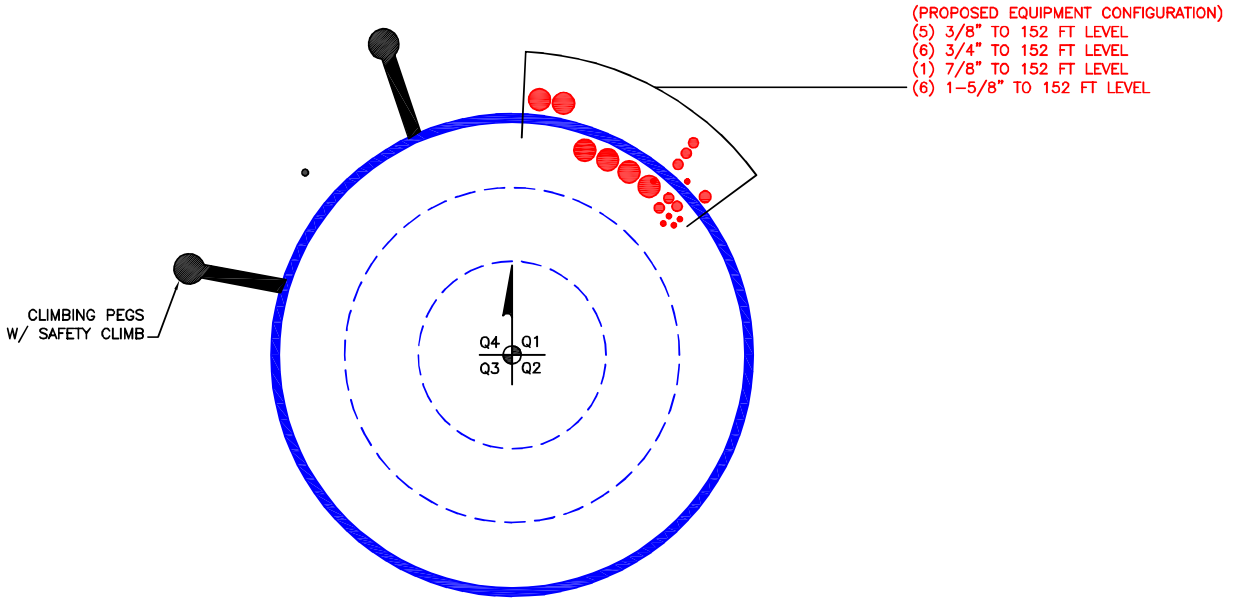
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	150 - 145	Pole	TP15.2541x14.5x0.25	1	-5.26	741.91	20.1	Pass
L2	145 - 140	Pole	TP16.0083x15.2541x0.25	2	-5.55	779.20	30.9	Pass
L3	140 - 139.583	Pole	TP16.0712x16.0083x0.25	3	-5.58	782.31	31.8	Pass
L4	139.583 - 139.333	Pole	TP16.1089x16.0712x0.55	4	-5.61	1692.55	15.5	Pass
L5	139.333 - 134.333	Pole	TP16.863x16.1089x0.525	5	-6.13	1696.53	20.8	Pass
L6	134.333 - 129.333	Pole	TP17.6172x16.863x0.5125	6	-6.68	1733.84	25.4	Pass
L7	129.333 - 124.333	Pole	TP18.3713x17.6172x0.5	7	-7.25	1767.37	29.8	Pass
L8	124.333 - 119.333	Pole	TP19.1254x18.3713x0.4875	8	-7.84	1797.11	34.0	Pass
L9	119.333 - 114.333	Pole	TP19.8796x19.1254x0.475	9	-8.45	1823.05	38.1	Pass
L10	114.333 - 110	Pole	TP20.5331x19.8796x0.4625	10	-9.00	1836.00	41.7	Pass
L11	110 - 109.75	Pole	TP20.5708x20.5331x0.5625	11	-9.44	2226.04	34.9	Pass
L12	109.75 - 104.75	Pole	TP21.3249x20.5708x0.55	12	-10.17	2259.98	38.1	Pass
L13	104.75 - 99.75	Pole	TP22.0791x21.3249x0.5375	13	-10.93	2290.11	41.1	Pass
L14	99.75 - 94.75	Pole	TP22.8332x22.0791x0.525	14	-11.72	2316.46	44.2	Pass
L15	94.75 - 89.75	Pole	TP23.5874x22.8332x0.5125	15	-12.52	2339.02	47.1	Pass
L16	89.75 - 84.75	Pole	TP24.3415x23.5874x0.5	16	-13.34	2357.79	50.1	Pass
L17	84.75 - 81.5	Pole	TP24.8317x24.3415x0.5	17	-13.89	2406.26	51.2	Pass
L18	81.5 - 81.25	Pole	TP24.8694x24.8317x0.5	18	-13.94	2409.99	51.3	Pass
L19	81.25 - 76.25	Pole	TP25.6235x24.8694x0.4875	19	-14.80	2423.66	54.2	Pass
L20	76.25 - 71.25	Pole	TP26.3777x25.6235x0.475	20	-15.68	2433.54	57.1	Pass
L21	71.25 - 66	Pole	TP27.1695x26.3777x0.475	21	-15.90	2451.26	57.5	Pass
L22	66 - 65	Pole	TP26.8203x26.0662x0.5375	22	-17.49	2794.17	54.4	Pass
L23	65 - 60	Pole	TP27.5745x26.8203x0.5313	23	-18.52	2841.57	56.2	Pass
L24	60 - 55	Pole	TP28.3286x27.5745x0.525	24	-19.57	2887.10	57.8	Pass
L25	55 - 51.25	Pole	TP28.8942x28.3286x0.5188	25	-20.36	2911.40	59.2	Pass
L26	51.25 - 51	Pole	TP28.9319x28.8942x0.6	26	-20.43	3362.24	51.7	Pass
L27	51 - 46	Pole	TP29.6861x28.9319x0.6	27	-21.61	3451.74	52.4	Pass
L28	46 - 41	Pole	TP30.4402x29.6861x0.5875	28	-22.83	3468.91	54.2	Pass
L29	41 - 36	Pole	TP31.1943x30.4402x0.575	29	-24.06	3482.29	55.9	Pass
L30	36 - 31	Pole	TP31.9485x31.1943x0.575	30	-25.32	3568.06	56.5	Pass
L31	31 - 27	Pole	TP32.5518x31.9485x0.575	31	-25.57	3585.21	56.6	Pass
L32	27 - 26.25	Pole	TP32.04x31.4743x0.6375	32	-27.26	3959.55	53.8	Pass
L33	26.25 - 26	Pole	TP32.0777x32.04x0.6375	33	-27.33	3964.31	53.9	Pass
L34	26 - 21	Pole	TP32.832x32.0777x0.625	34	-28.73	3981.36	55.3	Pass
L35	21 - 16	Pole	TP33.5863x32.832x0.625	35	-30.16	4074.61	55.6	Pass
L36	16 - 11	Pole	TP34.3406x33.5863x0.6125	36	-31.61	4086.00	57.0	Pass
L37	11 - 6	Pole	TP35.0949x34.3406x0.6125	37	-33.08	4177.38	57.2	Pass
L38	6 - 1	Pole	TP35.8491x35.0949x0.6	38	-34.57	4183.13	58.6	Pass
L39	1 - 0	Pole	TP36x35.8491x0.6	39	-34.87	4201.03	58.6	Pass
						Summary		
						Pole (L25)	59.2	Pass
						RATING =	**59.2**	**Pass**

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 841287 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 841287

Work Order: 2030891

CROWN CASTLE

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	150	40	0	12	14.5	20.5331	0.25	Auto	A572-65
2	110	44	4	12	20.53	27.1695	0.25	Auto	A572-65
3	70	43	3	12	26.07	32.5518	0.3125	Auto	A572-65
4	30	30	0	12	31.47	36	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
1	0	26.25	channel	MP3-05 (1.25in)	4		x			x			x			x	
2	26.25	51.25	channel	MP3-05 (1.25in)	4		x			x			x			x	
3	51.25	81.5	channel	MP3-04 (1.25in)	4		x			x			x			x	
4	81.5	110	channel	MP3-04 (1.25in)	4		x			x			x			x	
5	110	139.583	channel	MP3-03 (1.25in)	4		x			x			x			x	
6																	
7																	
8																	
9																	
10																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
2	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
3	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.566	1.2500	A572-65
4	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.566	1.2500	A572-65
5	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.526	1.2500	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	150 - 145	5		12	14.500	15.254	0.25	A572-65	1.000
2	145 - 140	5		12	15.254	16.008	0.25	A572-65	1.000
3	140 - 139.583	0.417		12	16.008	16.071	0.25	A572-65	1.000
4	139.583 - 139.333	0.25		12	16.071	16.109	0.55	A572-65	0.888
5	139.333 - 134.333	5		12	16.109	16.863	0.525	A572-65	0.908
6	134.333 - 129.333	5		12	16.863	17.617	0.5125	A572-65	0.910
7	129.333 - 124.333	5		12	17.617	18.371	0.5	A572-65	0.914
8	124.333 - 119.333	5		12	18.371	19.125	0.4875	A572-65	0.919
9	119.333 - 114.333	5		12	19.125	19.880	0.475	A572-65	0.927
10	114.333 - 110	4.333	0	12	19.880	20.533	0.4625	A572-65	0.938
11	110 - 109.75	0.25		12	20.533	20.571	0.5625	A572-65	0.908
12	109.75 - 104.75	5		12	20.571	21.325	0.55	A572-65	0.911
13	104.75 - 99.75	5		12	21.325	22.079	0.5375	A572-65	0.915
14	99.75 - 94.75	5		12	22.079	22.833	0.525	A572-65	0.921
15	94.75 - 89.75	5		12	22.833	23.587	0.5125	A572-65	0.928
16	89.75 - 84.75	5		12	23.587	24.341	0.5	A572-65	0.936
17	84.75 - 81.5	3.25		12	24.341	24.832	0.5	A572-65	0.927
18	81.5 - 81.25	0.25		12	24.832	24.869	0.5	A572-65	0.927
19	81.25 - 76.25	5		12	24.869	25.624	0.4875	A572-65	0.937
20	76.25 - 71.25	5		12	25.624	26.378	0.475	A572-65	0.948
21	71.25 - 70	5.25	4	12	26.378	27.170	0.475	A572-65	0.945
22	70 - 65	5		12	26.066	26.820	0.5375	A572-65	0.950
23	65 - 60	5		12	26.820	27.574	0.53125	A572-65	0.951
24	60 - 55	5		12	27.574	28.329	0.525	A572-65	0.952
25	55 - 51.25	3.75		12	28.329	28.894	0.51875	A572-65	0.956
26	51.25 - 51	0.25		12	28.894	28.932	0.6	A572-65	0.940
27	51 - 46	5		12	28.932	29.686	0.6	A572-65	0.929
28	46 - 41	5		12	29.686	30.440	0.5875	A572-65	0.938
29	41 - 36	5		12	30.440	31.194	0.575	A572-65	0.947
30	36 - 31	5		12	31.194	31.948	0.575	A572-65	0.938
31	31 - 30	4	3	12	31.948	32.552	0.575	A572-65	0.936
32	30 - 26.25	3.75		12	31.474	32.040	0.6375	A572-65	0.944
33	26.25 - 26	0.25		12	32.040	32.078	0.6375	A572-65	0.944
34	26 - 21	5		12	32.078	32.832	0.625	A572-65	0.954
35	21 - 16	5		12	32.832	33.586	0.625	A572-65	0.946
36	16 - 11	5		12	33.586	34.341	0.6125	A572-65	0.957
37	11 - 6	5		12	34.341	35.095	0.6125	A572-65	0.949
38	6 - 1	5		12	35.095	35.849	0.6	A572-65	0.961
39	1 - 0	1		12	35.849	36.000	0.6	A572-65	0.960

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	150 - 145	5.26	54.42	7.71
2	145 - 140	5.55	93.99	8.12
3	140 - 139.583	5.58	97.39	8.16
4	139.583 - 139.333	5.61	99.43	8.19
5	139.333 - 134.333	6.13	141.61	8.69
6	134.333 - 129.333	6.68	186.34	9.21
7	129.333 - 124.333	7.25	233.63	9.72
8	124.333 - 119.333	7.84	283.49	10.24
9	119.333 - 114.333	8.45	335.93	10.75
10	114.333 - 110	9.00	383.43	11.19
11	110 - 109.75	9.44	386.29	11.44
12	109.75 - 104.75	10.17	444.77	11.97
13	104.75 - 99.75	10.93	505.88	12.49
14	99.75 - 94.75	11.72	569.61	13.01
15	94.75 - 89.75	12.52	635.94	13.53
16	89.75 - 84.75	13.34	704.83	14.04
17	84.75 - 81.5	13.89	750.98	14.37
18	81.5 - 81.25	13.94	754.58	14.39
19	81.25 - 76.25	14.80	827.77	14.90
20	76.25 - 71.25	15.68	903.44	15.39
21	71.25 - 70	15.90	922.73	15.49
22	70 - 65	17.49	1001.32	15.95
23	65 - 60	18.52	1081.96	16.32
24	60 - 55	19.57	1164.42	16.68
25	55 - 51.25	20.36	1227.42	16.95
26	51.25 - 51	20.43	1231.66	16.96
27	51 - 46	21.61	1317.60	17.44
28	46 - 41	22.83	1405.58	17.78
29	41 - 36	24.06	1495.25	18.11
30	36 - 31	25.32	1586.51	18.42
31	31 - 30	25.57	1604.95	18.48
32	30 - 26.25	27.26	1674.76	18.76
33	26.25 - 26	27.33	1679.45	18.77
34	26 - 21	28.73	1774.00	19.07
35	21 - 16	30.16	1869.98	19.35
36	16 - 11	31.61	1967.36	19.63
37	11 - 6	33.08	2066.08	19.90
38	6 - 1	34.57	2166.12	20.15
39	1 - 0	34.87	2186.28	20.20

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP15.254x14.5x0.25	Pole	20.0%	Pass
145 - 140	Pole	TP16.008x15.254x0.25	Pole	30.8%	Pass
140 - 139.58	Pole	TP16.071x16.008x0.25	Pole	31.6%	Pass
139.58 - 139.33	Pole + Reinf.	TP16.109x16.071x0.55	Reinf. 5 Tension Rupture	23.8%	Pass
139.33 - 134.33	Pole + Reinf.	TP16.863x16.109x0.525	Reinf. 5 Tension Rupture	31.6%	Pass
134.33 - 129.33	Pole + Reinf.	TP17.617x16.863x0.5125	Reinf. 5 Tension Rupture	38.8%	Pass
129.33 - 124.33	Pole + Reinf.	TP18.371x17.617x0.5	Reinf. 5 Tension Rupture	45.6%	Pass
124.33 - 119.33	Pole + Reinf.	TP19.125x18.371x0.4875	Reinf. 5 Tension Rupture	51.9%	Pass
119.33 - 114.33	Pole + Reinf.	TP19.88x19.125x0.475	Reinf. 5 Tension Rupture	57.9%	Pass
114.33 - 110	Pole + Reinf.	TP20.533x19.88x0.4625	Reinf. 5 Tension Rupture	62.8%	Pass
110 - 109.75	Pole + Reinf.	TP20.571x20.533x0.5625	Reinf. 4 Tension Rupture	52.8%	Pass
109.75 - 104.75	Pole + Reinf.	TP21.325x20.571x0.55	Reinf. 4 Tension Rupture	57.6%	Pass
104.75 - 99.75	Pole + Reinf.	TP22.079x21.325x0.5375	Reinf. 4 Tension Rupture	62.2%	Pass
99.75 - 94.75	Pole + Reinf.	TP22.833x22.079x0.525	Reinf. 4 Tension Rupture	66.6%	Pass
94.75 - 89.75	Pole + Reinf.	TP23.587x22.833x0.5125	Reinf. 4 Tension Rupture	70.7%	Pass
89.75 - 84.75	Pole + Reinf.	TP24.341x23.587x0.5	Reinf. 4 Tension Rupture	74.7%	Pass
84.75 - 81.5	Pole + Reinf.	TP24.832x24.341x0.5	Reinf. 4 Tension Rupture	77.2%	Pass
81.5 - 81.25	Pole + Reinf.	TP24.869x24.832x0.5	Reinf. 3 Tension Rupture	77.4%	Pass
81.25 - 76.25	Pole + Reinf.	TP25.624x24.869x0.4875	Reinf. 3 Tension Rupture	81.1%	Pass
76.25 - 71.25	Pole + Reinf.	TP26.378x25.624x0.475	Reinf. 3 Tension Rupture	84.7%	Pass
71.25 - 70	Pole + Reinf.	TP27.17x26.378x0.475	Reinf. 3 Tension Rupture	85.5%	Pass
70 - 65	Pole + Reinf.	TP26.82x26.066x0.5375	Reinf. 3 Tension Rupture	80.9%	Pass
65 - 60	Pole + Reinf.	TP27.574x26.82x0.5313	Reinf. 3 Tension Rupture	83.5%	Pass
60 - 55	Pole + Reinf.	TP28.329x27.574x0.525	Reinf. 3 Tension Rupture	86.0%	Pass
55 - 51.25	Pole + Reinf.	TP28.894x28.329x0.5188	Reinf. 3 Tension Rupture	87.8%	Pass
51.25 - 51	Pole + Reinf.	TP28.932x28.894x0.6	Reinf. 2 Tension Rupture	74.4%	Pass
51 - 46	Pole + Reinf.	TP29.686x28.932x0.6	Reinf. 2 Tension Rupture	76.5%	Pass
46 - 41	Pole + Reinf.	TP30.44x29.686x0.5875	Reinf. 2 Tension Rupture	78.5%	Pass
41 - 36	Pole + Reinf.	TP31.194x30.44x0.575	Reinf. 2 Tension Rupture	80.3%	Pass
36 - 31	Pole + Reinf.	TP31.948x31.194x0.575	Reinf. 2 Tension Rupture	82.1%	Pass
31 - 30	Pole + Reinf.	TP32.552x31.948x0.575	Reinf. 2 Tension Rupture	82.5%	Pass
30 - 26.25	Pole + Reinf.	TP32.04x31.474x0.6375	Reinf. 2 Tension Rupture	77.9%	Pass
26.25 - 26	Pole + Reinf.	TP32.078x32.04x0.6375	Reinf. 1 Tension Rupture	77.9%	Pass
26 - 21	Pole + Reinf.	TP32.832x32.078x0.625	Reinf. 1 Tension Rupture	79.3%	Pass
21 - 16	Pole + Reinf.	TP33.586x32.832x0.625	Reinf. 1 Tension Rupture	80.5%	Pass
16 - 11	Pole + Reinf.	TP34.341x33.586x0.6125	Reinf. 1 Tension Rupture	81.7%	Pass
11 - 6	Pole + Reinf.	TP35.095x34.341x0.6125	Reinf. 1 Tension Rupture	82.7%	Pass
6 - 1	Pole + Reinf.	TP35.849x35.095x0.6	Reinf. 1 Tension Rupture	83.8%	Pass
1 - 0	Pole + Reinf.	TP36x35.849x0.6	Reinf. 1 Tension Rupture	84.0%	Pass
				Summary	
			Pole	60.3%	Pass
			Reinforcement	87.8%	Pass
			Overall	87.8%	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
150 - 145	348	n/a	348	12.06	n/a	12.06	20.0%					
145 - 140	403	n/a	403	12.67	n/a	12.67	30.8%					
140 - 139.58	407	n/a	407	12.72	n/a	12.72	31.6%					
139.58 - 139.33	410	440	850	12.75	11.68	24.43	15.0%					23.8%
139.33 - 134.33	472	479	951	13.35	11.68	25.03	19.9%					31.6%
134.33 - 129.33	539	520	1059	13.96	11.68	25.64	24.5%					38.8%
129.33 - 124.33	612	562	1174	14.57	11.68	26.25	28.8%					45.6%
124.33 - 119.33	692	606	1298	15.17	11.68	26.85	32.9%					51.9%
119.33 - 114.33	778	651	1429	15.78	11.68	27.46	36.8%					57.9%
114.33 - 110	859	692	1551	16.30	11.68	27.98	40.0%					62.8%
110 - 109.75	863	989	1853	16.33	16.52	32.85	33.8%				52.8%	
109.75 - 104.75	963	1058	2022	16.94	16.52	33.46	37.2%				57.6%	
104.75 - 99.75	1070	1130	2200	17.55	16.52	34.07	40.7%				62.2%	
99.75 - 94.75	1185	1204	2389	18.15	16.52	34.67	44.1%				66.6%	
94.75 - 89.75	1308	1280	2587	18.76	16.52	35.28	47.5%				70.7%	
89.75 - 84.75	1439	1358	2797	19.37	16.52	35.89	50.8%				74.7%	
84.75 - 81.5	1528	1410	2939	19.76	16.52	36.28	52.9%				77.2%	
81.5 - 81.25	1535	1414	2950	19.79	16.52	36.31	53.1%			77.4%		
81.25 - 76.25	1681	1497	3178	20.40	16.52	36.92	56.3%			81.1%		
76.25 - 71.25	1835	1582	3417	21.00	16.52	37.52	59.5%			84.7%		
71.25 - 70	1875	1603	3478	21.15	16.52	37.67	60.3%			85.5%		
70 - 65	2396	1633	4028	26.64	16.52	43.16	52.9%			80.9%		
65 - 60	2606	1721	4327	27.39	16.52	43.91	55.2%			83.5%		
60 - 55	2828	1812	4640	28.15	16.52	44.67	57.4%			86.0%		
55 - 51.25	3003	1882	4885	28.72	16.52	45.24	59.0%			87.8%		
51.25 - 51	3015	2644	5659	28.76	22.60	51.36	51.2%		74.4%			
51 - 46	3259	2776	6036	29.51	22.60	52.11	53.2%		76.5%			
46 - 41	3517	2911	6428	30.27	22.60	52.87	55.1%		78.5%			
41 - 36	3788	3049	6837	31.03	22.60	53.63	57.0%		80.3%			
36 - 31	4072	3190	7262	31.79	22.60	54.39	58.9%		82.1%			
31 - 30	4131	3219	7349	31.94	22.60	54.54	59.3%		82.5%			
30 - 26.25	4900	3208	8108	38.18	22.60	60.78	52.5%		77.9%			
26.25 - 26	4918	3215	8132	38.23	22.60	60.83	52.6%	77.9%				
26 - 21	5277	3360	8637	39.14	22.60	61.74	53.9%	79.3%				
21 - 16	5654	3508	9162	40.05	22.60	62.65	55.2%	80.5%				
16 - 11	6048	3659	9707	40.95	22.60	63.55	56.5%	81.7%				
11 - 6	6459	3814	10274	41.86	22.60	64.46	57.7%	82.7%				
6 - 1	6890	3972	10862	42.77	22.60	65.37	58.9%	83.8%				
1 - 0	6978	4004	10982	42.96	22.60	65.56	59.2%	84.0%				

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

Monopole Flange Plate Connection

Elevation = 110 ft.

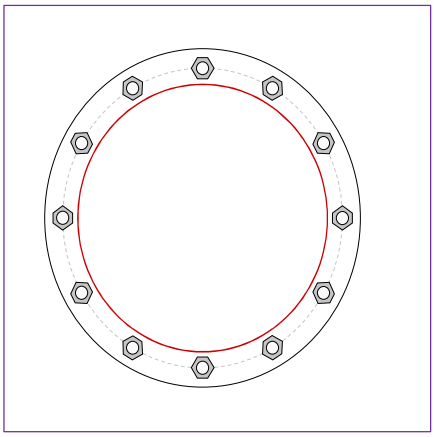
BU #	841287
Site Name	Norwalk West- CT Ave
Order #	556497 Rev. 1

TIA-222 Revision	H

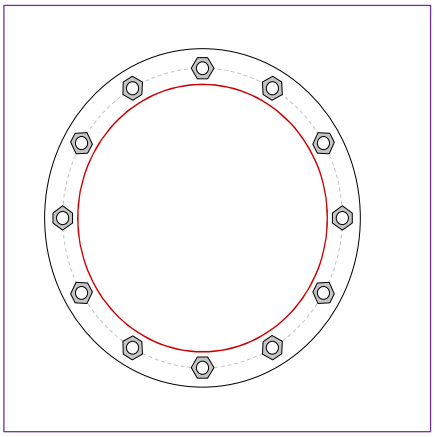
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	113.96	Moment (kip-ft)	269.48
Axial Force (kips)	9.00	Axial Force (kips)	0.00
Shear Force (kips)	11.19	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(12) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 23" BC

Top Plate Data

26" OD x 1" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Bottom Plate Data

26" OD x 1" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

20.5331" x 0.25" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Bottom Pole Data

20.5331" x 0.25" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Bridge Stiffener Group 1 Data

(4) Welded, 3"x1", A572-65, Lu=8.5", Upper Plate Width=5", Lower Plate Width=5", Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	19.05	
Allowable (kips)	54.52	
Stress Rating:	**33.3%**	Pass

Top Plate Capacity

Max Stress (ksi):	12.92	(Flexural)
Allowable Stress (ksi):	45.00	
Stress Rating:	**27.3%**	Pass
Tension Side Stress Rating:	**9.4%**	Pass

Bottom Plate Capacity

Max Stress (ksi):	12.92	(Flexural)
Allowable Stress (ksi):	45.00	
Stress Rating:	**27.3%**	Pass
Tension Side Stress Rating:	**9.4%**	Pass

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	117.45	
Max Tension (kip):	117.45	
Comp. Capacity (kip):	161.62	
Tens. Capacity (kip):	175.50	(Yield)
Comp. Stress Rating:	**69.2%**	Pass
Tens. Stress Rating:	**63.7%**	Pass

Welded Bridge Stiffener Design

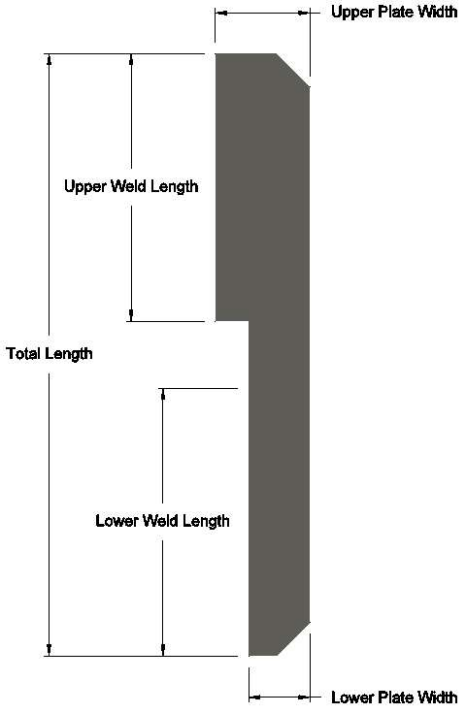
Elevation = 110 ft.

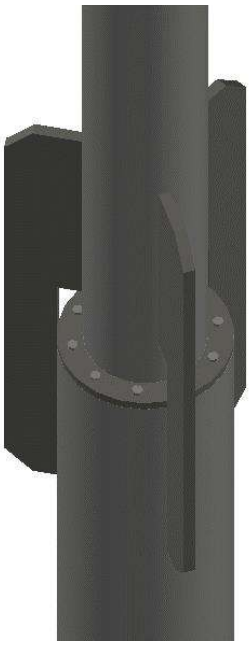
BU #	841287
Site Name	Norwalk West- CT Ave
Order #	556497 Rev. 1

TIA-222 Revision	H

Applied Loads to Design Groups	
Moment (kip-ft)	269.48
Axial Force (kips)	0.00
Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*





Design Properties

Bridge Stiffener Group 1 Data

(4) Welded, 3''x1'', A572-65, Lu=8.5", Upper Plate Width=5'', Lower Plate Width=5'', Neglect Flange in MOI: No

Total Length:	60	in
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Exx:	70	ksi
Upper Weld Length:	21.5	in
Upper Plate Width:	5	in
Lower Weld Length:	30	in
Lower Plate Width:	5	in
Stiffener Front EPA (No Ice):	2.95	ft²
Stiffener Side EPA (No Ice):	0.83	ft²
Stiffener Front EPA (1/2'' Ice):	3.29	ft²
Stiffener Side EPA (1/2'' Ice):	1.69	ft²
Stiffener Weight (No Ice):	0.077	kip
Stiffener Weight (1/2'' Ice):	0.088	kip

Upper Weld Size:	***Good***
Upper Weld Rating:	**31.86%**
Lower Weld Size:	***Good***
Lower Weld Rating:	**22.37%**
Top Plate Lateral-Torsional Buckling Rating:	**5.97%**
Top Plate Tension Yield Rating:	**13.34%**
Top Plate Tension Rupture Rating:	**14.45%**
Top Plate Interaction Rating:	**8.17%**
Bottom Plate Lateral-Torsional Buckling Rating:	**3.12%**
Bottom Plate Tension Yield Rating:	**9.56%**
Bottom Plate Tension Rupture Rating:	**10.36%**
Bottom Plate Interaction Rating:	**4.25%**
Top Pole Punching Shear Rating:	**17.37%**
Bottom Pole Punching Shear Rating:	**8.92%**

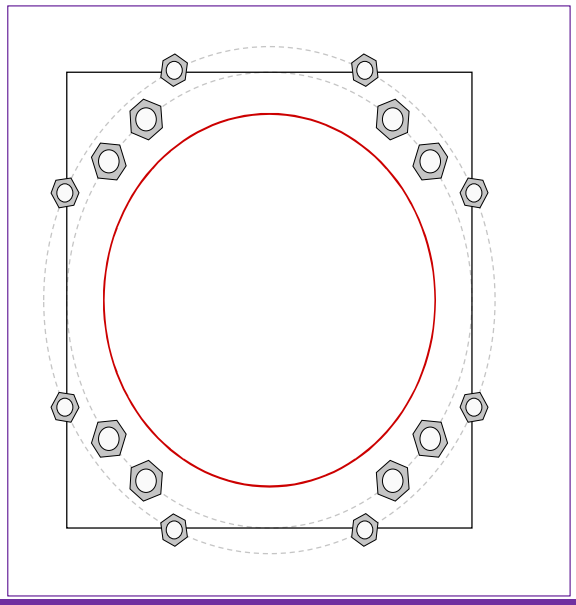
Monopole Base Plate Connection

Site Info	
BU #	841287
Site Name	Norwalk West- CT Ave
Order #	556497 Rev. 1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	2186.28
Axial Force (kips)	34.87
Shear Force (kips)	20.20

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (8) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 44" BC
Anchor Spacing: 5.743 in
GROUP 2: (8) 1-3/4" ø bolts (F1554-105 N; Fy=105 ksi, Fu=125 ksi) on 49" BC

Base Plate Data

44" W x 2.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi); Clip: 0 in

Stiffener Data

N/A

Pole Data

36" x 0.375" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:		
Pu_t = 168.16	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.52	ϕVn = 149.1	**65.7%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 112.42	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**60.1%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	32.66	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**57.6%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

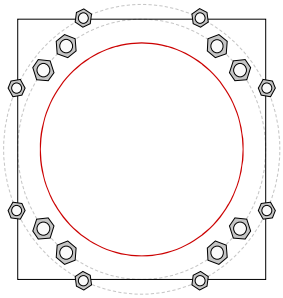
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	Yes	No	
2	No	No	No	Yes	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{sr} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	37.5	2.25	A615-75	44	0.5	2.25	N-Included		No
2	1	52.5	2.25	A615-75	44	0.5	2.25	N-Included		No
3	1	127.5	2.25	A615-75	44	0.5	2.25	N-Included		No
4	1	142.5	2.25	A615-75	44	0.5	2.25	N-Included		No
5	1	217.5	2.25	A615-75	44	0.5	2.25	N-Included		No
6	1	232.5	2.25	A615-75	44	0.5	2.25	N-Included		No
7	1	307.5	2.25	A615-75	44	0.5	2.25	N-Included		No
8	1	322.5	2.25	A615-75	44	0.5	2.25	N-Included		No
9	2	25	1.75	F1554-105	49	0.5	2.25	N-Included		No
10	2	65	1.75	F1554-105	49	0.5	2.25	N-Included		No
11	2	115	1.75	F1554-105	49	0.5	2.25	N-Included		No
12	2	155	1.75	F1554-105	49	0.5	2.25	N-Included		No
13	2	205	1.75	F1554-105	49	0.5	2.25	N-Included		No
14	2	245	1.75	F1554-105	49	0.5	2.25	N-Included		No
15	2	295	1.75	F1554-105	49	0.5	2.25	N-Included		No
16	2	335	1.75	F1554-105	49	0.5	2.25	N-Included		No

Plot Graphic



Pier and Pad Foundation

BU # :	841287
Site Name:	Norwalk West- CT
App. Number:	556497 Rev. 1

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐
Rectangular Pad?:	☑

Superstructure Analysis Reactions

Compression, P_{comp}:	34.88	kips
Base Shear, Vu_comp:	20.18	kips
Moment, M_u:	2186.28	ft-kips
Tower Height, **H**:	150	ft
BP Dist. Above Fdn, bp_{dist}:	2.5	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	5	ft
Ext. Above Grade, **E**:	0.333	ft
Pier Rebar Size, **Sc**:	10	
Pier Rebar Quantity, **mc**:	56	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	8	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	7.167	ft
Pad Width, W_1:	23	ft
Pad Width, W_2:	21.25	ft
Pad Thickness, **T**:	3.5	ft
Pad Rebar Size (Bottom dir. 1), Sp_1:	10	
Pad Rebar Quantity (Bottom dir. 1), mp_1:	17	
Pad Rebar Size (Bottom dir. 2), Sp_2:	10	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	16	
Pad Clear Cover, cc_{pad}:	1.125	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δc:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	110	pcf
Ultimate Gross Bearing, Qult:	20.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	28	degrees
SPT Blow Count, N_{blows}:	5	
Base Friction, μ:	0.4	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	12	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	225.10	20.18	**8.5%**	**Pass**
Bearing Pressure (ksf)	15.00	2.14	**14.3%**	**Pass**
*Overturning (kip*ft)*	4684.05	2341.83	**50.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	6558.14	2267.00	**32.9%**	**Pass**
Pier Compression (kip)	11934.00	52.88	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	3477.69	891.52	**24.4%**	**Pass**
Pad Shear - 1-way (kips)	816.44	128.46	**15.0%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.023	**13.5%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4755.39	1360.20	**27.2%**	**Pass**

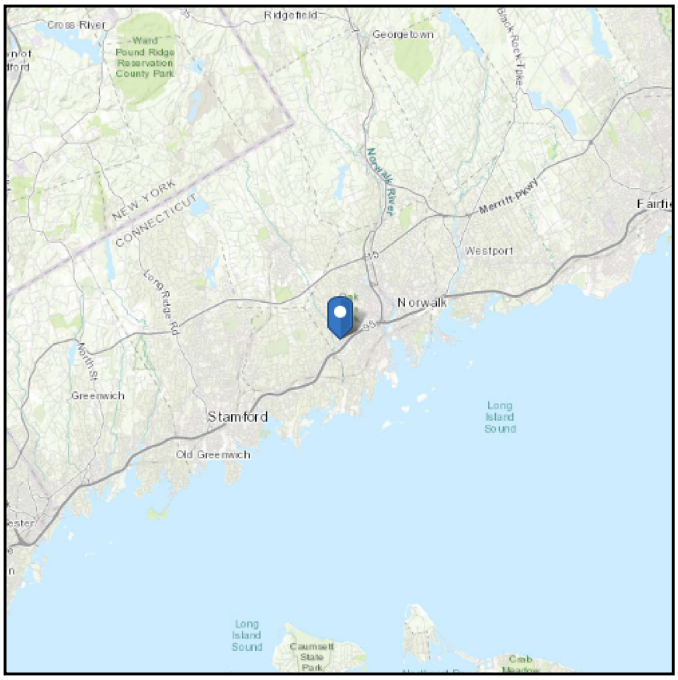
**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**32.9%**
Soil Rating*:	**50.0%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	88.52 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.097069
Soil Class:	D - Stiff Soil	**Longitude:**	-73.449058



Wind

Results:

Wind Speed:	117 Vmph
10-year MRI	75 Vmph
25-year MRI	85 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, and Section 26.5.2
Date Accessed:	Wed Oct 27 2021

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.

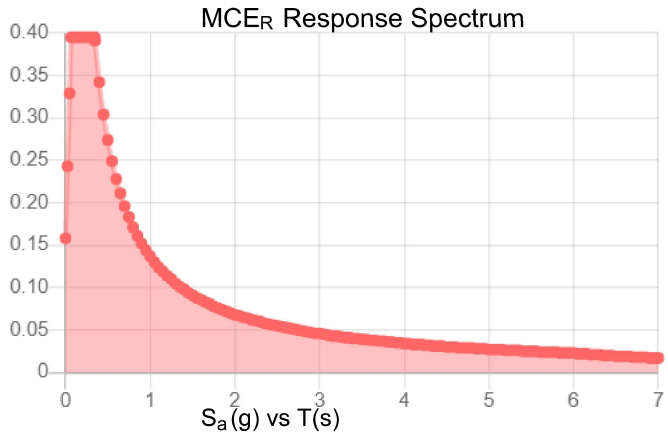
Seismic

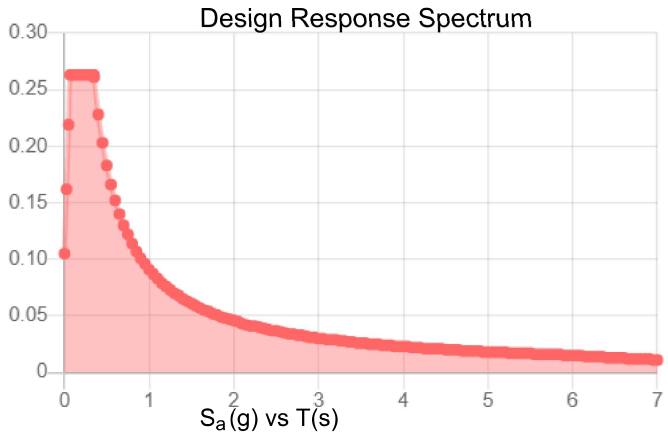
Site Soil Class: D - Stiff Soil

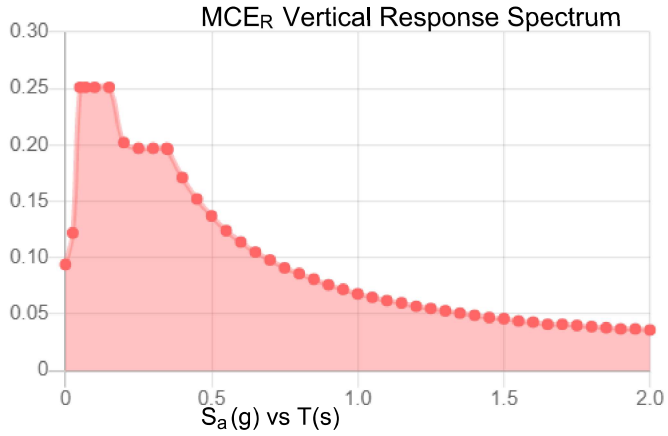
Results:

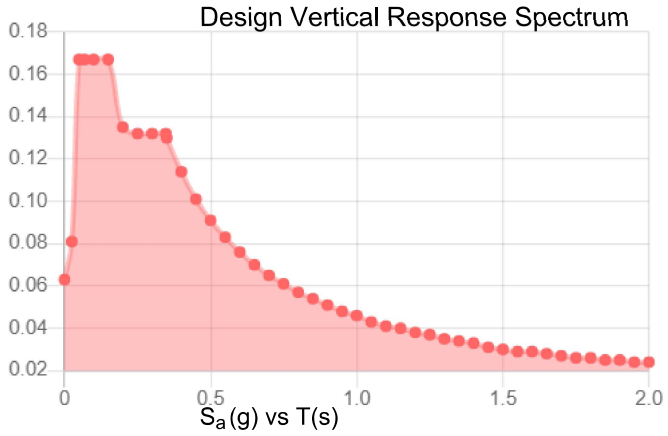
S_S :	0.247	S_{D1} :	0.091
S_1 :	0.057	T_L :	6
F_a :	1.6	PGA :	0.146
F_v :	2.4	PGA_M :	0.221
S_{MS} :	0.395	F_{PGA} :	1.507
S_{M1} :	0.137	I_e :	1
S_{DS} :	0.263	C_v :	0.793

Seismic Design Category B









Data Accessed: Wed Oct 27 2021

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:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Wed Oct 27 2021

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.

