CROWN CASTLE

1 Cityplace Dr, Suite 490

Creve Coeur, MO 63141

Phone: (314) 513-0147

www.crowncastle.com

February 22, 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#841288; AT&T Site ID#CTL02106
205 Kaechele Place., Bridgeport, CT 06606
Latitude: 41° 13′ 24.04″/ Longitude: -73° 13′ 0.38″

Dear Ms. Bachman:

AT&T currently maintains (9) antennas at the 154-foot mounts on the existing 150-foot Monopole Tower located at 205 Kaechele Place., Bridgeport. The property is owned by Southern New England Telephone and the Tower by Crown Castle. AT&T now intends to replace six (6) antennas and add three (3) 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) Quintel – QS66512-2 Antennas (**REMOVE**), (3) Quintel – QD6616-7 Antennas (**REPLACE**)

(3) CCI – HPA-65R-BUU-H6 Antennas (**REMOVE**), (3) Ericsson – AIR6419 N77G Antennas (**REPLACE**

(2) Raycap – DC6-48-60-18-8F Pendants (**REMOVE**), (3) Raycap – DC9-48-60-24-PC16-EV Pendants (**REPLACE**)

(1) Platform Mount (**REMOVE**), Platform Mount SITEPRO1 – (PART# RMQLP-4120-H10) (**REPLACE**)

INSTALL

(3) Ericsson – AIR6449 N77D) (New antennas Stacked)
(3) PWRT-606-S Power Truck
(6) PWRT-604-S Power Truck
(1) FB-L98B-235- XXX Fiber Trunk

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REMOVE:
(6) TPX – 070821 Diplexers
(6) Coax Cables (1-5/8")
(4) DC Trunk

RELOCATE
(3) CCI – DMP65R-BU6DA Antennas
(3) Ericcson – RRUS-32 B66A Remote Radio Heads
(3) Ericsson – RRUS-32 B2 Remote Radio Heads
(3) Ericsson – RRUS-32 B30 Remote Radio Heads
(3) Ericsson – 4478 B14 Remote Radio Heads
(3) Ericsson – 4449 B5/B12 Remote Radio Heads

Ground:

REMOVE:
(6) TPX-070821 Diplexers
INSTALL:
(1) 6673 FHG, (1) 6630 (+IDLe)
(1) AT&T Equipment Fiber Management Box
(1) AT&T Junction Box Raycap – DC12-48-60-RM
(2) Fiber Management Box (outside Shelter)

The Facility was approved by the Connecticut Siting Council on September 14, 1984, Docket#45.

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 Joesph P. Ganim, City of Bridgeport Mayor, Thomas F. Gill, City of Bridgeport Director of OPED, property owner, Southern New England Telephone, and the tower owner, Crown Castle.

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

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

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

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

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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:

Joseph P. Ganim, Mayor *(Via Fedex)*
999 Broad Street
Bridgeport, CT 06604
(203) 576-7201

Bruce A. Nelson, Building Official *(Via Fedex)*
Building Department
45 Lyon Terrace, Room 222
Bridgeport, CT 06604
203-576-7227

Southern New England Telephone
PO Box 2629
Addison, TX 75001

Colin Robinson

From: TrackingUpdates@fedex.com
Sent: Wednesday, February 23, 2022 10:01 AM
To: Colin Robinson
Subject: FedEx Shipment 776109682294: Your package has been delivered

Hi. Your package was delivered Wed, 02/23/2022 at 9:56am.

Delivered to 999 BROAD ST, BRIDGEPORT, CT 06604
Received by J.CABANAS

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776109682294
FROM	NB+C 100 Apollo Dr. Suite 303 CHELMSFORD, MA, US, 01824
TO	Mayor Joseph P. Ganim

	999 Broad Street BRIDGEPORT, CT, US, 06604
REFERENCE	100788 NB+C
SHIPPER REFERENCE	100788 NB+C
SHIP DATE	Tue 2/22/2022 06:43 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	BRIDGEPORT, CT, US, 06604
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: Wednesday, February 23, 2022 9:46 AM
To: Colin Robinson
Subject: FedEx Shipment 776109708840: Your package has been delivered

Hi. Your package was delivered Wed, 02/23/2022 at 9:44am.

Delivered to 45 LYON TER, BRIDGEPORT, CT 06604
Received by J.MCDOWELL

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776109708840
FROM	NB+C 100 Apollo Dr. Suite 303 CHELMSFORD, MA, US, 01824
TO	Building Official Bruce A. Nelson

	45 Lyon Terrace Room 222 BRIDGEPORT, CT, US, 06604
REFERENCE	100788 NB+C
SHIPPER REFERENCE	100788 NB+C
SHIP DATE	Tue 2/22/2022 06:43 PM
DELIVERED TO	Mailroom
PACKAGING TYPE	FedEx Envelope
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	BRIDGEPORT, CT, US, 06604
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

205 KAECHELE PL

Location	205 KAECHELE PL	**Mblu**	81/ 2602/ 9/ /
Acct#	R--0148640	**Owner**	SOUTHERN NEW ENGLAND TEL
Assessment	$124,470	**Appraisal**	$177,820
PID	29859	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$53,520	$124,300	$177,820

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$37,460	$87,010	$124,470

Owner of Record

Owner	SOUTHERN NEW ENGLAND TEL	**Sale Price**	$0
Co-Owner	SNET/FRONTIER COMM	**Certificate**	
Address	PO BOX 2629 ADDISON, TX 75001	**Book & Page**	0000/0000
		Sale Date	01/01/2000
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SOUTHERN NEW ENGLAND TEL	$0		0000/0000		01/01/2000

Building Information

Building 1 : Section 1

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

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplaces	
Fin Bsmt Area	
Fin Bsmt Quality	
Num Park	
Bsmt Garages	
.	

Building Photo

(http://images.vgsi.com/photos2/BridgeportCTPhotos//\0111\IMG_7024_11

Building Layout

(ParcelSketch.ashx?pid=29859&bid=29859)

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code	499	**Size (Acres)**	0.15
Description	Utility Vac Ln	**Frontage**	0
Zone	RA	**Depth**	0
Neighborhood	20	**Assessed Value**	$87,010
Alt Land Appr	No	**Appraised Value**	$124,300
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD3	Shed w/ Lt	CM	Comm	384.00 SF	$7,260	1
SHD3	Shed w/ Lt	CM	Comm	384.00 SF	$7,260	1
SHD3	Shed w/ Lt	CM	Comm	576.00 SF	$10,890	1
FN1	Fence, Chain	8	8 ft	350.00 LF	$3,150	1
TWR	Tower			120.00 LF	$24,960	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$53,520	$124,300	$177,820
2020	$53,520	$124,300	$177,820
2019	$51,340	$97,390	$148,730

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$37,460	$87,010	$124,470
2020	$37,460	$87,010	$124,470
2019	$35,950	$68,170	$104,120

Exhibit C

Construction Drawings

AT&T

AT&T SITE NUMBER: CTL02106
AT&T SITE NAME: BRIDGEPORT NORTH
AT&T FA CODE: 10034977
AT&T PACE NUMBER: MRCTB050739, MRCTB052119
AT&T PROJECT: 5G NR 1SR CBAND

BUSINESS UNIT #: 841288
SITE ADDRESS: 205 KAECHELE PLACE BRIDGEPORT, CT 06606
COUNTY: FAIRFIELD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	BRIDGEPORT NORTH
SITE ADDRESS:	205 KAECHELE PLACE BRIDGEPORT, CT 06606
COUNTY:	FAIRFIELD
MAP/PARCEL #:	81/ 2602/ 9/ /
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41 13'24.04"
LONGITUDE:	-73 13'0.38
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	240'
CURRENT ZONING:	R-A
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:	SOUTHERN NEW ENGLAND TEL PO BOX 2629 ADDISON, TX 75001
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:	UNITED ILLUMINATING CO.
TELCO PROVIDER:	NOT PROVIDED

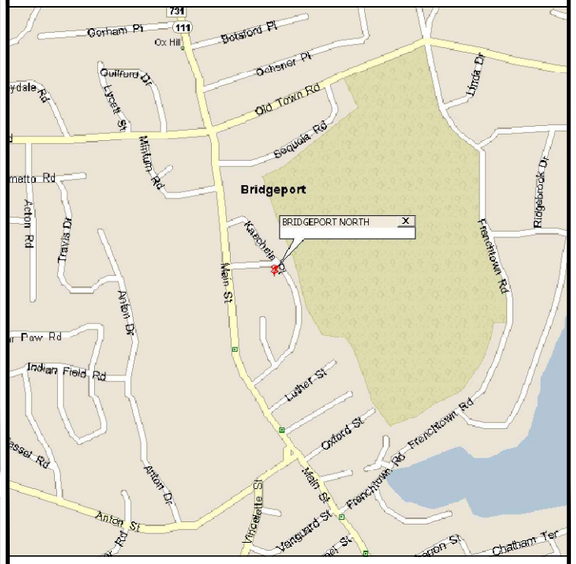
DRAWING INDEX

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

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

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

LOCATION MAP



NO SCALE

SITE PHOTO

PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S BOULDER AVE, SUITE 300 TULSA, OK 74119 MARVIN PHILLIPS Marvin.Phillipd@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3530 TORINGDON WAY, SUITE 300 CHARLOTTE, NC 28277
	PAUL PEDICONE - PROJECT MANAGER PAUL.PEDICONE@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 (3) QUINTEL -QS66512-2 ANTENNAS
- REMOVE (3) CCI - HPA-65R-BUU-H6 ANTENNAS
- REMOVE (2) RAYCAP - DC6-48-60-18-8F PENDANT
- REMOVE (6) COAX CABLE
- REMOVE (4) DC TRUNK
- REMOVE (1) PLATFORM MOUNT
- REMOVE (6) TPX-070821 DIPLEXER
- RELOCATE (3) CCI - DMP65R-BU6DA ANTENNAS
- RELOCATE (3) ERICSSON - RRUS-32 B2 RADIOs
- RELOCATE (3) ERICSSON - RRUS-32 B30 RADIOs
- RELOCATE (3) ERICSSON - 4478 B14 RADIOs
- RELOCATE (3) ERICSSON - 4449 B5/B12 RADIOs
- RELOCATE (3) ERICSSON - RRUS-32 B66A RADIOs
- INSTALL (1) SITEPRO1 (PART# RMQP-12-H5) PLATFORM MOUNT
- INSTALL (3) QUINTEL - QD6616-7 ANTENNAS
- INSTALL (3) ERICSSON - AIR6449 N77D+AIR6419 N77G STACKED ANTENNAS
- INSTALL (3) RAYCAP - DC9-48-60-24-PC16-EV SQUID
- INSTALL (3) PWRT-606-S POWER TRUNK
- INSTALL (6) PWRT-604-S POWER TRUNK
- INSTALL (1) FB-L98B-235 - XXX FIBER TRUNK

GROUND SCOPE OF WORK:
- REMOVE (6) DIPLEXERS
- INSTALL (1) 6673 FHG
- INSTALL (1) 6630 (+IDLe)
- INSTALL (1) DC12-48-60-RM
- INSTALL (2) FIBER MANAGEMENT BOX (OUTSIDE SHELTER)

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2015 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	N/A
DATED:	N/A
MOUNT ANALYSIS:	B+T GROUP
DATED:	9/17/21
RFDS REVISION:	PRELIMINARY
DATED:	7/27/21
ORDER ID:	556498
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:
CTL02106

BU #: **841288**
BRIDGEPORT NORTH

205 KAECHELE PLACE
BRIDGEPORT, CT 06606

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/4/21	JTS	CONSTRUCTION	JTS
1	10/7/21	JTS	CONSTRUCTION	JTS
2	11/3/21	JTS	CONSTRUCTION	JTS

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
11/3/21

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

SHEET NUMBER: T-1
REVISION: 2

BRIDGEPORT NORTH.dwg – Sheet:T-1 – User: jsikes – Nov 03, 2021 – 3:19pm

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

GREENFIELD GROUNDING NOTES:

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

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AT&T SITE NUMBER:
CTL02106

BU #: **841288**
BRIDGEPORT NORTH

205 KAECHELE PLACE
BRIDGEPORT, CT 06606

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

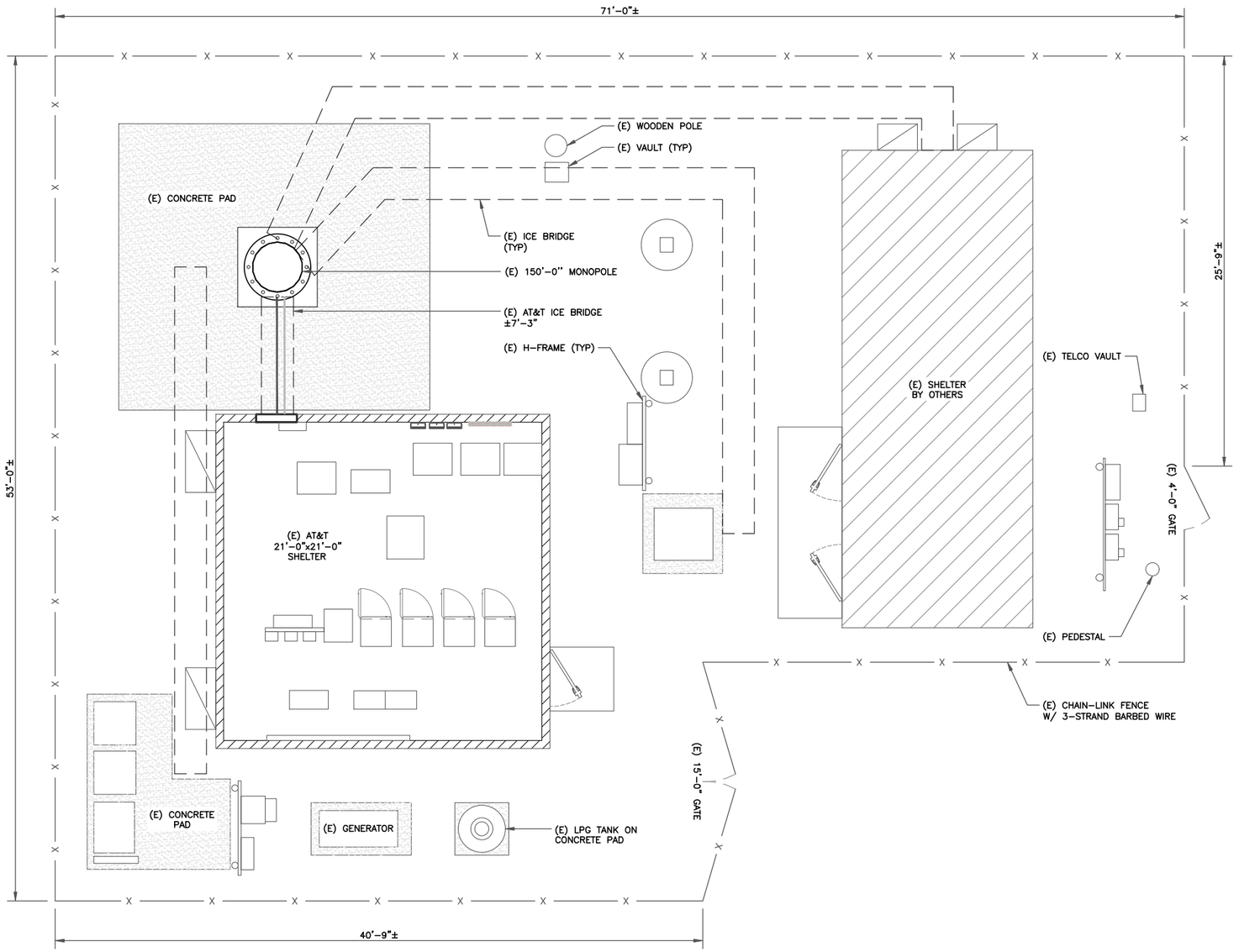
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/4/21	JTS	CONSTRUCTION	JTS
1	10/7/21	JTS	CONSTRUCTION	JTS
2	11/3/21	JTS	CONSTRUCTION	JTS

No. 23824
11/3/21

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

SHEET NUMBER: T-2

REVISION: 2



1 SITE PLAN

SCALE: 4' 3' 2' 1' 0 4' 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

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STATE OF CONNECTICUT * JOHN T. STEVENS * No. 23924 LICENSED PROFESSIONAL ENGINEER
11/3/21

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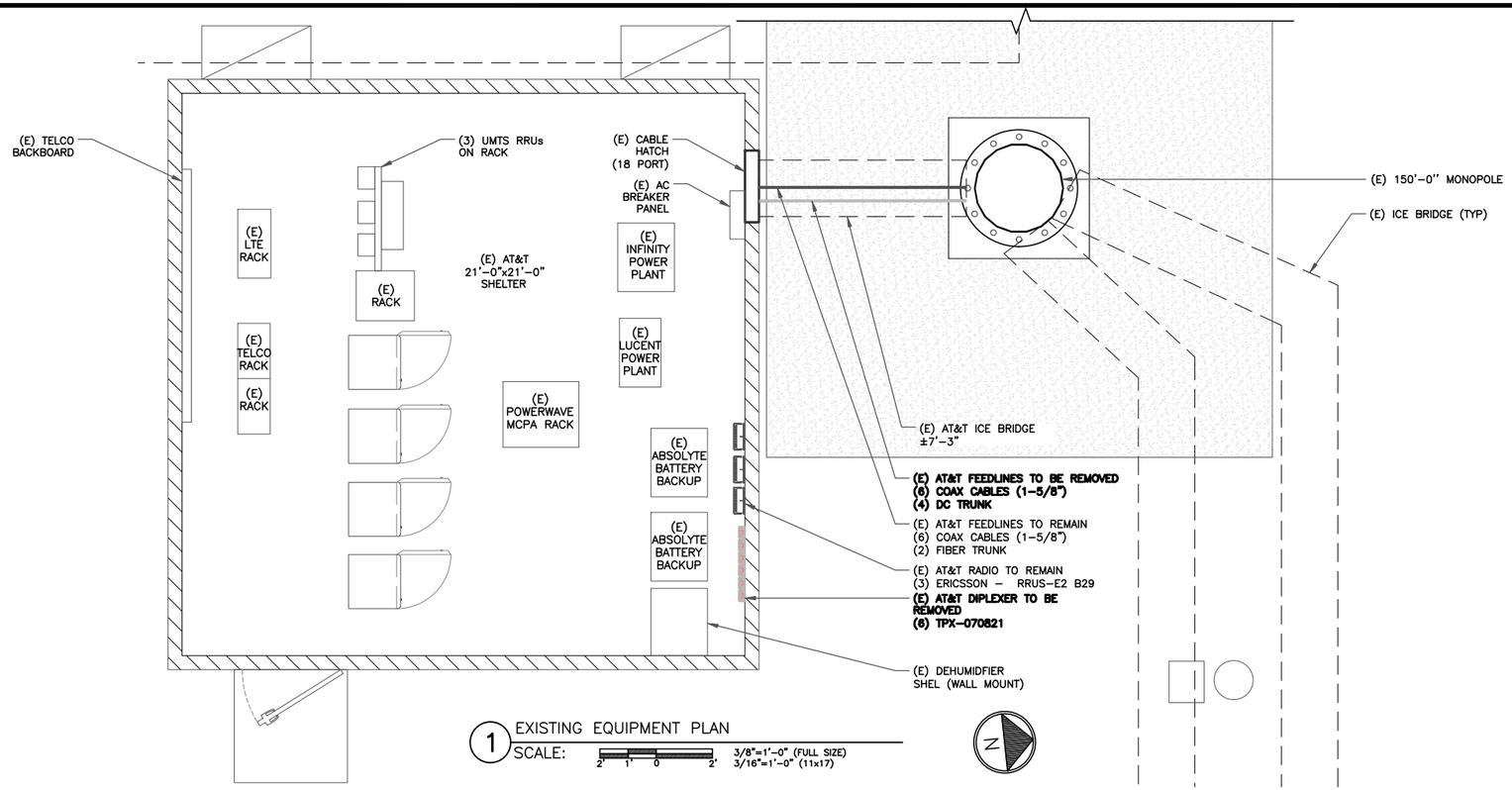
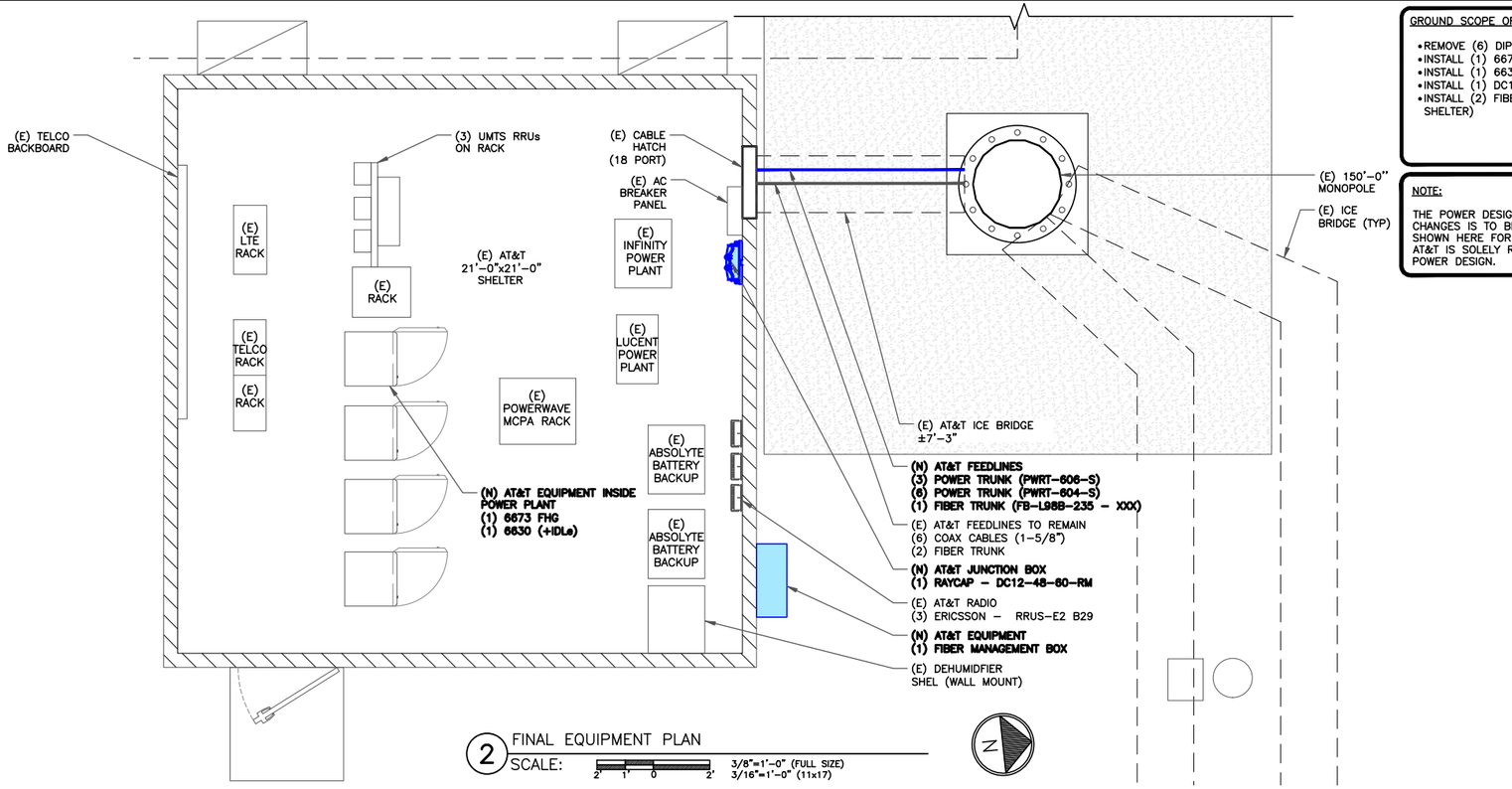