Exhibit E

Mount Analysis

Date: **January 24, 2022**

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

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**AT&T Mobility Equipment Change Out**	
	Carrier Site Number:	CTL02108
	Carrier Site Name:	NORWALK WEST
	Carrier FA Number:	10034974
Crown Castle Designation:	**Crown Castle BU Number:**	841287
	Crown Castle Site Name:	NORWALK WEST – CT AVE
	Crown Castle JDE Job Number:	649394
	Crown Castle Order Number:	556497 Rev. 1
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:**	1039-Z0001-B
Site Data:	**600 Connecticut Ave, Norwalk, Fairfield County, CT, 06850** **Latitude 41°05'49.45" Longitude -73°26'56.61"**	
Structure Information:	**Tower Height & Type:**	**150.0 ft Monopole**
	Mount Elevation:	**152.0 ft**
	Mount Type:	**14.5 ft Sector Frame**

Infinigy Engineering, PLLC is pleased to submit this **"Mount Replacement 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:

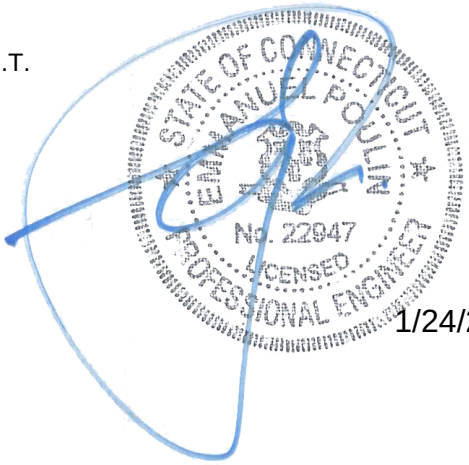
Sector Frame **Sufficient**

***See Section 4.1 of this report for the loading and structural modifications required in order for the mount to support the loading listed in Table 1.**

This analysis utilizes an ultimate 3-second gust wind speed of 117 mph as required by the 2018 International Building Code. 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:
Emmanuel Poulin, P.E.
518-690-0790
structural@infinigy.com
CT PE License No. 22947



1/24/22

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 3-sector 14.5 ft Sector Frame**,** designed by Commscope, Inc.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.247
Seismic S_1:	0.057
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
152.0	154.0	3	ERICSSON	AIR 6449 N77	14.5 ft Sector Frame (Commscope MCG22HDX14-12-H10)
	153.0	3	CCI ANTENNAS	DMP65R-BU4E	
		3	QUINTEL TECHNOLOGY	QD6616-7	
		3	ERICSSON	RRUS 32 B2	
		3	ERICSSON	RRUS 32 B30	
		3	ERICSSON	RRUS 32 B66	
		3	ERICSSON	RRUS 4449 B5/B12	
		2	RAYCAP	DC6-48-60-18-8F	
		1	RAYCAP	DC9-48-60-24-8C-EV	
	152.0	3	CCI	C-BAND ANTENNA E	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	AT&T Mobility Application	556497 Rev. 1	CCI Sites
Loading Document	AT&T Mobility	RFDS ID: 4705808	TSA
Mount Manufacturer Drawings	Commscope, Inc	MCG22HDX14-12-H10	Infinigy

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 V2.1.7, 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 A529 (GR 50)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A500 (GR B-46)
Connection Bolts	ASTM A307

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 (Sector Frame, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe(s)	MP2	152.0	32.3	Pass
	Horizontal(s)	HOR2		43.8	Pass
	Standoff(s)	SA4		20.4	Pass
	Bracing(s)	M14		53.6	Pass
	Mount Connection(s)	--		41.4	Pass

Structure Rating (max from all components) =	53.6%

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

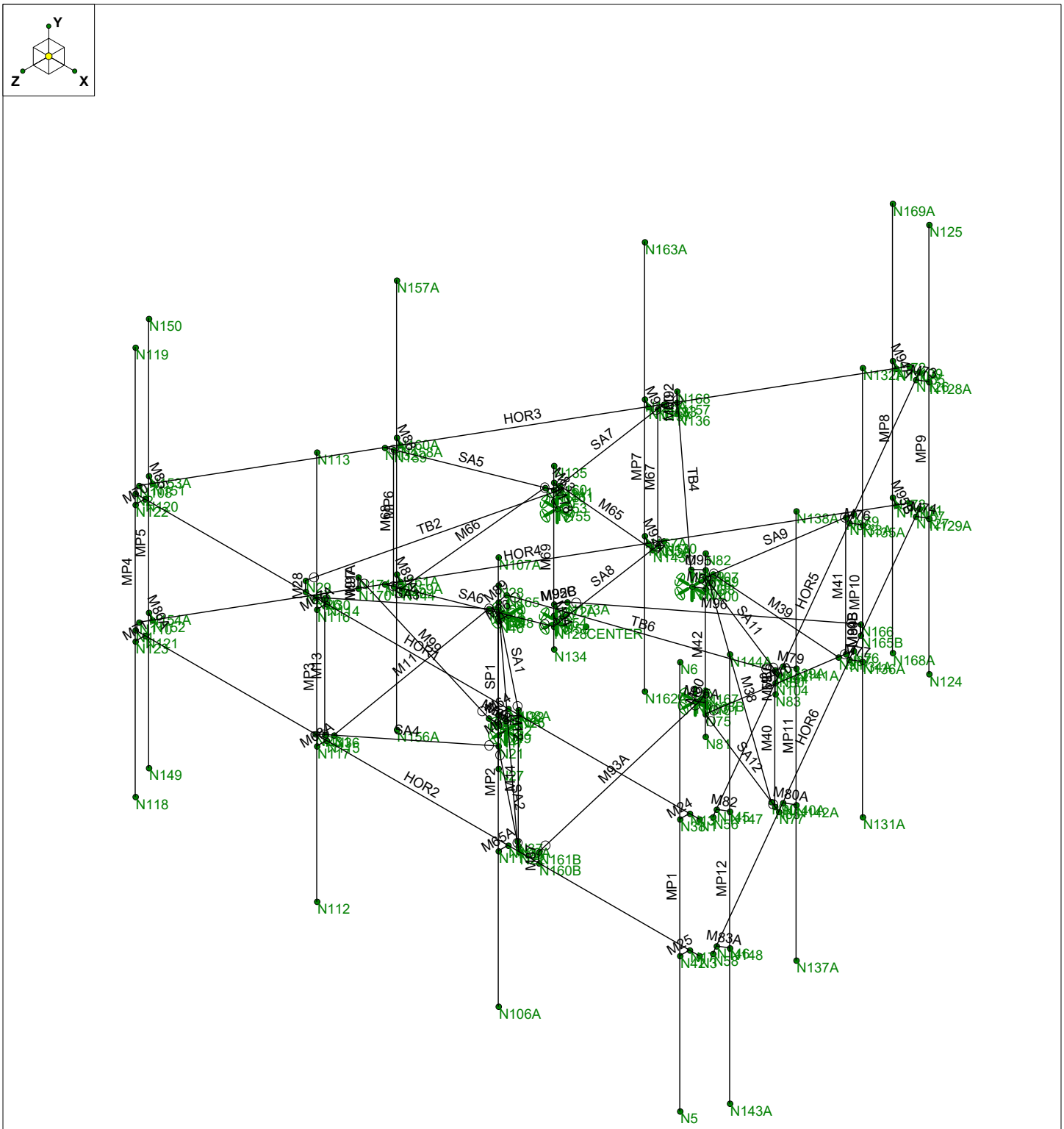
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

1. Installation of (1) Commscope, Inc MCG22HDX14-12-H10 Sector Frame per sector

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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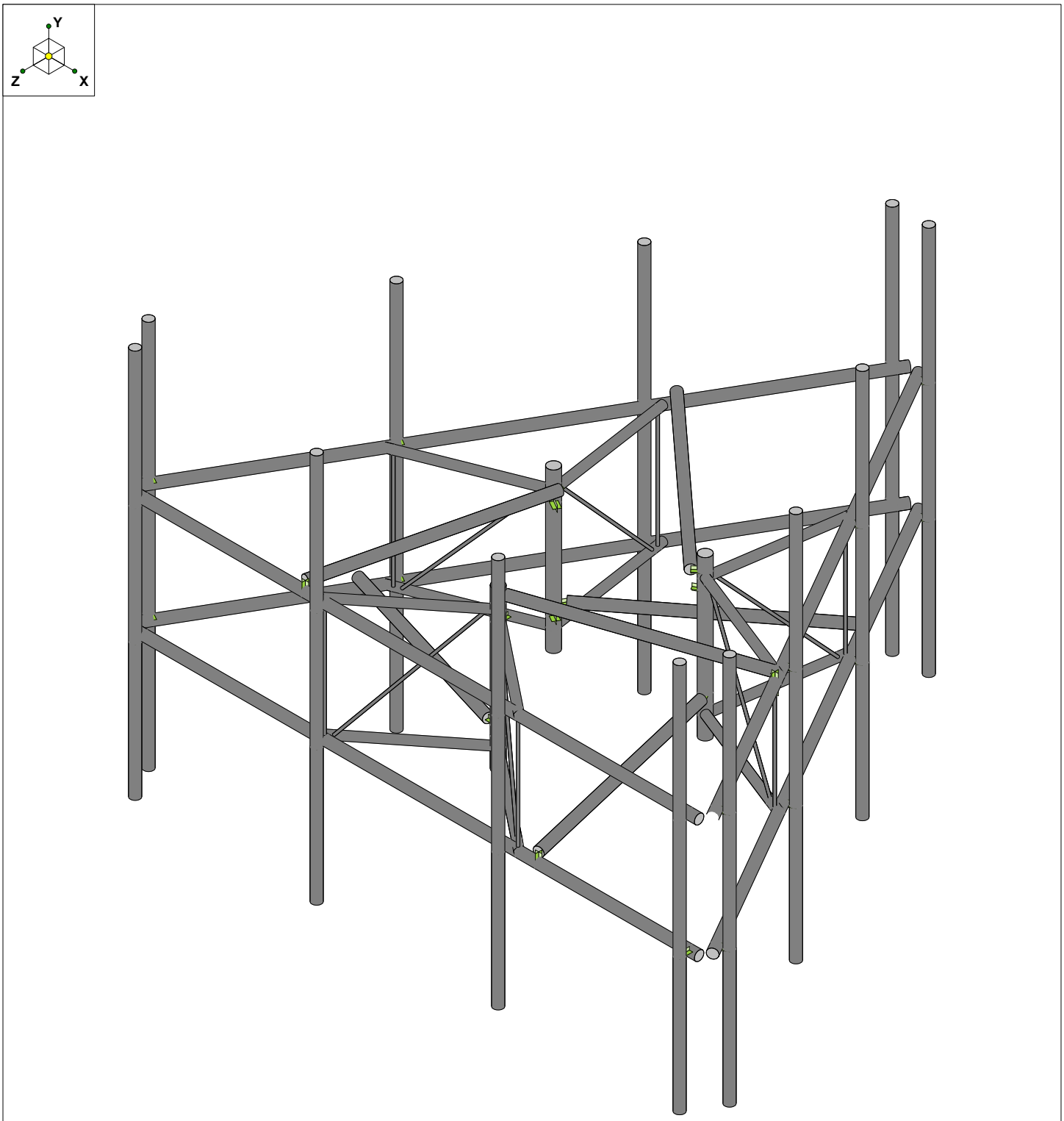

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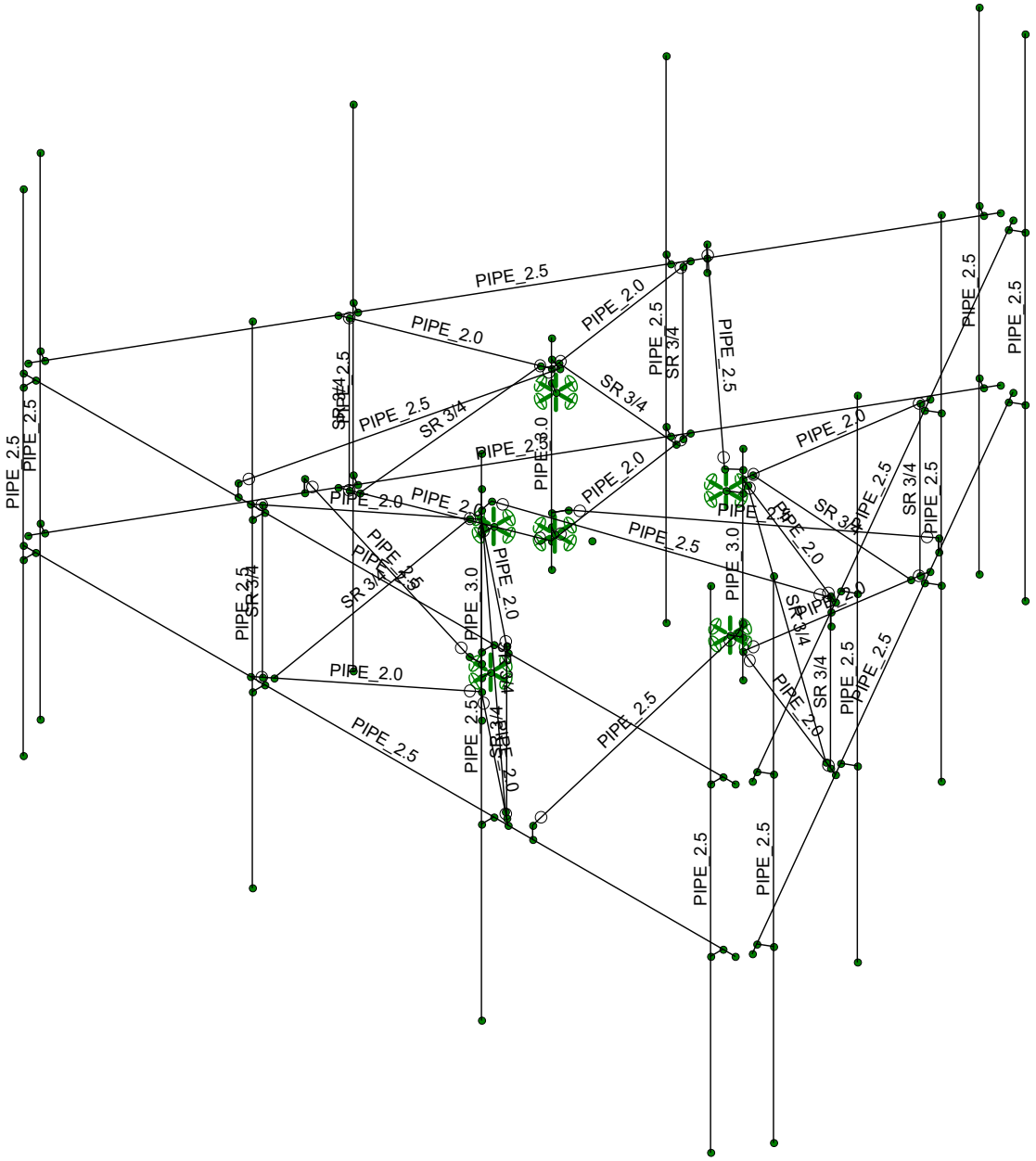

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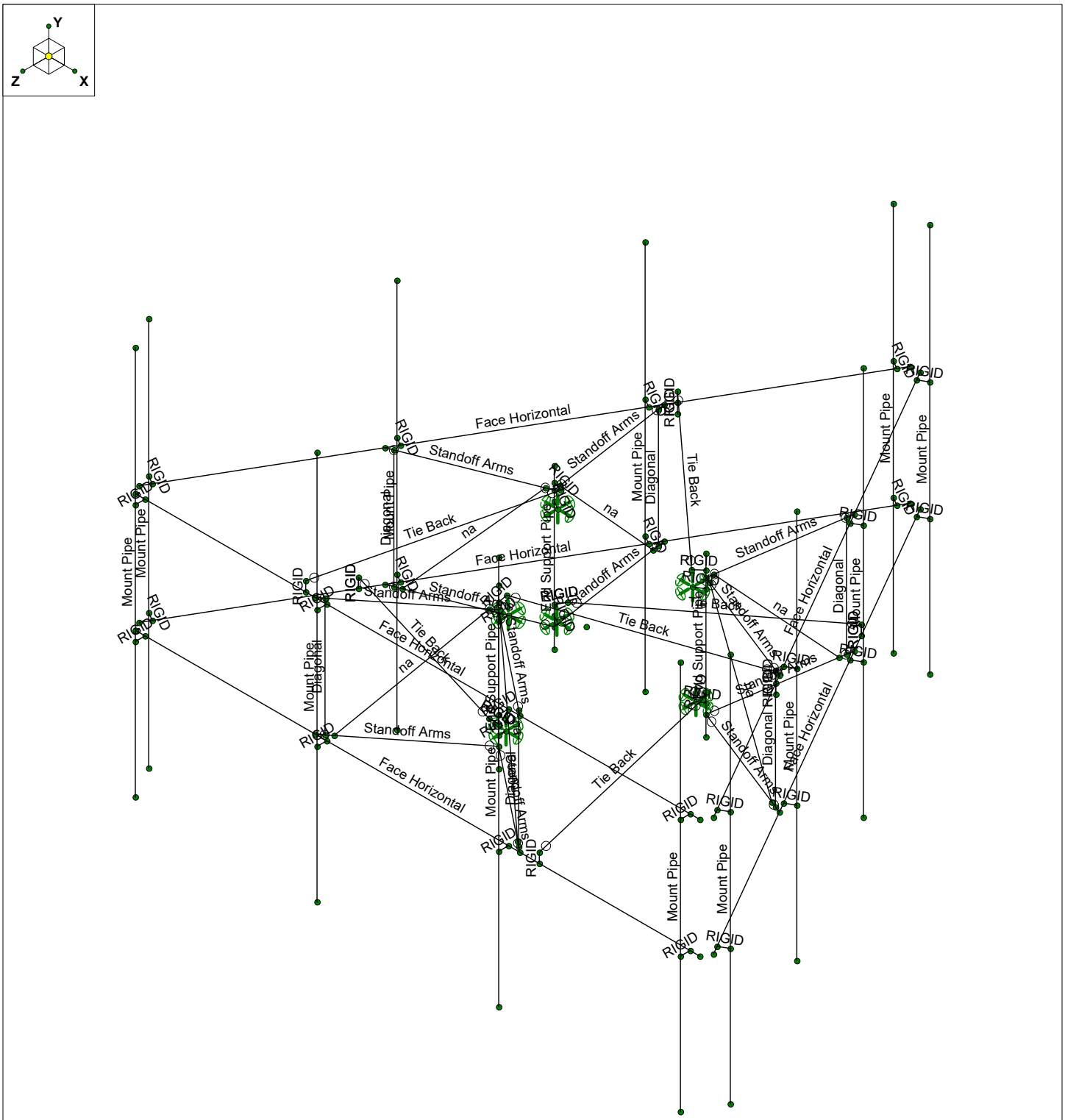

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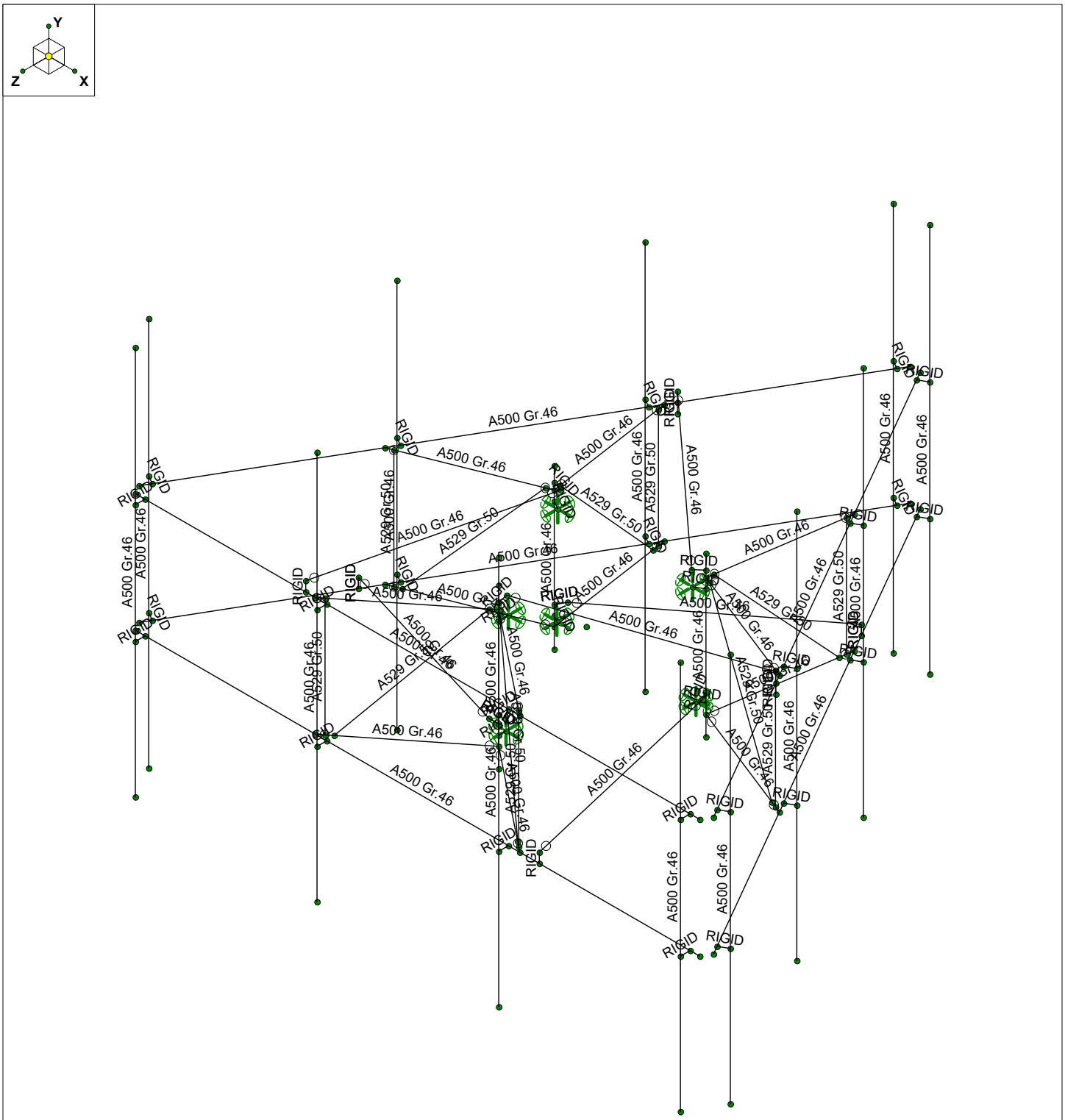

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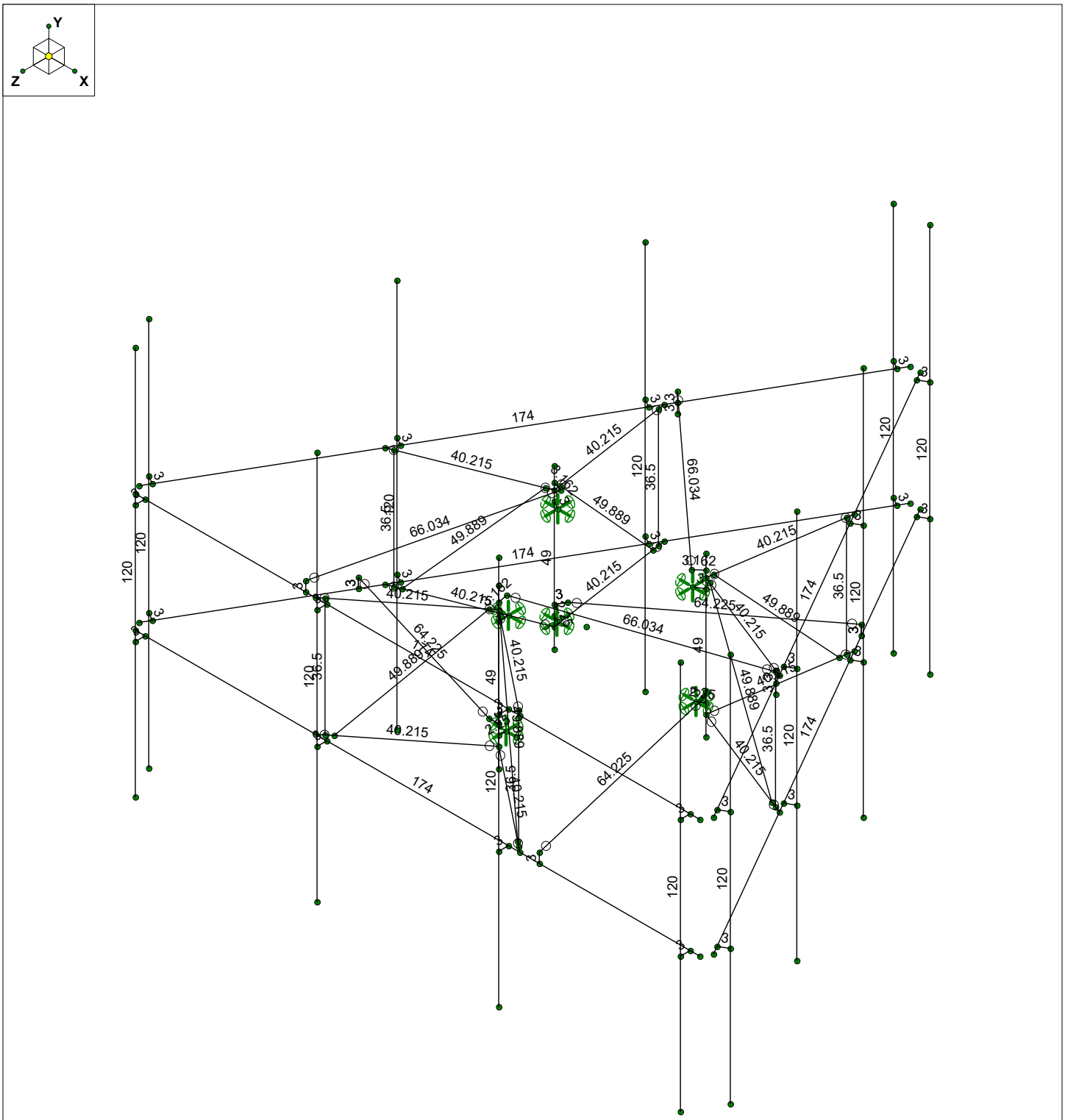

Member Length (in) Displayed

Infinigy Engineering	841287	Length
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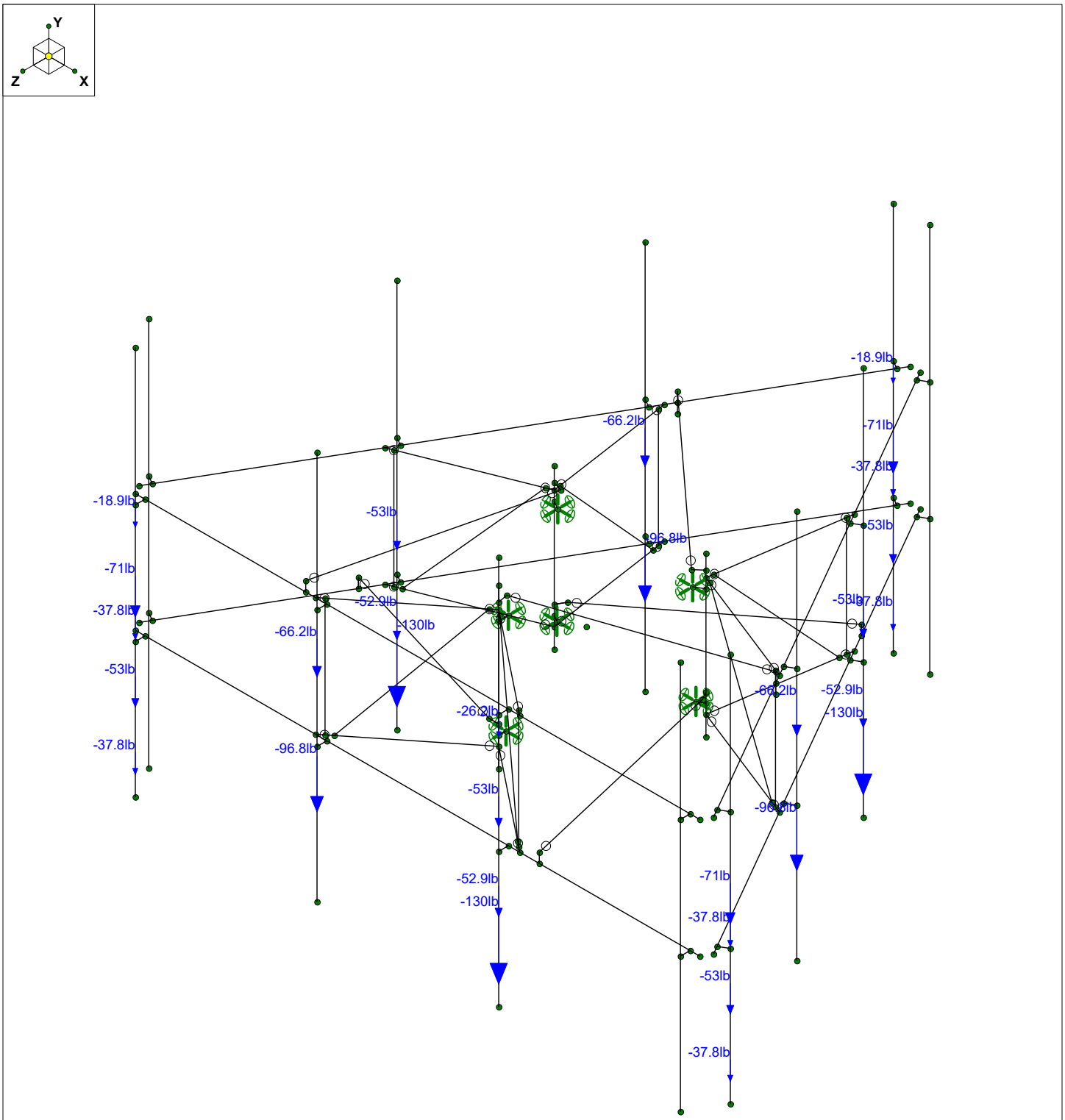

Loads: BLC 1, Self Weight

Infinigy Engineering	841287	Self Weight
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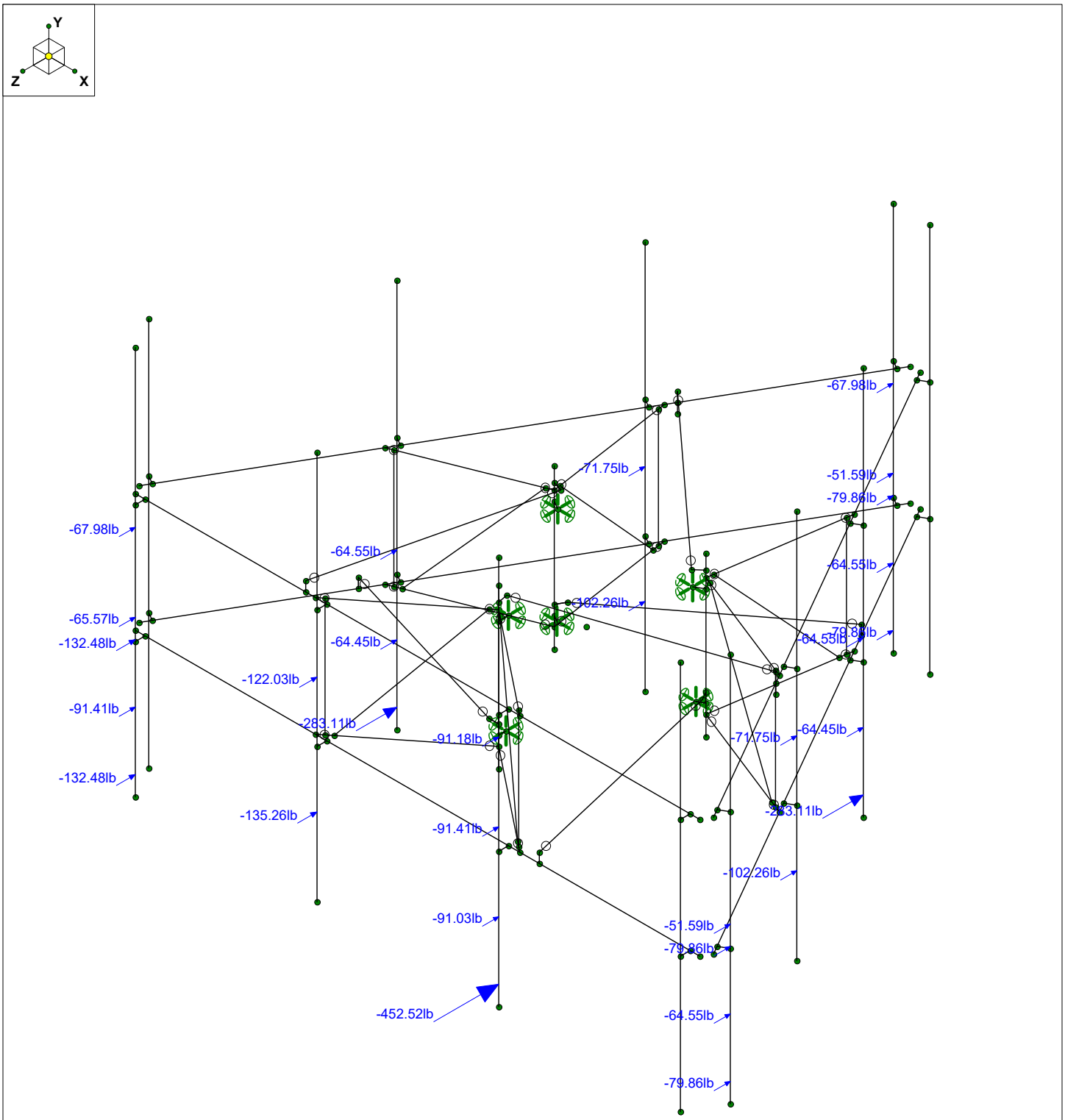

Loads: BLC 2, Wind Load AZI 0

Infinigy Engineering	841287	Wind Loading 0
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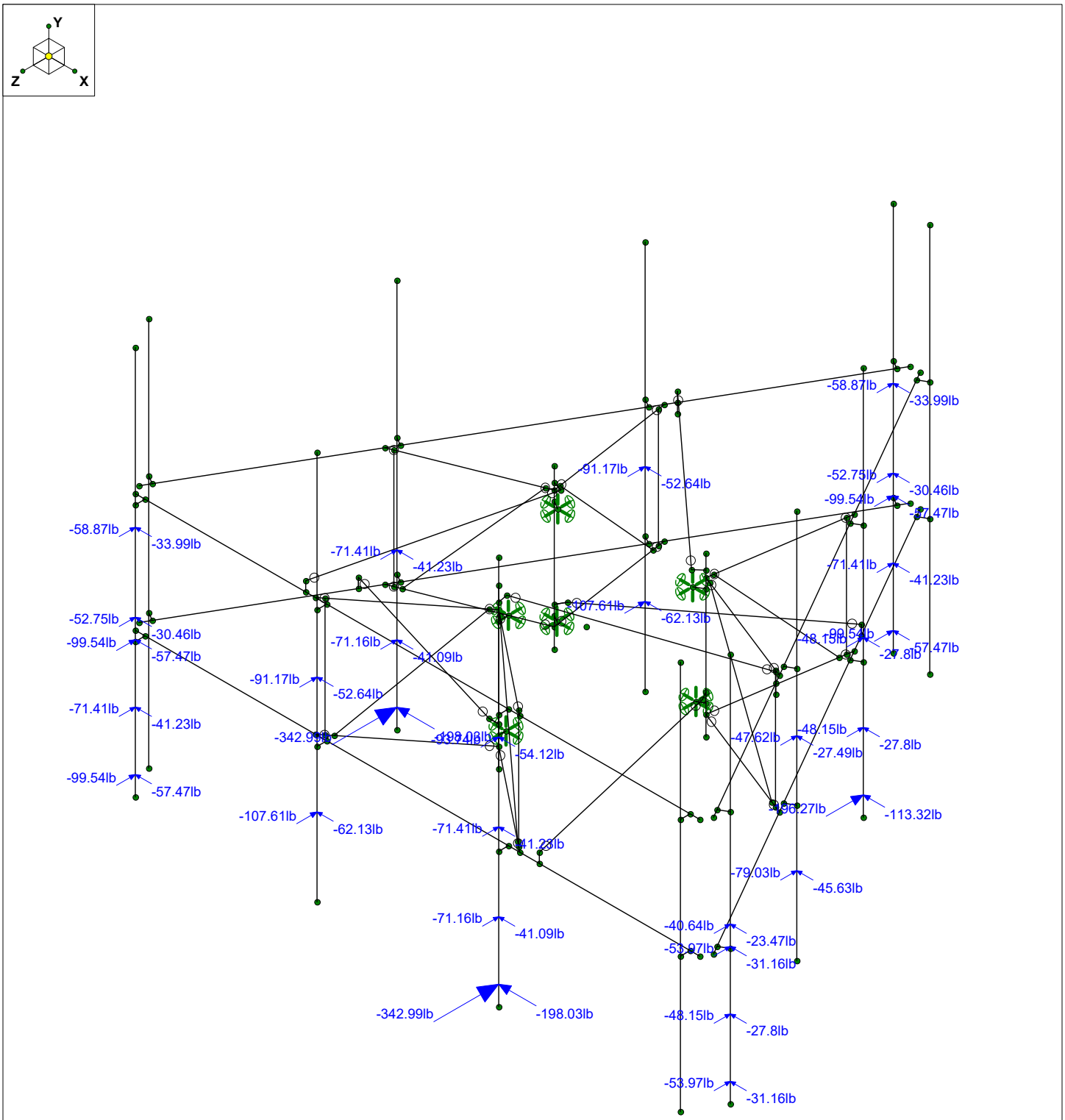

Loads: BLC 3, Wind Load AZI 30

Infinigy Engineering	841287	Wind Loading 30
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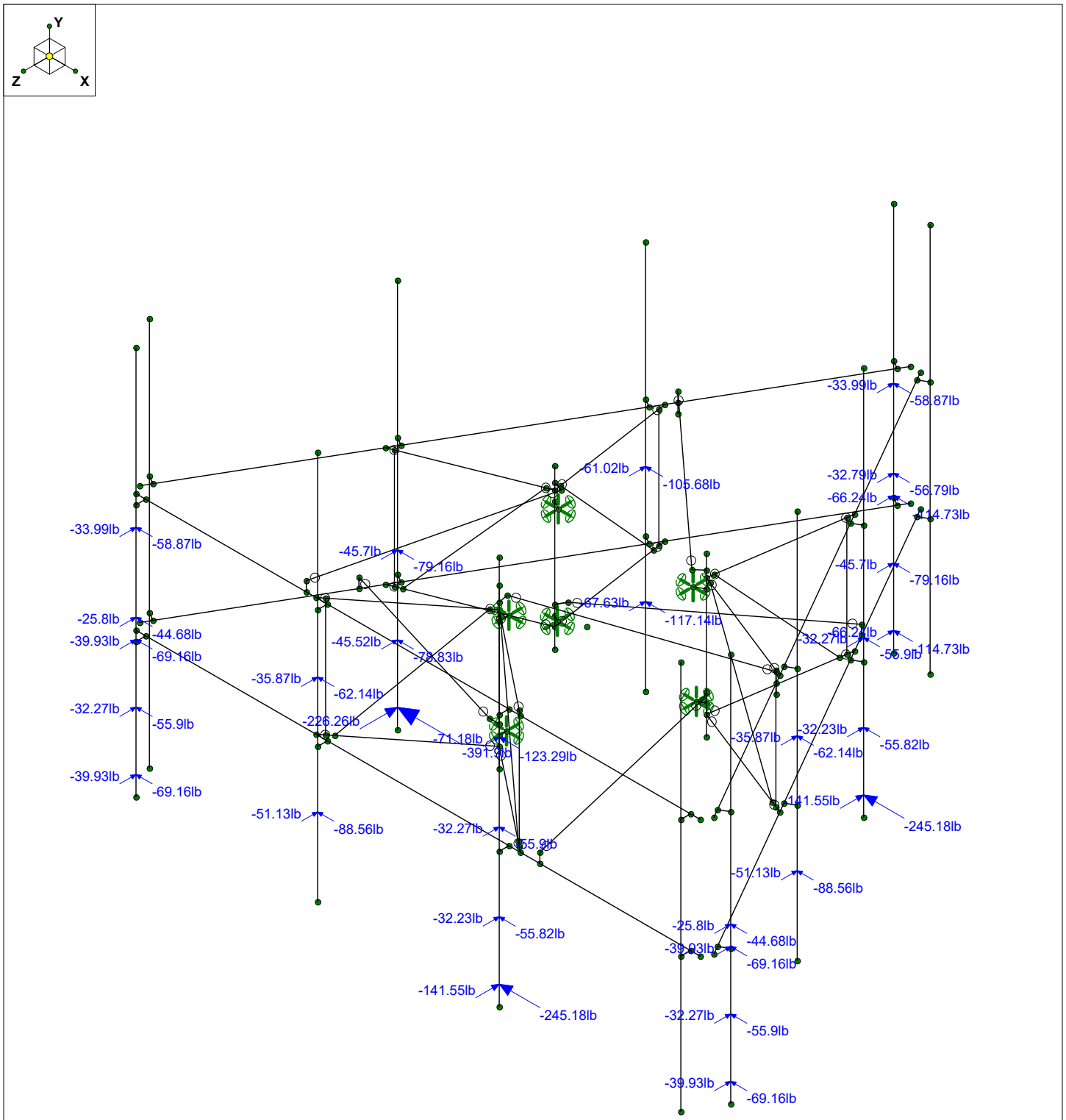