1 EXISTING EQUIPMENT PLAN

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



2 FINAL EQUIPMENT PLAN

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

GROUND SCOPE OF WORK:

- REMOVE (6) DIPLEXERS
- INSTALL (1) 6673 FHG
- INSTALL (1) 6630 (+IDLe)
- INSTALL (1) DC12-48-60-RM
- INSTALL (2) FIBER MANAGEMENT BOX (OUTSIDE SHELTER)

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.

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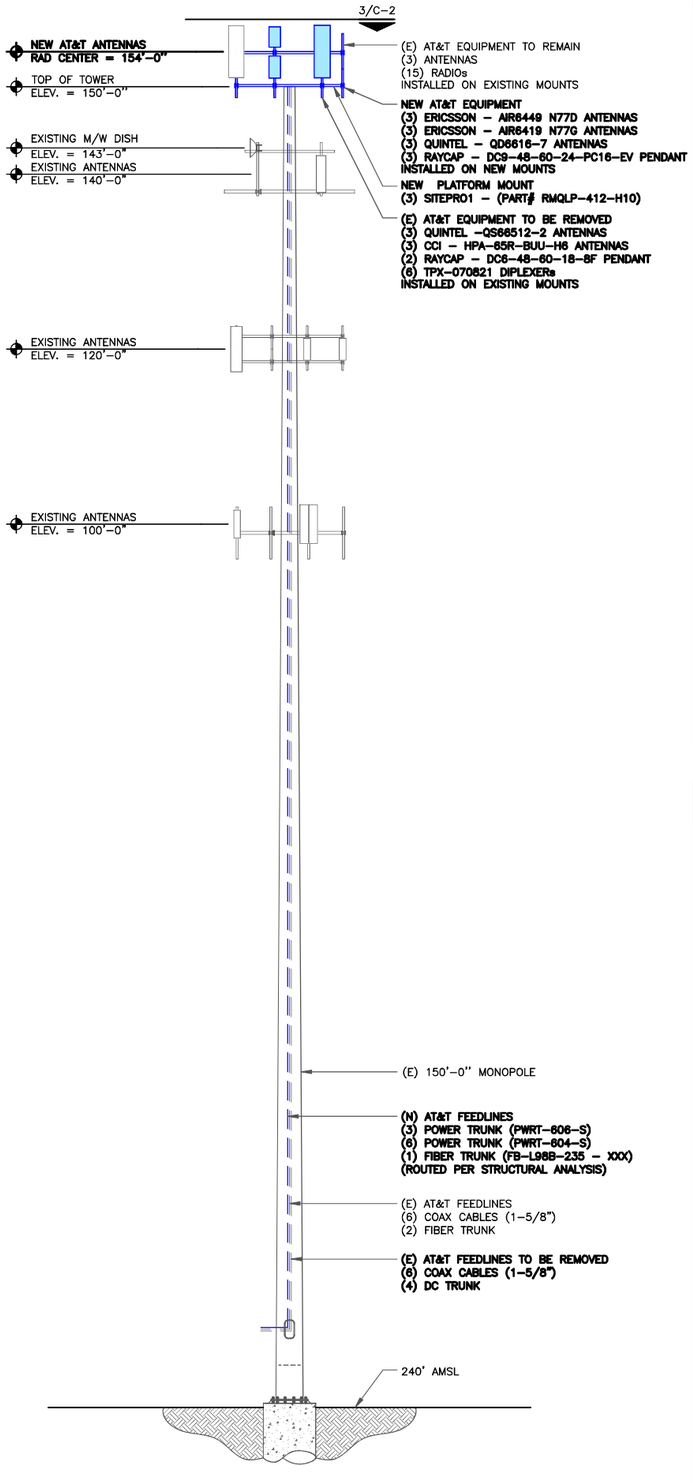
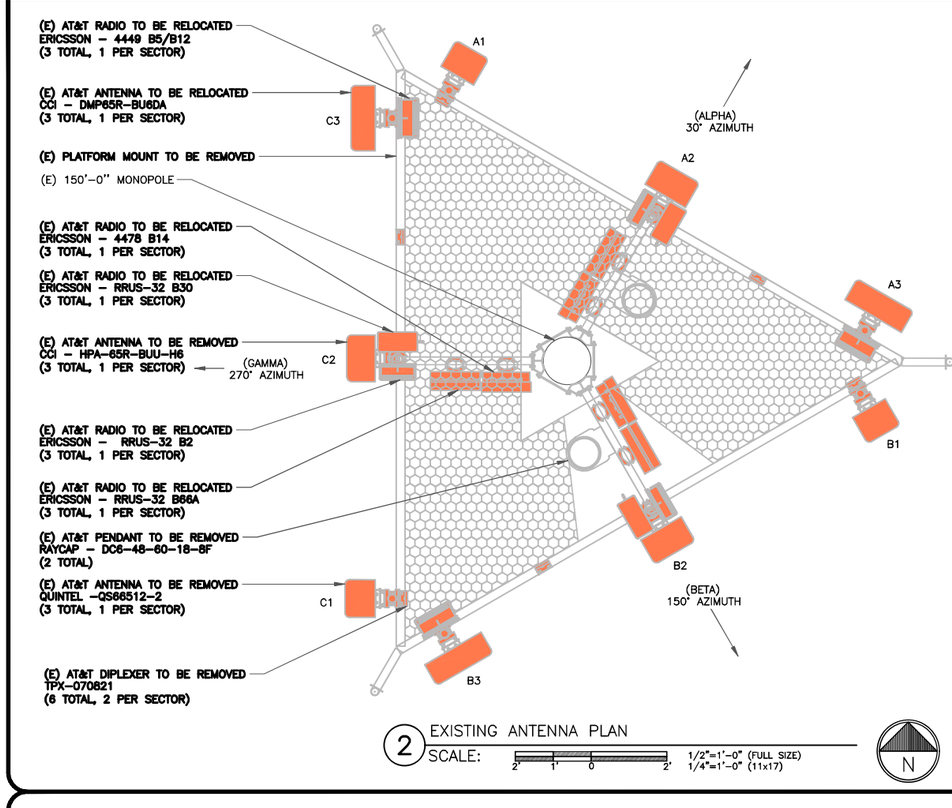
SHEET NUMBER: C-1.2

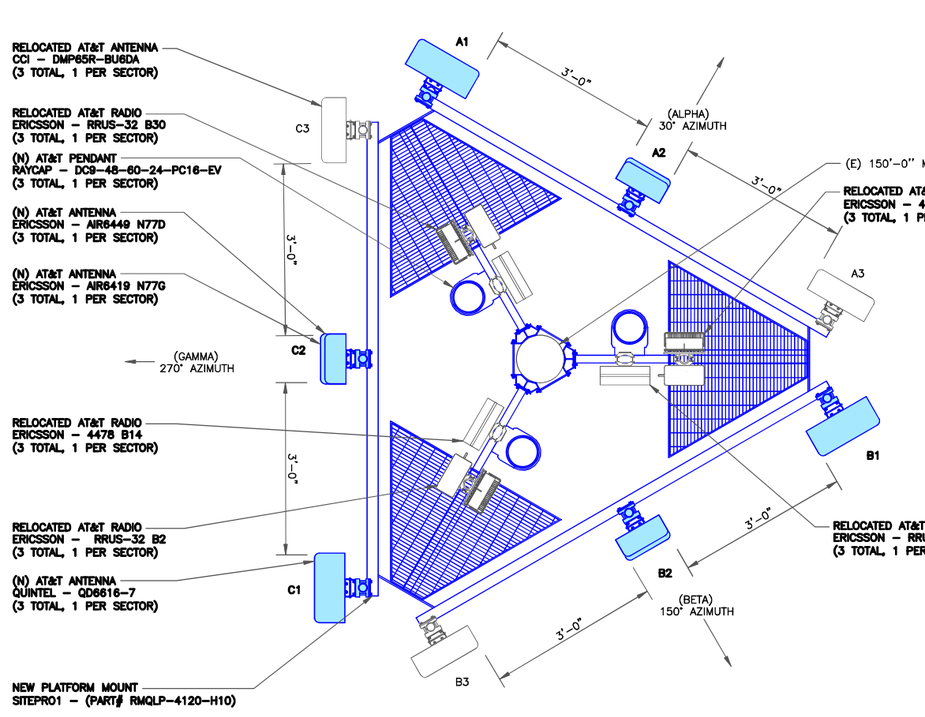
REVISION: 2



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)

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

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

INSTALLER NOTES:

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

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AT&T SITE NUMBER:
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BU #: **841288**
BRIDGEPORT NORTH

205 KAECHELE PLACE
BRIDGEPORT, CT 06606

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

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B&T ENGINEERING, INC.
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SHEET NUMBER: C-2
REVISION: 2

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FINAL ANTENNA AND FEEDLINE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	SURGE PROTECTION	DC/FIBER CABLES	RRHs QTY & MODEL ON TOWER	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE
ALPHA SECTOR																		
A1	**LTE/5G**	**NEW**	**30°**	**QUINTEL – QD6616–7**	**154'–0"**	**0°**	**3°/2°/5°/5° /5°/5°/5°**	1 5/8"	184'–0"	2	–			(1) 4478 B14 (1) RRUS–32 B2 (1) RRUS–32 B66A	TOWER	N	N	N
A2	**5G**	**NEW**	**30°**	**ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED**	**154'–0"**	–	–	–	–	–	–			–	–	N	N	N
A3	LTE/5G	EXISTING	30°	CCI – DMP65R–BU6DA	154'–0"	0°	2°/2°/2°	–	–	–	–			(1) 4449 B5/B12 (1) RRUS–32 B30	TOWER	N	N	N
BETA SECTOR																		
B1	**LTE/5G**	**NEW**	**150°**	**QUINTEL – QD6616–7**	**154'–0"**	**0°**	**3°/8°/6°/6° /6°/6°/6°**	1 5/8"	184'–0"	2	–			(1) 4478 B14 (1) RRUS–32 B2 (1) RRUS–32 B66A	TOWER	N	N	N
B2	**5G**	**NEW**	**150°**	**ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED**	**154'–0"**	–	–	–	–	–	–			–	–	N	N	N
B3	LTE/5G	EXISTING	150°	CCI – DMP65R–BU6DA	154'–0"	0°	8°/3°/8°	–	–	–	–			(1) 4449 B5/B12 (1) RRUS–32 B30	TOWER	N	N	N
GAMMA SECTOR																		
C1	**LTE/5G**	**NEW**	**270°**	**QUINTEL – QD6616–7**	**154'–0"**	**0°**	**3°/5°/5°/5° /5°/5°/5°**	1 5/8"	184'–0"	2	–			(1) 4478 B14 (1) RRUS–32 B2 (1) RRUS–32 B66A	TOWER	N	N	N
C2	**5G**	**NEW**	**270°**	**ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED**	**154'–0"**	–	–	–	–	–	–			–	–	N	N	N
C3	LTE/5G	EXISTING	270°	CCI – DMP65R–BU6DA	154'–0"	0°	5°/2°/5°	–	–	–	–			(1) 4449 B5/B12 (1) RRUS–32 B30	TOWER	N	N	N

NOTE: BOLD DENOTES NEW EQUIPMENT

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

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STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
11/3/21

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SHEET NUMBER: C-3

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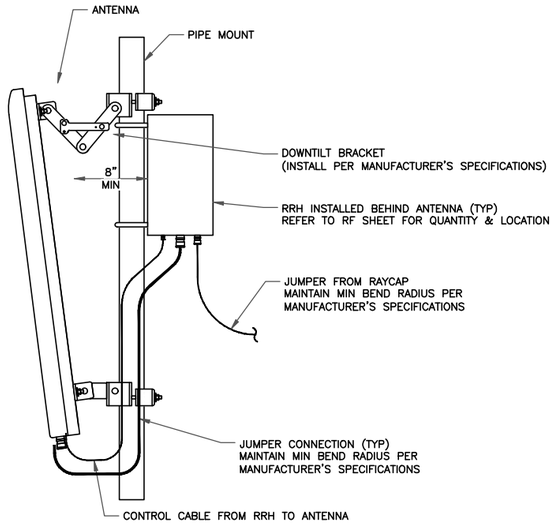
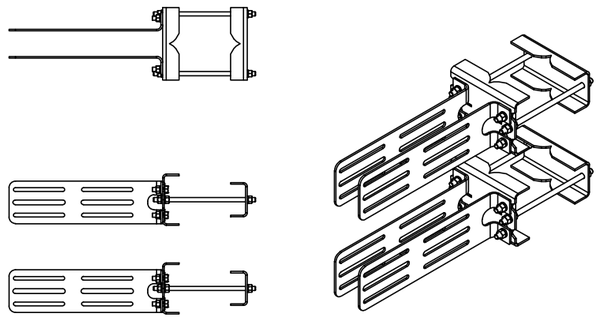
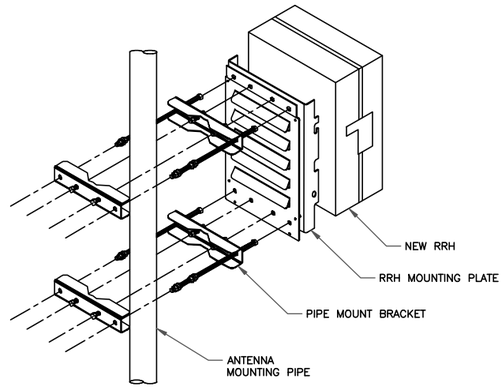


1 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE



COMMSCOPE – RR-FA2
FAST ACCESS DUAL RRH MOUNT

2 COMMSCOPE – RR-FA2
SCALE: NOT TO SCALE



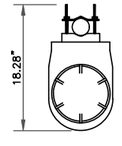
NOTE:
ANTENNA NOT SHOWN FOR CLARITY

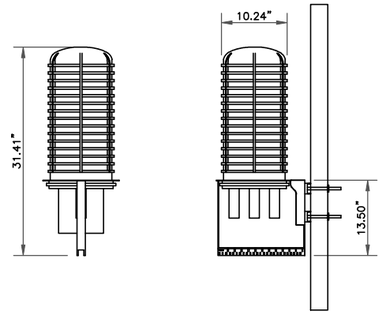
3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

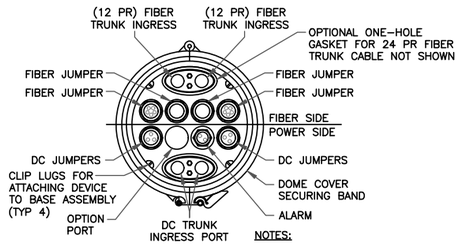
RAYCAP
DC9-48-60-24-8C-EV

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



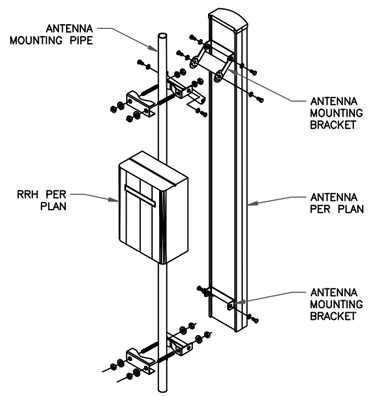




NOTES:
1. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

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.
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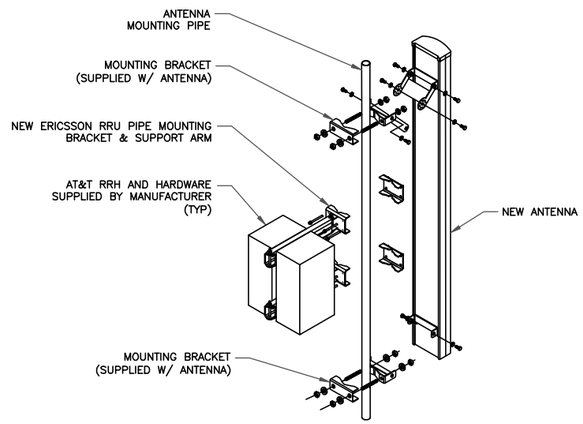

5 ANTENNA WITH DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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REVISION: 2

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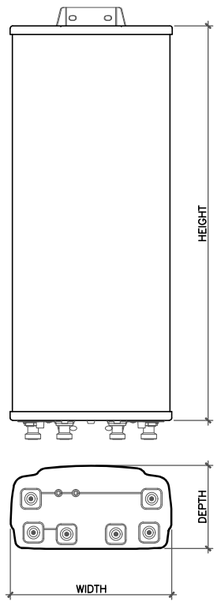
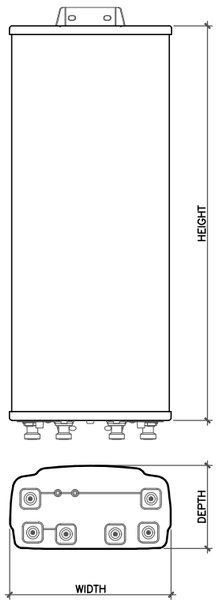


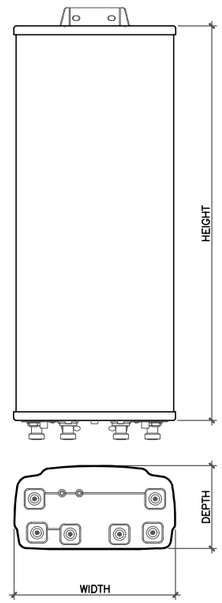
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR6419 N77G	27.95"	15.75"	6.68"	66.2 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR6449 N77D	30.39"	15.87"	8.07"	81.6 lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
QD6616-7	72"	22"	9.6"	130 lbs