Loads: BLC 4, Wind Load AZI 60

Infinigy Engineering	841287	Wind Loading 60
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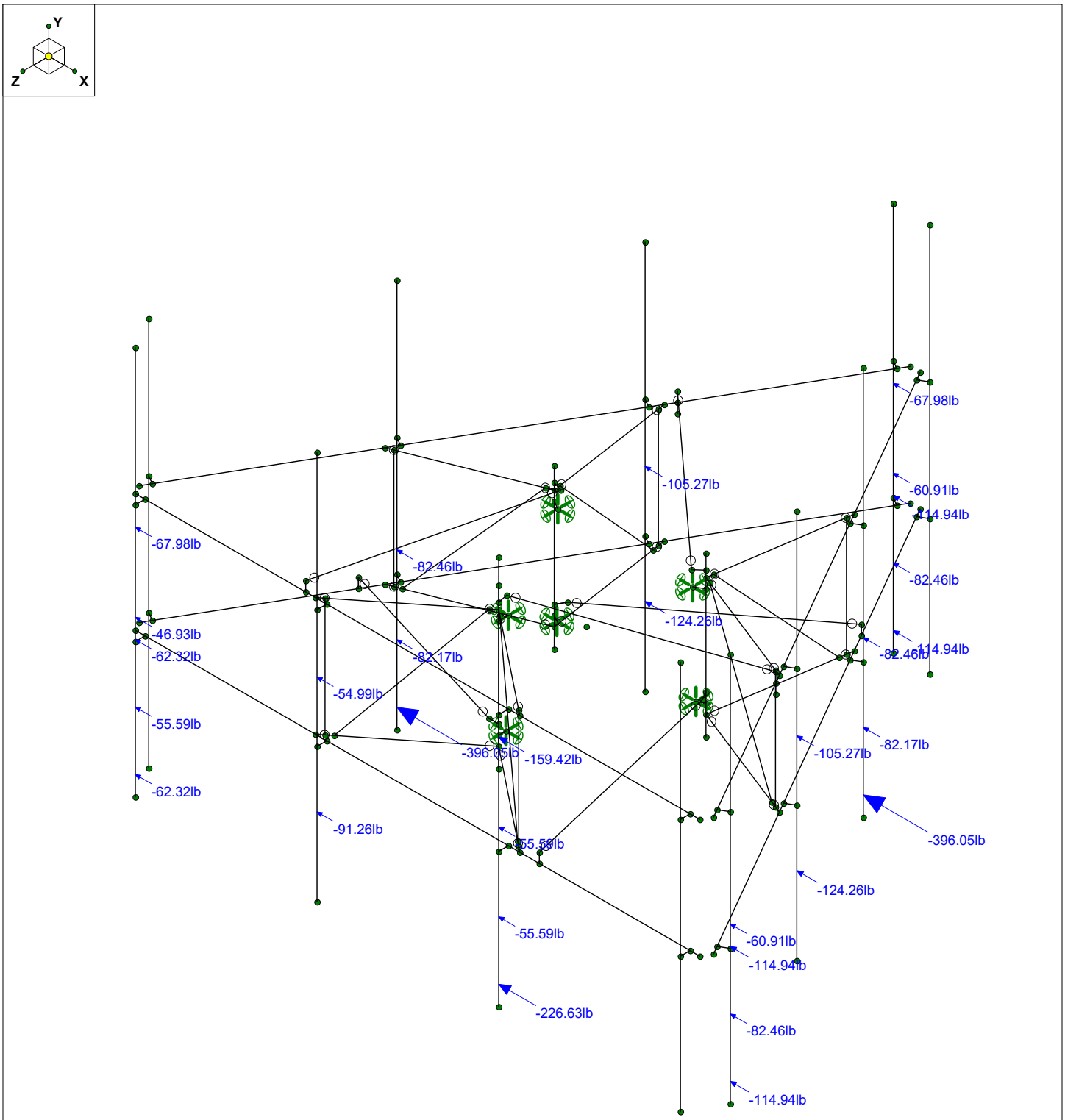

Loads: BLC 5, Wind Load AZI 90

Infinigy Engineering	841287	Wind Loading 90
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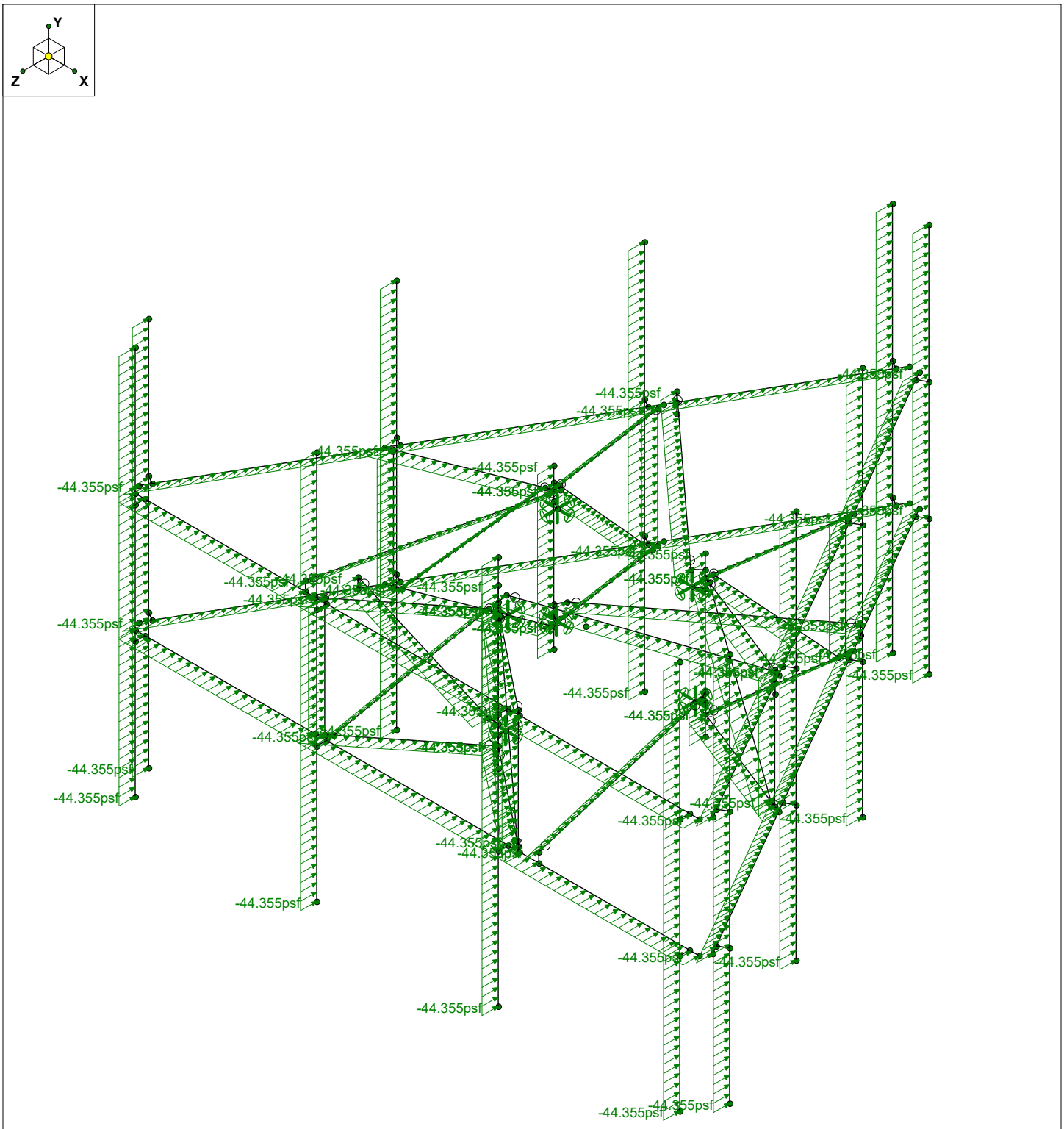

Loads: BLC 14, Distr. Wind Load Z

Infinigy Engineering	841287	Dist. Wind Loading 0
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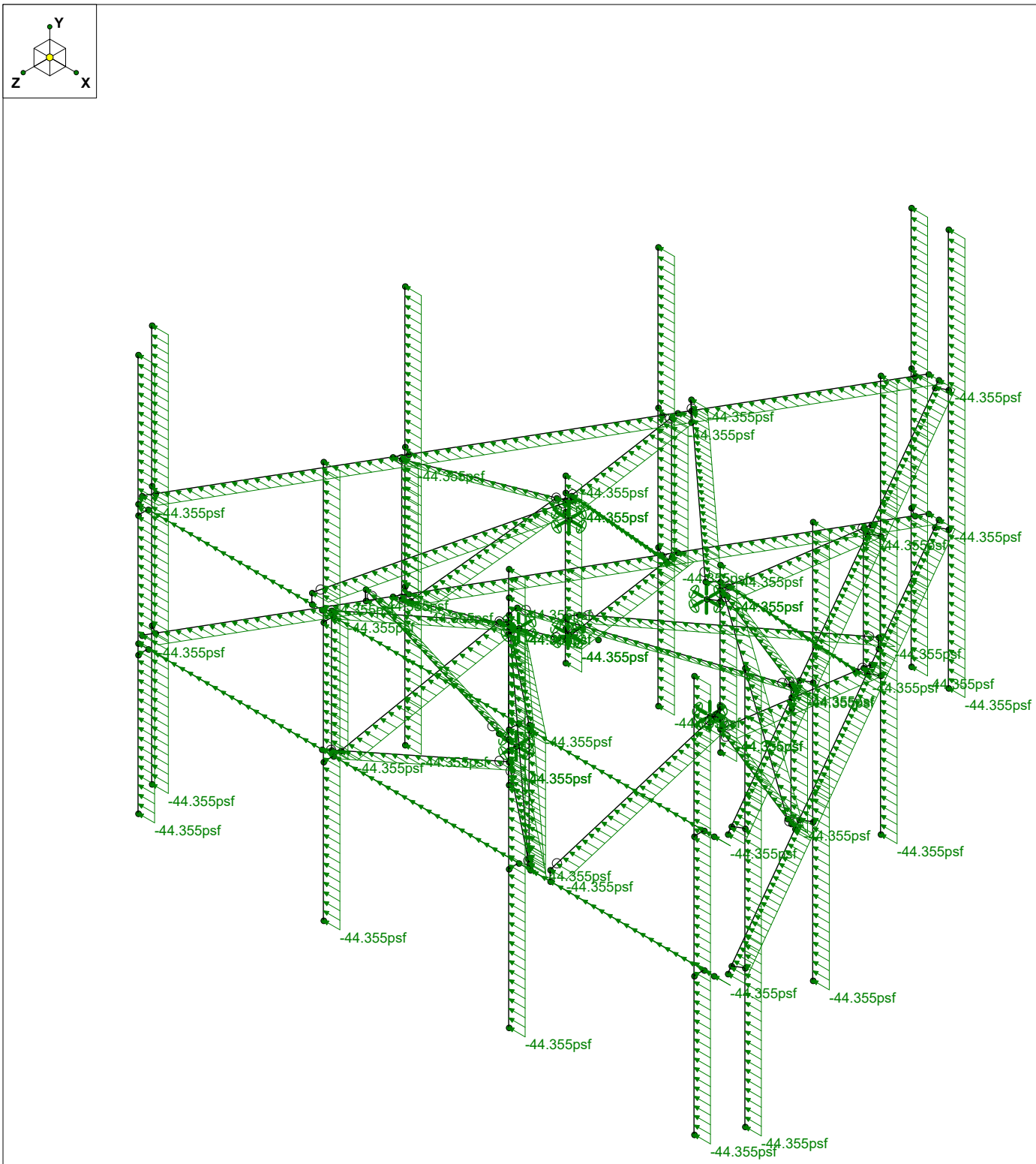

Loads: BLC 15, Distr. Wind Load X

Infinigy Engineering	841287	Dist. Wind Loading 90
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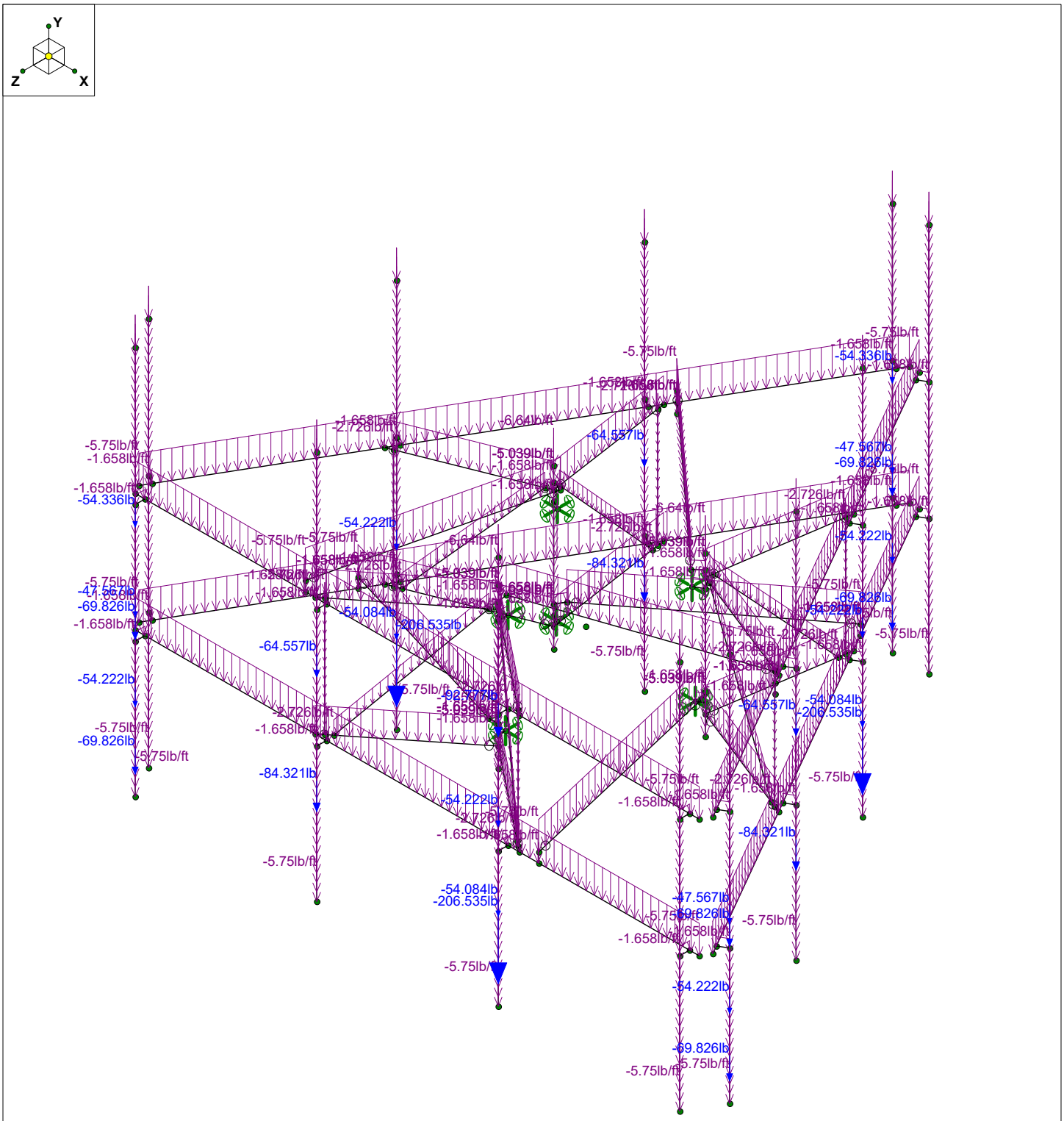
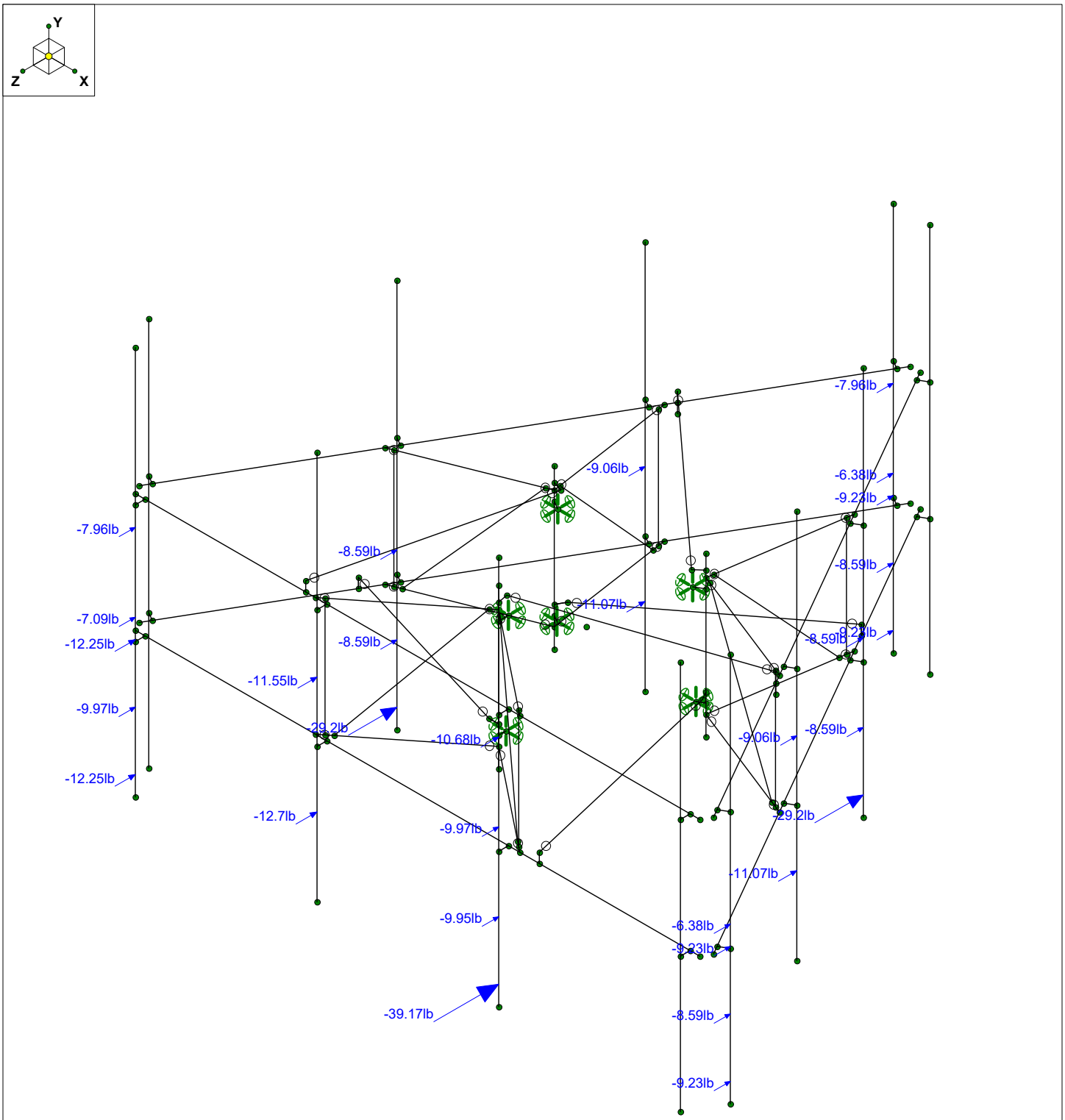


Loads: BLC 16, Ice Weight

Infinigy Engineering	841287	Ice Weight
AM		Jan 24, 2022 at 1:26 PM
1039-Z0001-B		841287_loaded.r3d



Loads: BLC 17, Ice Wind Load AZI 0

Infinigy Engineering	841287	Ice Wind Loading 0
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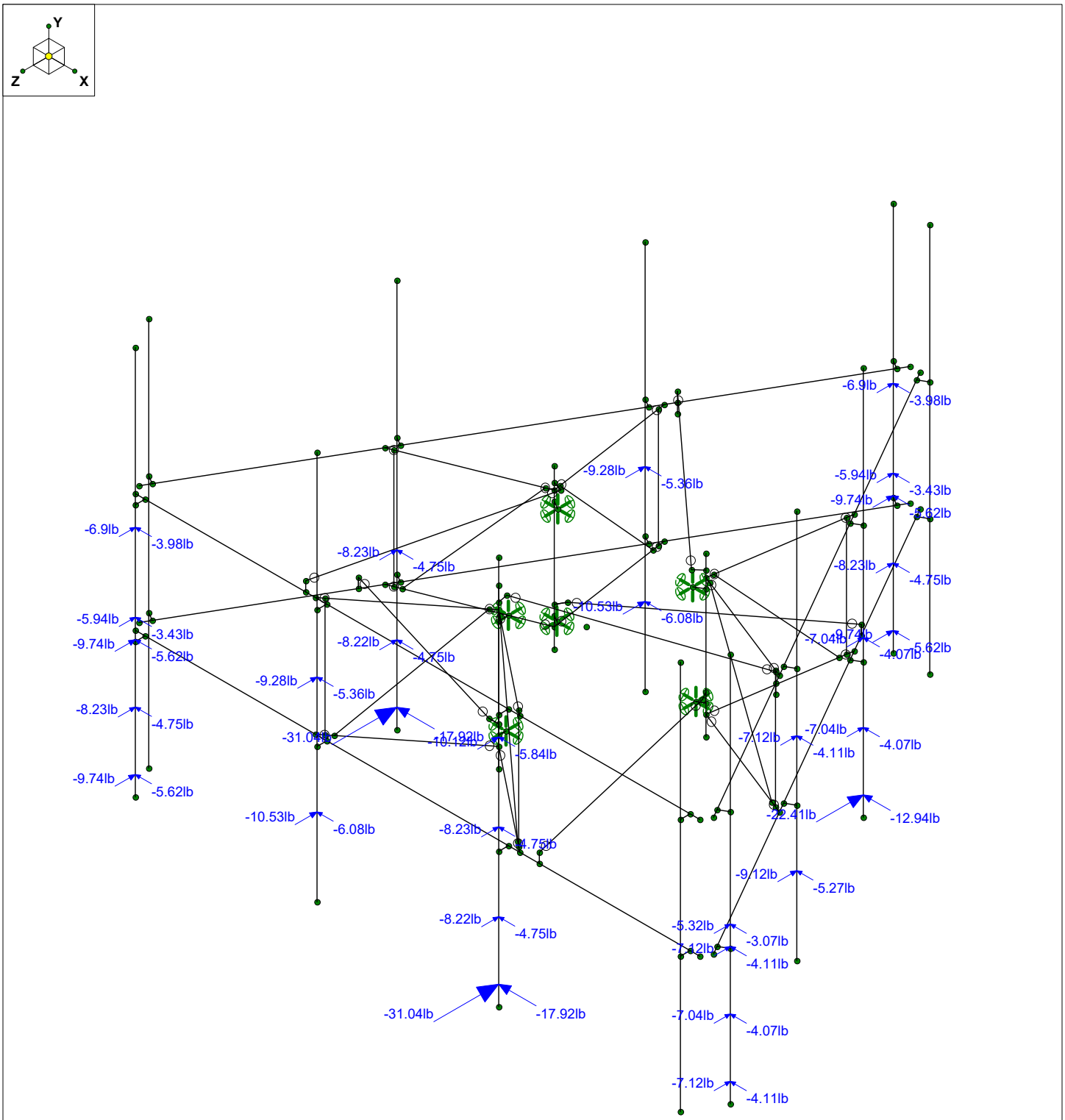

Loads: BLC 18, Ice Wind Load AZI 30

Infinigy Engineering	841287	Ice Wind Loading 30
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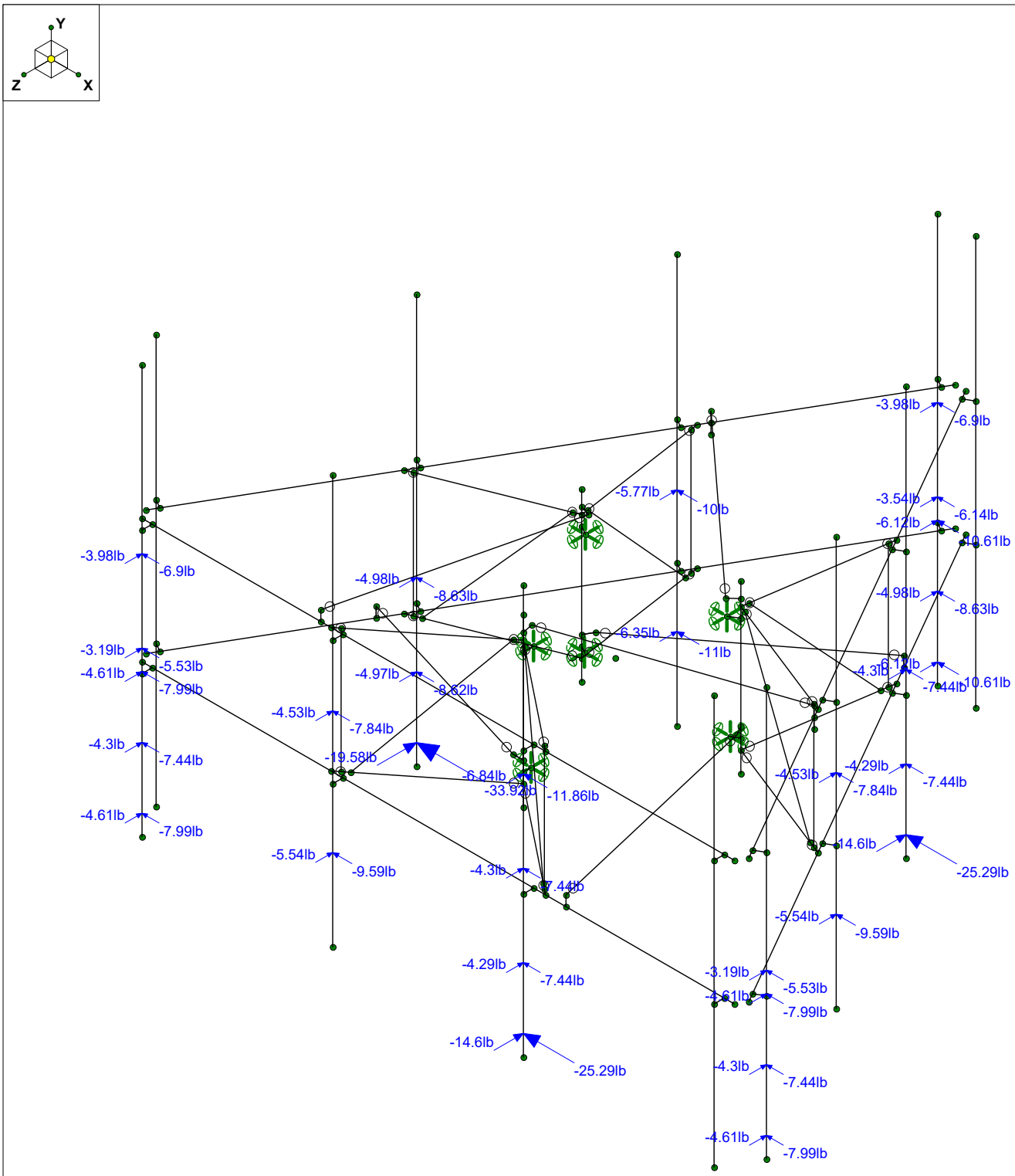

Loads: BLC 19, Ice Wind Load AZI 60

Infinigy Engineering	841287	Ice Wind Loading 60
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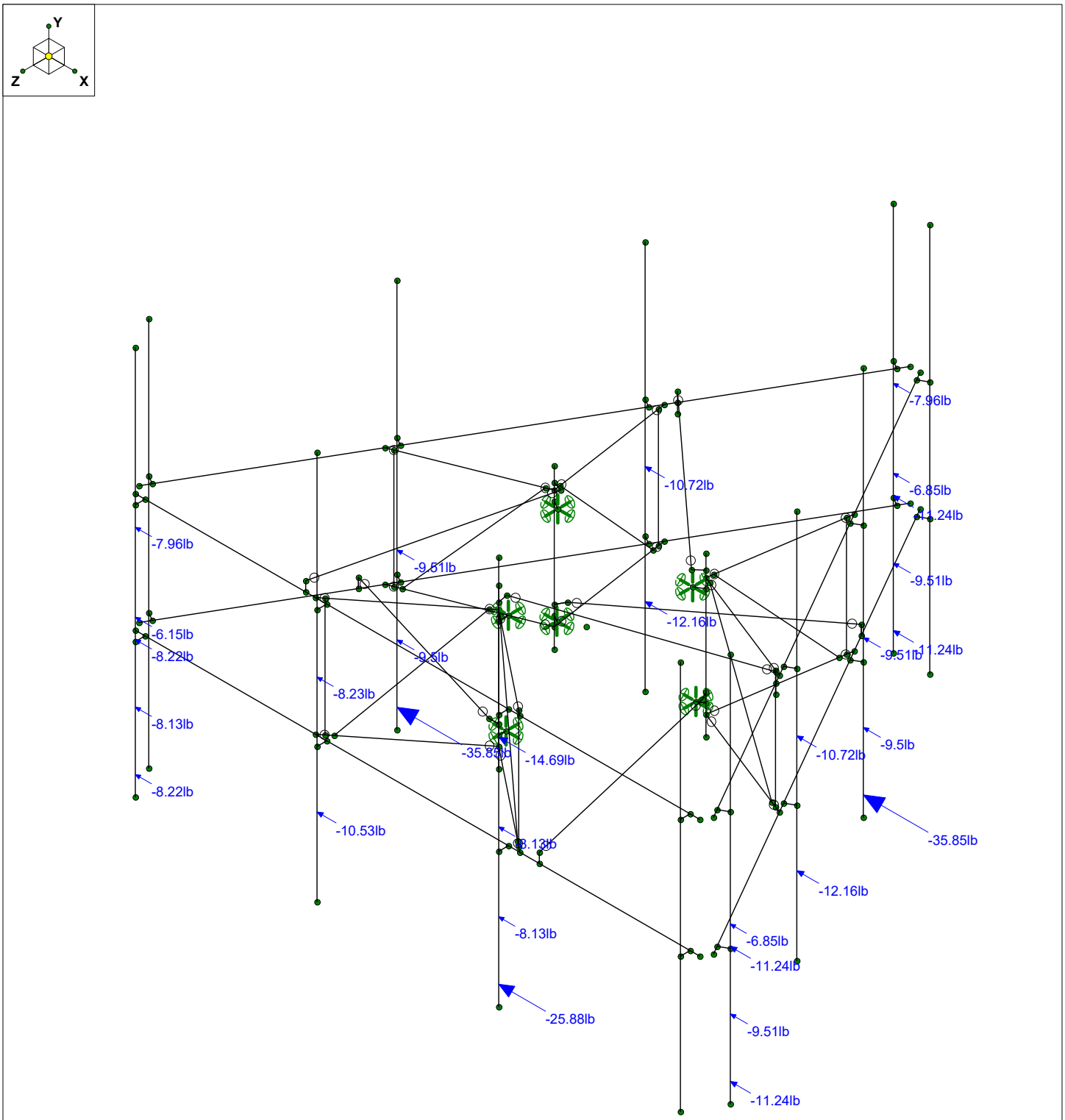

Loads: BLC 20, Ice Wind Load AZI 90

Infinigy Engineering	841287	Ice Wind Loading 90
AM		Jan 24, 2022 at 1:27 PM
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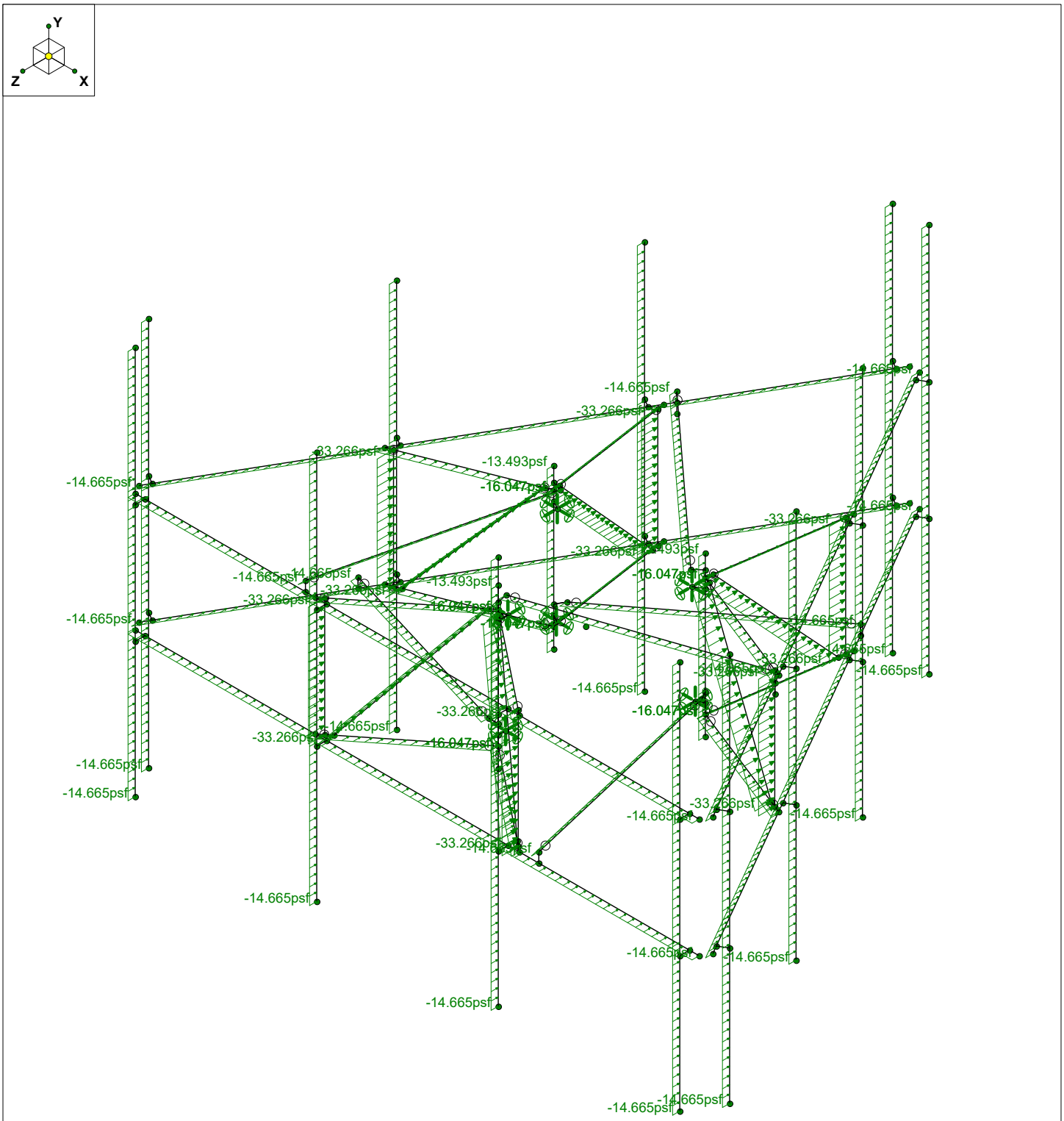

Loads: BLC 29, Distr. Ice Wind Load Z

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AM		Jan 24, 2022 at 1:27 PM
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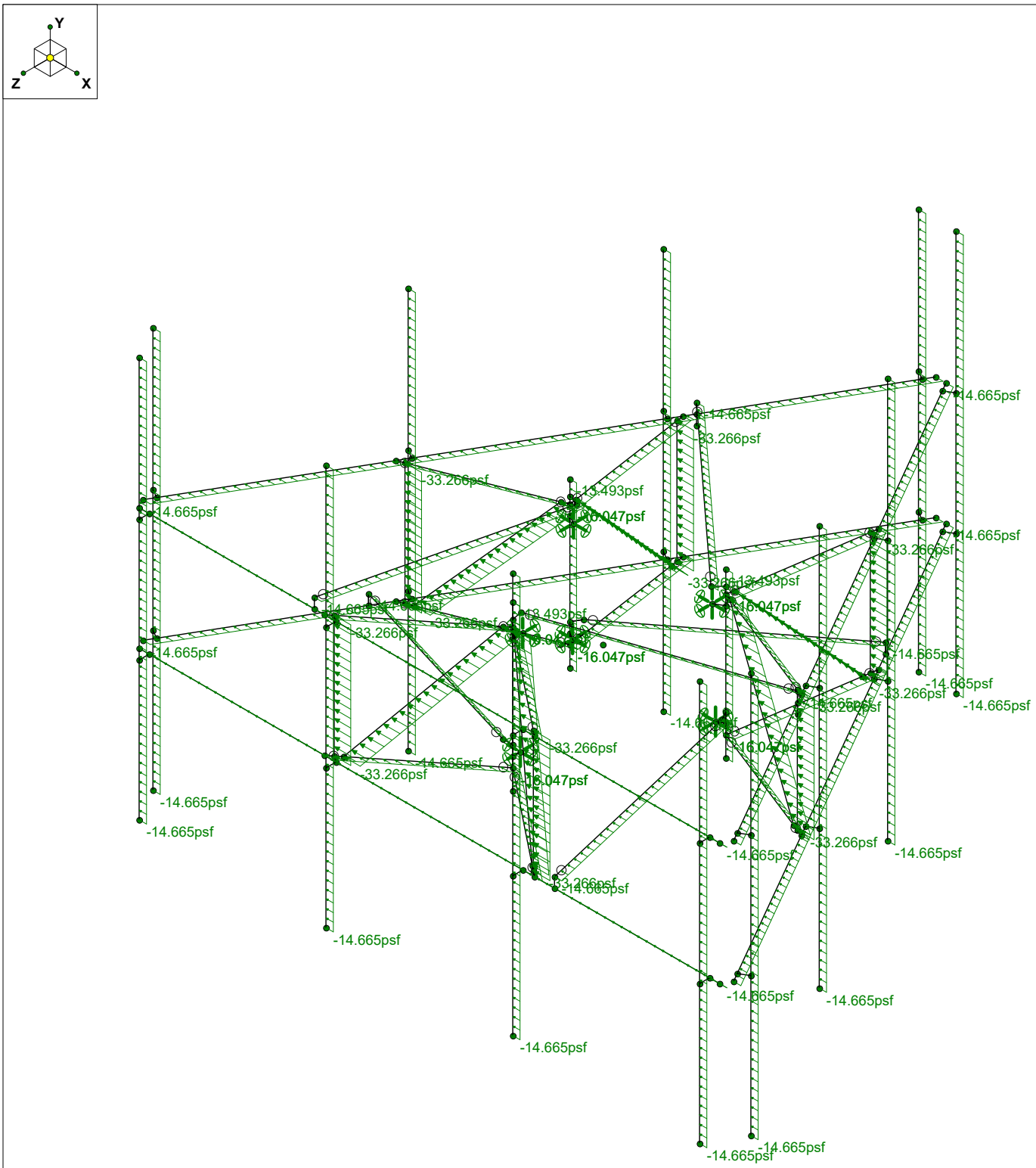