3 ANTENNA DETAILS
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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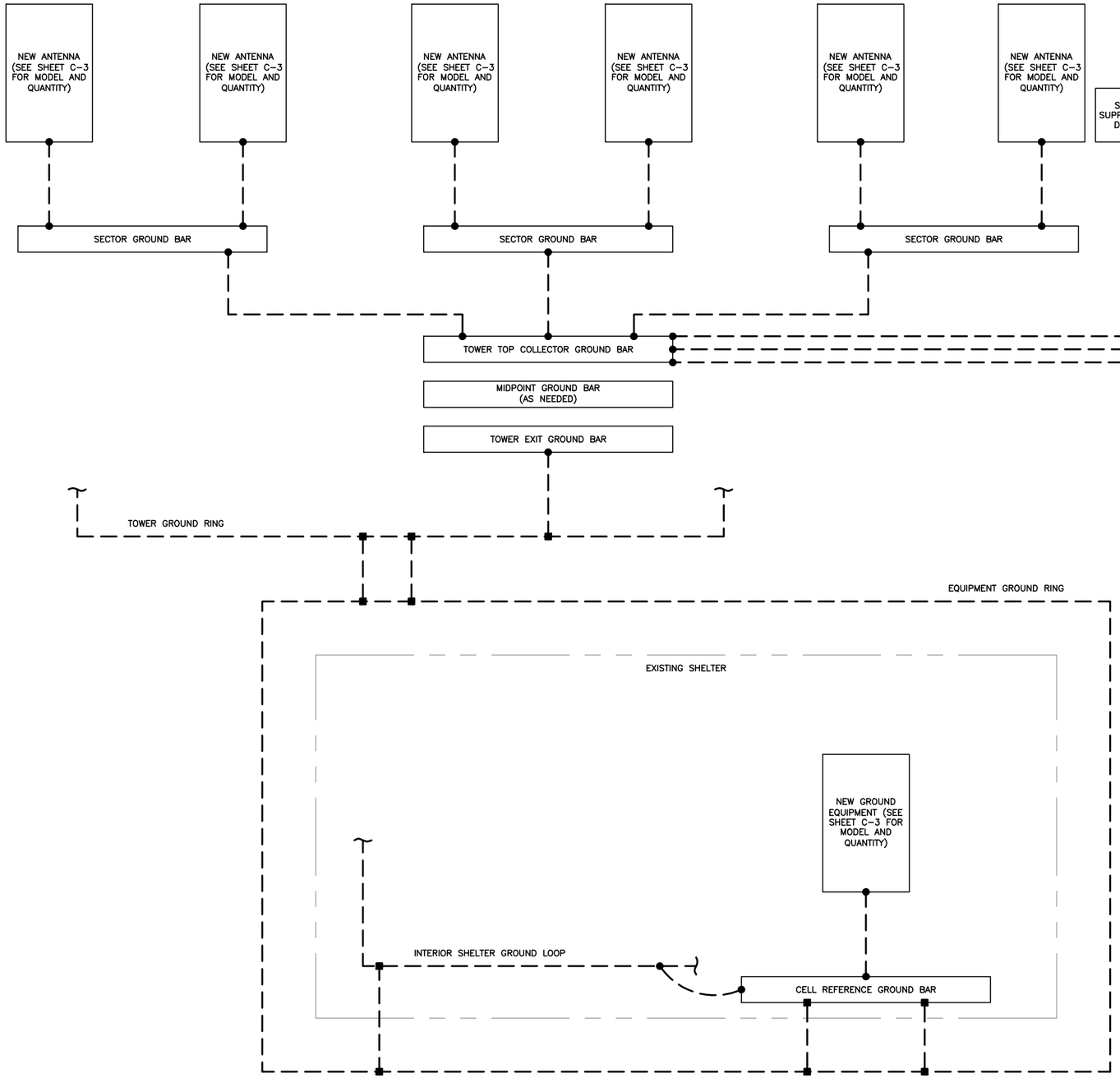

1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

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

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

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

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

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

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

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

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

AT&T SITE NUMBER:
CTL02106

BU #: **841288**
BRIDGEPORT NORTH

205 KAECHELE PLACE
BRIDGEPORT, CT 06606

EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/4/21	JTS	CONSTRUCTION	JTS
1	10/7/21	JTS	CONSTRUCTION	JTS
2	11/3/21	JTS	CONSTRUCTION	JTS

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
11/3/21

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

SHEET NUMBER: G-1
REVISION: 2

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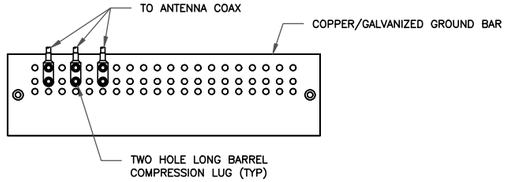
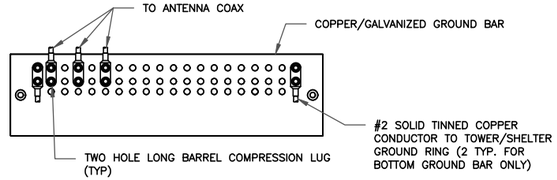


NOTES:

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

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

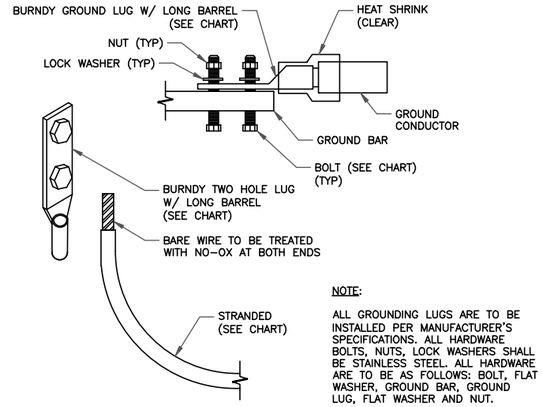


NOTES:

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

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

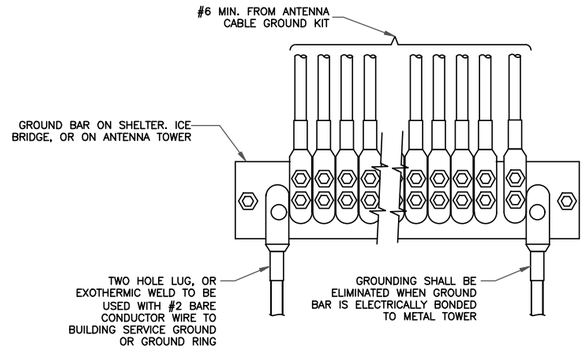
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



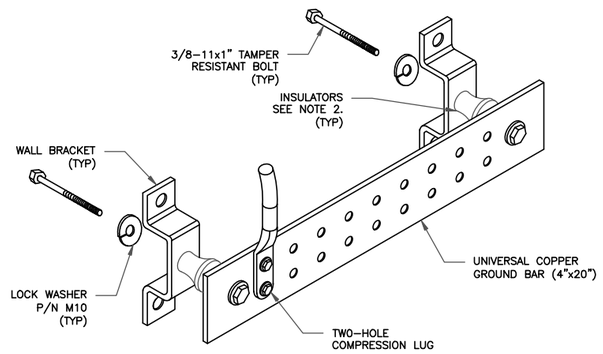
NOTE:

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

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

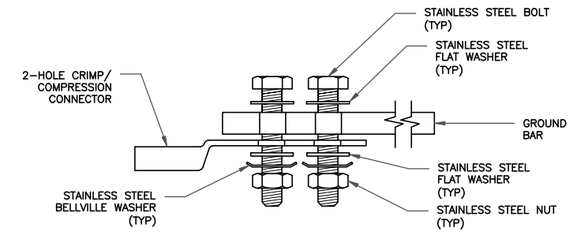


NOTES:

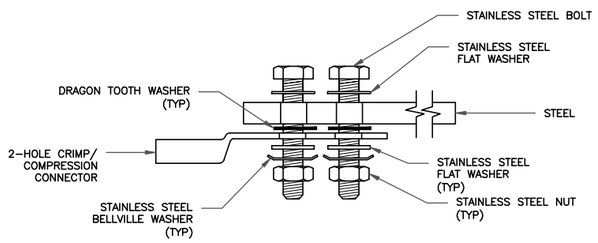
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

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

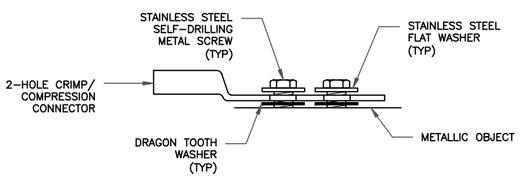
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

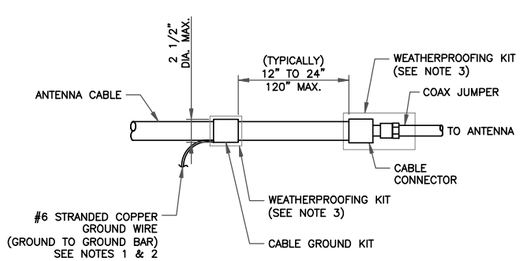


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

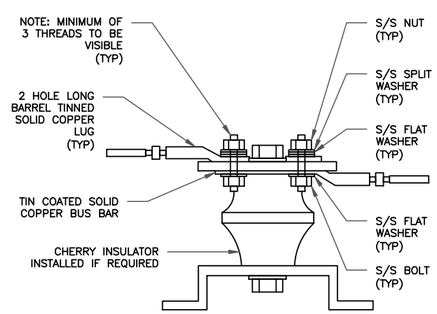
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

AT&T
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ATLANTA, GA 30324-3300

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AT&T SITE NUMBER:
CTL02106

BU #: **841288**
BRIDGEPORT NORTH

205 KAECHELE PLACE
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EXISTING
150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/4/21	JTS	CONSTRUCTION	JTS
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2	11/3/21	JTS	CONSTRUCTION	JTS

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

SHEET NUMBER: G-2
REVISION: 2

Diagram - Sector	A	Diagram File Name - Cband_3Ant_Q7DEBOT_DoD_CB_DMP__AWS_PCS_1DC9Fib_2x6630_1xXMU.vsd					
Atoll Site Name -	CTL02106	Location Name -	BRIDGEPORT NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