Loads: BLC 30, Distr. Ice Wind Load X

Infinigy Engineering	841287	Dist. Ice Wind Loading 90
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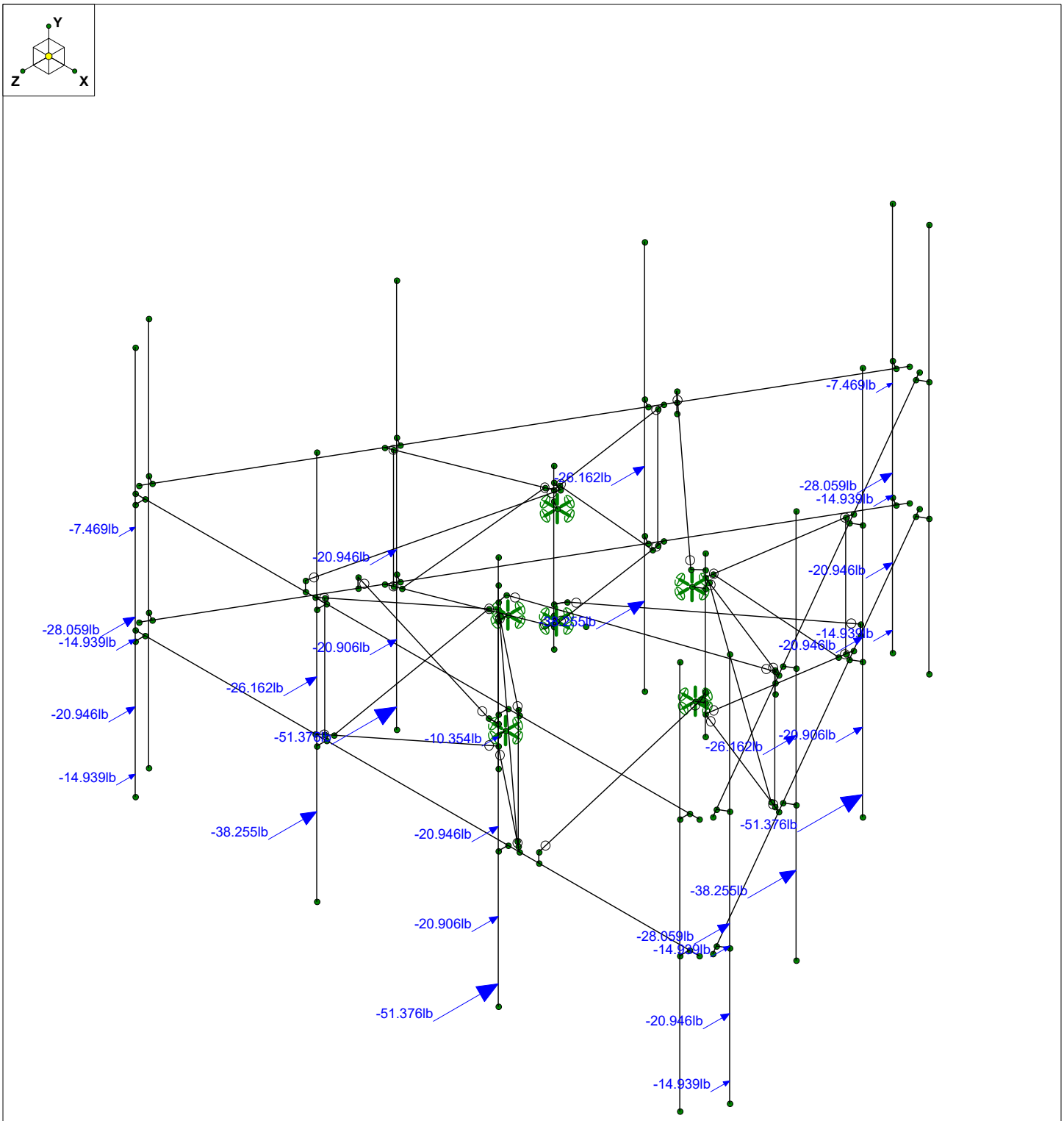

Loads: BLC 31, Seismic Load Z

Infinigy Engineering	841287	Seismic Loading 0
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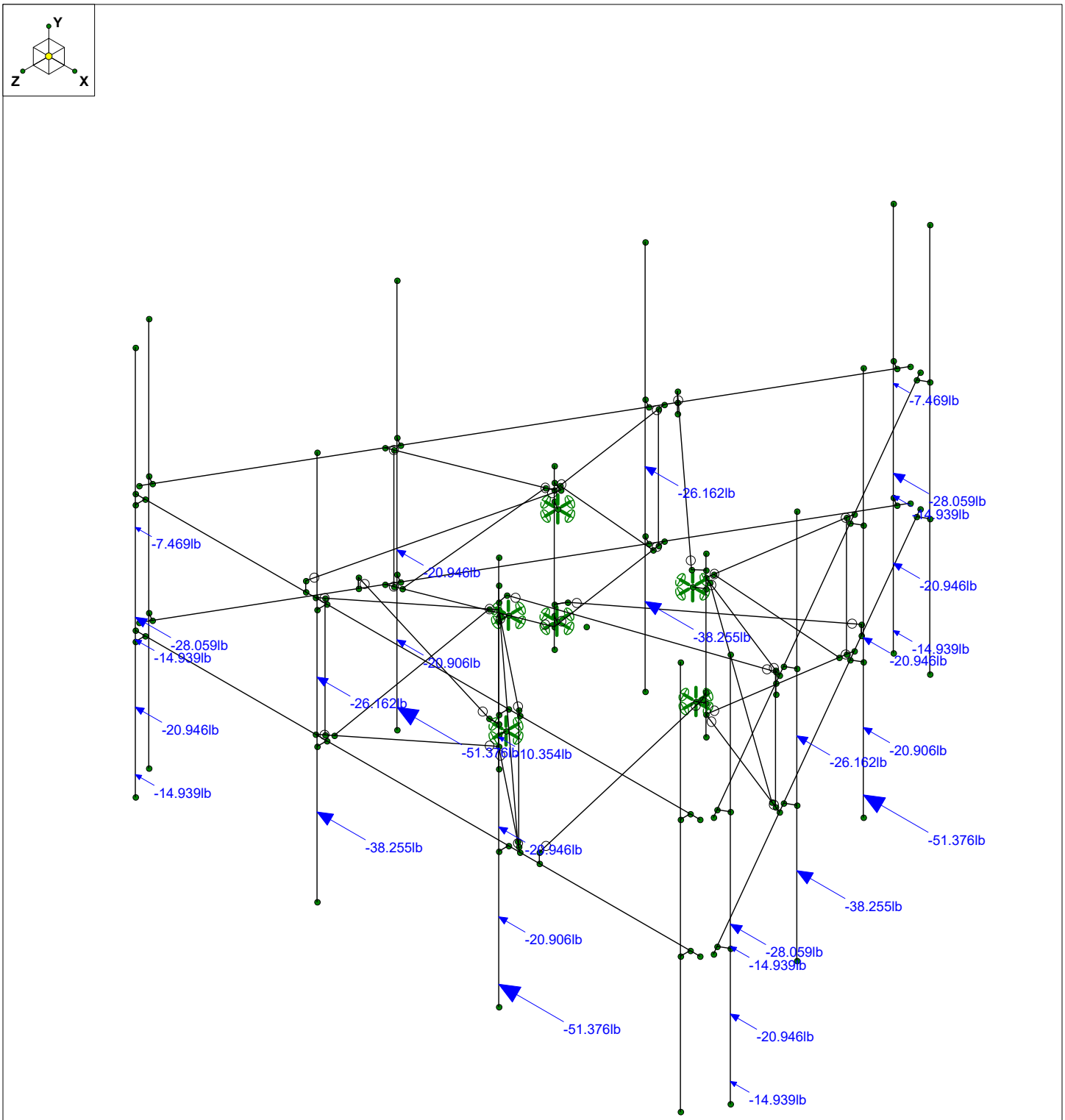

Loads: BLC 32, Seismic Load X

Infinigy Engineering	841287	Seismic Loading 90
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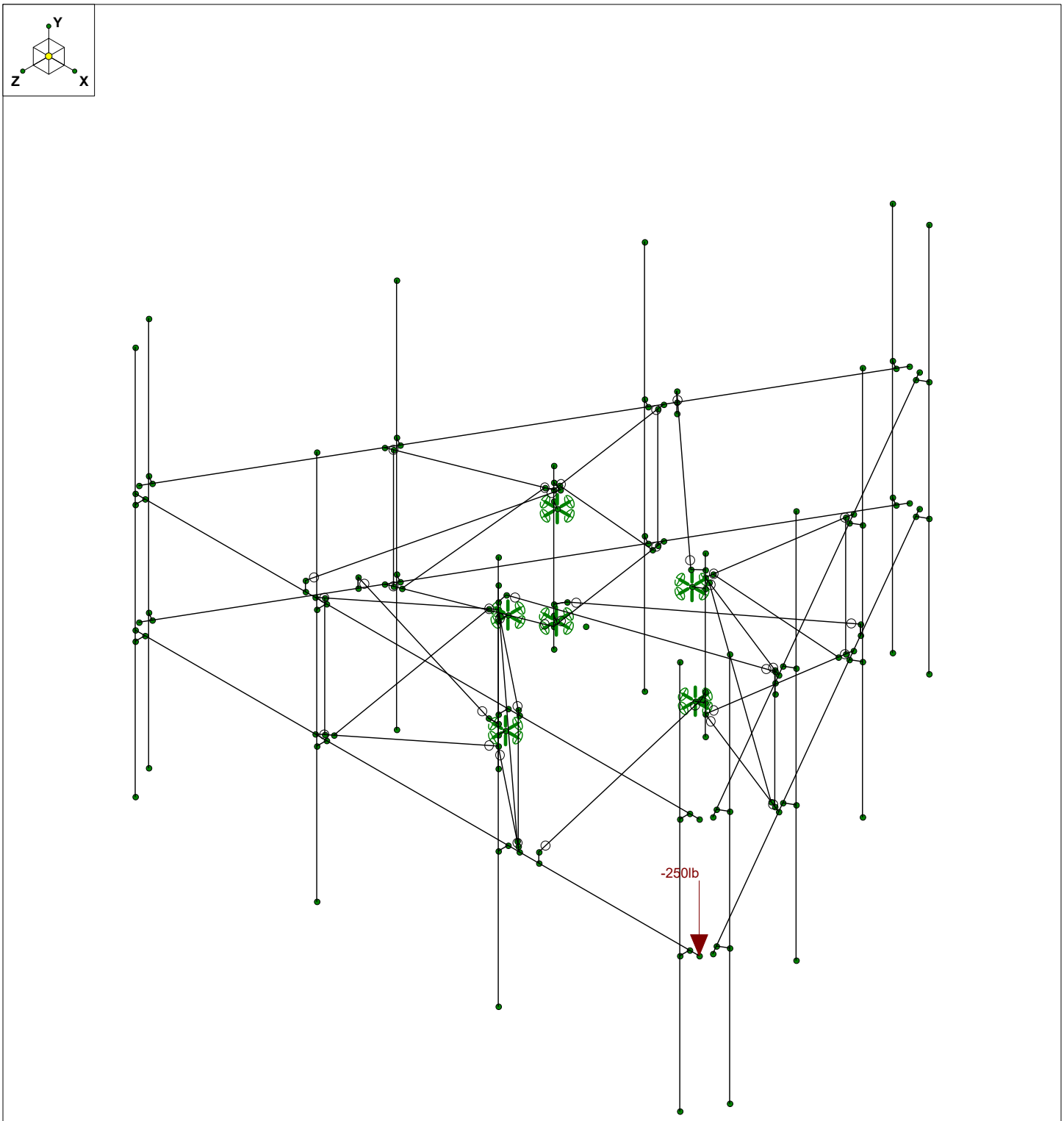
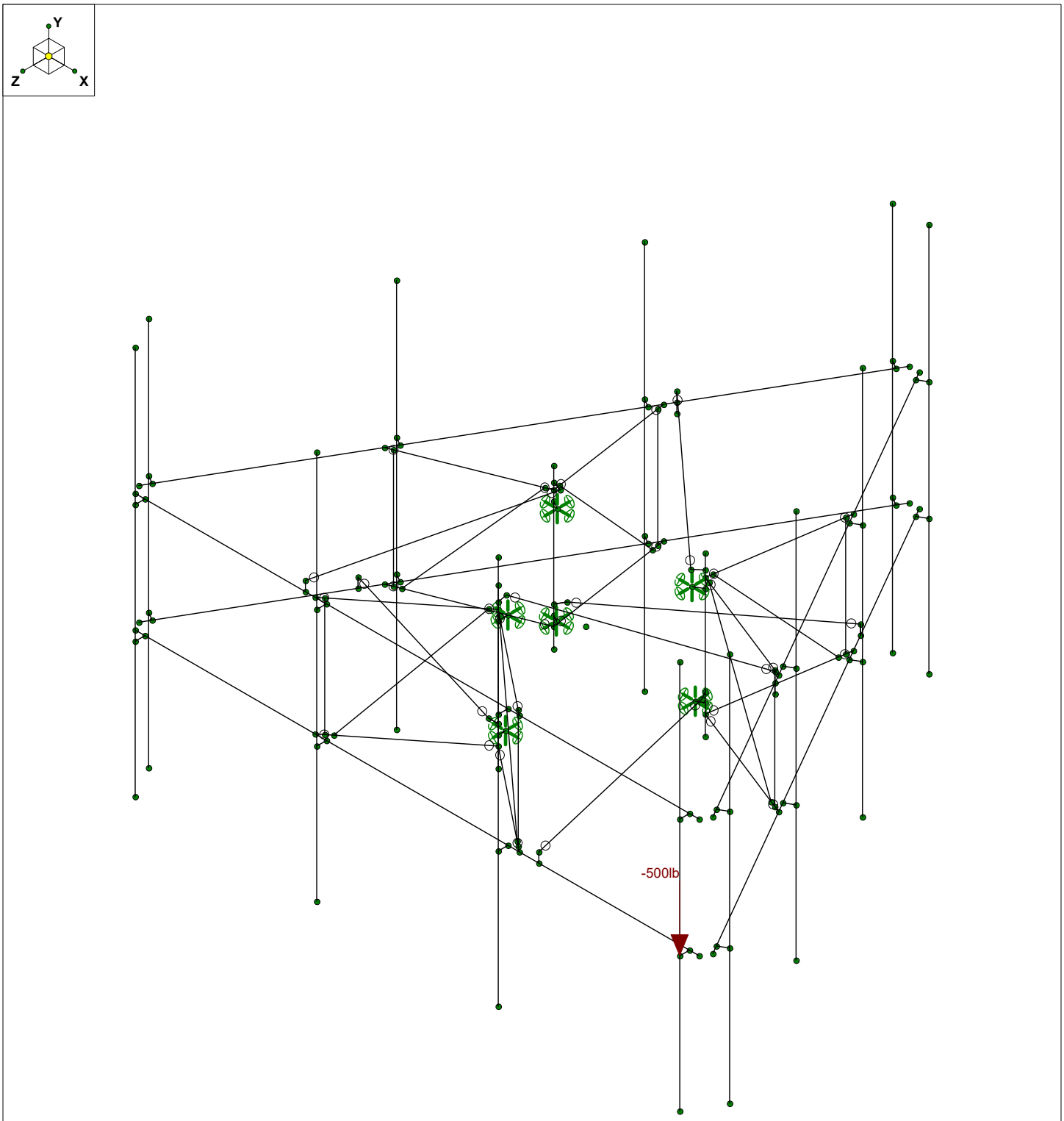


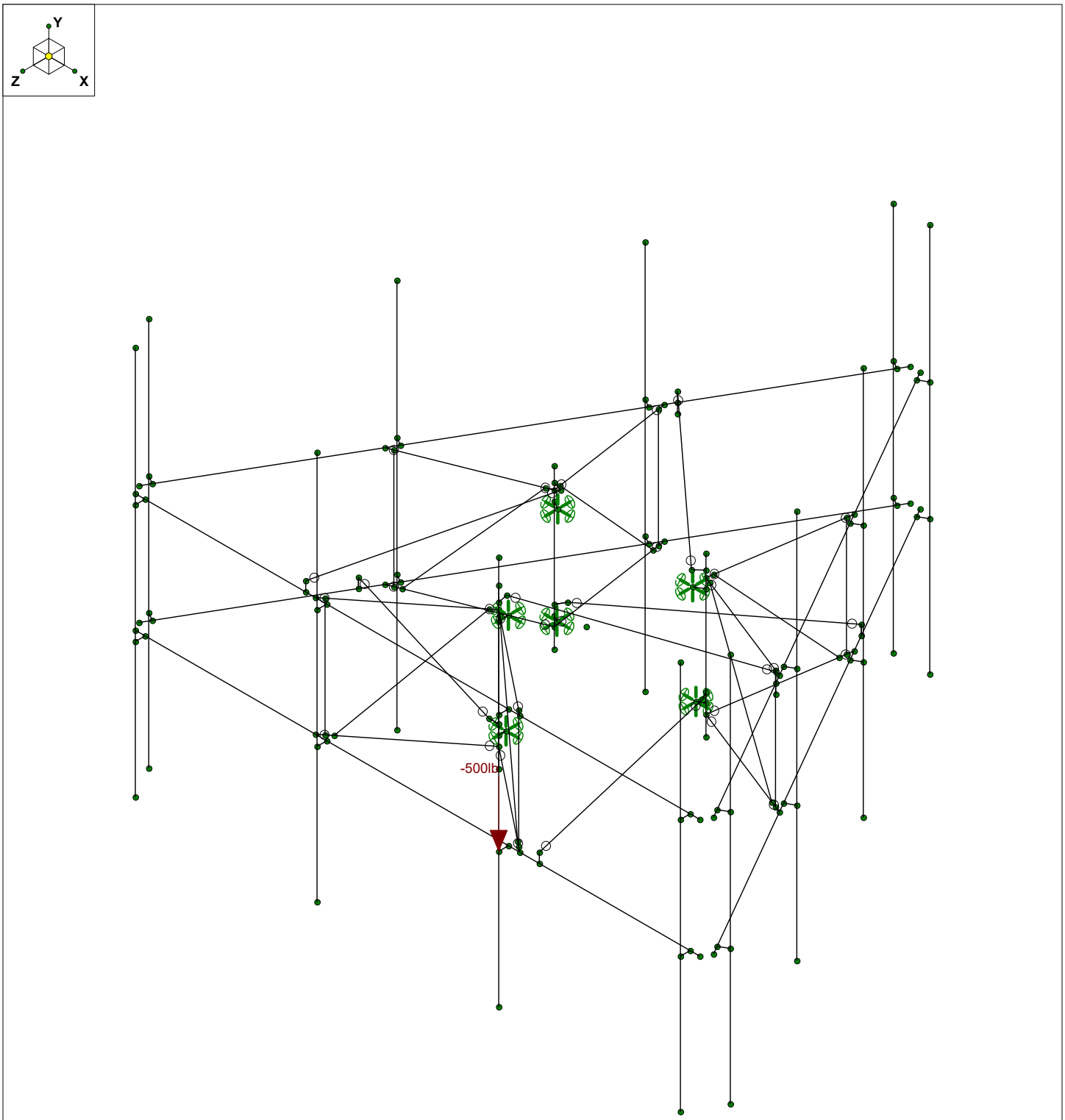
Loads: BLC 33, Service Live Loads

Infinigy Engineering	841287	Service
AM		Jan 24, 2022 at 1:27 PM
1039-Z0001-B		841287_loaded.r3d



Loads: BLC 34, Maintenance Load 1

Infinigy Engineering	841287	Maintenance Load 1
AM		Jan 24, 2022 at 1:27 PM
1039-Z0001-B		841287_loaded.r3d



Loads: BLC 35, Maintenance Load 2

Infinigy Engineering	841287	Maintenance Load 2
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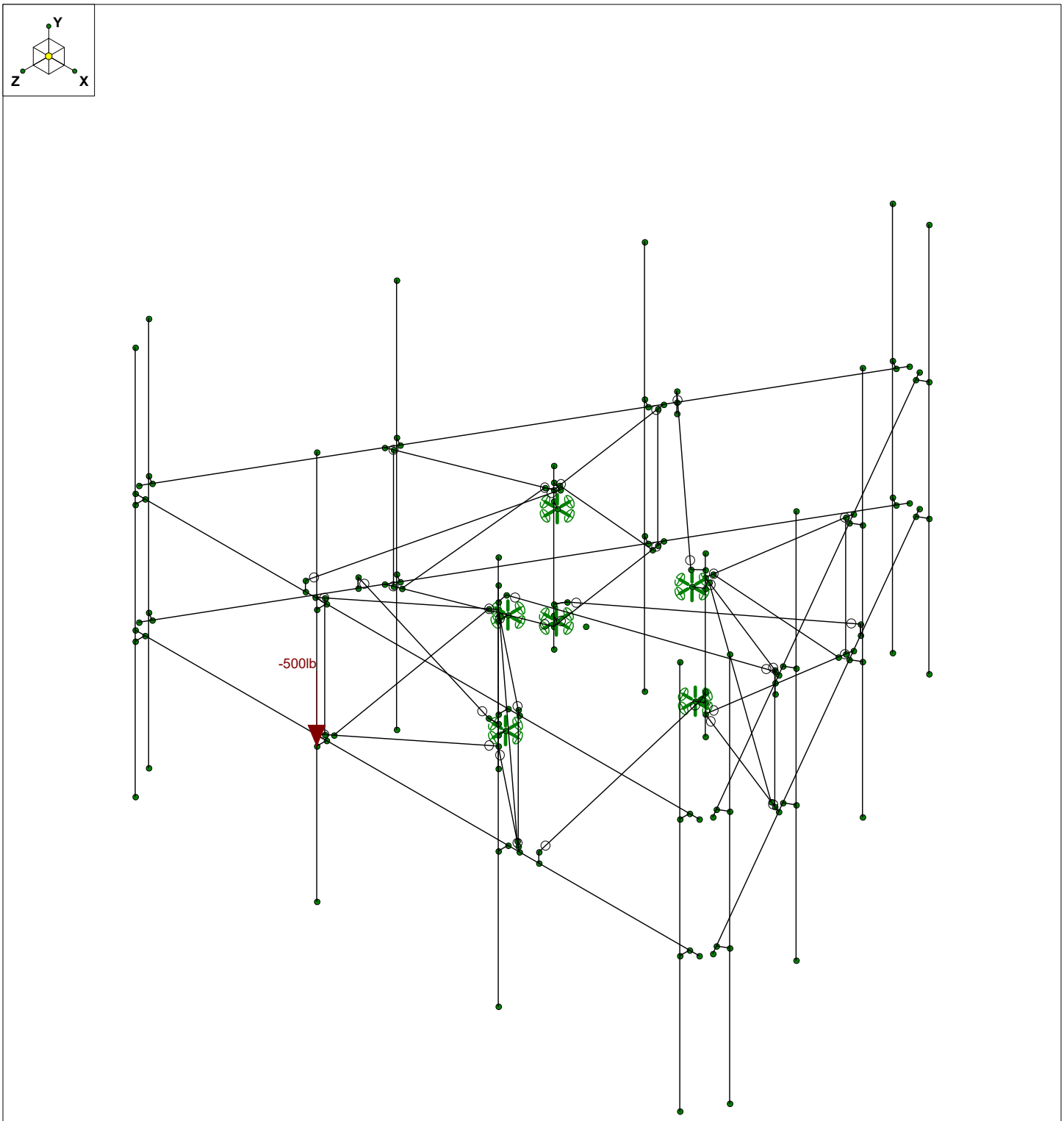

Loads: BLC 36, Maintenance Load 3

Infinigy Engineering	841287	Maintenance Load 3
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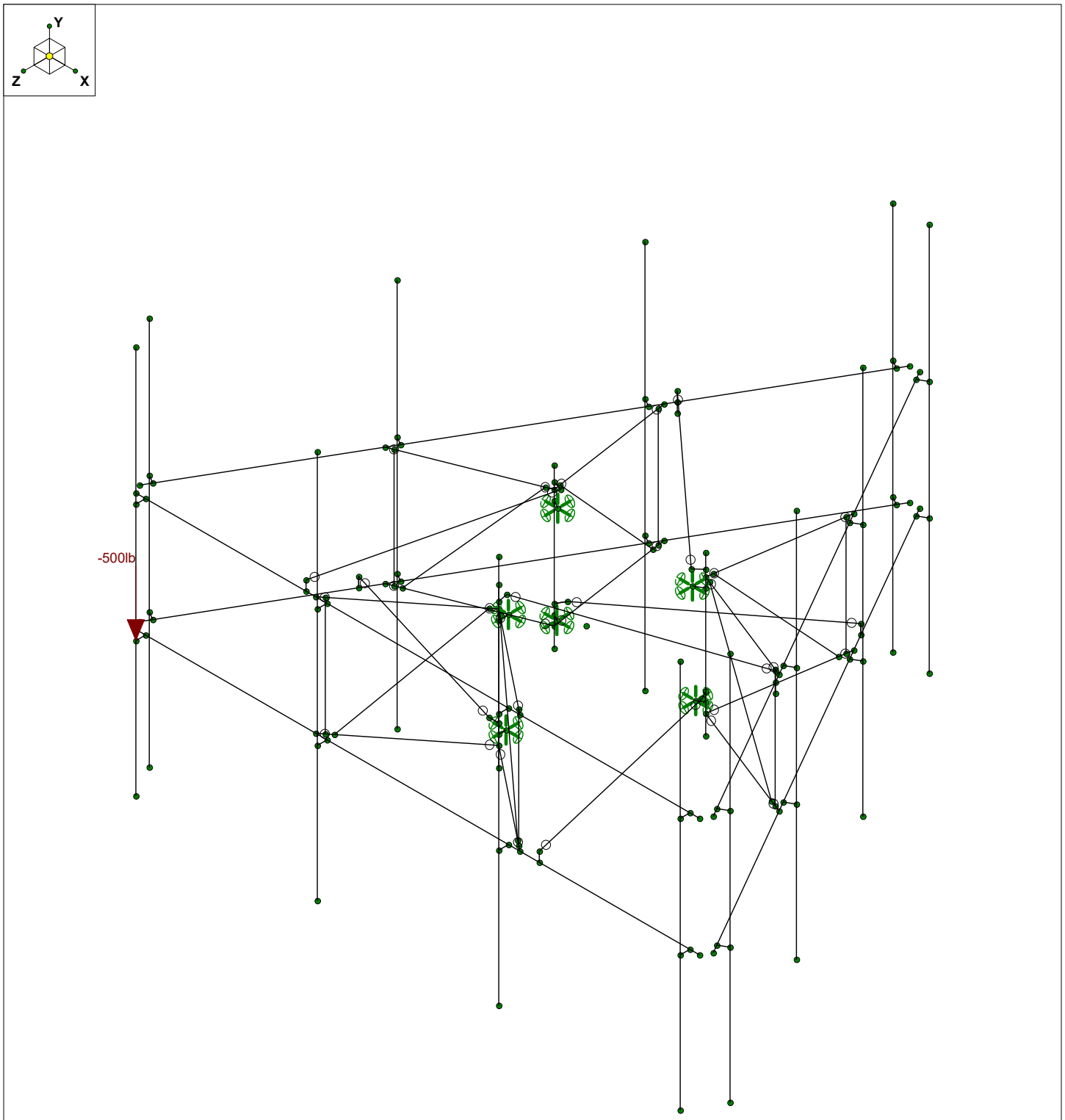

Loads: BLC 37, Maintenance Load 4

Infinigy Engineering	841287	Maintenance Load 4
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1039-Z0001-B		841287_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:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	88.52	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame (Multiple)	
Num Sectors:	3	
Centerline AGL:	152.00	ft
Tower Height AGL:	150.00	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):	0.950	
Ground Ele. Factor (K_e):	0.997	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

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	in
Flat Pressure:	73.924	psf
Round Pressure:	44.355	psf
Ice Wind Pressure:	8.100	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.247	g
1-Second Accel. (S_1):	0.057	g
Short-Period Design (S_{DS}):	0.263	
1-Second Design (S_{D1}):	0.091	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY

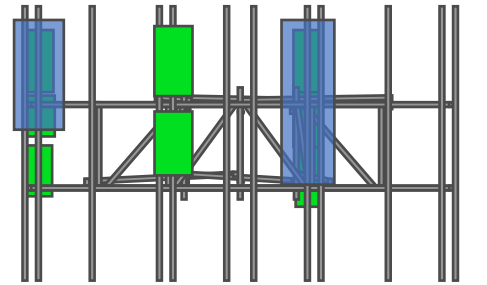
FROM ZERO TO INFINIGY

the solutions are endless

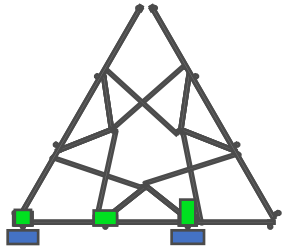
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

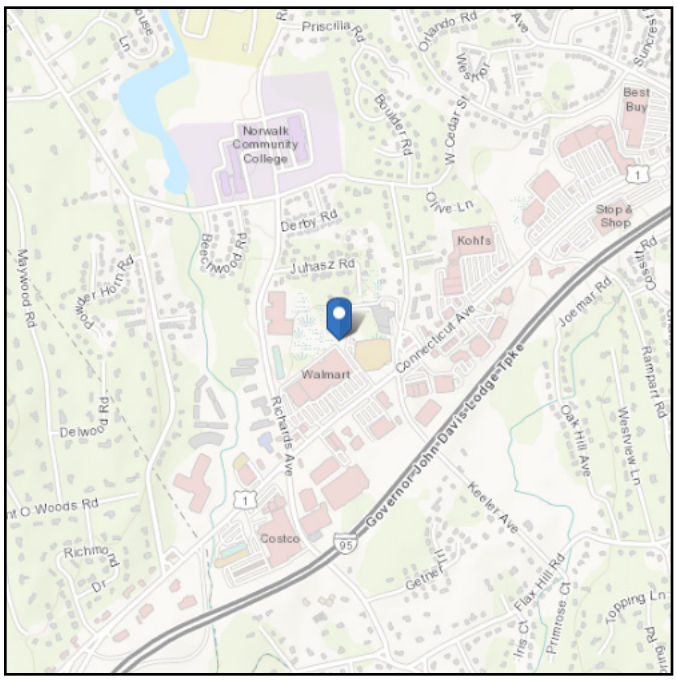
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
CCI C-BAND ANTENNA E	152.0	3	0.90	36.96	3.67	1.65	122.03	54.99	66.20	26.16	MP3
CCI ANTENNAS DMP65R-BU4E	153.0	3	0.90	37.03	7.95	3.74	264.96	124.65	75.60	29.88	MP4
ERICSSON AIR 6449 N77	154.0	3	0.90	37.10	4.05	2.73	135.26	91.26	96.80	38.26	MP3
QUINTEL TECHNOLOGY QD6616-7	153.0	3	0.90	37.03	13.58	6.80	452.52	226.63	130.00	51.38	MP2
ERICSSON TME-RRUS 32 B2	153.0	3	0.90	37.03	2.73	1.67	91.03	55.59	52.90	20.91	MP2
ERICSSON TME-RRUS 32 B30	153.0	3	0.90	37.03	2.74	1.67	91.41	55.59	53.00	20.95	MP4
ERICSSON TME-RRUS 32 B66	153.0	3	0.90	37.03	2.74	1.67	91.41	55.59	53.00	20.95	MP2
ERICSSON RRUS 4449 B5/B12	153.0	3	0.90	37.03	1.97	1.41	65.57	46.93	71.00	28.06	MP4
RAYCAP DC6-48-60-18-8F	153.0	2	0.90	37.03	2.04	2.04	67.98	67.98	18.90	7.47	MP4
RAYCAP DC9-48-60-24-8C-EV	153.0	1	0.90	37.03	2.74	4.78	91.18	159.42	26.20	10.35	MP2

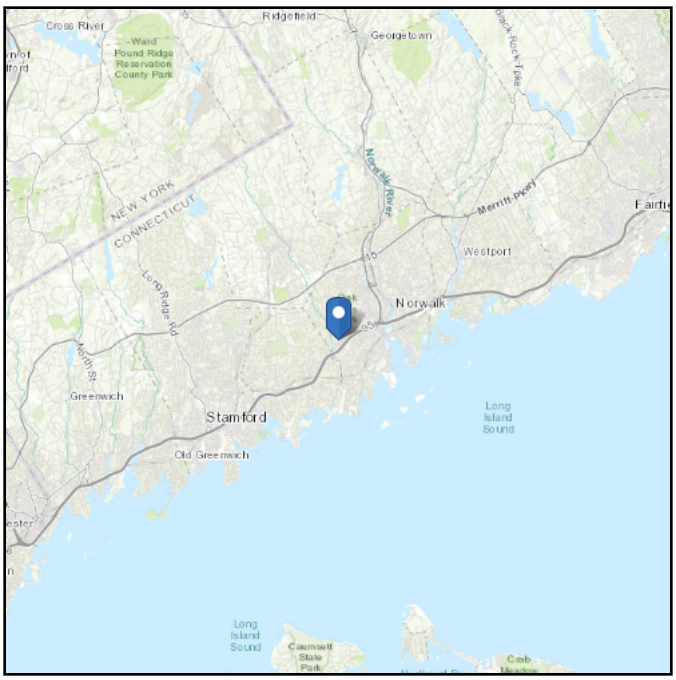
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 88.52 ft (NAVD 88)
Latitude: 41.097069
Longitude: -73.449058





Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	85 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, and Section 26.5.2
Date Accessed: Fri Dec 10 2021

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.

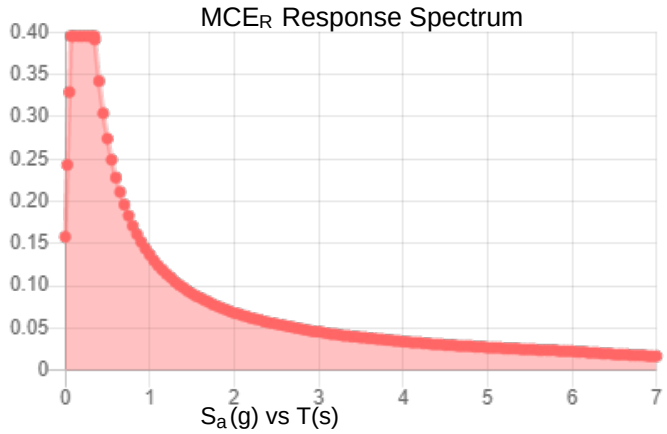
Seismic

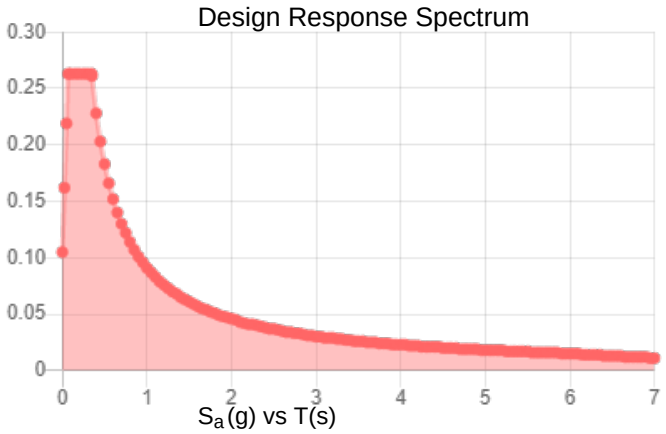
Site Soil Class: D - Default (see Section 11.4.3)

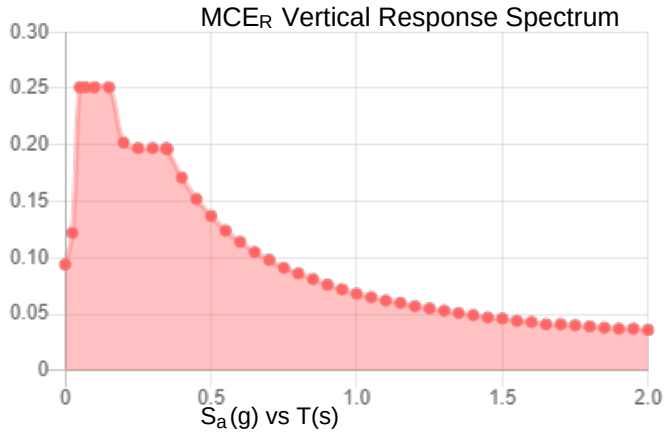
Results:

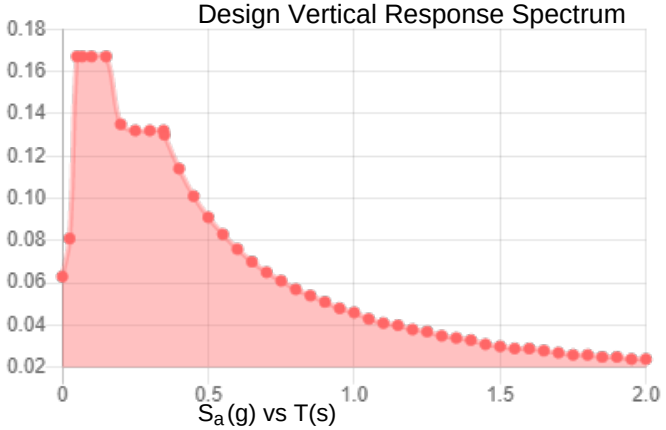
S_S :	0.247	S_{D1} :	0.091
S_1 :	0.057	T_L :	6
F_a :	1.6	PGA :	0.146
F_v :	2.4	PGA_M :	0.221
S_{MS} :	0.395	F_{PGA} :	1.507
S_{M1} :	0.137	I_e :	1
S_{DS} :	0.263	C_v :	0.793

Seismic Design Category B









Data Accessed: **Fri Dec 10 2021**

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:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Dec 10 2021

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(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	HOR1	N1	N2			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
2	HOR2	N3	N4			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
3	MP1	N5	N6			Mount Pipe	Column	Pipe	A500 Gr....	Typical
4	SA2	N21	N22			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
5	SA4	N21	N23			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
6	SA1	N24	N25			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
7	SA3	N24	N26			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
8	M11	N36	N34			SR 3/4	VBrace	BAR	A529 Gr....	Typical
9	M12	N37	N35			SR 3/4	VBrace	BAR	A529 Gr....	Typical
10	M13	N30	N31			Diagonal	VBrace	BAR	A529 Gr....	Typical
11	M14	N32	N33			Diagonal	VBrace	BAR	A529 Gr....	Typical
12	SP1	N28	N27			End Support Pipe	VBrace	Pipe	A500 Gr....	Typical
13	M24	N38	N13			RIGID	None	None	RIGID	Typical
14	M25	N42	N17			RIGID	None	None	RIGID	Typical
15	M26	N46	N48			RIGID	None	None	RIGID	Typical
16	M28	N50	N29			RIGID	None	None	RIGID	Typical
17	HOR5	N55	N56			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
18	HOR6	N57	N58			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
19	SA10	N75	N76			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
20	SA12	N75	N77			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
21	SA9	N78	N79			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
22	SA11	N78	N80			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
23	M38	N90	N88			SR 3/4	VBrace	BAR	A529 Gr....	Typical
24	M39	N91	N89			SR 3/4	VBrace	BAR	A529 Gr....	Typical
25	M40	N84	N85			Diagonal	VBrace	BAR	A529 Gr....	Typical
26	M41	N86	N87			Diagonal	VBrace	BAR	A529 Gr....	Typical
27	M42	N82	N81			End Support Pipe	VBrace	Pipe	A500 Gr....	Typical
28	M51	N100	N102			RIGID	None	None	RIGID	Typical
29	M53	N104	N83			RIGID	None	None	RIGID	Typical
30	HOR3	N108	N109			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
31	HOR4	N110	N111			Face Horizontal	Beam	Pipe	A500 Gr....	Typical
32	SA6	N128	N129			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
33	SA8	N128	N130			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
34	SA5	N131	N132			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
35	SA7	N131	N133			Standoff Arms	Beam	Pipe	A500 Gr....	Typical
36	M65	N143	N141			SR 3/4	VBrace	BAR	A529 Gr....	Typical
37	M66	N144	N142			SR 3/4	VBrace	BAR	A529 Gr....	Typical
38	M67	N137	N138			Diagonal	VBrace	BAR	A529 Gr....	Typical
39	M68	N139	N140			Diagonal	VBrace	BAR	A529 Gr....	Typical
40	M69	N135	N134			End Support Pipe	VBrace	Pipe	A500 Gr....	Typical
41	M78	N153	N155			RIGID	None	None	RIGID	Typical
42	M80	N157	N136			RIGID	None	None	RIGID	Typical
43	TB2	N29	N161			Tie Back	Beam	Pipe	A500 Gr....	Typical
44	M83	N160	N161			RIGID	None	None	RIGID	Typical
45	M86	N104	N164			RIGID	None	None	RIGID	Typical
46	TB6	N164	N165			Tie Back	Beam	Pipe	A500 Gr....	Typical
47	M89	N53	N165			RIGID	None	None	RIGID	Typical
48	M92	N157	N168			RIGID	None	None	RIGID	Typical
49	TB4	N168	N169			Tie Back	Beam	Pipe	A500 Gr....	Typical
50	M95	N107	N169			RIGID	None	None	RIGID	Typical
51	M93	N47	N49			RIGID	None	None	RIGID	Typical
52	M94	N154	N156			RIGID	None	None	RIGID	Typical
53	M95A	N101	N103			RIGID	None	None	RIGID	Typical
54	MP2	N106A	N107A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
55	M64	N110A	N108A			RIGID	None	None	RIGID	Typical
56	M65A	N111A	N109A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
57	MP3	N112	N113			Mount Pipe	Column	Pipe	A500 Gr....	Typical
58	M67A	N116	N114			RIGID	None	None	RIGID	Typical
59	M68A	N117	N115			RIGID	None	None	RIGID	Typical
60	MP4	N118	N119			Mount Pipe	Column	Pipe	A500 Gr....	Typical
61	M70	N122	N120			RIGID	None	None	RIGID	Typical
62	M71	N123	N121			RIGID	None	None	RIGID	Typical
63	MP9	N124	N125			Mount Pipe	Column	Pipe	A500 Gr....	Typical
64	M73	N128A	N126			RIGID	None	None	RIGID	Typical
65	M74	N129A	N127			RIGID	None	None	RIGID	Typical
66	MP10	N131A	N132A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
67	M76	N135A	N133A			RIGID	None	None	RIGID	Typical
68	M77	N136A	N134A			RIGID	None	None	RIGID	Typical
69	MP11	N137A	N138A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
70	M79	N141A	N139A			RIGID	None	None	RIGID	Typical
71	M80A	N142A	N140A			RIGID	None	None	RIGID	Typical
72	MP12	N143A	N144A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
73	M82	N147	N145			RIGID	None	None	RIGID	Typical
74	M83A	N148	N146			RIGID	None	None	RIGID	Typical
75	MP5	N149	N150			Mount Pipe	Column	Pipe	A500 Gr....	Typical
76	M85	N153A	N151			RIGID	None	None	RIGID	Typical
77	M86A	N154A	N152			RIGID	None	None	RIGID	Typical
78	MP6	N156A	N157A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
79	M88	N160A	N158A			RIGID	None	None	RIGID	Typical
80	M89A	N161A	N159A			RIGID	None	None	RIGID	Typical
81	MP7	N162A	N163A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
82	M91	N166A	N164A			RIGID	None	None	RIGID	Typical
83	M92A	N167A	N165A			RIGID	None	None	RIGID	Typical
84	MP8	N168A	N169A			Mount Pipe	Column	Pipe	A500 Gr....	Typical
85	M94A	N172	N170A			RIGID	None	None	RIGID	Typical
86	M95B	N173	N171A			RIGID	None	None	RIGID	Typical
87	M87	N161B	N160B			RIGID	None	None	RIGID	Typical
88	M88A	N162	N163			RIGID	None	None	RIGID	Typical
89	M89B	N166	N165B			RIGID	None	None	RIGID	Typical
90	M90	N167	N168B			RIGID	None	None	RIGID	Typical
91	M91A	N171	N170			RIGID	None	None	RIGID	Typical
92	M92B	N172A	N173A			RIGID	None	None	RIGID	Typical
93	M93A	N161B	N168B			Tie Back	Beam	Pipe	A500 Gr....	Typical
94	M94B	N166	N165B			RIGID	None	None	RIGID	Typical
95	M95C	N172A	N173A			RIGID	None	None	RIGID	Typical
96	M96	N166	N173A			Tie Back	Beam	Pipe	A500 Gr....	Typical
97	M97	N171	N170			RIGID	None	None	RIGID	Typical
98	M98	N162	N163			RIGID	None	None	RIGID	Typical
99	M99	N171	N163			Tie Back	Beam	Pipe	A500 Gr....	Typical

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Ther...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	2.9e+7	1.115e+7	.3	.65	.49	36	1.5	58	1.2
2	A529 Gr.50	2.9e+7	1.115e+7	.3	.65	.49	50	1.1	65	1.1
3	A992	2.9e+7	1.115e+7	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.42	2.9e+7	1.115e+7	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.46	2.9e+7	1.115e+7	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr B	2.9e+7	1.115e+7	.3	.65	.49	35	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE_2.5	Beam	Pipe	A500 Gr.46	Typical	1.61	1.45	1.45	2.89
2	Standoff Arms	PIPE_2.0	Beam	Pipe	A500 Gr.46	Typical	1.02	.627	.627	1.25
3	Diagonal	SR 3/4	VBrace	BAR	A529 Gr.50	Typical	.442	.016	.016	.031
4	Mount Pipe	PIPE_2.5	Column	Pipe	A500 Gr.46	Typical	1.61	1.45	1.45	2.89
5	Tie Back	PIPE_2.5	Beam	Pipe	A500 Gr.46	Typical	1.61	1.45	1.45	2.89
6	End Support Pipe	PIPE_3.0	VBrace	Pipe	A500 Gr.46	Typical	2.07	2.85	2.85	5.69

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From ...
1	N1	87	18.25	31	0	
2	N2	-87	18.25	31	0	
3	N3	87	-18.25	31	0	
4	N4	-87	-18.25	31	0	
5	N5	84	-59.75	34	0	
6	N6	84	60.25	34	0	
7	N13	84	18.25	31	0	
8	N17	84	-18.25	31	0	
9	N21	0.	-18.25	6	0	
10	N22	31.5	-18.25	31	0	
11	N23	-31.5	-18.25	31	0	
12	N24	0.	18.25	6	0	
13	N25	31.5	18.25	31	0	
14	N26	-31.5	18.25	31	0	
15	N27	0.	-24.25	6	0	
16	N28	0.	24.75	6	0	
17	N29	-34.5	21.25	31	0	
18	N30	-29.85114	18.25	29.691381	0	
19	N31	-29.85114	-18.25	29.691381	0	
20	N32	29.85114	18.25	29.691381	0	
21	N33	29.85114	-18.25	29.691381	0	
22	N34	-1.644907	18.25	7.305482	0	
23	N35	1.644907	18.25	7.305482	0	
24	N36	-28.284562	-18.25	28.448065	0	
25	N37	28.284562	-18.25	28.448065	0	
26	N38	84	18.25	34	0	
27	N42	84	-18.25	34	0	
28	N46	0.	15.25	6	0	
29	N47	0.	-15.25	6	0	
30	N48	0.	15.25	3	0	
31	N49	0.	-15.25	3.75	0	
32	N50	-34.5	18.25	31	0	
33	N53	0.	20.25	6	0	
34	CENTER	0	.25	-21	0	
35	N55	1.533321	18.25	-122.34421	0	
36	N56	88.533321	18.25	28.34421	0	
37	N57	1.533321	-18.25	-122.34421	0	
38	N58	88.533321	-18.25	28.34421	0	
39	N75	23.382686	-18.25	-34.5	0	
40	N76	29.283321	-18.25	-74.2798	0	
41	N77	60.783321	-18.25	-19.7202	0	
42	N78	23.382686	18.25	-34.5	0	
43	N79	29.283321	18.25	-74.2798	0	
44	N80	60.783321	18.25	-19.7202	0	
45	N81	23.382686	-24.25	-34.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From ...
46	N82	23.382686	24.75	-34.5	0	
47	N83	62.283321	15.25	-17.122124	0	
48	N84	58.825594	18.25	-20.493845	0	
49	N85	58.825594	-18.25	-20.493845	0	
50	N86	28.974454	18.25	-72.197536	0	
51	N87	28.974454	-18.25	-72.197536	0	
52	N88	25.335719	18.25	-33.72821	0	
53	N89	23.690813	18.25	-36.577272	0	
54	N90	56.965562	-18.25	-21.228883	0	
55	N91	28.681	-18.25	-70.219182	0	
56	N100	23.382686	15.25	-34.5	0	
57	N101	23.382686	-15.25	-34.5	0	
58	N102	20.78461	15.25	-33	0	
59	N103	21.434129	-15.25	-33.375	0	
60	N104	62.283321	18.25	-17.122124	0	
61	N107	23.382686	20.25	-34.5	0	
62	N108	-88.533321	18.25	28.34421	0	
63	N109	-1.533321	18.25	-122.34421	0	
64	N110	-88.533321	-18.25	28.34421	0	
65	N111	-1.533321	-18.25	-122.34421	0	
66	N128	-23.382686	-18.25	-34.5	0	
67	N129	-60.783321	-18.25	-19.7202	0	
68	N130	-29.283321	-18.25	-74.2798	0	
69	N131	-23.382686	18.25	-34.5	0	
70	N132	-60.783321	18.25	-19.7202	0	
71	N133	-29.283321	18.25	-74.2798	0	
72	N134	-23.382686	-24.25	-34.5	0	
73	N135	-23.382686	24.75	-34.5	0	
74	N136	-27.783321	15.25	-76.877876	0	
75	N137	-28.974454	18.25	-72.197536	0	
76	N138	-28.974454	-18.25	-72.197536	0	
77	N139	-58.825594	18.25	-20.493845	0	
78	N140	-58.825594	-18.25	-20.493845	0	
79	N141	-23.690813	18.25	-36.577272	0	
80	N142	-25.335719	18.25	-33.72821	0	
81	N143	-28.681	-18.25	-70.219182	0	
82	N144	-56.965562	-18.25	-21.228883	0	
83	N153	-23.382686	15.25	-34.5	0	
84	N154	-23.382686	-15.25	-34.5	0	
85	N155	-20.78461	15.25	-33	0	
86	N156	-21.434129	-15.25	-33.375	0	
87	N157	-27.783321	18.25	-76.877876	0	
88	N160	-23.382686	20.25	-34.5	0	
89	N161	-20.382686	20.25	-33.5	0	
90	N164	62.283321	21.25	-17.122124	0	
91	N165	-0.633975	20.25	2.901924	0	
92	N168	-27.783321	21.25	-76.877876	0	
93	N169	21.01666	20.25	-32.401924	0	
94	N106A	28	-59.75	34	0	
95	N107A	28	60.25	34	0	
96	N108A	28	18.25	31	0	
97	N109A	28	-18.25	31	0	
98	N110A	28	18.25	34	0	
99	N111A	28	-18.25	34	0	
100	N112	-28	-59.75	34	0	
101	N113	-28	60.25	34	0	
102	N114	-28	18.25	31	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From ...
103	N115	-28	-18.25	31	0	
104	N116	-28	18.25	34	0	
105	N117	-28	-18.25	34	0	
106	N118	-84	-59.75	34	0	
107	N119	-84	60.25	34	0	
108	N120	-84	18.25	31	0	
109	N121	-84	-18.25	31	0	
110	N122	-84	18.25	34	0	
111	N123	-84	-18.25	34	0	
112	N124	5.631397	-59.75	-121.246134	0	
113	N125	5.631397	60.25	-121.246134	0	
114	N126	3.033321	18.25	-119.746134	0	
115	N127	3.033321	-18.25	-119.746134	0	
116	N128A	5.631397	18.25	-121.246134	0	
117	N129A	5.631397	-18.25	-121.246134	0	
118	N131A	33.631397	-59.75	-72.748711	0	
119	N132A	33.631397	60.25	-72.748711	0	
120	N133A	31.033321	18.25	-71.248711	0	
121	N134A	31.033321	-18.25	-71.248711	0	
122	N135A	33.631397	18.25	-72.748711	0	
123	N136A	33.631397	-18.25	-72.748711	0	
124	N137A	61.631397	-59.75	-24.251289	0	
125	N138A	61.631397	60.25	-24.251289	0	
126	N139A	59.033321	18.25	-22.751289	0	
127	N140A	59.033321	-18.25	-22.751289	0	
128	N141A	61.631397	18.25	-24.251289	0	
129	N142A	61.631397	-18.25	-24.251289	0	
130	N143A	89.631397	-59.75	24.246134	0	
131	N144A	89.631397	60.25	24.246134	0	
132	N145	87.033321	18.25	25.746134	0	
133	N146	87.033321	-18.25	25.746134	0	
134	N147	89.631397	18.25	24.246134	0	
135	N148	89.631397	-18.25	24.246134	0	
136	N149	-89.631397	-59.75	24.246134	0	
137	N150	-89.631397	60.25	24.246134	0	
138	N151	-87.033321	18.25	25.746134	0	
139	N152	-87.033321	-18.25	25.746134	0	
140	N153A	-89.631397	18.25	24.246134	0	
141	N154A	-89.631397	-18.25	24.246134	0	
142	N156A	-61.631397	-59.75	-24.251289	0	
143	N157A	-61.631397	60.25	-24.251289	0	
144	N158A	-59.033321	18.25	-22.751289	0	
145	N159A	-59.033321	-18.25	-22.751289	0	
146	N160A	-61.631397	18.25	-24.251289	0	
147	N161A	-61.631397	-18.25	-24.251289	0	
148	N162A	-33.631397	-59.75	-72.748711	0	
149	N163A	-33.631397	60.25	-72.748711	0	
150	N164A	-31.033321	18.25	-71.248711	0	
151	N165A	-31.033321	-18.25	-71.248711	0	
152	N166A	-33.631397	18.25	-72.748711	0	
153	N167A	-33.631397	-18.25	-72.748711	0	
154	N168A	-5.631397	-59.75	-121.246134	0	
155	N169A	-5.631397	60.25	-121.246134	0	
156	N170A	-3.033321	18.25	-119.746134	0	
157	N171A	-3.033321	-18.25	-119.746134	0	
158	N172	-5.631397	18.25	-121.246134	0	
159	N173	-5.631397	-18.25	-121.246134	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From ...
160	N160B	37.5	-18.25	31	0	
161	N161B	37.5	-15.25	31	0	
162	N162	0.	-12.25	6	0	
163	N163	-3	-12.25	6	0	
164	N165B	26.283321	-18.25	-79.475953	0	
165	N166	26.283321	-15.25	-79.475953	0	
166	N167	23.382686	-12.25	-34.5	0	
167	N168B	24.882686	-12.25	-31.901924	0	
168	N170	-63.783321	-18.25	-14.524047	0	
169	N171	-63.783321	-15.25	-14.524047	0	
170	N172A	-23.382686	-12.25	-34.5	0	
171	N173A	-21.882686	-12.25	-37.098076	0	

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	HOR1	Face Horizo...	174			Lbyy						Lateral
2	HOR2	Face Horizo...	174			Lbyy						Lateral
3	MP1	Mount Pipe	120			Lbyy						Lateral
4	SA2	Standoff Ar...	40.215			Lbyy						Lateral
5	SA4	Standoff Ar...	40.215			Lbyy						Lateral
6	SA1	Standoff Ar...	40.215			Lbyy						Lateral
7	SA3	Standoff Ar...	40.215			Lbyy						Lateral
8	M11	SR 3/4	49.889									Lateral
9	M12	SR 3/4	49.889									Lateral
10	M13	Diagonal	36.5									Lateral
11	M14	Diagonal	36.5									Lateral
12	SP1	End Suppor...	49									Lateral
13	HOR5	Face Horizo...	174			Lbyy						Lateral
14	HOR6	Face Horizo...	174			Lbyy						Lateral
15	SA10	Standoff Ar...	40.215			Lbyy						Lateral
16	SA12	Standoff Ar...	40.215			Lbyy						Lateral
17	SA9	Standoff Ar...	40.215			Lbyy						Lateral
18	SA11	Standoff Ar...	40.215			Lbyy						Lateral
19	M38	SR 3/4	49.889									Lateral
20	M39	SR 3/4	49.889									Lateral
21	M40	Diagonal	36.5									Lateral
22	M41	Diagonal	36.5									Lateral
23	M42	End Suppor...	49									Lateral
24	HOR3	Face Horizo...	174			Lbyy						Lateral
25	HOR4	Face Horizo...	174			Lbyy						Lateral
26	SA6	Standoff Ar...	40.215			Lbyy						Lateral
27	SA8	Standoff Ar...	40.215			Lbyy						Lateral
28	SA5	Standoff Ar...	40.215			Lbyy						Lateral
29	SA7	Standoff Ar...	40.215			Lbyy						Lateral
30	M65	SR 3/4	49.889									Lateral
31	M66	SR 3/4	49.889									Lateral
32	M67	Diagonal	36.5									Lateral
33	M68	Diagonal	36.5									Lateral
34	M69	End Suppor...	49									Lateral
35	TB2	Tie Back	66.034			Lbyy						Lateral
36	TB6	Tie Back	66.034			Lbyy						Lateral
37	TB4	Tie Back	66.034			Lbyy						Lateral
38	MP2	Mount Pipe	120			Lbyy						Lateral
39	MP3	Mount Pipe	120			Lbyy						Lateral
40	MP4	Mount Pipe	120			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
41	MP9	Mount Pipe	120			Lbyy						Lateral
42	MP10	Mount Pipe	120			Lbyy						Lateral
43	MP11	Mount Pipe	120			Lbyy						Lateral
44	MP12	Mount Pipe	120			Lbyy						Lateral
45	MP5	Mount Pipe	120			Lbyy						Lateral
46	MP6	Mount Pipe	120			Lbyy						Lateral
47	MP7	Mount Pipe	120			Lbyy						Lateral
48	MP8	Mount Pipe	120			Lbyy						Lateral
49	M93A	Tie Back	64.225			Lbyy						Lateral
50	M96	Tie Back	64.225			Lbyy						Lateral
51	M99	Tie Back	64.225			Lbyy						Lateral

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			30			
2	Wind Load AZI 0	WLZ					60			
3	Wind Load AZI 30	None					60			
4	Wind Load AZI 60	None					60			
5	Wind Load AZI 90	WLX					60			
6	Wind Load AZI 120	None					60			
7	Wind Load AZI 150	None					60			
8	Wind Load AZI 180	None					60			
9	Wind Load AZI 210	None					60			
10	Wind Load AZI 240	None					60			
11	Wind Load AZI 270	None					60			
12	Wind Load AZI 300	None					60			
13	Wind Load AZI 330	None					60			
14	Distr. Wind Load Z	WLZ						99		
15	Distr. Wind Load X	WLX						99		
16	Ice Weight	OL1					30	99		
17	Ice Wind Load AZI ...	OL2					60			
18	Ice Wind Load AZI ...	None					60			
19	Ice Wind Load AZI ...	None					60			
20	Ice Wind Load AZI ...	OL3					60			
21	Ice Wind Load AZI ...	None					60			
22	Ice Wind Load AZI ...	None					60			
23	Ice Wind Load AZI ...	None					60			
24	Ice Wind Load AZI ...	None					60			
25	Ice Wind Load AZI ...	None					60			
26	Ice Wind Load AZI ...	None					60			
27	Ice Wind Load AZI ...	None					60			
28	Ice Wind Load AZI ...	None					60			
29	Distr. Ice Wind Loa...	OL2						99		
30	Distr. Ice Wind Loa...	OL3						99		
31	Seismic Load Z	ELZ			-.395		30			
32	Seismic Load X	ELX	-.395				30			
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				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(Plate/Wall)
42	Maintenance Load 9	LL				1				
43	Maintenance Load ...	LL				1				
44	Maintenance Load ...	LL				1				
45	Maintenance Load ...	LL				1				

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (l...
1	N3	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), (l...
1	N42	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), (l...
1	N111A	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), (l...
1	N117	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), (l...
1	N123	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), (l...
1	N129A	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), (l...
1	N136A	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), (l...
1	N142A	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), (l...
1	N148	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), (l...
1	N154A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (l...
1	N161A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 44 : Maintenance Load 11)

Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (l...

Joint Loads and Enforced Displacements (BLC 44 : Maintenance Load 11) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (l...
1	N167A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 45 : Maintenance Load 12)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (l...
1	N173	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Y	-66.2	60
2	MP4	Y	-37.8	6
3	MP4	Y	-37.8	42
4	MP3	Y	-96.8	24
5	MP2	Y	-130	6
6	MP2	Y	-52.9	24
7	MP4	Y	-53	24
8	MP2	Y	-53	48
9	MP4	Y	-71	48
10	MP4	Y	-18.9	72
11	MP2	Y	-26.2	72
12	MP7	Y	-66.2	60
13	MP8	Y	-37.8	6
14	MP8	Y	-37.8	42
15	MP7	Y	-96.8	24
16	MP6	Y	-130	6
17	MP6	Y	-52.9	24
18	MP8	Y	-53	24
19	MP6	Y	-53	48
20	MP8	Y	-71	48
21	MP8	Y	-18.9	72
22	MP11	Y	-66.2	60
23	MP12	Y	-37.8	6
24	MP12	Y	-37.8	42
25	MP11	Y	-96.8	24
26	MP10	Y	-130	6
27	MP10	Y	-52.9	24
28	MP12	Y	-53	24
29	MP10	Y	-53	48
30	MP12	Y	-71	48

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	60
2	MP3	Z	-122.03	60
3	MP4	X	0	6
4	MP4	Z	-132.48	6
5	MP4	X	0	42
6	MP4	Z	-132.48	42
7	MP3	X	0	24
8	MP3	Z	-135.26	24
9	MP2	X	0	6
10	MP2	Z	-452.52	6
11	MP2	X	0	24
12	MP2	Z	-91.03	24
13	MP4	X	0	24

Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
14	MP4	Z	-91.41	24
15	MP2	X	0	48
16	MP2	Z	-91.41	48
17	MP4	X	0	48
18	MP4	Z	-65.57	48
19	MP4	X	0	72
20	MP4	Z	-67.98	72
21	MP2	X	0	72
22	MP2	Z	-91.18	72
23	MP7	X	0	60
24	MP7	Z	-71.75	60
25	MP8	X	0	6
26	MP8	Z	-79.86	6
27	MP8	X	0	42
28	MP8	Z	-79.86	42
29	MP7	X	0	24
30	MP7	Z	-102.26	24
31	MP6	X	0	6
32	MP6	Z	-283.11	6
33	MP6	X	0	24
34	MP6	Z	-64.45	24
35	MP8	X	0	24
36	MP8	Z	-64.55	24
37	MP6	X	0	48
38	MP6	Z	-64.55	48
39	MP8	X	0	48
40	MP8	Z	-51.59	48
41	MP8	X	0	72
42	MP8	Z	-67.98	72
43	MP11	X	0	60
44	MP11	Z	-71.75	60
45	MP12	X	0	6
46	MP12	Z	-79.86	6
47	MP12	X	0	42
48	MP12	Z	-79.86	42
49	MP11	X	0	24
50	MP11	Z	-102.26	24
51	MP10	X	0	6
52	MP10	Z	-283.11	6
53	MP10	X	0	24
54	MP10	Z	-64.45	24
55	MP12	X	0	24
56	MP12	Z	-64.55	24
57	MP10	X	0	48
58	MP10	Z	-64.55	48
59	MP12	X	0	48
60	MP12	Z	-51.59	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-52.64	60
2	MP3	Z	-91.17	60
3	MP4	X	-57.47	6
4	MP4	Z	-99.54	6
5	MP4	X	-57.47	42
6	MP4	Z	-99.54	42

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP3	X	-62.13	24
8	MP3	Z	-107.61	24
9	MP2	X	-198.03	6
10	MP2	Z	-342.99	6
11	MP2	X	-41.09	24
12	MP2	Z	-71.16	24
13	MP4	X	-41.23	24
14	MP4	Z	-71.41	24
15	MP2	X	-41.23	48
16	MP2	Z	-71.41	48
17	MP4	X	-30.46	48
18	MP4	Z	-52.75	48
19	MP4	X	-33.99	72
20	MP4	Z	-58.87	72
21	MP2	X	-54.12	72
22	MP2	Z	-93.74	72
23	MP7	X	-52.64	60
24	MP7	Z	-91.17	60
25	MP8	X	-57.47	6
26	MP8	Z	-99.54	6
27	MP8	X	-57.47	42
28	MP8	Z	-99.54	42
29	MP7	X	-62.13	24
30	MP7	Z	-107.61	24
31	MP6	X	-198.03	6
32	MP6	Z	-342.99	6
33	MP6	X	-41.09	24
34	MP6	Z	-71.16	24
35	MP8	X	-41.23	24
36	MP8	Z	-71.41	24
37	MP6	X	-41.23	48
38	MP6	Z	-71.41	48
39	MP8	X	-30.46	48
40	MP8	Z	-52.75	48
41	MP8	X	-33.99	72
42	MP8	Z	-58.87	72
43	MP11	X	-27.49	60
44	MP11	Z	-47.62	60
45	MP12	X	-31.16	6
46	MP12	Z	-53.97	6
47	MP12	X	-31.16	42
48	MP12	Z	-53.97	42
49	MP11	X	-45.63	24
50	MP11	Z	-79.03	24
51	MP10	X	-113.32	6
52	MP10	Z	-196.27	6
53	MP10	X	-27.8	24
54	MP10	Z	-48.15	24
55	MP12	X	-27.8	24
56	MP12	Z	-48.15	24
57	MP10	X	-27.8	48
58	MP10	Z	-48.15	48
59	MP12	X	-23.47	48
60	MP12	Z	-40.64	48

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

Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-62.14	60
2	MP3	Z	-35.87	60
3	MP4	X	-69.16	6
4	MP4	Z	-39.93	6
5	MP4	X	-69.16	42
6	MP4	Z	-39.93	42
7	MP3	X	-88.56	24
8	MP3	Z	-51.13	24
9	MP2	X	-245.18	6
10	MP2	Z	-141.55	6
11	MP2	X	-55.82	24
12	MP2	Z	-32.23	24
13	MP4	X	-55.9	24
14	MP4	Z	-32.27	24
15	MP2	X	-55.9	48
16	MP2	Z	-32.27	48
17	MP4	X	-44.68	48
18	MP4	Z	-25.8	48
19	MP4	X	-58.87	72
20	MP4	Z	-33.99	72
21	MP2	X	-123.29	72
22	MP2	Z	-71.18	72
23	MP7	X	-105.68	60
24	MP7	Z	-61.02	60
25	MP8	X	-114.73	6
26	MP8	Z	-66.24	6
27	MP8	X	-114.73	42
28	MP8	Z	-66.24	42
29	MP7	X	-117.14	24
30	MP7	Z	-67.63	24
31	MP6	X	-391.9	6
32	MP6	Z	-226.26	6
33	MP6	X	-78.83	24
34	MP6	Z	-45.52	24
35	MP8	X	-79.16	24
36	MP8	Z	-45.7	24
37	MP6	X	-79.16	48
38	MP6	Z	-45.7	48
39	MP8	X	-56.79	48
40	MP8	Z	-32.79	48
41	MP8	X	-58.87	72
42	MP8	Z	-33.99	72
43	MP11	X	-62.14	60
44	MP11	Z	-35.87	60
45	MP12	X	-69.16	6
46	MP12	Z	-39.93	6
47	MP12	X	-69.16	42
48	MP12	Z	-39.93	42
49	MP11	X	-88.56	24
50	MP11	Z	-51.13	24
51	MP10	X	-245.18	6
52	MP10	Z	-141.55	6
53	MP10	X	-55.82	24
54	MP10	Z	-32.23	24
55	MP12	X	-55.9	24
56	MP12	Z	-32.27	24
57	MP10	X	-55.9	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
58	MP10	Z	-32.27	48
59	MP12	X	-44.68	48
60	MP12	Z	-25.8	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-54.99	60
2	MP3	Z	0	60
3	MP4	X	-62.32	6
4	MP4	Z	0	6
5	MP4	X	-62.32	42
6	MP4	Z	0	42
7	MP3	X	-91.26	24
8	MP3	Z	0	24
9	MP2	X	-226.63	6
10	MP2	Z	0	6
11	MP2	X	-55.59	24
12	MP2	Z	0	24
13	MP4	X	-55.59	24
14	MP4	Z	0	24
15	MP2	X	-55.59	48
16	MP2	Z	0	48
17	MP4	X	-46.93	48
18	MP4	Z	0	48
19	MP4	X	-67.98	72
20	MP4	Z	0	72
21	MP2	X	-159.42	72
22	MP2	Z	0	72
23	MP7	X	-105.27	60
24	MP7	Z	0	60
25	MP8	X	-114.94	6
26	MP8	Z	0	6
27	MP8	X	-114.94	42
28	MP8	Z	0	42
29	MP7	X	-124.26	24
30	MP7	Z	0	24
31	MP6	X	-396.05	6
32	MP6	Z	0	6
33	MP6	X	-82.17	24
34	MP6	Z	0	24
35	MP8	X	-82.46	24
36	MP8	Z	0	24
37	MP6	X	-82.46	48
38	MP6	Z	0	48
39	MP8	X	-60.91	48
40	MP8	Z	0	48
41	MP8	X	-67.98	72
42	MP8	Z	0	72
43	MP11	X	-105.27	60
44	MP11	Z	0	60
45	MP12	X	-114.94	6
46	MP12	Z	0	6
47	MP12	X	-114.94	42
48	MP12	Z	0	42
49	MP11	X	-124.26	24
50	MP11	Z	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
51	MP10	X	-396.05	6
52	MP10	Z	0	6
53	MP10	X	-82.17	24
54	MP10	Z	0	24
55	MP12	X	-82.46	24
56	MP12	Z	0	24
57	MP10	X	-82.46	48
58	MP10	Z	0	48
59	MP12	X	-60.91	48
60	MP12	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-62.14	60
2	MP3	Z	35.87	60
3	MP4	X	-69.16	6
4	MP4	Z	39.93	6
5	MP4	X	-69.16	42
6	MP4	Z	39.93	42
7	MP3	X	-88.56	24
8	MP3	Z	51.13	24
9	MP2	X	-245.18	6
10	MP2	Z	141.55	6
11	MP2	X	-55.82	24
12	MP2	Z	32.23	24
13	MP4	X	-55.9	24
14	MP4	Z	32.27	24
15	MP2	X	-55.9	48
16	MP2	Z	32.27	48
17	MP4	X	-44.68	48
18	MP4	Z	25.8	48
19	MP4	X	-58.87	72
20	MP4	Z	33.99	72
21	MP2	X	-123.29	72
22	MP2	Z	71.18	72
23	MP7	X	-62.14	60
24	MP7	Z	35.87	60
25	MP8	X	-69.16	6
26	MP8	Z	39.93	6
27	MP8	X	-69.16	42
28	MP8	Z	39.93	42
29	MP7	X	-88.56	24
30	MP7	Z	51.13	24
31	MP6	X	-245.18	6
32	MP6	Z	141.55	6
33	MP6	X	-55.82	24
34	MP6	Z	32.23	24
35	MP8	X	-55.9	24
36	MP8	Z	32.27	24
37	MP6	X	-55.9	48
38	MP6	Z	32.27	48
39	MP8	X	-44.68	48
40	MP8	Z	25.8	48
41	MP8	X	-58.87	72
42	MP8	Z	33.99	72
43	MP11	X	-105.68	60

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
44	MP11	Z	61.02	60
45	MP12	X	-114.73	6
46	MP12	Z	66.24	6
47	MP12	X	-114.73	42
48	MP12	Z	66.24	42
49	MP11	X	-117.14	24
50	MP11	Z	67.63	24
51	MP10	X	-391.9	6
52	MP10	Z	226.26	6
53	MP10	X	-78.83	24
54	MP10	Z	45.52	24
55	MP12	X	-79.16	24
56	MP12	Z	45.7	24
57	MP10	X	-79.16	48
58	MP10	Z	45.7	48
59	MP12	X	-56.79	48
60	MP12	Z	32.79	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-52.64	60
2	MP3	Z	91.17	60
3	MP4	X	-57.47	6
4	MP4	Z	99.54	6
5	MP4	X	-57.47	42
6	MP4	Z	99.54	42
7	MP3	X	-62.13	24
8	MP3	Z	107.61	24
9	MP2	X	-198.03	6
10	MP2	Z	342.99	6
11	MP2	X	-41.09	24
12	MP2	Z	71.16	24
13	MP4	X	-41.23	24
14	MP4	Z	71.41	24
15	MP2	X	-41.23	48
16	MP2	Z	71.41	48
17	MP4	X	-30.46	48
18	MP4	Z	52.75	48
19	MP4	X	-33.99	72
20	MP4	Z	58.87	72
21	MP2	X	-54.12	72
22	MP2	Z	93.74	72
23	MP7	X	-27.49	60
24	MP7	Z	47.62	60
25	MP8	X	-31.16	6
26	MP8	Z	53.97	6
27	MP8	X	-31.16	42
28	MP8	Z	53.97	42
29	MP7	X	-45.63	24
30	MP7	Z	79.03	24
31	MP6	X	-113.32	6
32	MP6	Z	196.27	6
33	MP6	X	-27.8	24
34	MP6	Z	48.15	24
35	MP8	X	-27.8	24
36	MP8	Z	48.15	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
37	MP6	X	-27.8	48
38	MP6	Z	48.15	48
39	MP8	X	-23.47	48
40	MP8	Z	40.64	48
41	MP8	X	-33.99	72
42	MP8	Z	58.87	72
43	MP11	X	-52.64	60
44	MP11	Z	91.17	60
45	MP12	X	-57.47	6
46	MP12	Z	99.54	6
47	MP12	X	-57.47	42
48	MP12	Z	99.54	42
49	MP11	X	-62.13	24
50	MP11	Z	107.61	24
51	MP10	X	-198.03	6
52	MP10	Z	342.99	6
53	MP10	X	-41.09	24
54	MP10	Z	71.16	24
55	MP12	X	-41.23	24
56	MP12	Z	71.41	24
57	MP10	X	-41.23	48
58	MP10	Z	71.41	48
59	MP12	X	-30.46	48
60	MP12	Z	52.75	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	60
2	MP3	Z	122.03	60
3	MP4	X	0	6
4	MP4	Z	132.48	6
5	MP4	X	0	42
6	MP4	Z	132.48	42
7	MP3	X	0	24
8	MP3	Z	135.26	24
9	MP2	X	0	6
10	MP2	Z	452.52	6
11	MP2	X	0	24
12	MP2	Z	91.03	24
13	MP4	X	0	24
14	MP4	Z	91.41	24
15	MP2	X	0	48
16	MP2	Z	91.41	48
17	MP4	X	0	48
18	MP4	Z	65.57	48
19	MP4	X	0	72
20	MP4	Z	67.98	72
21	MP2	X	0	72
22	MP2	Z	91.18	72
23	MP7	X	0	60
24	MP7	Z	71.75	60
25	MP8	X	0	6
26	MP8	Z	79.86	6
27	MP8	X	0	42
28	MP8	Z	79.86	42
29	MP7	X	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
30	MP7	Z	102.26	24
31	MP6	X	0	6
32	MP6	Z	283.11	6
33	MP6	X	0	24
34	MP6	Z	64.45	24
35	MP8	X	0	24
36	MP8	Z	64.55	24
37	MP6	X	0	48
38	MP6	Z	64.55	48
39	MP8	X	0	48
40	MP8	Z	51.59	48
41	MP8	X	0	72
42	MP8	Z	67.98	72
43	MP11	X	0	60
44	MP11	Z	71.75	60
45	MP12	X	0	6
46	MP12	Z	79.86	6
47	MP12	X	0	42
48	MP12	Z	79.86	42
49	MP11	X	0	24
50	MP11	Z	102.26	24
51	MP10	X	0	6
52	MP10	Z	283.11	6
53	MP10	X	0	24
54	MP10	Z	64.45	24
55	MP12	X	0	24
56	MP12	Z	64.55	24
57	MP10	X	0	48
58	MP10	Z	64.55	48
59	MP12	X	0	48
60	MP12	Z	51.59	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	52.64	60
2	MP3	Z	91.17	60
3	MP4	X	57.47	6
4	MP4	Z	99.54	6
5	MP4	X	57.47	42
6	MP4	Z	99.54	42
7	MP3	X	62.13	24
8	MP3	Z	107.61	24
9	MP2	X	198.03	6
10	MP2	Z	342.99	6
11	MP2	X	41.09	24
12	MP2	Z	71.16	24
13	MP4	X	41.23	24
14	MP4	Z	71.41	24
15	MP2	X	41.23	48
16	MP2	Z	71.41	48
17	MP4	X	30.46	48
18	MP4	Z	52.75	48
19	MP4	X	33.99	72
20	MP4	Z	58.87	72
21	MP2	X	54.12	72
22	MP2	Z	93.74	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP7	X	52.64	60
24	MP7	Z	91.17	60
25	MP8	X	57.47	6
26	MP8	Z	99.54	6
27	MP8	X	57.47	42
28	MP8	Z	99.54	42
29	MP7	X	62.13	24
30	MP7	Z	107.61	24
31	MP6	X	198.03	6
32	MP6	Z	342.99	6
33	MP6	X	41.09	24
34	MP6	Z	71.16	24
35	MP8	X	41.23	24
36	MP8	Z	71.41	24
37	MP6	X	41.23	48
38	MP6	Z	71.41	48
39	MP8	X	30.46	48
40	MP8	Z	52.75	48
41	MP8	X	33.99	72
42	MP8	Z	58.87	72
43	MP11	X	27.49	60
44	MP11	Z	47.62	60
45	MP12	X	31.16	6
46	MP12	Z	53.97	6
47	MP12	X	31.16	42
48	MP12	Z	53.97	42
49	MP11	X	45.63	24
50	MP11	Z	79.03	24
51	MP10	X	113.32	6
52	MP10	Z	196.27	6
53	MP10	X	27.8	24
54	MP10	Z	48.15	24
55	MP12	X	27.8	24
56	MP12	Z	48.15	24
57	MP10	X	27.8	48
58	MP10	Z	48.15	48
59	MP12	X	23.47	48
60	MP12	Z	40.64	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	62.14	60
2	MP3	Z	35.87	60
3	MP4	X	69.16	6
4	MP4	Z	39.93	6
5	MP4	X	69.16	42
6	MP4	Z	39.93	42
7	MP3	X	88.56	24
8	MP3	Z	51.13	24
9	MP2	X	245.18	6
10	MP2	Z	141.55	6
11	MP2	X	55.82	24
12	MP2	Z	32.23	24
13	MP4	X	55.9	24
14	MP4	Z	32.27	24
15	MP2	X	55.9	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
16	MP2	Z	32.27	48
17	MP4	X	44.68	48
18	MP4	Z	25.8	48
19	MP4	X	58.87	72
20	MP4	Z	33.99	72
21	MP2	X	123.29	72
22	MP2	Z	71.18	72
23	MP7	X	105.68	60
24	MP7	Z	61.02	60
25	MP8	X	114.73	6
26	MP8	Z	66.24	6
27	MP8	X	114.73	42
28	MP8	Z	66.24	42
29	MP7	X	117.14	24
30	MP7	Z	67.63	24
31	MP6	X	391.9	6
32	MP6	Z	226.26	6
33	MP6	X	78.83	24
34	MP6	Z	45.52	24
35	MP8	X	79.16	24
36	MP8	Z	45.7	24
37	MP6	X	79.16	48
38	MP6	Z	45.7	48
39	MP8	X	56.79	48
40	MP8	Z	32.79	48
41	MP8	X	58.87	72
42	MP8	Z	33.99	72
43	MP11	X	62.14	60
44	MP11	Z	35.87	60
45	MP12	X	69.16	6
46	MP12	Z	39.93	6
47	MP12	X	69.16	42
48	MP12	Z	39.93	42
49	MP11	X	88.56	24
50	MP11	Z	51.13	24
51	MP10	X	245.18	6
52	MP10	Z	141.55	6
53	MP10	X	55.82	24
54	MP10	Z	32.23	24
55	MP12	X	55.9	24
56	MP12	Z	32.27	24
57	MP10	X	55.9	48
58	MP10	Z	32.27	48
59	MP12	X	44.68	48
60	MP12	Z	25.8	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	54.99	60
2	MP3	Z	0	60
3	MP4	X	62.32	6
4	MP4	Z	0	6
5	MP4	X	62.32	42
6	MP4	Z	0	42
7	MP3	X	91.26	24
8	MP3	Z	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
9	MP2	X	226.63	6
10	MP2	Z	0	6
11	MP2	X	55.59	24
12	MP2	Z	0	24
13	MP4	X	55.59	24
14	MP4	Z	0	24
15	MP2	X	55.59	48
16	MP2	Z	0	48
17	MP4	X	46.93	48
18	MP4	Z	0	48
19	MP4	X	67.98	72
20	MP4	Z	0	72
21	MP2	X	159.42	72
22	MP2	Z	0	72
23	MP7	X	105.27	60
24	MP7	Z	0	60
25	MP8	X	114.94	6
26	MP8	Z	0	6
27	MP8	X	114.94	42
28	MP8	Z	0	42
29	MP7	X	124.26	24
30	MP7	Z	0	24
31	MP6	X	396.05	6
32	MP6	Z	0	6
33	MP6	X	82.17	24
34	MP6	Z	0	24
35	MP8	X	82.46	24
36	MP8	Z	0	24
37	MP6	X	82.46	48
38	MP6	Z	0	48
39	MP8	X	60.91	48
40	MP8	Z	0	48
41	MP8	X	67.98	72
42	MP8	Z	0	72
43	MP11	X	105.27	60
44	MP11	Z	0	60
45	MP12	X	114.94	6
46	MP12	Z	0	6
47	MP12	X	114.94	42
48	MP12	Z	0	42
49	MP11	X	124.26	24
50	MP11	Z	0	24
51	MP10	X	396.05	6
52	MP10	Z	0	6
53	MP10	X	82.17	24
54	MP10	Z	0	24
55	MP12	X	82.46	24
56	MP12	Z	0	24
57	MP10	X	82.46	48
58	MP10	Z	0	48
59	MP12	X	60.91	48
60	MP12	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	62.14	60