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

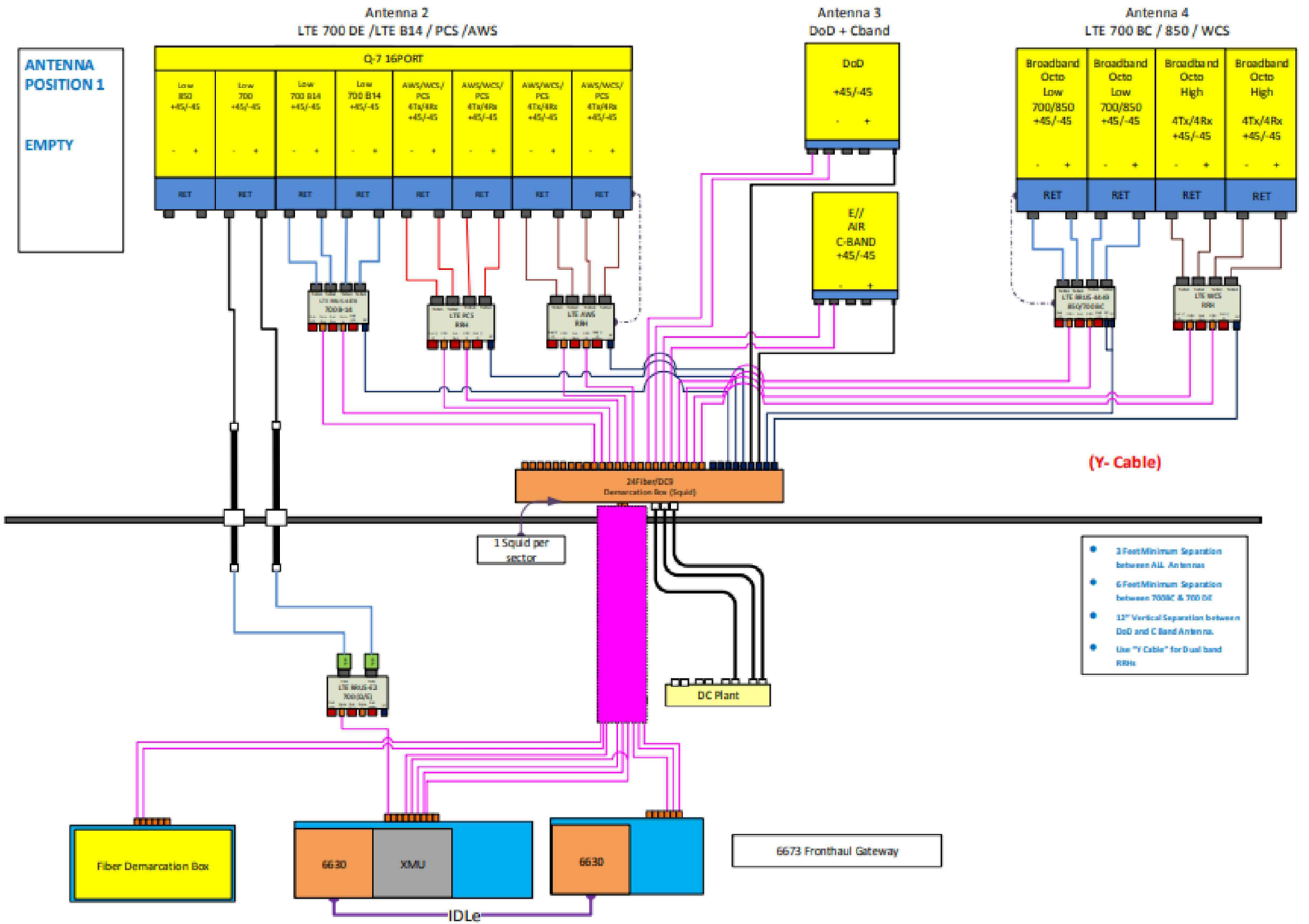


Diagram - Sector	B	Diagram File Name - Cband_3Ant_Q7DEBOT_DoD_CB_DMP__AWS_PCS_1DC9Fib_2x6630_1xXMU.vsd					
Atoll Site Name -	CTL02106	Location Name -	BRIDGEPORT NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

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

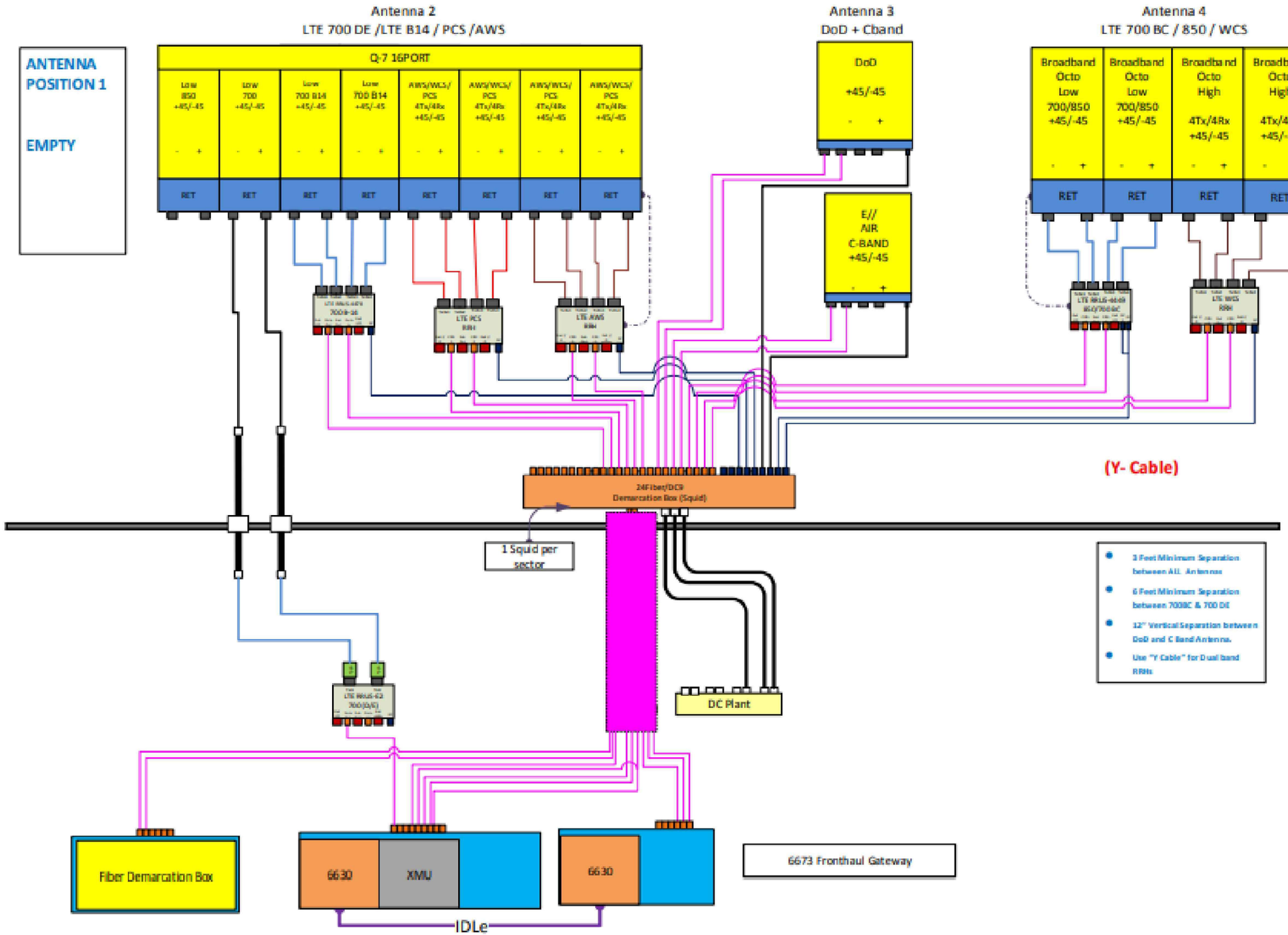


Diagram - Sector	C	Diagram File Name - Cband_3Ant_Q7DEBOT_DoD_CB_DMP__AWS_PCS_1DC9Fib_2x6630_1xXMU.vsd					
Atoll Site Name -	CTL02106	Location Name -	BRIDGEPORT NORTH	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

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

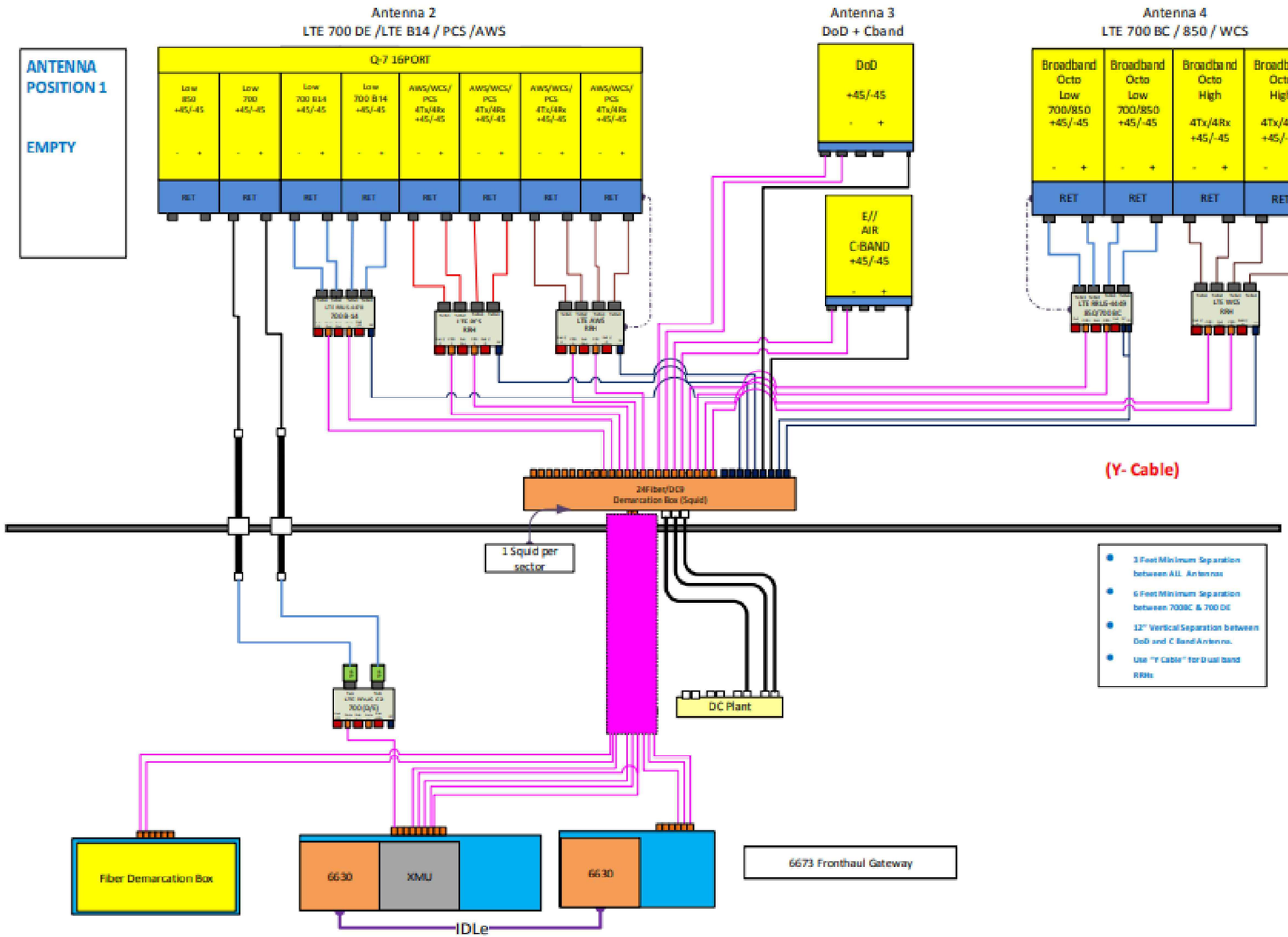


Exhibit D

Structural Analysis Report

Exhibit E

Mount Analysis

Date: October 20, 2021

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**AT&T Mobility Equipment Change-Out**	
	Carrier Site Number:	CTL02106
	Carrier Site Name:	Bridgeport North
	Carrier FA Number:	10034977
Crown Castle Designation:	**BU Number:**	841288
	Site Name:	Bridgeport North
	JDE Job Number:	649395
	Order Number:	556498, Rev. 2
Engineering Firm Designation:	**B+T Group Report Designation:**	126536.013.01
Site Data:	**205 Kaechele Place, Bridgeport, CT, Fairfield County, 06606** **Latitude 41° 13' 24.04" Longitude -73° 13' 0.38"**	
Structure Information:	**Tower Height & Type:**	**150 ft. Monopole**
	Mount Elevation:	**152 ft.**
	Mount Type:	**14.5 ft. Platform Mount**

B+T Group 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 above mentioned 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.

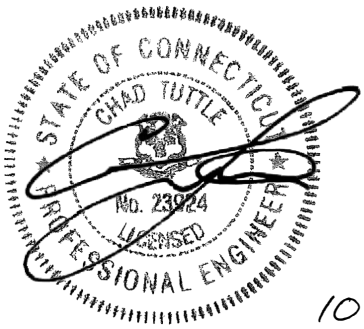
The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

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

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 118 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Erik Perez

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022



10-20-21

Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 3 - sector 14.5' Platform Mount, designed by SitePro1 (Part# RMQLP-4120-H10).

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.212
Seismic S_1:	0.054
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.)	Qty.	Manufacturer	Model / Type	Mount / Modification Details
152	154	3	CCI Antennas	DMP65R-BU6D	14.5' Platform Mount
		3	Ericsson	AIR 6419 B77G	
		3	Ericsson	AIR 6449 N77	
		3	Quintel	QD6616-7	
		3	Ericsson	Radio 4478 B14	
		3	Ericsson	RRUS 32 B2	
		3	Ericsson	RRUS 32 B30	
		3	Ericsson	RRUS 32 B66A	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Raycap	DC9-48-60-24-8C-EV	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 09/02/2021	Crown Castle
RFDS		Date: 07/27/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), 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.

A tool internally developed by B+T Group, 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 D). In addition, this analysis is in accordance with *AT&T's Mount Technical Directive – R15.0.*

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
7. 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.
8. The following material grades were assumed (Unless Noted Otherwise):
   (a) Connection Bolts : ASTM A325
   (b) Steel Pipe : ASTM A53 (GR. 35)
   (c) HSS (Round) : ASTM 500 (GR. B-42)
   (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   (e) Channel : ASTM A36 (GR. 36)
   (f) Steel Solid Rod : ASTM A36 (GR. 36)
   (g) Steel Plate : ASTM A36 (GR. 36)
   (h) Steel Angle : ASTM A36 (GR. 36)
   (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

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

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1	Main Horizontals	152	89	14.1	Pass
	Support Rails	152	90	40.7	Pass
	Support Tubes	152	3	37.9	Pass
	Mount Pipes	152	83	22.3	Pass
	Connection Plates	152	16	44.8	Pass
	Support Angles	152	1	19.5	Pass
	Connection Angles	152	18	59.9	Pass
	Support Rail Connection Pipes	152	31	20.8	Pass
	Cable Rods	152	8	33.8	Pass
2	Connection Bolts	152	--	25.5	Pass

Structure Rating (max from all components) =	**59.9%**

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 calculations supporting the % capacity reported.

4.1) Recommendations

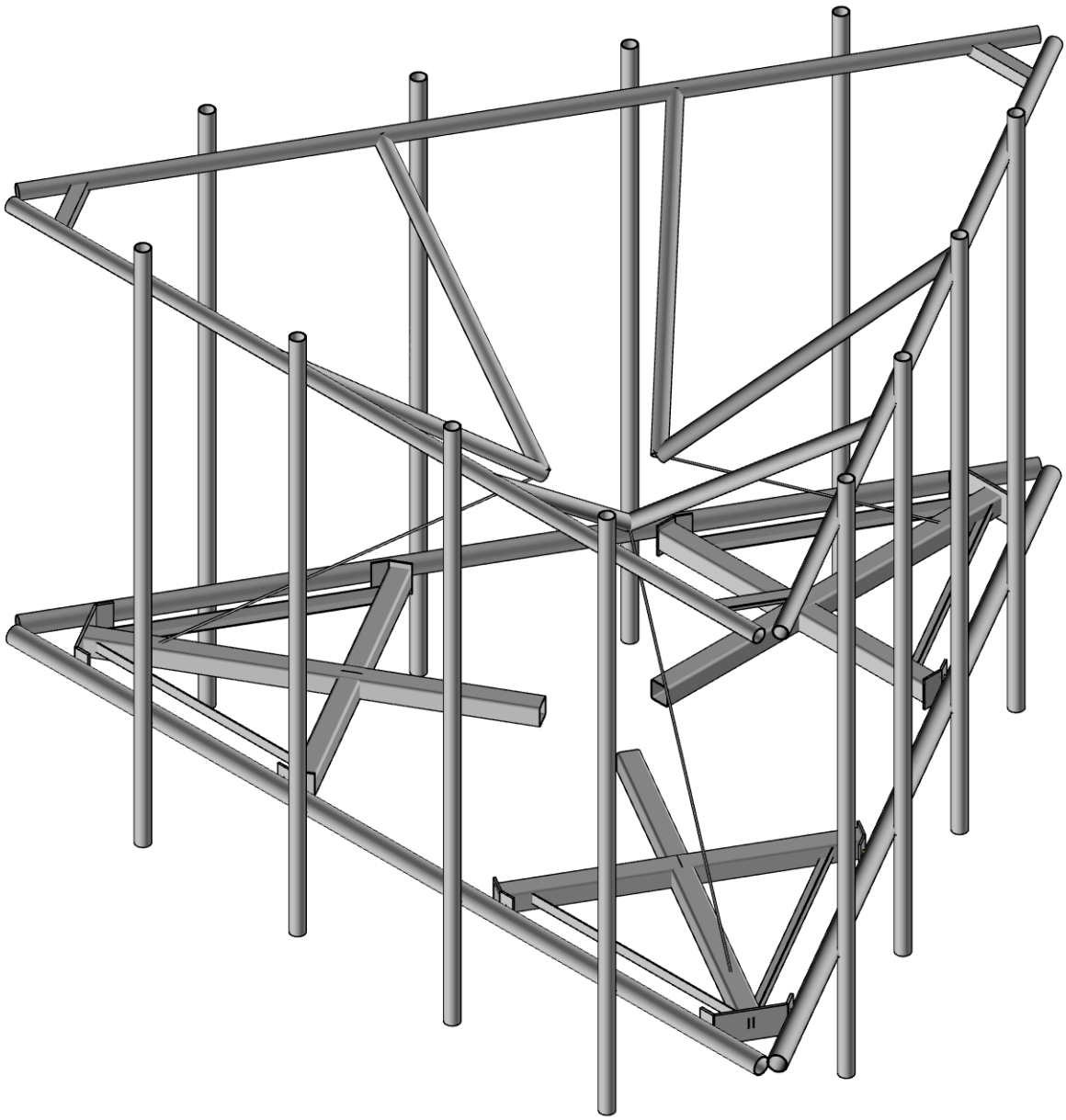
The proposed mount has sufficient capacity to support the proposed loading configuration. In order for the results of this analysis to be considered valid, the mount listed below shall be installed.