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP3	Z	-35.87	60
3	MP4	X	69.16	6
4	MP4	Z	-39.93	6
5	MP4	X	69.16	42
6	MP4	Z	-39.93	42
7	MP3	X	88.56	24
8	MP3	Z	-51.13	24
9	MP2	X	245.18	6
10	MP2	Z	-141.55	6
11	MP2	X	55.82	24
12	MP2	Z	-32.23	24
13	MP4	X	55.9	24
14	MP4	Z	-32.27	24
15	MP2	X	55.9	48
16	MP2	Z	-32.27	48
17	MP4	X	44.68	48
18	MP4	Z	-25.8	48
19	MP4	X	58.87	72
20	MP4	Z	-33.99	72
21	MP2	X	123.29	72
22	MP2	Z	-71.18	72
23	MP7	X	62.14	60
24	MP7	Z	-35.87	60
25	MP8	X	69.16	6
26	MP8	Z	-39.93	6
27	MP8	X	69.16	42
28	MP8	Z	-39.93	42
29	MP7	X	88.56	24
30	MP7	Z	-51.13	24
31	MP6	X	245.18	6
32	MP6	Z	-141.55	6
33	MP6	X	55.82	24
34	MP6	Z	-32.23	24
35	MP8	X	55.9	24
36	MP8	Z	-32.27	24
37	MP6	X	55.9	48
38	MP6	Z	-32.27	48
39	MP8	X	44.68	48
40	MP8	Z	-25.8	48
41	MP8	X	58.87	72
42	MP8	Z	-33.99	72
43	MP11	X	105.68	60
44	MP11	Z	-61.02	60
45	MP12	X	114.73	6
46	MP12	Z	-66.24	6
47	MP12	X	114.73	42
48	MP12	Z	-66.24	42
49	MP11	X	117.14	24
50	MP11	Z	-67.63	24
51	MP10	X	391.9	6
52	MP10	Z	-226.26	6
53	MP10	X	78.83	24
54	MP10	Z	-45.52	24
55	MP12	X	79.16	24
56	MP12	Z	-45.7	24
57	MP10	X	79.16	48
58	MP10	Z	-45.7	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
59	MP12	X	56.79	48
60	MP12	Z	-32.79	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	52.64	60
2	MP3	Z	-91.17	60
3	MP4	X	57.47	6
4	MP4	Z	-99.54	6
5	MP4	X	57.47	42
6	MP4	Z	-99.54	42
7	MP3	X	62.13	24
8	MP3	Z	-107.61	24
9	MP2	X	198.03	6
10	MP2	Z	-342.99	6
11	MP2	X	41.09	24
12	MP2	Z	-71.16	24
13	MP4	X	41.23	24
14	MP4	Z	-71.41	24
15	MP2	X	41.23	48
16	MP2	Z	-71.41	48
17	MP4	X	30.46	48
18	MP4	Z	-52.75	48
19	MP4	X	33.99	72
20	MP4	Z	-58.87	72
21	MP2	X	54.12	72
22	MP2	Z	-93.74	72
23	MP7	X	27.49	60
24	MP7	Z	-47.62	60
25	MP8	X	31.16	6
26	MP8	Z	-53.97	6
27	MP8	X	31.16	42
28	MP8	Z	-53.97	42
29	MP7	X	45.63	24
30	MP7	Z	-79.03	24
31	MP6	X	113.32	6
32	MP6	Z	-196.27	6
33	MP6	X	27.8	24
34	MP6	Z	-48.15	24
35	MP8	X	27.8	24
36	MP8	Z	-48.15	24
37	MP6	X	27.8	48
38	MP6	Z	-48.15	48
39	MP8	X	23.47	48
40	MP8	Z	-40.64	48
41	MP8	X	33.99	72
42	MP8	Z	-58.87	72
43	MP11	X	52.64	60
44	MP11	Z	-91.17	60
45	MP12	X	57.47	6
46	MP12	Z	-99.54	6
47	MP12	X	57.47	42
48	MP12	Z	-99.54	42
49	MP11	X	62.13	24
50	MP11	Z	-107.61	24
51	MP10	X	198.03	6

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
52	MP10	Z	-342.99	6
53	MP10	X	41.09	24
54	MP10	Z	-71.16	24
55	MP12	X	41.23	24
56	MP12	Z	-71.41	24
57	MP10	X	41.23	48
58	MP10	Z	-71.41	48
59	MP12	X	30.46	48
60	MP12	Z	-52.75	48

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Y	-64.557	60
2	MP4	Y	-69.826	6
3	MP4	Y	-69.826	42
4	MP3	Y	-84.321	24
5	MP2	Y	-206.535	6
6	MP2	Y	-54.084	24
7	MP4	Y	-54.222	24
8	MP2	Y	-54.222	48
9	MP4	Y	-47.567	48
10	MP4	Y	-54.336	72
11	MP2	Y	-92.777	72
12	MP7	Y	-64.557	60
13	MP8	Y	-69.826	6
14	MP8	Y	-69.826	42
15	MP7	Y	-84.321	24
16	MP6	Y	-206.535	6
17	MP6	Y	-54.084	24
18	MP8	Y	-54.222	24
19	MP6	Y	-54.222	48
20	MP8	Y	-47.567	48
21	MP8	Y	-54.336	72
22	MP11	Y	-64.557	60
23	MP12	Y	-69.826	6
24	MP12	Y	-69.826	42
25	MP11	Y	-84.321	24
26	MP10	Y	-206.535	6
27	MP10	Y	-54.084	24
28	MP12	Y	-54.222	24
29	MP10	Y	-54.222	48
30	MP12	Y	-47.567	48

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	60
2	MP3	Z	-11.55	60
3	MP4	X	0	6
4	MP4	Z	-12.25	6
5	MP4	X	0	42
6	MP4	Z	-12.25	42
7	MP3	X	0	24
8	MP3	Z	-12.7	24
9	MP2	X	0	6
10	MP2	Z	-39.17	6
11	MP2	X	0	24

Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	MP2	Z	-9.95	24
13	MP4	X	0	24
14	MP4	Z	-9.97	24
15	MP2	X	0	48
16	MP2	Z	-9.97	48
17	MP4	X	0	48
18	MP4	Z	-7.09	48
19	MP4	X	0	72
20	MP4	Z	-7.96	72
21	MP2	X	0	72
22	MP2	Z	-10.68	72
23	MP7	X	0	60
24	MP7	Z	-9.06	60
25	MP8	X	0	6
26	MP8	Z	-9.23	6
27	MP8	X	0	42
28	MP8	Z	-9.23	42
29	MP7	X	0	24
30	MP7	Z	-11.07	24
31	MP6	X	0	6
32	MP6	Z	-29.2	6
33	MP6	X	0	24
34	MP6	Z	-8.59	24
35	MP8	X	0	24
36	MP8	Z	-8.59	24
37	MP6	X	0	48
38	MP6	Z	-8.59	48
39	MP8	X	0	48
40	MP8	Z	-6.38	48
41	MP8	X	0	72
42	MP8	Z	-7.96	72
43	MP11	X	0	60
44	MP11	Z	-9.06	60
45	MP12	X	0	6
46	MP12	Z	-9.23	6
47	MP12	X	0	42
48	MP12	Z	-9.23	42
49	MP11	X	0	24
50	MP11	Z	-11.07	24
51	MP10	X	0	6
52	MP10	Z	-29.2	6
53	MP10	X	0	24
54	MP10	Z	-8.59	24
55	MP12	X	0	24
56	MP12	Z	-8.59	24
57	MP10	X	0	48
58	MP10	Z	-8.59	48
59	MP12	X	0	48
60	MP12	Z	-6.38	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-5.36	60
2	MP3	Z	-9.28	60
3	MP4	X	-5.62	6
4	MP4	Z	-9.74	6

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP4	X	-5.62	42
6	MP4	Z	-9.74	42
7	MP3	X	-6.08	24
8	MP3	Z	-10.53	24
9	MP2	X	-17.92	6
10	MP2	Z	-31.04	6
11	MP2	X	-4.75	24
12	MP2	Z	-8.22	24
13	MP4	X	-4.75	24
14	MP4	Z	-8.23	24
15	MP2	X	-4.75	48
16	MP2	Z	-8.23	48
17	MP4	X	-3.43	48
18	MP4	Z	-5.94	48
19	MP4	X	-3.98	72
20	MP4	Z	-6.9	72
21	MP2	X	-5.84	72
22	MP2	Z	-10.12	72
23	MP7	X	-5.36	60
24	MP7	Z	-9.28	60
25	MP8	X	-5.62	6
26	MP8	Z	-9.74	6
27	MP8	X	-5.62	42
28	MP8	Z	-9.74	42
29	MP7	X	-6.08	24
30	MP7	Z	-10.53	24
31	MP6	X	-17.92	6
32	MP6	Z	-31.04	6
33	MP6	X	-4.75	24
34	MP6	Z	-8.22	24
35	MP8	X	-4.75	24
36	MP8	Z	-8.23	24
37	MP6	X	-4.75	48
38	MP6	Z	-8.23	48
39	MP8	X	-3.43	48
40	MP8	Z	-5.94	48
41	MP8	X	-3.98	72
42	MP8	Z	-6.9	72
43	MP11	X	-4.11	60
44	MP11	Z	-7.12	60
45	MP12	X	-4.11	6
46	MP12	Z	-7.12	6
47	MP12	X	-4.11	42
48	MP12	Z	-7.12	42
49	MP11	X	-5.27	24
50	MP11	Z	-9.12	24
51	MP10	X	-12.94	6
52	MP10	Z	-22.41	6
53	MP10	X	-4.07	24
54	MP10	Z	-7.04	24
55	MP12	X	-4.07	24
56	MP12	Z	-7.04	24
57	MP10	X	-4.07	48
58	MP10	Z	-7.04	48
59	MP12	X	-3.07	48
60	MP12	Z	-5.32	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-7.84	60
2	MP3	Z	-4.53	60
3	MP4	X	-7.99	6
4	MP4	Z	-4.61	6
5	MP4	X	-7.99	42
6	MP4	Z	-4.61	42
7	MP3	X	-9.59	24
8	MP3	Z	-5.54	24
9	MP2	X	-25.29	6
10	MP2	Z	-14.6	6
11	MP2	X	-7.44	24
12	MP2	Z	-4.29	24
13	MP4	X	-7.44	24
14	MP4	Z	-4.3	24
15	MP2	X	-7.44	48
16	MP2	Z	-4.3	48
17	MP4	X	-5.53	48
18	MP4	Z	-3.19	48
19	MP4	X	-6.9	72
20	MP4	Z	-3.98	72
21	MP2	X	-11.86	72
22	MP2	Z	-6.84	72
23	MP7	X	-10	60
24	MP7	Z	-5.77	60
25	MP8	X	-10.61	6
26	MP8	Z	-6.12	6
27	MP8	X	-10.61	42
28	MP8	Z	-6.12	42
29	MP7	X	-11	24
30	MP7	Z	-6.35	24
31	MP6	X	-33.92	6
32	MP6	Z	-19.58	6
33	MP6	X	-8.62	24
34	MP6	Z	-4.97	24
35	MP8	X	-8.63	24
36	MP8	Z	-4.98	24
37	MP6	X	-8.63	48
38	MP6	Z	-4.98	48
39	MP8	X	-6.14	48
40	MP8	Z	-3.54	48
41	MP8	X	-6.9	72
42	MP8	Z	-3.98	72
43	MP11	X	-7.84	60
44	MP11	Z	-4.53	60
45	MP12	X	-7.99	6
46	MP12	Z	-4.61	6
47	MP12	X	-7.99	42
48	MP12	Z	-4.61	42
49	MP11	X	-9.59	24
50	MP11	Z	-5.54	24
51	MP10	X	-25.29	6
52	MP10	Z	-14.6	6
53	MP10	X	-7.44	24
54	MP10	Z	-4.29	24
55	MP12	X	-7.44	24
56	MP12	Z	-4.3	24
57	MP10	X	-7.44	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
58	MP10	Z	-4.3	48
59	MP12	X	-5.53	48
60	MP12	Z	-3.19	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-8.23	60
2	MP3	Z	0	60
3	MP4	X	-8.22	6
4	MP4	Z	0	6
5	MP4	X	-8.22	42
6	MP4	Z	0	42
7	MP3	X	-10.53	24
8	MP3	Z	0	24
9	MP2	X	-25.88	6
10	MP2	Z	0	6
11	MP2	X	-8.13	24
12	MP2	Z	0	24
13	MP4	X	-8.13	24
14	MP4	Z	0	24
15	MP2	X	-8.13	48
16	MP2	Z	0	48
17	MP4	X	-6.15	48
18	MP4	Z	0	48
19	MP4	X	-7.96	72
20	MP4	Z	0	72
21	MP2	X	-14.69	72
22	MP2	Z	0	72
23	MP7	X	-10.72	60
24	MP7	Z	0	60
25	MP8	X	-11.24	6
26	MP8	Z	0	6
27	MP8	X	-11.24	42
28	MP8	Z	0	42
29	MP7	X	-12.16	24
30	MP7	Z	0	24
31	MP6	X	-35.85	6
32	MP6	Z	0	6
33	MP6	X	-9.5	24
34	MP6	Z	0	24
35	MP8	X	-9.51	24
36	MP8	Z	0	24
37	MP6	X	-9.51	48
38	MP6	Z	0	48
39	MP8	X	-6.85	48
40	MP8	Z	0	48
41	MP8	X	-7.96	72
42	MP8	Z	0	72
43	MP11	X	-10.72	60
44	MP11	Z	0	60
45	MP12	X	-11.24	6
46	MP12	Z	0	6
47	MP12	X	-11.24	42
48	MP12	Z	0	42
49	MP11	X	-12.16	24
50	MP11	Z	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
51	MP10	X	-35.85	6
52	MP10	Z	0	6
53	MP10	X	-9.5	24
54	MP10	Z	0	24
55	MP12	X	-9.51	24
56	MP12	Z	0	24
57	MP10	X	-9.51	48
58	MP10	Z	0	48
59	MP12	X	-6.85	48
60	MP12	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-7.84	60
2	MP3	Z	4.53	60
3	MP4	X	-7.99	6
4	MP4	Z	4.61	6
5	MP4	X	-7.99	42
6	MP4	Z	4.61	42
7	MP3	X	-9.59	24
8	MP3	Z	5.54	24
9	MP2	X	-25.29	6
10	MP2	Z	14.6	6
11	MP2	X	-7.44	24
12	MP2	Z	4.29	24
13	MP4	X	-7.44	24
14	MP4	Z	4.3	24
15	MP2	X	-7.44	48
16	MP2	Z	4.3	48
17	MP4	X	-5.53	48
18	MP4	Z	3.19	48
19	MP4	X	-6.9	72
20	MP4	Z	3.98	72
21	MP2	X	-11.86	72
22	MP2	Z	6.84	72
23	MP7	X	-7.84	60
24	MP7	Z	4.53	60
25	MP8	X	-7.99	6
26	MP8	Z	4.61	6
27	MP8	X	-7.99	42
28	MP8	Z	4.61	42
29	MP7	X	-9.59	24
30	MP7	Z	5.54	24
31	MP6	X	-25.29	6
32	MP6	Z	14.6	6
33	MP6	X	-7.44	24
34	MP6	Z	4.29	24
35	MP8	X	-7.44	24
36	MP8	Z	4.3	24
37	MP6	X	-7.44	48
38	MP6	Z	4.3	48
39	MP8	X	-5.53	48
40	MP8	Z	3.19	48
41	MP8	X	-6.9	72
42	MP8	Z	3.98	72
43	MP11	X	-10	60

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
44	MP11	Z	5.77	60
45	MP12	X	-10.61	6
46	MP12	Z	6.12	6
47	MP12	X	-10.61	42
48	MP12	Z	6.12	42
49	MP11	X	-11	24
50	MP11	Z	6.35	24
51	MP10	X	-33.92	6
52	MP10	Z	19.58	6
53	MP10	X	-8.62	24
54	MP10	Z	4.97	24
55	MP12	X	-8.63	24
56	MP12	Z	4.98	24
57	MP10	X	-8.63	48
58	MP10	Z	4.98	48
59	MP12	X	-6.14	48
60	MP12	Z	3.54	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-5.36	60
2	MP3	Z	9.28	60
3	MP4	X	-5.62	6
4	MP4	Z	9.74	6
5	MP4	X	-5.62	42
6	MP4	Z	9.74	42
7	MP3	X	-6.08	24
8	MP3	Z	10.53	24
9	MP2	X	-17.92	6
10	MP2	Z	31.04	6
11	MP2	X	-4.75	24
12	MP2	Z	8.22	24
13	MP4	X	-4.75	24
14	MP4	Z	8.23	24
15	MP2	X	-4.75	48
16	MP2	Z	8.23	48
17	MP4	X	-3.43	48
18	MP4	Z	5.94	48
19	MP4	X	-3.98	72
20	MP4	Z	6.9	72
21	MP2	X	-5.84	72
22	MP2	Z	10.12	72
23	MP7	X	-4.11	60
24	MP7	Z	7.12	60
25	MP8	X	-4.11	6
26	MP8	Z	7.12	6
27	MP8	X	-4.11	42
28	MP8	Z	7.12	42
29	MP7	X	-5.27	24
30	MP7	Z	9.12	24
31	MP6	X	-12.94	6
32	MP6	Z	22.41	6
33	MP6	X	-4.07	24
34	MP6	Z	7.04	24
35	MP8	X	-4.07	24
36	MP8	Z	7.04	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
37	MP6	X	-4.07	48
38	MP6	Z	7.04	48
39	MP8	X	-3.07	48
40	MP8	Z	5.32	48
41	MP8	X	-3.98	72
42	MP8	Z	6.9	72
43	MP11	X	-5.36	60
44	MP11	Z	9.28	60
45	MP12	X	-5.62	6
46	MP12	Z	9.74	6
47	MP12	X	-5.62	42
48	MP12	Z	9.74	42
49	MP11	X	-6.08	24
50	MP11	Z	10.53	24
51	MP10	X	-17.92	6
52	MP10	Z	31.04	6
53	MP10	X	-4.75	24
54	MP10	Z	8.22	24
55	MP12	X	-4.75	24
56	MP12	Z	8.23	24
57	MP10	X	-4.75	48
58	MP10	Z	8.23	48
59	MP12	X	-3.43	48
60	MP12	Z	5.94	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	60
2	MP3	Z	11.55	60
3	MP4	X	0	6
4	MP4	Z	12.25	6
5	MP4	X	0	42
6	MP4	Z	12.25	42
7	MP3	X	0	24
8	MP3	Z	12.7	24
9	MP2	X	0	6
10	MP2	Z	39.17	6
11	MP2	X	0	24
12	MP2	Z	9.95	24
13	MP4	X	0	24
14	MP4	Z	9.97	24
15	MP2	X	0	48
16	MP2	Z	9.97	48
17	MP4	X	0	48
18	MP4	Z	7.09	48
19	MP4	X	0	72
20	MP4	Z	7.96	72
21	MP2	X	0	72
22	MP2	Z	10.68	72
23	MP7	X	0	60
24	MP7	Z	9.06	60
25	MP8	X	0	6
26	MP8	Z	9.23	6
27	MP8	X	0	42
28	MP8	Z	9.23	42
29	MP7	X	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
30	MP7	Z	11.07	24
31	MP6	X	0	6
32	MP6	Z	29.2	6
33	MP6	X	0	24
34	MP6	Z	8.59	24
35	MP8	X	0	24
36	MP8	Z	8.59	24
37	MP6	X	0	48
38	MP6	Z	8.59	48
39	MP8	X	0	48
40	MP8	Z	6.38	48
41	MP8	X	0	72
42	MP8	Z	7.96	72
43	MP11	X	0	60
44	MP11	Z	9.06	60
45	MP12	X	0	6
46	MP12	Z	9.23	6
47	MP12	X	0	42
48	MP12	Z	9.23	42
49	MP11	X	0	24
50	MP11	Z	11.07	24
51	MP10	X	0	6
52	MP10	Z	29.2	6
53	MP10	X	0	24
54	MP10	Z	8.59	24
55	MP12	X	0	24
56	MP12	Z	8.59	24
57	MP10	X	0	48
58	MP10	Z	8.59	48
59	MP12	X	0	48
60	MP12	Z	6.38	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	5.36	60
2	MP3	Z	9.28	60
3	MP4	X	5.62	6
4	MP4	Z	9.74	6
5	MP4	X	5.62	42
6	MP4	Z	9.74	42
7	MP3	X	6.08	24
8	MP3	Z	10.53	24
9	MP2	X	17.92	6
10	MP2	Z	31.04	6
11	MP2	X	4.75	24
12	MP2	Z	8.22	24
13	MP4	X	4.75	24
14	MP4	Z	8.23	24
15	MP2	X	4.75	48
16	MP2	Z	8.23	48
17	MP4	X	3.43	48
18	MP4	Z	5.94	48
19	MP4	X	3.98	72
20	MP4	Z	6.9	72
21	MP2	X	5.84	72
22	MP2	Z	10.12	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP7	X	5.36	60
24	MP7	Z	9.28	60
25	MP8	X	5.62	6
26	MP8	Z	9.74	6
27	MP8	X	5.62	42
28	MP8	Z	9.74	42
29	MP7	X	6.08	24
30	MP7	Z	10.53	24
31	MP6	X	17.92	6
32	MP6	Z	31.04	6
33	MP6	X	4.75	24
34	MP6	Z	8.22	24
35	MP8	X	4.75	24
36	MP8	Z	8.23	24
37	MP6	X	4.75	48
38	MP6	Z	8.23	48
39	MP8	X	3.43	48
40	MP8	Z	5.94	48
41	MP8	X	3.98	72
42	MP8	Z	6.9	72
43	MP11	X	4.11	60
44	MP11	Z	7.12	60
45	MP12	X	4.11	6
46	MP12	Z	7.12	6
47	MP12	X	4.11	42
48	MP12	Z	7.12	42
49	MP11	X	5.27	24
50	MP11	Z	9.12	24
51	MP10	X	12.94	6
52	MP10	Z	22.41	6
53	MP10	X	4.07	24
54	MP10	Z	7.04	24
55	MP12	X	4.07	24
56	MP12	Z	7.04	24
57	MP10	X	4.07	48
58	MP10	Z	7.04	48
59	MP12	X	3.07	48
60	MP12	Z	5.32	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	7.84	60
2	MP3	Z	4.53	60
3	MP4	X	7.99	6
4	MP4	Z	4.61	6
5	MP4	X	7.99	42
6	MP4	Z	4.61	42
7	MP3	X	9.59	24
8	MP3	Z	5.54	24
9	MP2	X	25.29	6
10	MP2	Z	14.6	6
11	MP2	X	7.44	24
12	MP2	Z	4.29	24
13	MP4	X	7.44	24
14	MP4	Z	4.3	24
15	MP2	X	7.44	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
16	MP2	Z	4.3	48
17	MP4	X	5.53	48
18	MP4	Z	3.19	48
19	MP4	X	6.9	72
20	MP4	Z	3.98	72
21	MP2	X	11.86	72
22	MP2	Z	6.84	72
23	MP7	X	10	60
24	MP7	Z	5.77	60
25	MP8	X	10.61	6
26	MP8	Z	6.12	6
27	MP8	X	10.61	42
28	MP8	Z	6.12	42
29	MP7	X	11	24
30	MP7	Z	6.35	24
31	MP6	X	33.92	6
32	MP6	Z	19.58	6
33	MP6	X	8.62	24
34	MP6	Z	4.97	24
35	MP8	X	8.63	24
36	MP8	Z	4.98	24
37	MP6	X	8.63	48
38	MP6	Z	4.98	48
39	MP8	X	6.14	48
40	MP8	Z	3.54	48
41	MP8	X	6.9	72
42	MP8	Z	3.98	72
43	MP11	X	7.84	60
44	MP11	Z	4.53	60
45	MP12	X	7.99	6
46	MP12	Z	4.61	6
47	MP12	X	7.99	42
48	MP12	Z	4.61	42
49	MP11	X	9.59	24
50	MP11	Z	5.54	24
51	MP10	X	25.29	6
52	MP10	Z	14.6	6
53	MP10	X	7.44	24
54	MP10	Z	4.29	24
55	MP12	X	7.44	24
56	MP12	Z	4.3	24
57	MP10	X	7.44	48
58	MP10	Z	4.3	48
59	MP12	X	5.53	48
60	MP12	Z	3.19	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	8.23	60
2	MP3	Z	0	60
3	MP4	X	8.22	6
4	MP4	Z	0	6
5	MP4	X	8.22	42
6	MP4	Z	0	42
7	MP3	X	10.53	24
8	MP3	Z	0	24

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
9	MP2	X	25.88	6
10	MP2	Z	0	6
11	MP2	X	8.13	24
12	MP2	Z	0	24
13	MP4	X	8.13	24
14	MP4	Z	0	24
15	MP2	X	8.13	48
16	MP2	Z	0	48
17	MP4	X	6.15	48
18	MP4	Z	0	48
19	MP4	X	7.96	72
20	MP4	Z	0	72
21	MP2	X	14.69	72
22	MP2	Z	0	72
23	MP7	X	10.72	60
24	MP7	Z	0	60
25	MP8	X	11.24	6
26	MP8	Z	0	6
27	MP8	X	11.24	42
28	MP8	Z	0	42
29	MP7	X	12.16	24
30	MP7	Z	0	24
31	MP6	X	35.85	6
32	MP6	Z	0	6
33	MP6	X	9.5	24
34	MP6	Z	0	24
35	MP8	X	9.51	24
36	MP8	Z	0	24
37	MP6	X	9.51	48
38	MP6	Z	0	48
39	MP8	X	6.85	48
40	MP8	Z	0	48
41	MP8	X	7.96	72
42	MP8	Z	0	72
43	MP11	X	10.72	60
44	MP11	Z	0	60
45	MP12	X	11.24	6
46	MP12	Z	0	6
47	MP12	X	11.24	42
48	MP12	Z	0	42
49	MP11	X	12.16	24
50	MP11	Z	0	24
51	MP10	X	35.85	6
52	MP10	Z	0	6
53	MP10	X	9.5	24
54	MP10	Z	0	24
55	MP12	X	9.51	24
56	MP12	Z	0	24
57	MP10	X	9.51	48
58	MP10	Z	0	48
59	MP12	X	6.85	48
60	MP12	Z	0	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	7.84	60

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP3	Z	-4.53	60
3	MP4	X	7.99	6
4	MP4	Z	-4.61	6
5	MP4	X	7.99	42
6	MP4	Z	-4.61	42
7	MP3	X	9.59	24
8	MP3	Z	-5.54	24
9	MP2	X	25.29	6
10	MP2	Z	-14.6	6
11	MP2	X	7.44	24
12	MP2	Z	-4.29	24
13	MP4	X	7.44	24
14	MP4	Z	-4.3	24
15	MP2	X	7.44	48
16	MP2	Z	-4.3	48
17	MP4	X	5.53	48
18	MP4	Z	-3.19	48
19	MP4	X	6.9	72
20	MP4	Z	-3.98	72
21	MP2	X	11.86	72
22	MP2	Z	-6.84	72
23	MP7	X	7.84	60
24	MP7	Z	-4.53	60
25	MP8	X	7.99	6
26	MP8	Z	-4.61	6
27	MP8	X	7.99	42
28	MP8	Z	-4.61	42
29	MP7	X	9.59	24
30	MP7	Z	-5.54	24
31	MP6	X	25.29	6
32	MP6	Z	-14.6	6
33	MP6	X	7.44	24
34	MP6	Z	-4.29	24
35	MP8	X	7.44	24
36	MP8	Z	-4.3	24
37	MP6	X	7.44	48
38	MP6	Z	-4.3	48
39	MP8	X	5.53	48
40	MP8	Z	-3.19	48
41	MP8	X	6.9	72
42	MP8	Z	-3.98	72
43	MP11	X	10	60
44	MP11	Z	-5.77	60
45	MP12	X	10.61	6
46	MP12	Z	-6.12	6
47	MP12	X	10.61	42
48	MP12	Z	-6.12	42
49	MP11	X	11	24
50	MP11	Z	-6.35	24
51	MP10	X	33.92	6
52	MP10	Z	-19.58	6
53	MP10	X	8.62	24
54	MP10	Z	-4.97	24
55	MP12	X	8.63	24
56	MP12	Z	-4.98	24
57	MP10	X	8.63	48
58	MP10	Z	-4.98	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
59	MP12	X	6.14	48
60	MP12	Z	-3.54	48

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	5.36	60
2	MP3	Z	-9.28	60
3	MP4	X	5.62	6
4	MP4	Z	-9.74	6
5	MP4	X	5.62	42
6	MP4	Z	-9.74	42
7	MP3	X	6.08	24
8	MP3	Z	-10.53	24
9	MP2	X	17.92	6
10	MP2	Z	-31.04	6
11	MP2	X	4.75	24
12	MP2	Z	-8.22	24
13	MP4	X	4.75	24
14	MP4	Z	-8.23	24
15	MP2	X	4.75	48
16	MP2	Z	-8.23	48
17	MP4	X	3.43	48
18	MP4	Z	-5.94	48
19	MP4	X	3.98	72
20	MP4	Z	-6.9	72
21	MP2	X	5.84	72
22	MP2	Z	-10.12	72
23	MP7	X	4.11	60
24	MP7	Z	-7.12	60
25	MP8	X	4.11	6
26	MP8	Z	-7.12	6
27	MP8	X	4.11	42
28	MP8	Z	-7.12	42
29	MP7	X	5.27	24
30	MP7	Z	-9.12	24
31	MP6	X	12.94	6
32	MP6	Z	-22.41	6
33	MP6	X	4.07	24
34	MP6	Z	-7.04	24
35	MP8	X	4.07	24
36	MP8	Z	-7.04	24
37	MP6	X	4.07	48
38	MP6	Z	-7.04	48
39	MP8	X	3.07	48
40	MP8	Z	-5.32	48
41	MP8	X	3.98	72
42	MP8	Z	-6.9	72
43	MP11	X	5.36	60
44	MP11	Z	-9.28	60
45	MP12	X	5.62	6
46	MP12	Z	-9.74	6
47	MP12	X	5.62	42
48	MP12	Z	-9.74	42
49	MP11	X	6.08	24
50	MP11	Z	-10.53	24
51	MP10	X	17.92	6

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
52	MP10	Z	-31.04	6
53	MP10	X	4.75	24
54	MP10	Z	-8.22	24
55	MP12	X	4.75	24
56	MP12	Z	-8.23	24
57	MP10	X	4.75	48
58	MP10	Z	-8.23	48
59	MP12	X	3.43	48
60	MP12	Z	-5.94	48

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Z	-26.162	60
2	MP4	Z	-14.939	6
3	MP4	Z	-14.939	42
4	MP3	Z	-38.255	24
5	MP2	Z	-51.376	6
6	MP2	Z	-20.906	24
7	MP4	Z	-20.946	24
8	MP2	Z	-20.946	48
9	MP4	Z	-28.059	48
10	MP4	Z	-7.469	72
11	MP2	Z	-10.354	72
12	MP7	Z	-26.162	60
13	MP8	Z	-14.939	6
14	MP8	Z	-14.939	42
15	MP7	Z	-38.255	24
16	MP6	Z	-51.376	6
17	MP6	Z	-20.906	24
18	MP8	Z	-20.946	24
19	MP6	Z	-20.946	48
20	MP8	Z	-28.059	48
21	MP8	Z	-7.469	72
22	MP11	Z	-26.162	60
23	MP12	Z	-14.939	6
24	MP12	Z	-14.939	42
25	MP11	Z	-38.255	24
26	MP10	Z	-51.376	6
27	MP10	Z	-20.906	24
28	MP12	Z	-20.946	24
29	MP10	Z	-20.946	48
30	MP12	Z	-28.059	48

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-26.162	60
2	MP4	X	-14.939	6
3	MP4	X	-14.939	42
4	MP3	X	-38.255	24
5	MP2	X	-51.376	6
6	MP2	X	-20.906	24
7	MP4	X	-20.946	24
8	MP2	X	-20.946	48
9	MP4	X	-28.059	48
10	MP4	X	-7.469	72
11	MP2	X	-10.354	72

Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	MP7	X	-26.162	60
13	MP8	X	-14.939	6
14	MP8	X	-14.939	42
15	MP7	X	-38.255	24
16	MP6	X	-51.376	6
17	MP6	X	-20.906	24
18	MP8	X	-20.946	24
19	MP6	X	-20.946	48
20	MP8	X	-28.059	48
21	MP8	X	-7.469	72
22	MP11	X	-26.162	60
23	MP12	X	-14.939	6
24	MP12	X	-14.939	42
25	MP11	X	-38.255	24
26	MP10	X	-51.376	6
27	MP10	X	-20.906	24
28	MP12	X	-20.946	24
29	MP10	X	-20.946	48
30	MP12	X	-28.059	48

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude..	End Magnitude[..	Start Location[i...	End Location[in...
1	HOR1	SZ	-44.355	-44.355	0	%100
2	HOR2	SZ	-44.355	-44.355	0	%100
3	MP1	SZ	-44.355	-44.355	0	%100
4	SA2	SZ	-44.355	-44.355	0	%100
5	SA4	SZ	-44.355	-44.355	0	%100
6	SA1	SZ	-44.355	-44.355	0	%100
7	SA3	SZ	-44.355	-44.355	0	%100
8	M11	SZ	-44.355	-44.355	0	%100
9	M12	SZ	-44.355	-44.355	0	%100
10	M13	SZ	-44.355	-44.355	0	%100
11	M14	SZ	-44.355	-44.355	0	%100
12	SP1	SZ	-44.355	-44.355	0	%100
13	M24	SZ	0	0	0	%100
14	M25	SZ	0	0	0	%100
15	M26	SZ	0	0	0	%100
16	M28	SZ	0	0	0	%100
17	HOR5	SZ	-44.355	-44.355	0	%100
18	HOR6	SZ	-44.355	-44.355	0	%100
19	SA10	SZ	-44.355	-44.355	0	%100
20	SA12	SZ	-44.355	-44.355	0	%100
21	SA9	SZ	-44.355	-44.355	0	%100
22	SA11	SZ	-44.355	-44.355	0	%100
23	M38	SZ	-44.355	-44.355	0	%100
24	M39	SZ	-44.355	-44.355	0	%100
25	M40	SZ	-44.355	-44.355	0	%100
26	M41	SZ	-44.355	-44.355	0	%100
27	M42	SZ	-44.355	-44.355	0	%100
28	M51	SZ	0	0	0	%100
29	M53	SZ	0	0	0	%100
30	HOR3	SZ	-44.355	-44.355	0	%100
31	HOR4	SZ	-44.355	-44.355	0	%100
32	SA6	SZ	-44.355	-44.355	0	%100
33	SA8	SZ	-44.355	-44.355	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
34	SA5	SZ	-44.355	-44.355	0	%100
35	SA7	SZ	-44.355	-44.355	0	%100
36	M65	SZ	-44.355	-44.355	0	%100
37	M66	SZ	-44.355	-44.355	0	%100
38	M67	SZ	-44.355	-44.355	0	%100
39	M68	SZ	-44.355	-44.355	0	%100
40	M69	SZ	-44.355	-44.355	0	%100
41	M78	SZ	0	0	0	%100
42	M80	SZ	0	0	0	%100
43	TB2	SZ	-44.355	-44.355	0	%100
44	M83	SZ	0	0	0	%100
45	M86	SZ	0	0	0	%100
46	TB6	SZ	-44.355	-44.355	0	%100
47	M89	SZ	0	0	0	%100
48	M92	SZ	0	0	0	%100
49	TB4	SZ	-44.355	-44.355	0	%100
50	M95	SZ	0	0	0	%100
51	M93	SZ	0	0	0	%100
52	M94	SZ	0	0	0	%100
53	M95A	SZ	0	0	0	%100
54	MP2	SZ	-44.355	-44.355	0	%100
55	M64	SZ	0	0	0	%100
56	M65A	SZ	0	0	0	%100
57	MP3	SZ	-44.355	-44.355	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	MP4	SZ	-44.355	-44.355	0	%100
61	M70	SZ	0	0	0	%100
62	M71	SZ	0	0	0	%100
63	MP9	SZ	-44.355	-44.355	0	%100
64	M73	SZ	0	0	0	%100
65	M74	SZ	0	0	0	%100
66	MP10	SZ	-44.355	-44.355	0	%100
67	M76	SZ	0	0	0	%100
68	M77	SZ	0	0	0	%100
69	MP11	SZ	-44.355	-44.355	0	%100
70	M79	SZ	0	0	0	%100
71	M80A	SZ	0	0	0	%100
72	MP12	SZ	-44.355	-44.355	0	%100
73	M82	SZ	0	0	0	%100
74	M83A	SZ	0	0	0	%100
75	MP5	SZ	-44.355	-44.355	0	%100
76	M85	SZ	0	0	0	%100
77	M86A	SZ	0	0	0	%100
78	MP6	SZ	-44.355	-44.355	0	%100
79	M88	SZ	0	0	0	%100
80	M89A	SZ	0	0	0	%100
81	MP7	SZ	-44.355	-44.355	0	%100
82	M91	SZ	0	0	0	%100
83	M92A	SZ	0	0	0	%100
84	MP8	SZ	-44.355	-44.355	0	%100
85	M94A	SZ	0	0	0	%100
86	M95B	SZ	0	0	0	%100
87	M87	SZ	0	0	0	%100
88	M88A	SZ	0	0	0	%100
89	M89B	SZ	0	0	0	%100
90	M90	SZ	0	0	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
91	M91A	SZ	0	0	0	%100
92	M92B	SZ	0	0	0	%100
93	M93A	SZ	-44.355	-44.355	0	%100
94	M94B	SZ	0	0	0	%100
95	M95C	SZ	0	0	0	%100
96	M96	SZ	-44.355	-44.355	0	%100
97	M97	SZ	0	0	0	%100
98	M98	SZ	0	0	0	%100
99	M99	SZ	-44.355	-44.355	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
1	HOR1	SX	-44.355	-44.355	0	%100
2	HOR2	SX	-44.355	-44.355	0	%100
3	MP1	SX	-44.355	-44.355	0	%100
4	SA2	SX	-44.355	-44.355	0	%100
5	SA4	SX	-44.355	-44.355	0	%100
6	SA1	SX	-44.355	-44.355	0	%100
7	SA3	SX	-44.355	-44.355	0	%100
8	M11	SX	-44.355	-44.355	0	%100
9	M12	SX	-44.355	-44.355	0	%100
10	M13	SX	-44.355	-44.355	0	%100
11	M14	SX	-44.355	-44.355	0	%100
12	SP1	SX	-44.355	-44.355	0	%100
13	M24	SX	0	0	0	%100
14	M25	SX	0	0	0	%100
15	M26	SX	0	0	0	%100
16	M28	SX	0	0	0	%100
17	HOR5	SX	-44.355	-44.355	0	%100
18	HOR6	SX	-44.355	-44.355	0	%100
19	SA10	SX	-44.355	-44.355	0	%100
20	SA12	SX	-44.355	-44.355	0	%100
21	SA9	SX	-44.355	-44.355	0	%100
22	SA11	SX	-44.355	-44.355	0	%100
23	M38	SX	-44.355	-44.355	0	%100
24	M39	SX	-44.355	-44.355	0	%100
25	M40	SX	-44.355	-44.355	0	%100
26	M41	SX	-44.355	-44.355	0	%100
27	M42	SX	-44.355	-44.355	0	%100
28	M51	SX	0	0	0	%100
29	M53	SX	0	0	0	%100
30	HOR3	SX	-44.355	-44.355	0	%100
31	HOR4	SX	-44.355	-44.355	0	%100
32	SA6	SX	-44.355	-44.355	0	%100
33	SA8	SX	-44.355	-44.355	0	%100
34	SA5	SX	-44.355	-44.355	0	%100
35	SA7	SX	-44.355	-44.355	0	%100
36	M65	SX	-44.355	-44.355	0	%100
37	M66	SX	-44.355	-44.355	0	%100
38	M67	SX	-44.355	-44.355	0	%100
39	M68	SX	-44.355	-44.355	0	%100
40	M69	SX	-44.355	-44.355	0	%100
41	M78	SX	0	0	0	%100
42	M80	SX	0	0	0	%100
43	TB2	SX	-44.355	-44.355	0	%100
44	M83	SX	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
45	M86	SX	0	0	0	%100
46	TB6	SX	-44.355	-44.355	0	%100
47	M89	SX	0	0	0	%100
48	M92	SX	0	0	0	%100
49	TB4	SX	-44.355	-44.355	0	%100
50	M95	SX	0	0	0	%100
51	M93	SX	0	0	0	%100
52	M94	SX	0	0	0	%100
53	M95A	SX	0	0	0	%100
54	MP2	SX	-44.355	-44.355	0	%100
55	M64	SX	0	0	0	%100
56	M65A	SX	0	0	0	%100
57	MP3	SX	-44.355	-44.355	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	MP4	SX	-44.355	-44.355	0	%100
61	M70	SX	0	0	0	%100
62	M71	SX	0	0	0	%100
63	MP9	SX	-44.355	-44.355	0	%100
64	M73	SX	0	0	0	%100
65	M74	SX	0	0	0	%100
66	MP10	SX	-44.355	-44.355	0	%100
67	M76	SX	0	0	0	%100
68	M77	SX	0	0	0	%100
69	MP11	SX	-44.355	-44.355	0	%100
70	M79	SX	0	0	0	%100
71	M80A	SX	0	0	0	%100
72	MP12	SX	-44.355	-44.355	0	%100
73	M82	SX	0	0	0	%100
74	M83A	SX	0	0	0	%100
75	MP5	SX	-44.355	-44.355	0	%100
76	M85	SX	0	0	0	%100
77	M86A	SX	0	0	0	%100
78	MP6	SX	-44.355	-44.355	0	%100
79	M88	SX	0	0	0	%100
80	M89A	SX	0	0	0	%100
81	MP7	SX	-44.355	-44.355	0	%100
82	M91	SX	0	0	0	%100
83	M92A	SX	0	0	0	%100
84	MP8	SX	-44.355	-44.355	0	%100
85	M94A	SX	0	0	0	%100
86	M95B	SX	0	0	0	%100
87	M87	SX	0	0	0	%100
88	M88A	SX	0	0	0	%100
89	M89B	SX	0	0	0	%100
90	M90	SX	0	0	0	%100
91	M91A	SX	0	0	0	%100
92	M92B	SX	0	0	0	%100
93	M93A	SX	-44.355	-44.355	0	%100
94	M94B	SX	0	0	0	%100
95	M95C	SX	0	0	0	%100
96	M96	SX	-44.355	-44.355	0	%100
97	M97	SX	0	0	0	%100
98	M98	SX	0	0	0	%100
99	M99	SX	-44.355	-44.355	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude...	End Magnitude[...	Start Location[i...	End Location[in...
1	HOR1	Y	-5.75	-5.75	0	%100
2	HOR2	Y	-5.75	-5.75	0	%100
3	MP1	Y	-5.75	-5.75	0	%100
4	SA2	Y	-5.039	-5.039	0	%100
5	SA4	Y	-5.039	-5.039	0	%100
6	SA1	Y	-5.039	-5.039	0	%100
7	SA3	Y	-5.039	-5.039	0	%100
8	M11	Y	-2.726	-2.726	0	%100
9	M12	Y	-2.726	-2.726	0	%100
10	M13	Y	-2.726	-2.726	0	%100
11	M14	Y	-2.726	-2.726	0	%100
12	SP1	Y	-6.64	-6.64	0	%100
13	M24	Y	-1.658	-1.658	0	%100
14	M25	Y	-1.658	-1.658	0	%100
15	M26	Y	-1.658	-1.658	0	%100
16	M28	Y	-1.658	-1.658	0	%100
17	HOR5	Y	-5.75	-5.75	0	%100
18	HOR6	Y	-5.75	-5.75	0	%100
19	SA10	Y	-5.039	-5.039	0	%100
20	SA12	Y	-5.039	-5.039	0	%100
21	SA9	Y	-5.039	-5.039	0	%100
22	SA11	Y	-5.039	-5.039	0	%100
23	M38	Y	-2.726	-2.726	0	%100
24	M39	Y	-2.726	-2.726	0	%100
25	M40	Y	-2.726	-2.726	0	%100
26	M41	Y	-2.726	-2.726	0	%100
27	M42	Y	-6.64	-6.64	0	%100
28	M51	Y	-1.658	-1.658	0	%100
29	M53	Y	-1.658	-1.658	0	%100
30	HOR3	Y	-5.75	-5.75	0	%100
31	HOR4	Y	-5.75	-5.75	0	%100
32	SA6	Y	-5.039	-5.039	0	%100
33	SA8	Y	-5.039	-5.039	0	%100
34	SA5	Y	-5.039	-5.039	0	%100
35	SA7	Y	-5.039	-5.039	0	%100
36	M65	Y	-2.726	-2.726	0	%100
37	M66	Y	-2.726	-2.726	0	%100
38	M67	Y	-2.726	-2.726	0	%100
39	M68	Y	-2.726	-2.726	0	%100
40	M69	Y	-6.64	-6.64	0	%100
41	M78	Y	-1.658	-1.658	0	%100
42	M80	Y	-1.658	-1.658	0	%100
43	TB2	Y	-5.75	-5.75	0	%100
44	M83	Y	-1.658	-1.658	0	%100
45	M86	Y	-1.658	-1.658	0	%100
46	TB6	Y	-5.75	-5.75	0	%100
47	M89	Y	-1.658	-1.658	0	%100
48	M92	Y	-1.658	-1.658	0	%100
49	TB4	Y	-5.75	-5.75	0	%100
50	M95	Y	-1.658	-1.658	0	%100
51	M93	Y	-1.658	-1.658	0	%100
52	M94	Y	-1.658	-1.658	0	%100
53	M95A	Y	-1.658	-1.658	0	%100
54	MP2	Y	-5.75	-5.75	0	%100
55	M64	Y	-1.658	-1.658	0	%100
56	M65A	Y	-1.658	-1.658	0	%100
57	MP3	Y	-5.75	-5.75	0	%100

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

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
58	M67A	Y	-1.658	-1.658	0	%100
59	M68A	Y	-1.658	-1.658	0	%100
60	MP4	Y	-5.75	-5.75	0	%100
61	M70	Y	-1.658	-1.658	0	%100
62	M71	Y	-1.658	-1.658	0	%100
63	MP9	Y	-5.75	-5.75	0	%100
64	M73	Y	-1.658	-1.658	0	%100
65	M74	Y	-1.658	-1.658	0	%100
66	MP10	Y	-5.75	-5.75	0	%100
67	M76	Y	-1.658	-1.658	0	%100
68	M77	Y	-1.658	-1.658	0	%100
69	MP11	Y	-5.75	-5.75	0	%100
70	M79	Y	-1.658	-1.658	0	%100
71	M80A	Y	-1.658	-1.658	0	%100
72	MP12	Y	-5.75	-5.75	0	%100
73	M82	Y	-1.658	-1.658	0	%100
74	M83A	Y	-1.658	-1.658	0	%100
75	MP5	Y	-5.75	-5.75	0	%100
76	M85	Y	-1.658	-1.658	0	%100
77	M86A	Y	-1.658	-1.658	0	%100
78	MP6	Y	-5.75	-5.75	0	%100
79	M88	Y	-1.658	-1.658	0	%100
80	M89A	Y	-1.658	-1.658	0	%100
81	MP7	Y	-5.75	-5.75	0	%100
82	M91	Y	-1.658	-1.658	0	%100
83	M92A	Y	-1.658	-1.658	0	%100
84	MP8	Y	-5.75	-5.75	0	%100
85	M94A	Y	-1.658	-1.658	0	%100
86	M95B	Y	-1.658	-1.658	0	%100
87	M87	Y	-1.658	-1.658	0	%100
88	M88A	Y	-1.658	-1.658	0	%100
89	M89B	Y	-1.658	-1.658	0	%100
90	M90	Y	-1.658	-1.658	0	%100
91	M91A	Y	-1.658	-1.658	0	%100
92	M92B	Y	-1.658	-1.658	0	%100
93	M93A	Y	-5.75	-5.75	0	%100
94	M94B	Y	-1.658	-1.658	0	%100
95	M95C	Y	-1.658	-1.658	0	%100
96	M96	Y	-5.75	-5.75	0	%100
97	M97	Y	-1.658	-1.658	0	%100
98	M98	Y	-1.658	-1.658	0	%100
99	M99	Y	-5.75	-5.75	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
1	HOR1	SZ	-14.665	-14.665	0	%100
2	HOR2	SZ	-14.665	-14.665	0	%100
3	MP1	SZ	-14.665	-14.665	0	%100
4	SA2	SZ	-16.047	-16.047	0	%100
5	SA4	SZ	-16.047	-16.047	0	%100
6	SA1	SZ	-16.047	-16.047	0	%100
7	SA3	SZ	-16.047	-16.047	0	%100
8	M11	SZ	-33.266	-33.266	0	%100
9	M12	SZ	-33.266	-33.266	0	%100
10	M13	SZ	-33.266	-33.266	0	%100
11	M14	SZ	-33.266	-33.266	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
12	SP1	SZ	-13.493	-13.493	0	%100
13	M24	SZ	0	0	0	%100
14	M25	SZ	0	0	0	%100
15	M26	SZ	0	0	0	%100
16	M28	SZ	0	0	0	%100
17	HOR5	SZ	-14.665	-14.665	0	%100
18	HOR6	SZ	-14.665	-14.665	0	%100
19	SA10	SZ	-16.047	-16.047	0	%100
20	SA12	SZ	-16.047	-16.047	0	%100
21	SA9	SZ	-16.047	-16.047	0	%100
22	SA11	SZ	-16.047	-16.047	0	%100
23	M38	SZ	-33.266	-33.266	0	%100
24	M39	SZ	-33.266	-33.266	0	%100
25	M40	SZ	-33.266	-33.266	0	%100
26	M41	SZ	-33.266	-33.266	0	%100
27	M42	SZ	-13.493	-13.493	0	%100
28	M51	SZ	0	0	0	%100
29	M53	SZ	0	0	0	%100
30	HOR3	SZ	-14.665	-14.665	0	%100
31	HOR4	SZ	-14.665	-14.665	0	%100
32	SA6	SZ	-16.047	-16.047	0	%100
33	SA8	SZ	-16.047	-16.047	0	%100
34	SA5	SZ	-16.047	-16.047	0	%100
35	SA7	SZ	-16.047	-16.047	0	%100
36	M65	SZ	-33.266	-33.266	0	%100
37	M66	SZ	-33.266	-33.266	0	%100
38	M67	SZ	-33.266	-33.266	0	%100
39	M68	SZ	-33.266	-33.266	0	%100
40	M69	SZ	-13.493	-13.493	0	%100
41	M78	SZ	0	0	0	%100
42	M80	SZ	0	0	0	%100
43	TB2	SZ	-14.665	-14.665	0	%100
44	M83	SZ	0	0	0	%100
45	M86	SZ	0	0	0	%100
46	TB6	SZ	-14.665	-14.665	0	%100
47	M89	SZ	0	0	0	%100
48	M92	SZ	0	0	0	%100
49	TB4	SZ	-14.665	-14.665	0	%100
50	M95	SZ	0	0	0	%100
51	M93	SZ	0	0	0	%100
52	M94	SZ	0	0	0	%100
53	M95A	SZ	0	0	0	%100
54	MP2	SZ	-14.665	-14.665	0	%100
55	M64	SZ	0	0	0	%100
56	M65A	SZ	0	0	0	%100
57	MP3	SZ	-14.665	-14.665	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	MP4	SZ	-14.665	-14.665	0	%100
61	M70	SZ	0	0	0	%100
62	M71	SZ	0	0	0	%100
63	MP9	SZ	-14.665	-14.665	0	%100
64	M73	SZ	0	0	0	%100
65	M74	SZ	0	0	0	%100
66	MP10	SZ	-14.665	-14.665	0	%100
67	M76	SZ	0	0	0	%100
68	M77	SZ	0	0	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
69	MP11	SZ	-14.665	-14.665	0	%100
70	M79	SZ	0	0	0	%100
71	M80A	SZ	0	0	0	%100
72	MP12	SZ	-14.665	-14.665	0	%100
73	M82	SZ	0	0	0	%100
74	M83A	SZ	0	0	0	%100
75	MP5	SZ	-14.665	-14.665	0	%100
76	M85	SZ	0	0	0	%100
77	M86A	SZ	0	0	0	%100
78	MP6	SZ	-14.665	-14.665	0	%100
79	M88	SZ	0	0	0	%100
80	M89A	SZ	0	0	0	%100
81	MP7	SZ	-14.665	-14.665	0	%100
82	M91	SZ	0	0	0	%100
83	M92A	SZ	0	0	0	%100
84	MP8	SZ	-14.665	-14.665	0	%100
85	M94A	SZ	0	0	0	%100
86	M95B	SZ	0	0	0	%100
87	M87	SZ	0	0	0	%100
88	M88A	SZ	0	0	0	%100
89	M89B	SZ	0	0	0	%100
90	M90	SZ	0	0	0	%100
91	M91A	SZ	0	0	0	%100
92	M92B	SZ	0	0	0	%100
93	M93A	SZ	-14.665	-14.665	0	%100
94	M94B	SZ	0	0	0	%100
95	M95C	SZ	0	0	0	%100
96	M96	SZ	-14.665	-14.665	0	%100
97	M97	SZ	0	0	0	%100
98	M98	SZ	0	0	0	%100
99	M99	SZ	-14.665	-14.665	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
1	HOR1	SX	-14.665	-14.665	0	%100
2	HOR2	SX	-14.665	-14.665	0	%100
3	MP1	SX	-14.665	-14.665	0	%100
4	SA2	SX	-16.047	-16.047	0	%100
5	SA4	SX	-16.047	-16.047	0	%100
6	SA1	SX	-16.047	-16.047	0	%100
7	SA3	SX	-16.047	-16.047	0	%100
8	M11	SX	-33.266	-33.266	0	%100
9	M12	SX	-33.266	-33.266	0	%100
10	M13	SX	-33.266	-33.266	0	%100
11	M14	SX	-33.266	-33.266	0	%100
12	SP1	SX	-13.493	-13.493	0	%100
13	M24	SX	0	0	0	%100
14	M25	SX	0	0	0	%100
15	M26	SX	0	0	0	%100
16	M28	SX	0	0	0	%100
17	HOR5	SX	-14.665	-14.665	0	%100
18	HOR6	SX	-14.665	-14.665	0	%100
19	SA10	SX	-16.047	-16.047	0	%100
20	SA12	SX	-16.047	-16.047	0	%100
21	SA9	SX	-16.047	-16.047	0	%100
22	SA11	SX	-16.047	-16.047	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude..	End Magnitude[...	Start Location[i...	End Location[in...
23	M38	SX	-33.266	-33.266	0	%100
24	M39	SX	-33.266	-33.266	0	%100
25	M40	SX	-33.266	-33.266	0	%100
26	M41	SX	-33.266	-33.266	0	%100
27	M42	SX	-13.493	-13.493	0	%100
28	M51	SX	0	0	0	%100
29	M53	SX	0	0	0	%100
30	HOR3	SX	-14.665	-14.665	0	%100
31	HOR4	SX	-14.665	-14.665	0	%100
32	SA6	SX	-16.047	-16.047	0	%100
33	SA8	SX	-16.047	-16.047	0	%100
34	SA5	SX	-16.047	-16.047	0	%100
35	SA7	SX	-16.047	-16.047	0	%100
36	M65	SX	-33.266	-33.266	0	%100
37	M66	SX	-33.266	-33.266	0	%100
38	M67	SX	-33.266	-33.266	0	%100
39	M68	SX	-33.266	-33.266	0	%100
40	M69	SX	-13.493	-13.493	0	%100
41	M78	SX	0	0	0	%100
42	M80	SX	0	0	0	%100
43	TB2	SX	-14.665	-14.665	0	%100
44	M83	SX	0	0	0	%100
45	M86	SX	0	0	0	%100
46	TB6	SX	-14.665	-14.665	0	%100
47	M89	SX	0	0	0	%100
48	M92	SX	0	0	0	%100
49	TB4	SX	-14.665	-14.665	0	%100
50	M95	SX	0	0	0	%100
51	M93	SX	0	0	0	%100
52	M94	SX	0	0	0	%100
53	M95A	SX	0	0	0	%100
54	MP2	SX	-14.665	-14.665	0	%100
55	M64	SX	0	0	0	%100
56	M65A	SX	0	0	0	%100
57	MP3	SX	-14.665	-14.665	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	MP4	SX	-14.665	-14.665	0	%100
61	M70	SX	0	0	0	%100
62	M71	SX	0	0	0	%100
63	MP9	SX	-14.665	-14.665	0	%100
64	M73	SX	0	0	0	%100
65	M74	SX	0	0	0	%100
66	MP10	SX	-14.665	-14.665	0	%100
67	M76	SX	0	0	0	%100
68	M77	SX	0	0	0	%100
69	MP11	SX	-14.665	-14.665	0	%100
70	M79	SX	0	0	0	%100
71	M80A	SX	0	0	0	%100
72	MP12	SX	-14.665	-14.665	0	%100
73	M82	SX	0	0	0	%100
74	M83A	SX	0	0	0	%100
75	MP5	SX	-14.665	-14.665	0	%100
76	M85	SX	0	0	0	%100
77	M86A	SX	0	0	0	%100
78	MP6	SX	-14.665	-14.665	0	%100
79	M88	SX	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude...	End Magnitude[...	Start Location[i...	End Location[in...
80	M89A	SX	0	0	0	%100
81	MP7	SX	-14.665	-14.665	0	%100
82	M91	SX	0	0	0	%100
83	M92A	SX	0	0	0	%100
84	MP8	SX	-14.665	-14.665	0	%100
85	M94A	SX	0	0	0	%100
86	M95B	SX	0	0	0	%100
87	M87	SX	0	0	0	%100
88	M88A	SX	0	0	0	%100
89	M89B	SX	0	0	0	%100
90	M90	SX	0	0	0	%100
91	M91A	SX	0	0	0	%100
92	M92B	SX	0	0	0	%100
93	M93A	SX	-14.665	-14.665	0	%100
94	M94B	SX	0	0	0	%100
95	M95C	SX	0	0	0	%100
96	M96	SX	-14.665	-14.665	0	%100
97	M97	SX	0	0	0	%100
98	M98	SX	0	0	0	%100
99	M99	SX	-14.665	-14.665	0	%100

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												
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										

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...
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	1.253	31	1	32															
40	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	.866	32	.5														
41	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	.5	32	.866														
42	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31		32	1														
43	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	-.5	32	.866														
44	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	-.8...	32	.5														
45	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	-1	32															
46	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	-.8...	32	-.5														
47	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	-.5	32	-.8...														
48	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31		32	-1														
49	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	.5	32	-.8...														
50	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.253	31	.866	32	-.5														
51	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	1	32															
52	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	.866	32	.5														
53	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	.5	32	.866														
54	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31		32	1														
55	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	-.5	32	.866														
56	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	-.8...	32	.5														
57	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	-1	32															
58	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	-.8...	32	-.5														
59	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	-.5	32	-.8...														
60	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31		32	-1														
61	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	31	.5	32	-.8...														
62	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	.847	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										
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										

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...
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												
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...												

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...
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...										
183	1.2DL + 1.5LM-MP9 + ...	Yes	Y		1	1.2	42	1.5	13	.066	14	.057	15	-.0...										
184	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	2	.066	14	.066	15											
185	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	3	.066	14	.057	15	.033										
186	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	4	.066	14	.033	15	.057										
187	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	5	.066	14		15	.066										
188	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	6	.066	14	-.0...	15	.057										
189	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	7	.066	14	-.0...	15	.033										
190	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	8	.066	14	-.0...	15											
191	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	9	.066	14	-.0...	15	-.0...										
192	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	10	.066	14	-.0...	15	-.0...										
193	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	11	.066	14		15	-.0...										
194	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	12	.066	14	.033	15	-.0...										
195	1.2DL + 1.5LM-MP10 +...	Yes	Y		1	1.2	43	1.5	13	.066	14	.057	15	-.0...										
196	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	2	.066	14	.066	15											
197	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	3	.066	14	.057	15	.033										
198	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	4	.066	14	.033	15	.057										
199	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	5	.066	14		15	.066										
200	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	6	.066	14	-.0...	15	.057										
201	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	7	.066	14	-.0...	15	.033										
202	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	8	.066	14	-.0...	15											
203	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	9	.066	14	-.0...	15	-.0...										

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...
204	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	10	.066	14	-.0...	15	-.0...										
205	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	11	.066	14		15	-.0...										
206	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	12	.066	14	.033	15	-.0...										
207	1.2DL + 1.5LM-MP11 +...	Yes	Y		1	1.2	44	1.5	13	.066	14	.057	15	-.0...										
208	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	2	.066	14	.066	15											
209	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	3	.066	14	.057	15	.033										
210	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	4	.066	14	.033	15	.057										
211	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	5	.066	14		15	.066										
212	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	6	.066	14	-.0...	15	.057										
213	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	7	.066	14	-.0...	15	.033										
214	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	8	.066	14	-.0...	15											
215	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	9	.066	14	-.0...	15	-.0...										
216	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	10	.066	14	-.0...	15	-.0...										
217	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	1.5	11	.066	14		15	-.0...										
218	1.2DL + 1.5LM-MP12 +...	Yes	Y		1	1.2	45	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	N48	max	2243.452	116	3070.442	34	139.584	20	-445.31	20	0	218	483.743	86
2		min	-1051.893	86	1027.507	14	-2508.22	30	-1793.533	31	0	1	-1024.353	116
3	N49	max	1246.619	15	54.616	14	3636.084	2	526.421	21	0	218	424.923	18
4		min	-2280.213	9	-217.046	8	-2224.63	20	-784.686	3	0	1	-688.065	122
5	N102	max	-37.278	15	2847.289	38	1473.142	127	982.001	127	0	218	1769.195	35
6		min	-3083.165	167	980.484	18	-1049.459	23	-263.588	23	0	1	320.022	16
7	N103	max	2902.48	6	61.003	18	2968.782	13	531.785	130	0	218	801.182	6
8		min	-1231.646	24	-213.169	12	-2788.527	19	-568.052	2	0	1	-469.858	24
9	N155	max	1884.666	10	2935.233	30	3124.252	208	1620.258	208	0	218	-102.334	16
10		min	-687.857	16	996.417	22	-330.983	177	76.082	20	0	1	-1243.277	35
11	N156	max	3098.412	17	58.583	22	308.711	15	748.385	9	0	218	595.846	17
12		min	-3763.109	11	-214.364	4	-2465.968	215	-399.758	15	0	1	-685.278	11
13	Totals:	max	5811.823	5	8271.169	38	5854.027	14						
14		min	-5811.82	23	2934.011	57	-5854.031	8						

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	M14	SR 3/4	.536	36.5	2	.009	36.5		9	2633...	1988...	248....	248....	...	H1-...
2	M68	SR 3/4	.528	36.5	10	.008	0		5	2633...	1988...	248....	248....	...	H1-...
3	M41	SR 3/4	.527	36.5	6	.008	0		13	2633...	1988...	248....	248....	...	H1-...
4	HOR2	PIPE_2.5	.438	117.813	8	.139	117.813		2	1081...	66654	4726...	4726...	...	H1-...
5	HOR4	PIPE_2.5	.433	117.812	4	.139	117.812		10	1081...	66654	4726...	4726...	...	H1-...
6	HOR6	PIPE_2.5	.406	117.812	12	.141	117.812		6	1081...	66654	4726...	4726...	...	H1-...
7	M13	SR 3/4	.399	36.5	122	.011	0		9	2633...	1988...	248....	248....	...	H1-...
8	M67	SR 3/4	.399	36.5	214	.011	0		5	2633...	1988...	248....	248....	...	H1-...
9	M40	SR 3/4	.393	36.5	163	.010	36.5		13	2633...	1988...	248....	248....	...	H1-...
10	MP2	PIPE_2.5	.323	41.25	8	.045	42.5		8	2274...	66654	4726...	4726...	...	H1-...
11	MP6	PIPE_2.5	.323	41.25	4	.043	42.5		4	2274...	66654	4726...	4726...	...	H1-...
12	MP10	PIPE_2.5	.323	41.25	12	.041	42.5		6	2274...	66654	4726...	4726...	...	H1-...
13	HOR3	PIPE_2.5	.261	170.375	215	.206	121.437		10	1081...	66654	4726...	4726...	...	H1-...
14	HOR1	PIPE_2.5	.261	170.375	123	.198	121.438		2	1081...	66654	4726...	4726...	...	H1-...
15	MP8	PIPE_2.5	.256	77.5	215	.085	77.5		4	2274...	66654	4726...	4726...	...	H1-...
16	MP4	PIPE_2.5	.256	77.5	123	.084	77.5		8	2274...	66654	4726...	4726...	...	H1-...
17	HOR5	PIPE_2.5	.255	170.375	163	.185	121.437		6	1081...	66654	4726...	4726...	...	H1-...
18	MP12	PIPE_2.5	.251	77.5	163	.087	77.5		12	2274...	66654	4726...	4726...	...	H1-...
19	SA4	PIPE_2.0	.204	36.026	120	.142	36.445		119	3537...	42228	2459...	2459...	...	H1-...

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*...	phi*...	phi*...	phi*...	...	Eqn
20	SA8	PIPE_2.0	.204	36.026	212	.141	36.445		211	3537..	42228	2459..	2459..	...	H1-..
21	SA12	PIPE_2.0	.200	36.026	160	.139	36.445		171	3537..	42228	2459..	2459..	...	H1-..
22	MP5	PIPE_2.5	.190	77.5	177	.039	77.5		174	2274..	66654	4726..	4726..	...	H1-..
23	MP1	PIPE_2.5	.190	77.5	85	.039	77.5		82	2274..	66654	4726..	4726..	...	H1-..
24	MP9	PIPE_2.5	.189	77.5	125	.039	42.5		133	2274..	66654	4726..	4726..	...	H1-..
25	SA7	PIPE_2.0	.172	0	216	.152	0		211	3537..	42228	2459..	2459..	...	H1-..
26	SA3	PIPE_2.0	.172	0	123	.152	0		119	3537..	42228	2459..	2459..	...	H1-..
27	SA11	PIPE_2.0	.169	0	163	.150	0		171	3537..	42228	2459..	2459..	...	H1-..
28	MP7	PIPE_2.5	.167	42.5	10	.067	42.5		10	2274..	66654	4726..	4726..	...	H1-..
29	MP3	PIPE_2.5	.167	42.5	2	.067	42.5		2	2274..	66654	4726..	4726..	...	H1-..
30	SA2	PIPE_2.0	.166	36.026	80	.116	36.445		77	3537..	42228	2459..	2459..	...	H1-..
31	MP11	PIPE_2.5	.166	42.5	6	.065	42.5		6	2274..	66654	4726..	4726..	...	H1-..
32	SA10	PIPE_2.0	.164	36.026	132	.114	36.445		129	3537..	42228	2459..	2459..	...	H1-..
33	SA6	PIPE_2.0	.163	36.026	172	.114	36.445		181	3537..	42228	2459..	2459..	...	H1-..
34	M69	PIPE_3.0	.162	9.188	27	.162	40.323		11	7621..	85698	7555..	7555..	...	H1-..
35	SP1	PIPE_3.0	.161	9.188	31	.158	40.323		3	7621..	85698	7555..	7555..	...	H1-..
36	M42	PIPE_3.0	.160	9.188	168	.156	40.323		7	7621..	85698	7555..	7555..	...	H1-..
37	SA1	PIPE_2.0	.128	0	81	.124	0		77	3537..	42228	2459..	2459..	...	H1-..
38	SA9	PIPE_2.0	.127	0	133	.122	0		129	3537..	42228	2459..	2459..	...	H1-..
39	SA5	PIPE_2.0	.126	0	173	.121	0		181	3537..	42228	2459..	2459..	...	H1-..
40	M11	SR 3/4	.121	0	35	.003	0		123	1409..	1988..	248....	248....	...	H1-..
41	M65	SR 3/4	.120	0	30	.003	0		216	1409..	1988..	248....	248....	...	H1-..
42	M38	SR 3/4	.116	0	27	.003	0		163	1409..	1988..	248....	248....	...	H1-..
43	M12	SR 3/4	.094	0	78	.008	0		7	1409..	1988..	248....	248....	...	H1-..
44	M39	SR 3/4	.093	0	133	.008	0		11	1409..	1988..	248....	248....	...	H1-..
45	M66	SR 3/4	.093	0	172	.007	0		3	1409..	1988..	248....	248....	...	H1-..
46	TB4	PIPE_2.5	.030	66.034	10	.047	0		211	4812..	66654	4726..	4726..	...	H1-..
47	TB2	PIPE_2.5	.028	66.034	2	.047	66.034		119	4812..	66654	4726..	4726..	...	H1-..
48	TB6	PIPE_2.5	.024	66.034	6	.046	0		171	4812..	66654	4726..	4726..	...	H1-..
49	M96	PIPE_2.5	.024	64.225	4	.043	0		130	4898..	66654	4726..	4726..	...	H1-..
50	M99	PIPE_2.5	.024	64.225	8	.043	0		182	4898..	66654	4726..	4726..	...	H1-..
51	M93A	PIPE_2.5	.024	0	12	.043	0		77	4898..	66654	4726..	4726..	...	H1-..

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		48	142.2	0
3	Total General		48	142.2	0
4					
5	Hot Rolled Steel				
6	A500 Gr.46	PIPE_2.0	12	482.6	.14
7	A500 Gr.46	PIPE_2.5	24	2874.8	1.312
8	A500 Gr.46	PIPE_3.0	3	147	.086
9	A529 Gr.50	SR 3/4	12	518.3	.065
10	Total HR Steel		51	4022.7	1.603

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	NORWALK WEST - CT AVE
Site Number:	841287
Connection Description:	Mount to Tower

MAXIMUM BOLT LOADS		
Bolt Tension:	4212.98	lbs
Bolt Shear:	2010.06	lbs

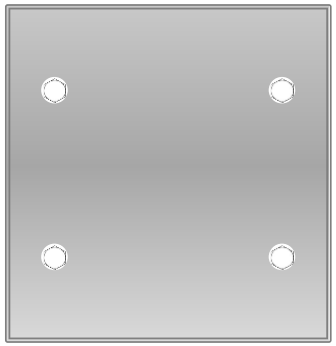
WORST CASE BOLT LOADS[1]		
Bolt Tension:	4212.98	lbs
Bolt Shear:	200.58	lbs

BOLT PROPERTIES		
Bolt Type:	U-Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A307	-
# of U-Bolts:	2	-
Threads Excluded?	No	-

[1] *Worst case bolt loads correspond to Load combination #31 on member M26 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
J nodes of M26, M51, M78, M93, M94, M95A

BOLT CHECK		
Tensile Strength	10170.07	
Shear Strength	6902.91	
Max Tensile Usage	41.4%	
Max Shear Usage	29.1%	
Interaction Check (Worst Case)	0.17	***≤1.05***
Result	Pass	



APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD) / SUPPLEMENTAL DRAWINGS

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000033016	INITIAL RELEASE	RJC	01/11/19

NOTES:
1.0 GENERAL
1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
1.2 FOR PATENT INFO: https://www.commscope.com/ProductPatent/ProductPatent.aspx
2.0 DESIGN NOTES
2.1 Any hazards or obstructions to the climbing facility and safety climb must be identified prior to installing the appurtenance. Additional products may be required to maintain the integrity of the safety climb. During installation, temporary and/or permanent precautionary measures should be taken to preserve the climbing facility and/or safety climb
3.0 MANUFACTURING/SPECIAL REQUIRMENTS
4.0 TEST
5.0 PACKAGING

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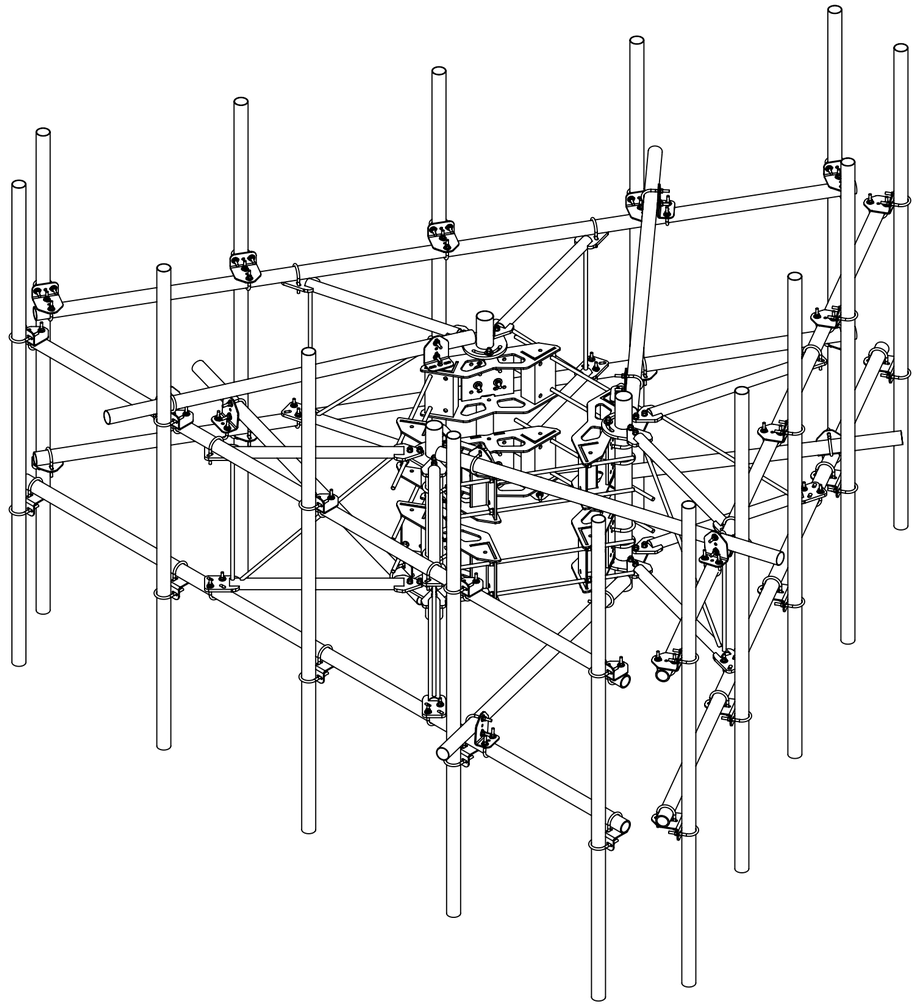

MCG22HDX14-15-WLL SHOWN FOR REFERENCE

PATENT PENDING

TOP LEVEL ZNSK COMPONENTS

PART NO.	DESCRIPTION	PACK KIT	RING MOUNT	PIPE BUNDLE	WEIGHT (LBS)	AT&T RATING
MCG22HDX12-12-H10	TRIPLE SECTR FRM MONO 12'6" FACE W/12 AP	G22HDXPKM34	MC-RM1550-3D	PB12TEB0607B0612K	2007	HEAVY 10
MCG22HDX12-15-WLL	TRIPLE SECTR FRM MONO 12'6" FACE W/15 AP	G22HDXPKM35	MC-RM1550-3D	PB15TEB0607B0612K	2141	HEAVY WLL
MCG22HDX14-12-H10	TRIPLE SECTR FRM MONO 14'6" FACE W/12 AP	G22HDXPKM34	MC-RM1550-3D	PB12TEB0607B0614K	2076	HEAVY 10
MCG22HDX14-15-WLL	TRIPLE SECTR FRM MONO 14'6" FACE W/15 AP	G22HDXPKM35	MC-RM1550-3D	PB15TEB0607B0614P	2374	HEAVY WLL

PACK KIT COMPONENTS

PACK KIT	CROSSOVER KIT	HARDWARE KIT
G22HDXPKM34	XA30304 (QTY 3)	G22HDXMHK
G22HDXPKM35	XA30305 (QTY 3)	G22HDXMHK

DENSITY	lbs/in³
MASS	lbs
VOLUME	in³
SURFACE AREA	in²
HEIGHT	
LENGTH	
WIDTH	

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES: 0 PLACE X ± .25 | 2 PLACE .XX ± 0.06 | 1 PLACE .X ± 0.12 | ANGLES ± 2°

SAP MATERIAL MASTER: SEE TABLE

FINISH: GALV A123

MATERIAL: A500, A529, A572, A1011/A1018

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994

	NAME	DATE
CE	RJC	01/11/19
RW		
RV		
AD		
RE	BCAMPBELLCON	02/06/2019

ECN 008000033016

TITLE: MCG22HDX SECTOR FRAME SERIES

SCALE: 1:24

DOCUMENT NO.: MCG22HDX

SIZE	WORK AREA 24	MODEL			DRAWING			SHEET
		VERSION	STATUS	REVISION	VERSION	STATUS	REVISION	
C		00	RE	A	00	RE	A	1 OF 7

NOTES:

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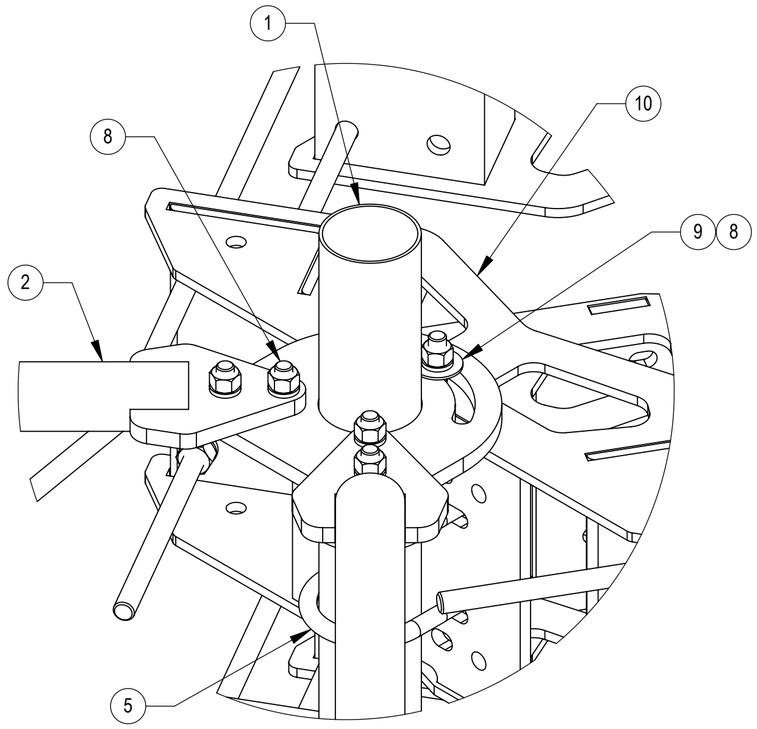
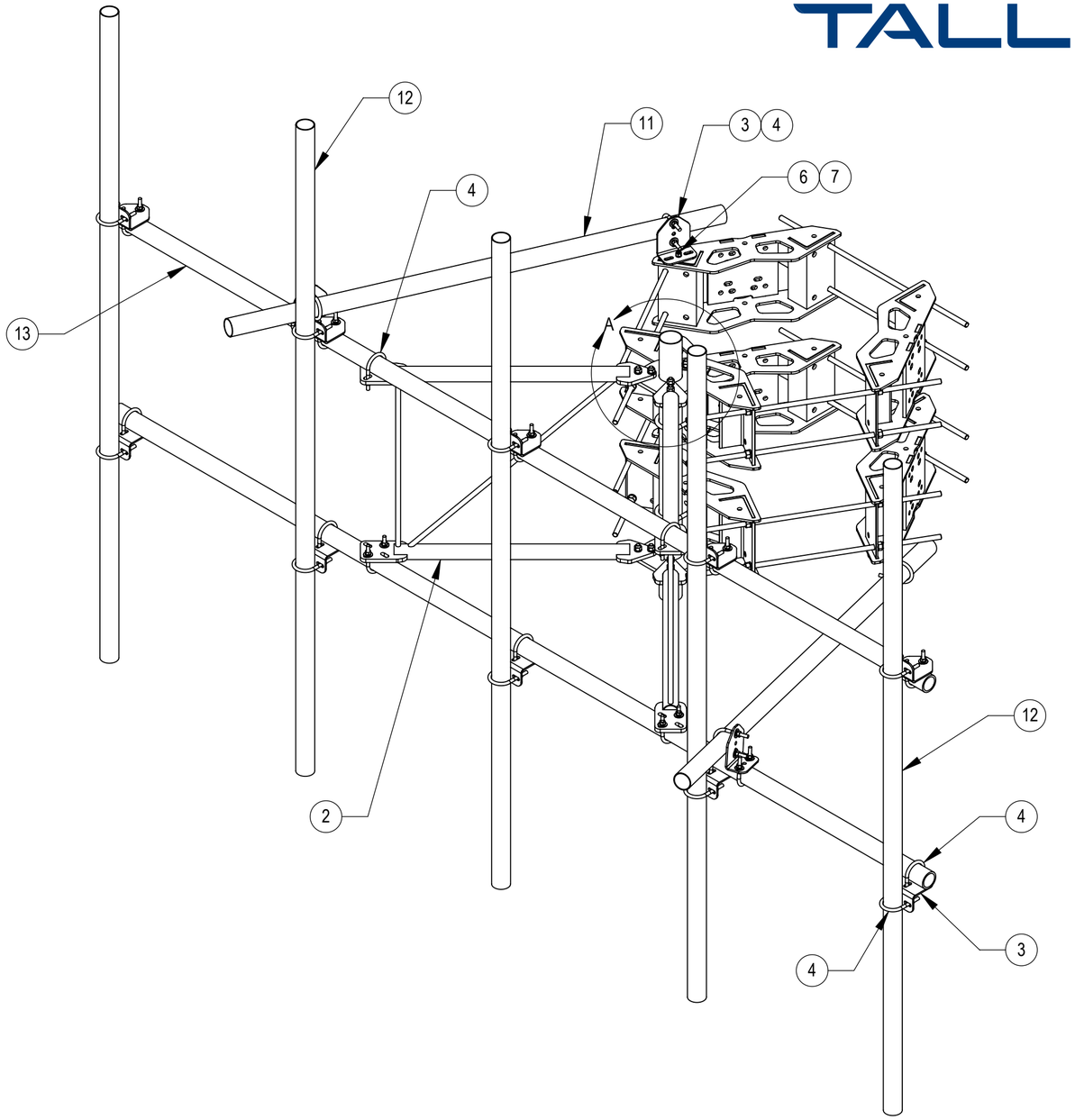


DETAIL A
SCALE 1 : 4



SINGLE SECTOR OF MCG22HDX14-5-WLL SHOWN FOR REFERENCE

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	SFG2270	BACK VERTICAL ARM MOUNT	3	36.90 LBS	
2	SFG2278	ARM, STANDOFF - SFG22	6	40.92 LBS	
3	XAU01	ANGLE, CROSSOVER, 1.9-3.5" X 1.9-3.5" OD	42	2.98 LBS	FOR "H10" MODELS, QTY IS 36
4	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	90	0.71 LBS	FOR "H10" MODELS, QTY IS 78
5	GUB-53560	5/8" X 3-5/8" X 6" GALV U-BOLT	12	1.30 LBS	
6	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	6	0.13 LBS	
7	GWF-04	1/2" GALV FLAT WASHER	6	0.03 LBS	
8	GB-05225	5/8" X 2-1/4" GALV BOLT KIT	30	0.28 LBS	
9	GWF-05	5/8" GALV FLAT WASHER	6	0.06 LBS	
10	MC-RM1550-3	12" - 50" OD RINGMOUNT	2	230.43 LBS	
11	MT546084120	2.88" OD X .120" WALL X 84" LONG PIPE	6	24.81 LBS	
12	MT546120120	2.88 OD X .120" WALL X 120" LONG PIPE	15	35.44 LBS	FOR "H10" MODELS, QTY IS 12
13	MT546174276	2.88" OD X .276" WALL X 174" LONG PIPE	6	111.49 LBS	FOR 12'6" FACE MODELS, PART NO. IS MT-546-150; FOR 14'6" FACE "H10" MODEL, PART NO. IS MT-546-174

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA

TITLE
MCG22HDX SECTOR FRAME SERIES

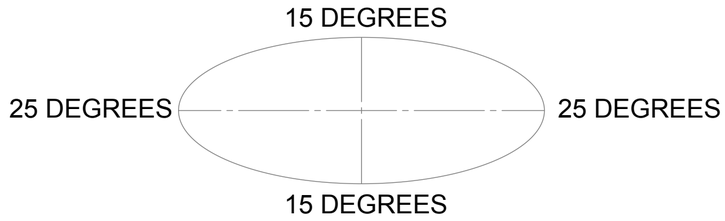
SIZE	SCALE	DOCUMENT NO.			
C	1:16	MCG22HDX			
		DRAWING			SHEET
		VERSION	STATUS	REVISION	
		01	RE	A	2 OF 7

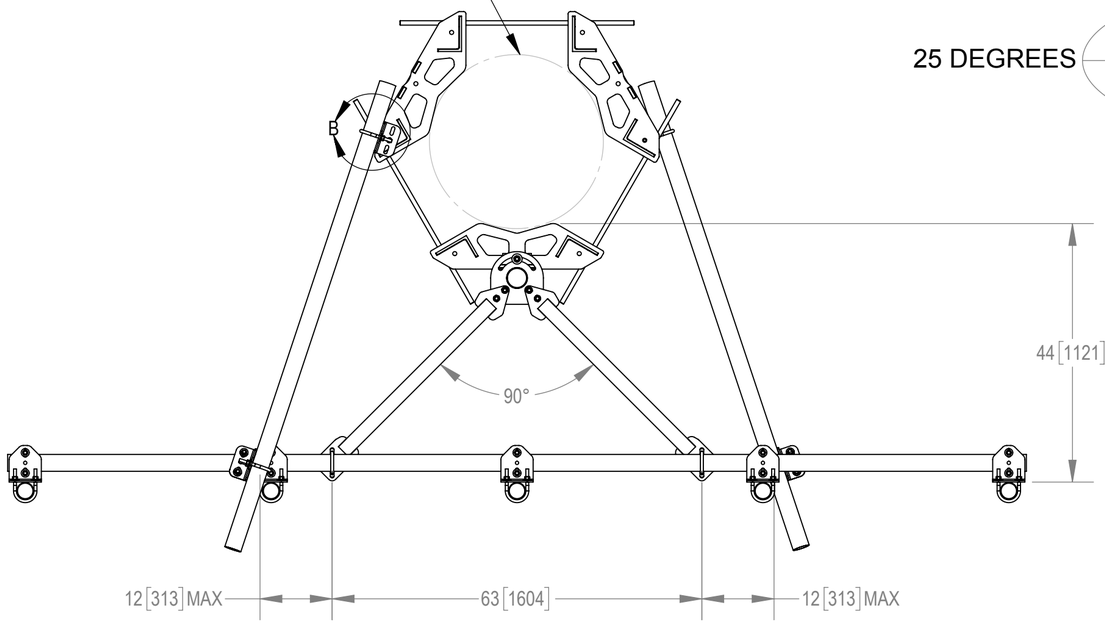
NOTES:

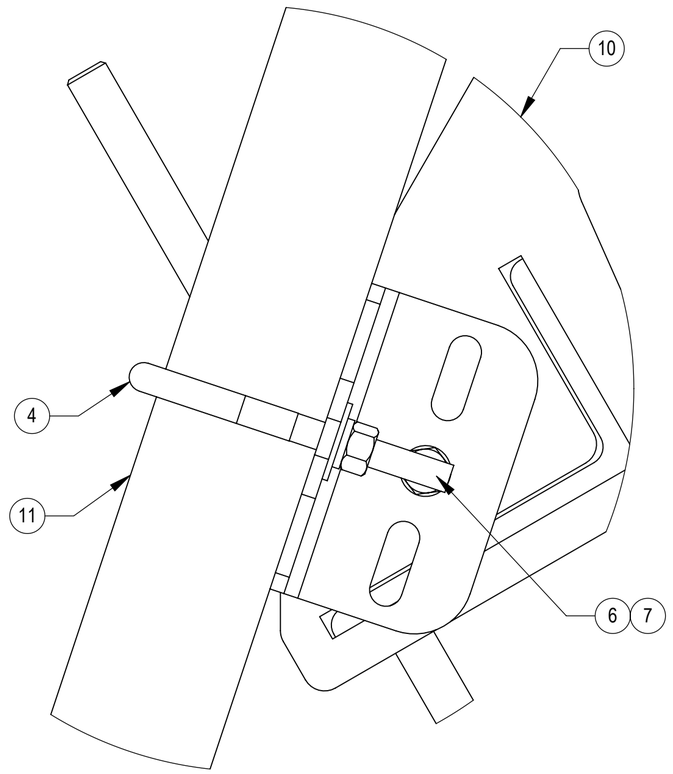
12'6" FACE MODELS: ∅ 12" - 50" POLE
14'6" FACE MODELS: ∅ 24" - 50" POLE

ALLOWABLE TIEBACK ANGLE

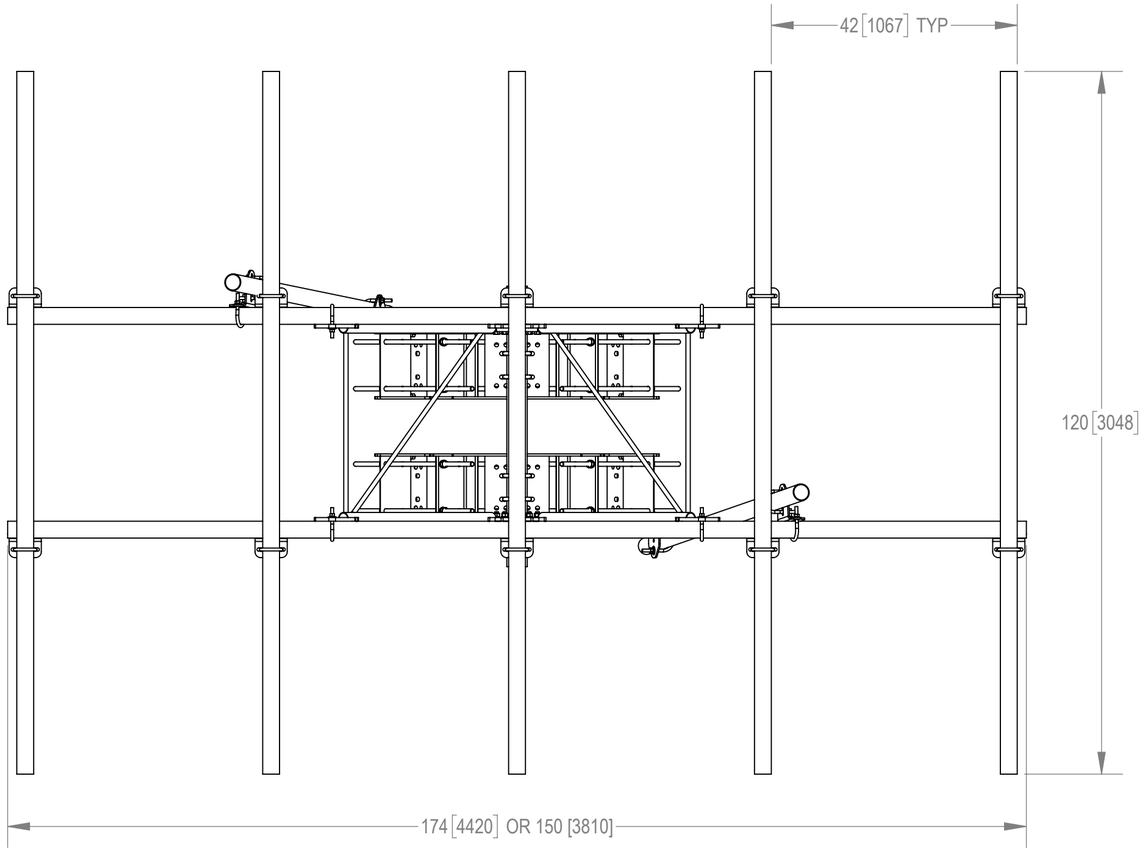
±15 DEGREES VERTICAL
±25 DEGREES HORIZONTAL

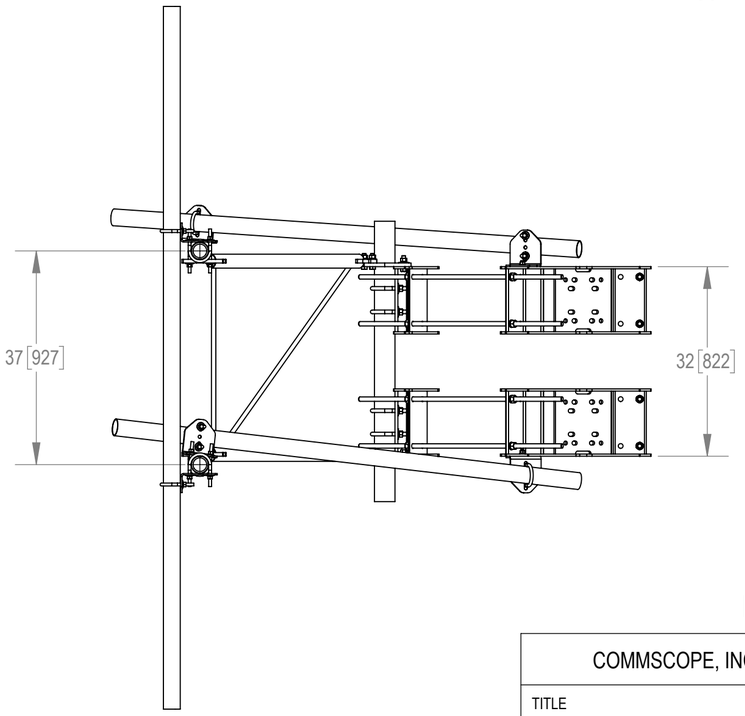






DETAIL B
SCALE 1 : 2





PATENT PENDING

SINGLE SECTOR OF "WLL" MODEL SHOWN FOR REFERENCE

COMMSCOPE, INC. OF NORTH CAROLINA			
TITLE: MCG22HDX SECTOR FRAME SERIES			
SIZE: C	SCALE: 1:20	DOCUMENT NO.: MCG22HDX	
		DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 3 OF 7

NOTES:

STEP 1: ATTACH STANDOFF ARMS (SFG2278) TO BACK VERTICAL ARM MOUNT (SFG2270) USING (GB-05225) BOLT KITS

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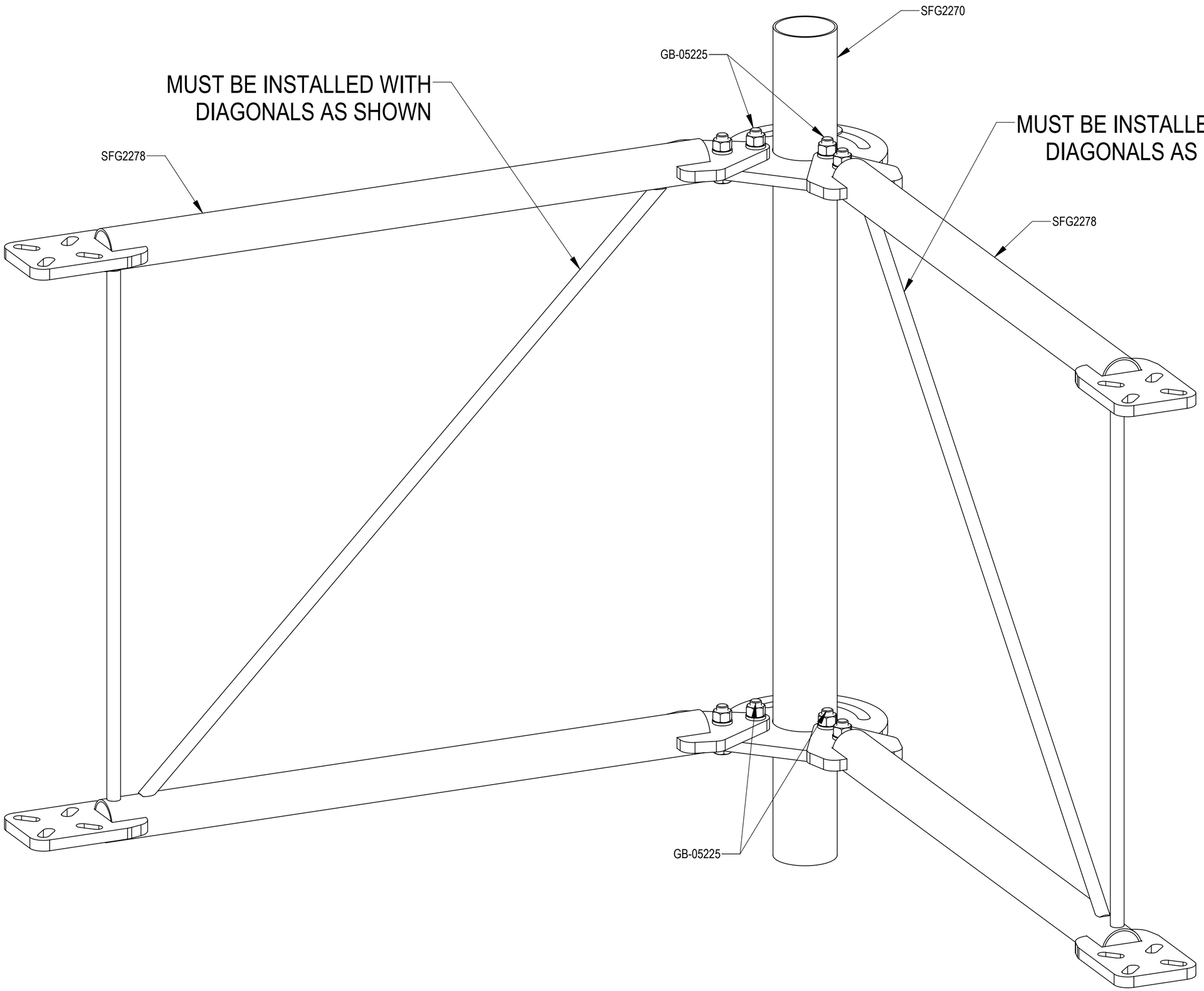

ISO VIEW

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA		
TITLE: MCG22HDX SECTOR FRAME SERIES		
SIZE: C	SCALE: 1:4	DOCUMENT NO.: MCG22HDX
	DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 4 OF 7

NOTES:

STEP 2: ATTACH FACE PIPES TO STANDOFF ARMS USING (GUB-4352) U-BOLTS AND THEN ATTACH ANTENNA PIPES USING (XAU01) CROSSOVER ANGLES AND (GUB-4240 & GUB-4352) U-BOLTS

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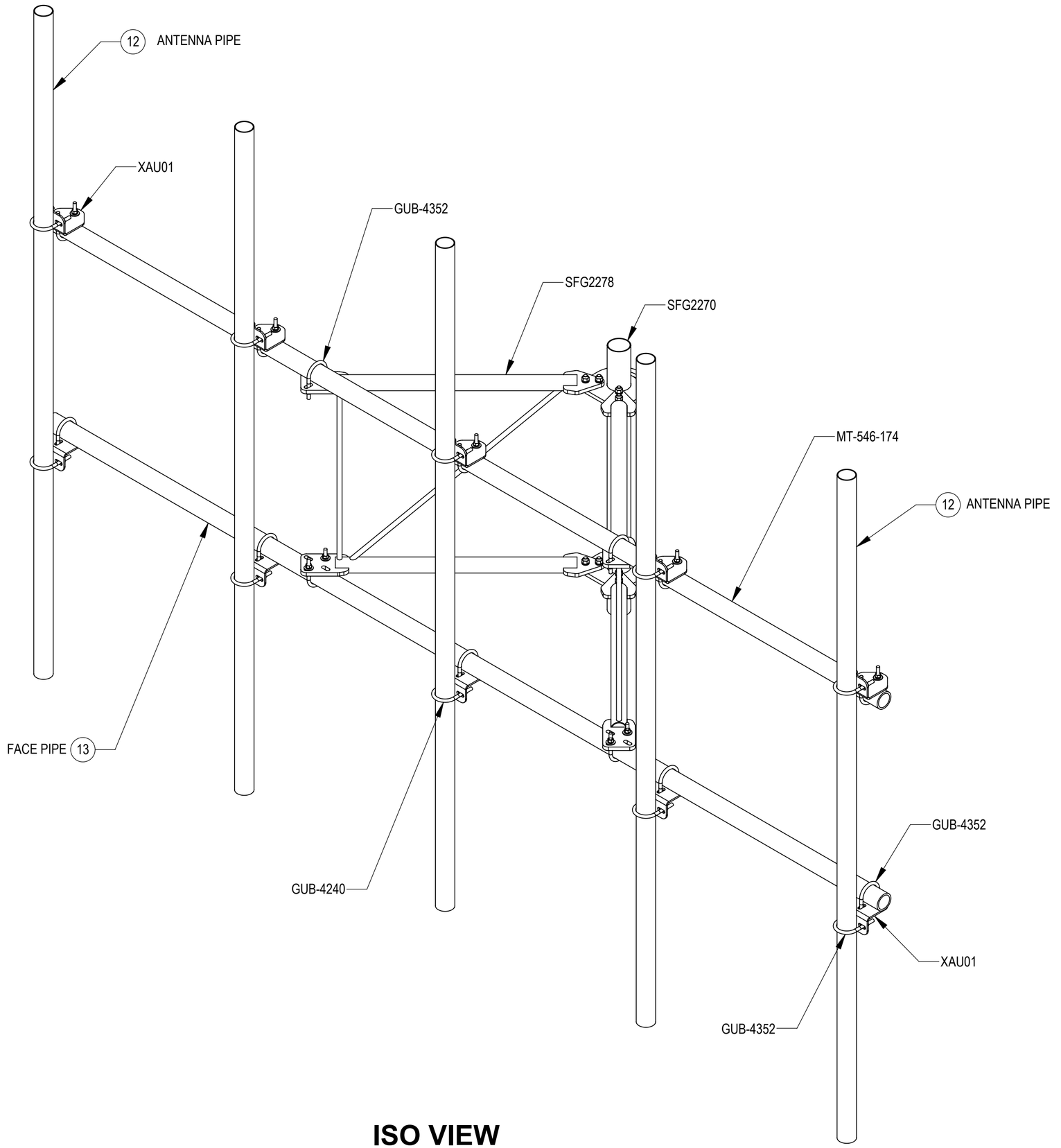


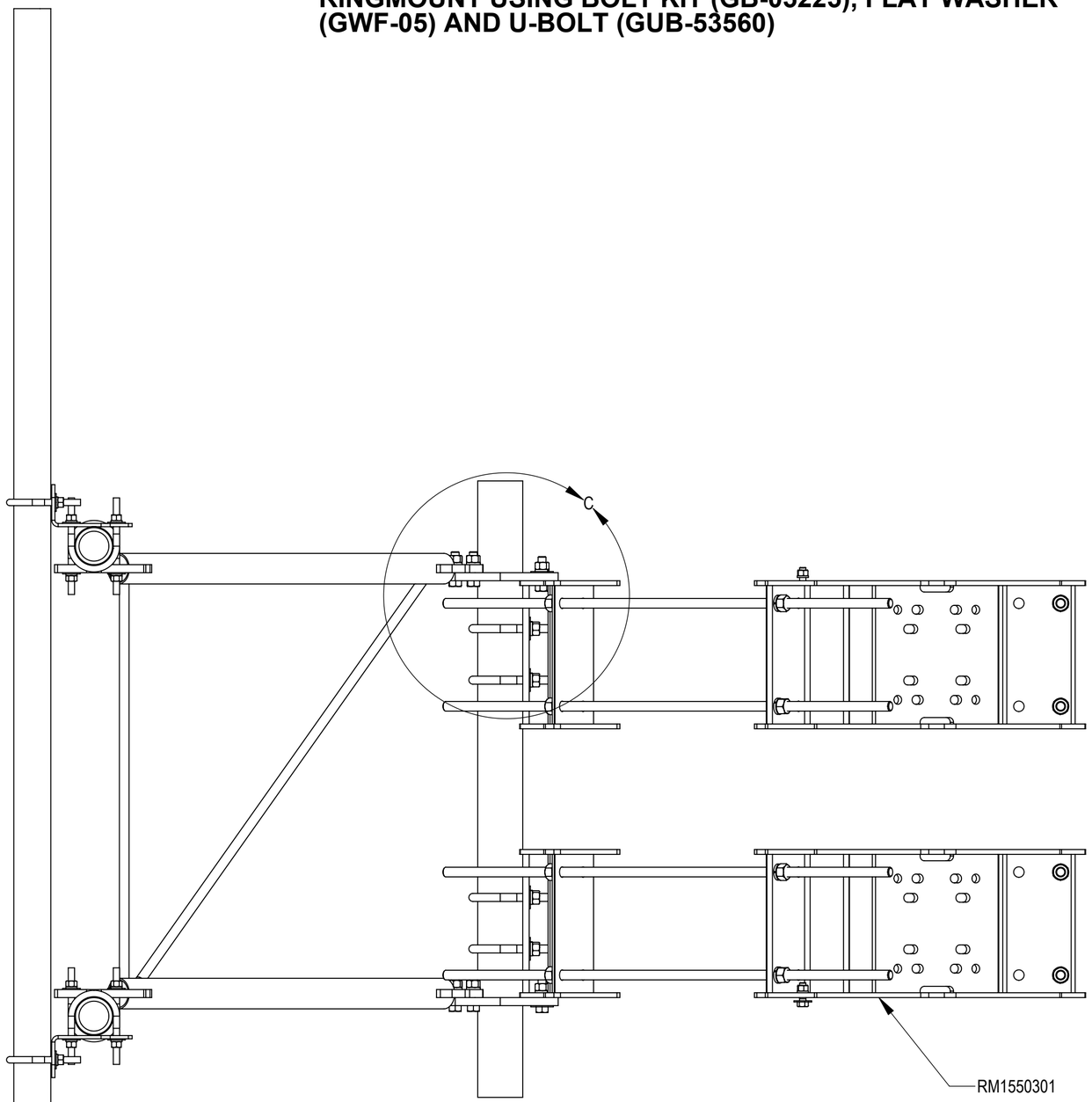
ISO VIEW

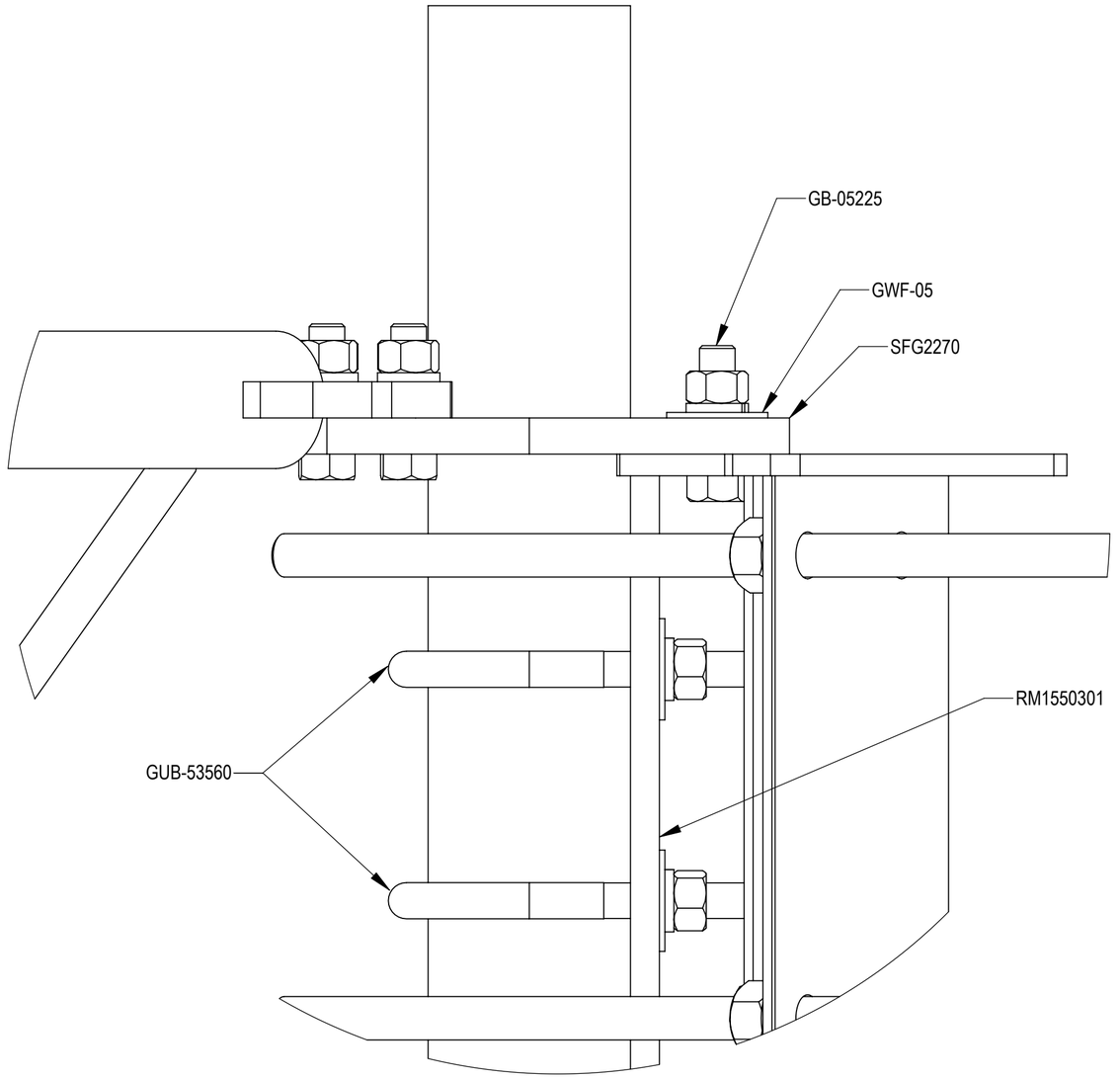
PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA			
TITLE: MCG22HDX SECTOR FRAME SERIES			
SIZE: C	SCALE: 1:12	DOCUMENT NO.: MCG22HDX	
		DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 5 OF 7

NOTES:

STEP 3: ATTACH BACK VERTICAL ARM MOUNT (SFG2270) TO RINGMOUNT USING BOLT KIT (GB-05225), FLAT WASHER (GWF-05) AND U-BOLT (GUB-53560)





DETAIL C
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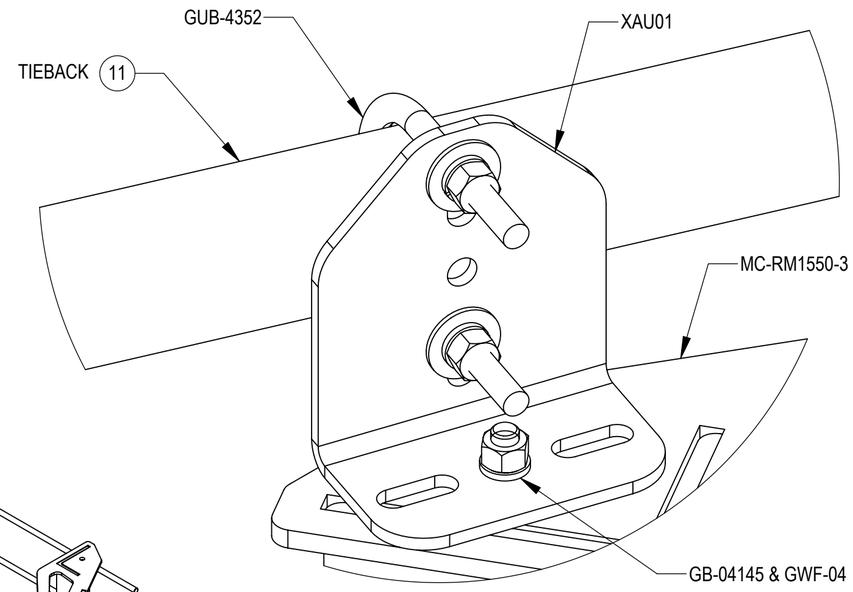
		DRAWING: VERSION 01 / STATUS RE / REVISION A	SHEET: 6 OF 7

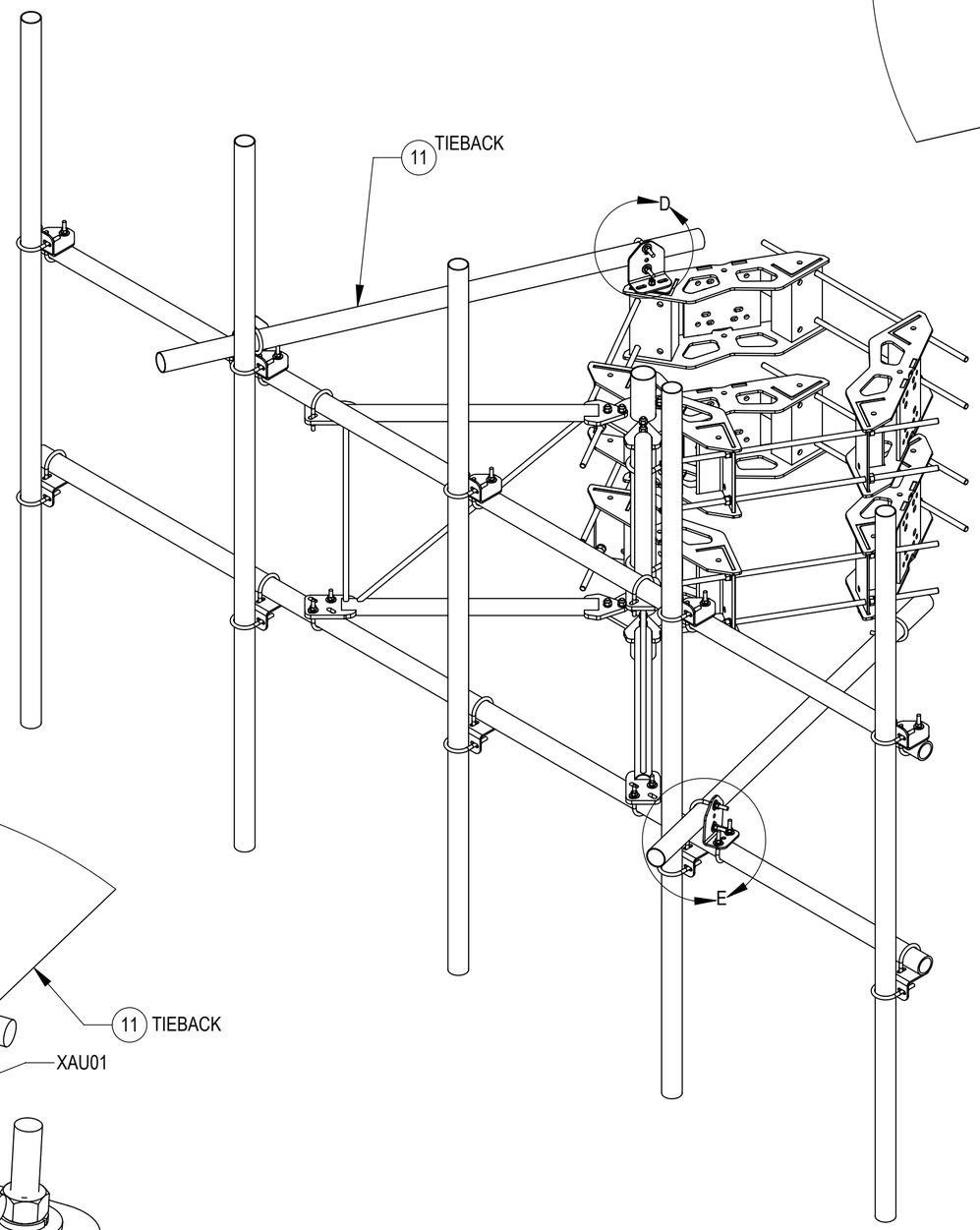
NOTES:

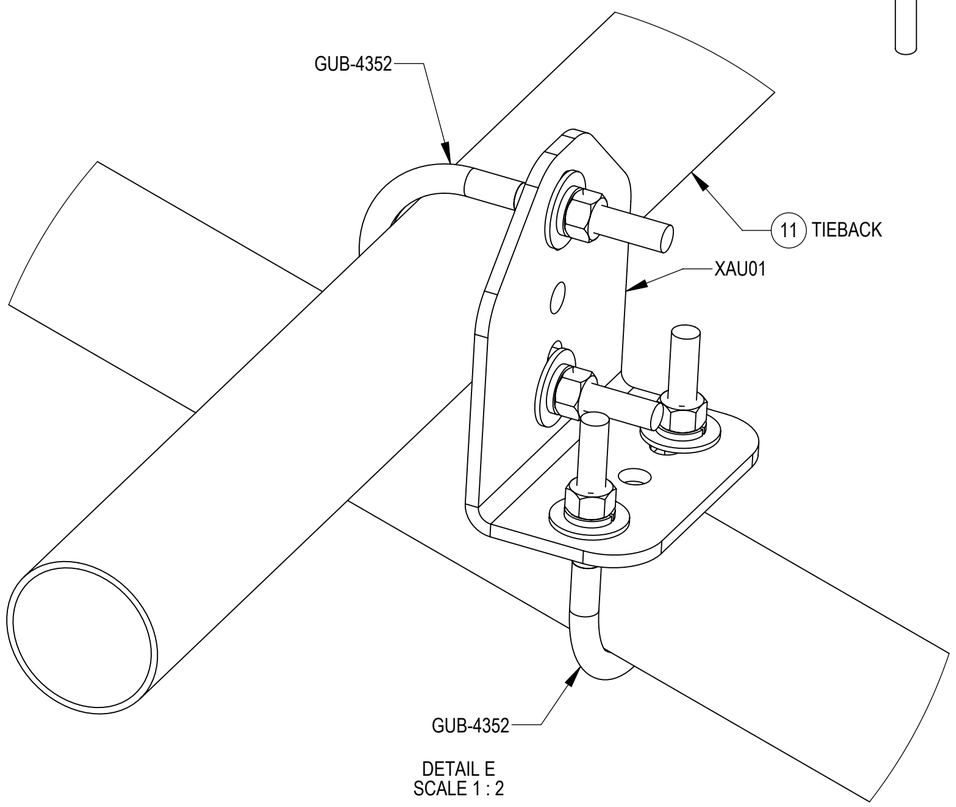
STEP 4: ATTACH TIE BACK PIPES (MT-651-96) TO FACE PIPES USING CROSSOVER ANGLES (XAU01) AND U-BOLTS (GUB-4240 & GUB-4352)

STEP 5: ATTACH TIE BACK PIPES (MT-651-96) TO RINGMOUNT (MC-RM1550-3) USING CROSSOVER ANGLES (XAU01), BOLT KIT (GB-04145), FLAT WASHER (GWF-04) AND U-BOLT (GUB-4240)



DETAIL D
SCALE 1 : 2





DETAIL E
SCALE 1 : 2

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DOCUMENT NO.: MCG22HDX	
DRAWING VERSION: 01	DRAWING STATUS: RE
DRAWING REVISION: A	SHEET: 7 OF 7

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: CTL02108 - 841287

Norwalk West
600 Connecticut Avenue
Norwalk, Connecticut 06850

January 27, 2022

EBI Project Number: 6222000339

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**15.38%**

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

January 27, 2022

AT&T

Emissions Analysis for Site: CTL02108 - 841287 - Norwalk West

EBI Consulting was directed to analyze the proposed AT&T facility located at **600 Connecticut Avenue** in **Norwalk, 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 600 Connecticut Avenue in Norwalk, 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 power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

4) 4 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.

5) 4 LTE / 5G 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.

6) 4 LTE / 5G 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.

7) 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.

8) 2 C-Band Channels (3700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 144.58 Watts per Channel.

9) 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.

10) 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.

11) 0 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.

12) The antenna mounting height centerline of the proposed antennas is 153 feet above ground level (AGL).

13) Emissions from additional carriers were not included because emissions data for the site location are not available.

14) 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:	Quintel QD6616-7	Make / Model:	Quintel QD6616-7	Make / Model:	Quintel QD6616-7
Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	11.97 dBd / 11.97 dBd / 15.11 dBd / 15.33 dBd	Gain:	11.97 dBd / 11.97 dBd / 15.11 dBd / 15.33 dBd	Gain:	11.97 dBd / 11.97 dBd / 15.11 dBd / 15.33 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 feet
Channel Count:	14	Channel Count:	14	Channel Count:	14
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	14,426.08	ERP (W):	14,426.08	ERP (W):	14,426.08
Antenna A1 MPE %:	**3.12%**	Antenna B1 MPE %:	**3.12%**	Antenna C1 MPE %:	**3.12%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	154 feet	Height (AGL):	154 feet	Height (AGL):	154 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.580000000000001 Watts	Total TX Power (W):	144.580000000000001 Watts	Total TX Power (W):	144.580000000000001 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A2 MPE %:	**5.25%**	Antenna B2 MPE %:	**5.25%**	Antenna C2 MPE %:	**5.25%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.580000000000001 Watts	Total TX Power (W):	144.580000000000001 Watts	Total TX Power (W):	144.580000000000001 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A3 MPE %:	**5.40%**	Antenna B3 MPE %:	**5.40%**	Antenna C3 MPE %:	**5.40%**
Antenna #:	**4**	Antenna #:	**4**	Antenna #:	**4**
Make / Model:	CCI DMP65R-BU4EA-K	Make / Model:	CCI DMP65R-BU4EA-K	Make / Model:	CCI DMP65R-BU4EA-K
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:	10.35 dBd / 10.45 dBd / 14.55 dBd	Gain:	10.35 dBd / 10.45 dBd / 14.55 dBd	Gain:	10.35 dBd / 10.45 dBd / 14.55 dBd
Height (AGL):	153 feet	Height (AGL):	153 feet	Height (AGL):	153 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):	6,359.98	ERP (W):	6,359.98	ERP (W):	6,359.98
Antenna A4 MPE %:	**1.61%**	Antenna B4 MPE %:	**1.61%**	Antenna C4 MPE %:	**1.61%**

• An adjusted power reduction factor of 0.32 was applied to the AIR 6449 antennas per guidance from AT&T.
• Specifications were not available for the Ericsson AIR 6419 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6419 due to its similarity.

Site Composite MPE %	
Carrier	**MPE %**
AT&T (Max at Sector A):	15.38%
no additional carriers	N/A
Site Total MPE % :	15.38%

AT&T MPE % Per Sector	
AT&T Sector A Total:	15.38%
AT&T Sector B Total:	15.38%
AT&T Sector C Total:	15.38%
Site Total MPE % :	15.38%

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 700 MHz LTE FN	4	629.59	153.0	4.19	700 MHz LTE FN	467	0.90%
AT&T 700 MHz LTE DE	2	629.59	153.0	2.09	700 MHz LTE DE	467	0.45%
AT&T 1900 MHz LTE/5G	4	1297.36	153.0	8.63	1900 MHz LTE/5G	1000	0.86%
AT&T 2100 MHz LTE/5G	4	1364.77	153.0	9.08	2100 MHz LTE/5G	1000	0.91%
AT&T 3700 MHz C-Band	1	31996.92	154.0	52.52	3700 MHz C-Band	1000	5.25%
AT&T 3700 MHz C-Band	1	31996.92	152.0	53.97	3700 MHz C-Band	1000	5.40%
AT&T 700 MHz LTE	4	433.57	153.0	2.89	700 MHz LTE	467	0.62%
AT&T 850 MHz 5G	4	443.67	153.0	2.95	850 MHz 5G	567	0.52%
AT&T 2300 MHz LTE	4	712.75	153.0	4.74	2300 MHz LTE	1000	0.47%
						Total:	**15.38%**

• 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:	15.38%
Sector B:	15.38%
Sector C:	15.38%
AT&T Maximum MPE % (Sector A):	15.38%
Site Total:	15.38%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **15.38%** 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.