1. Mount replacement, SitePro1 (Part# RMQLP-4120-H10)

Beyond the mount replacement, no structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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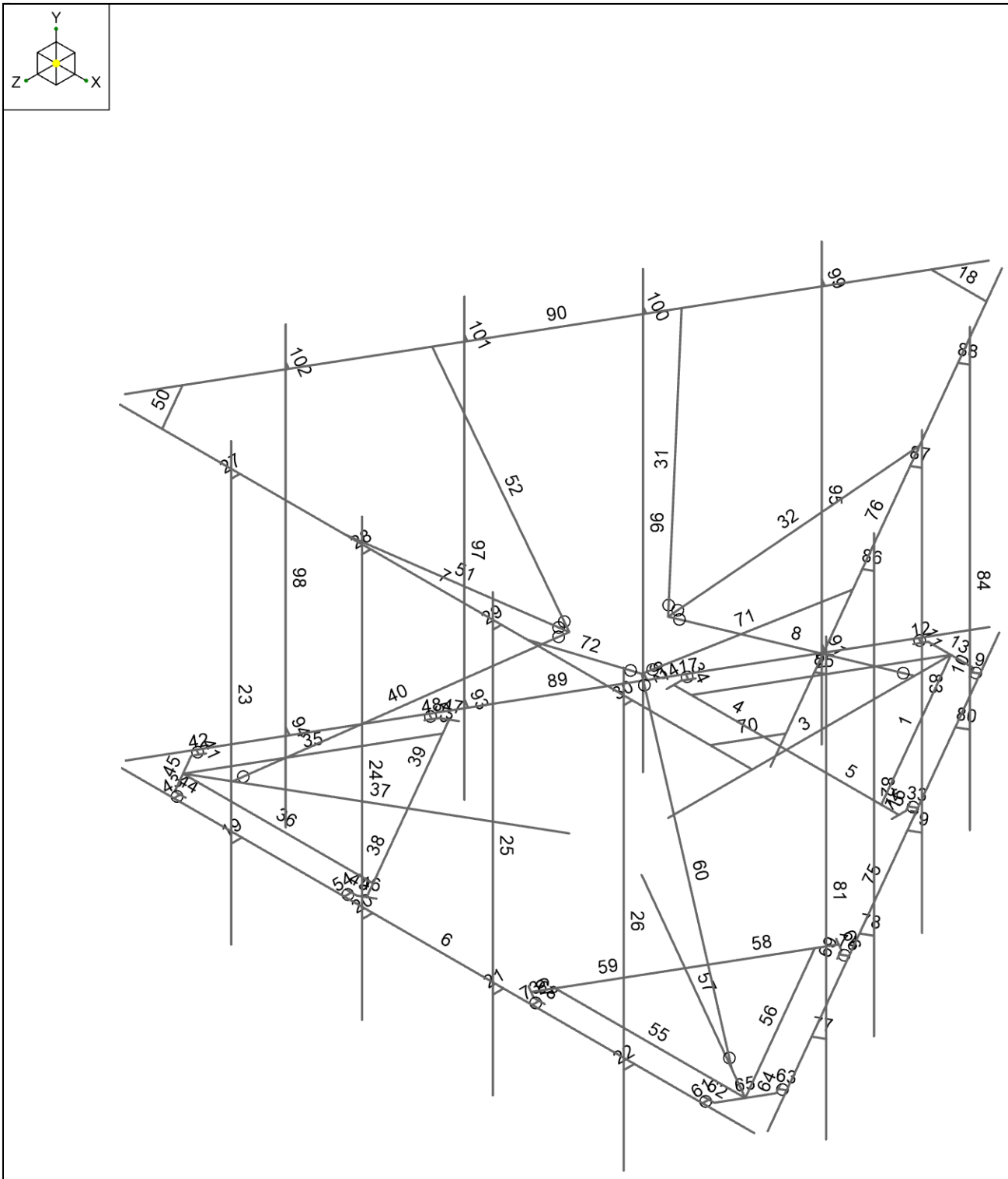

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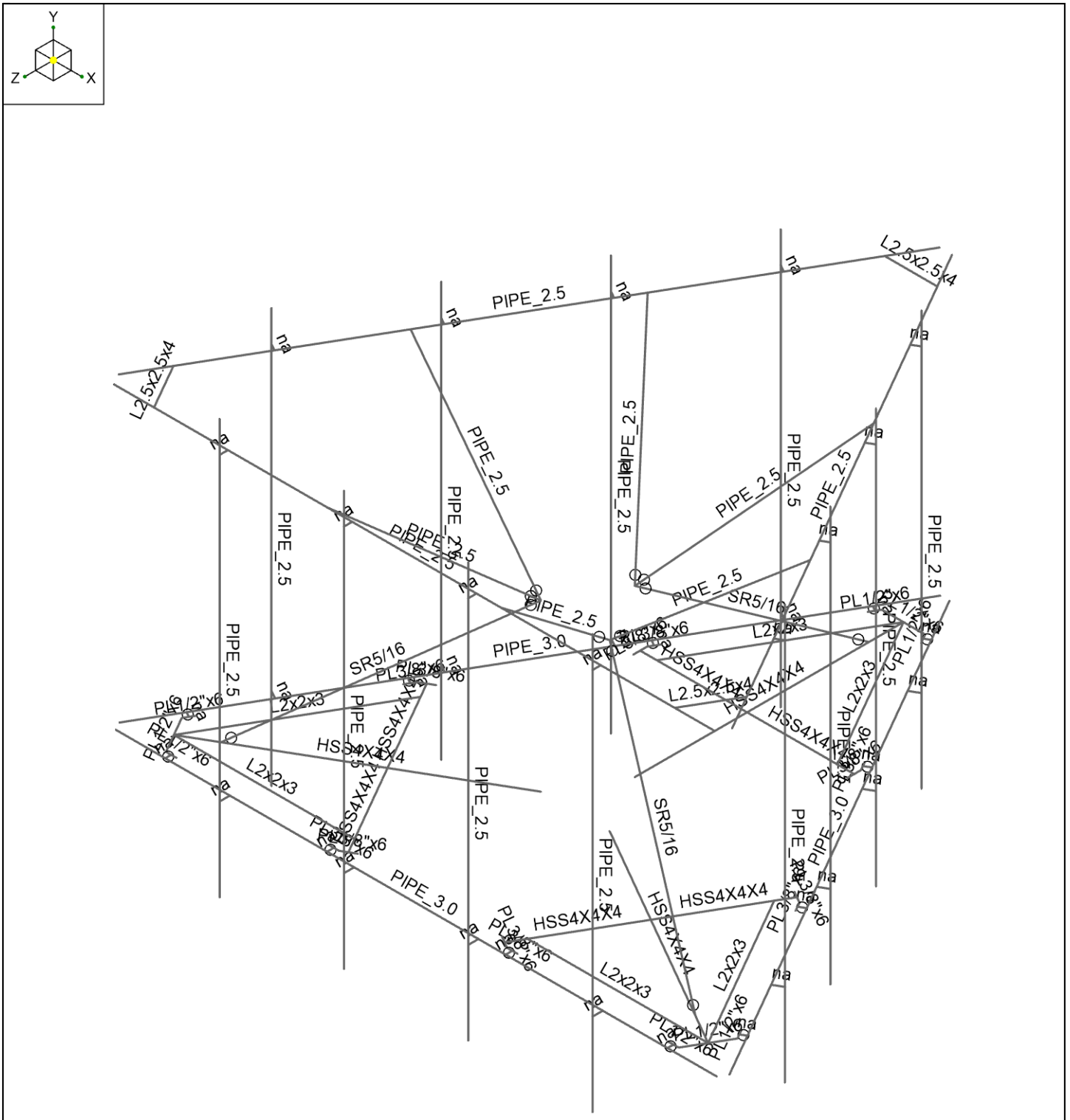

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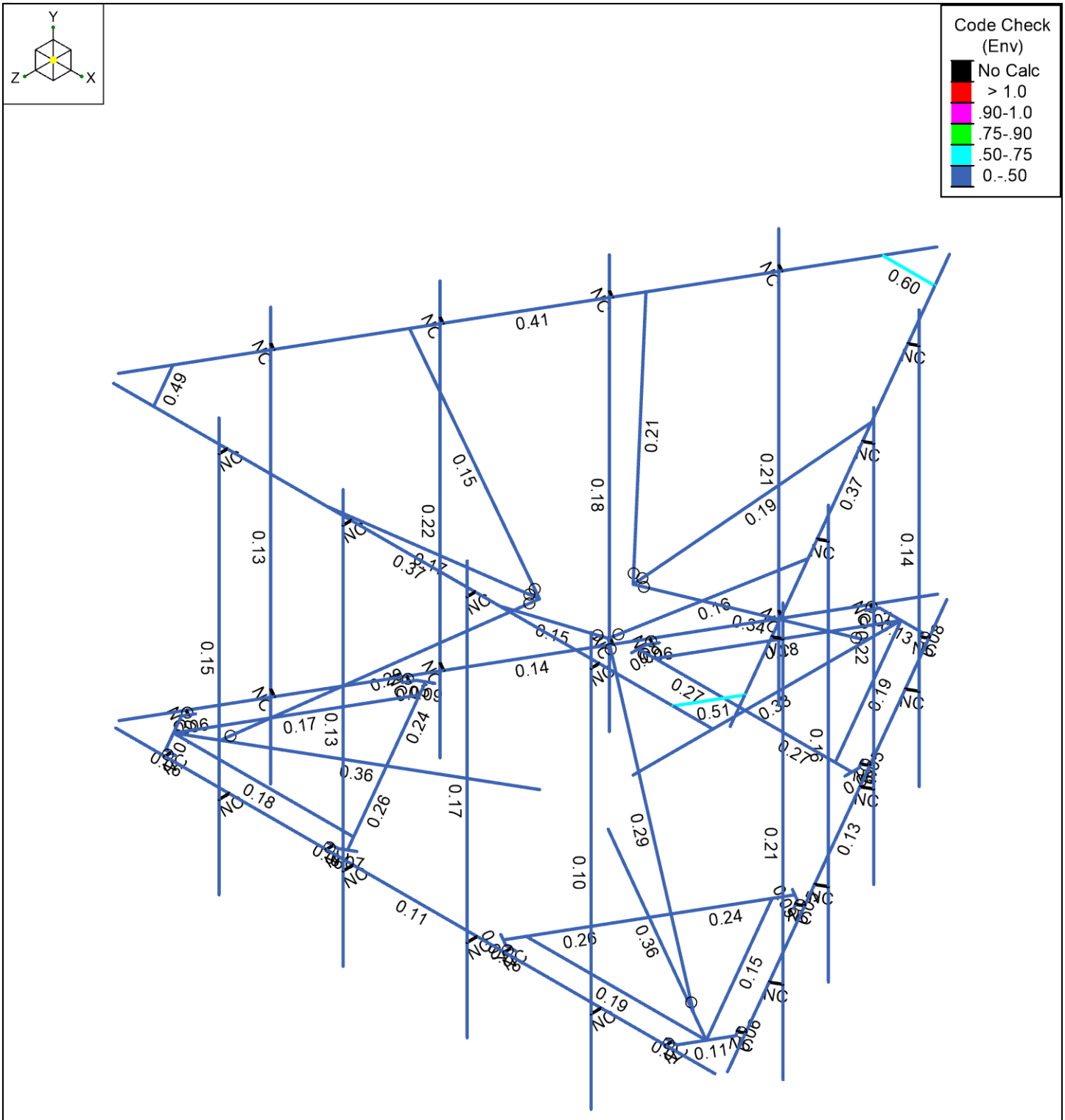

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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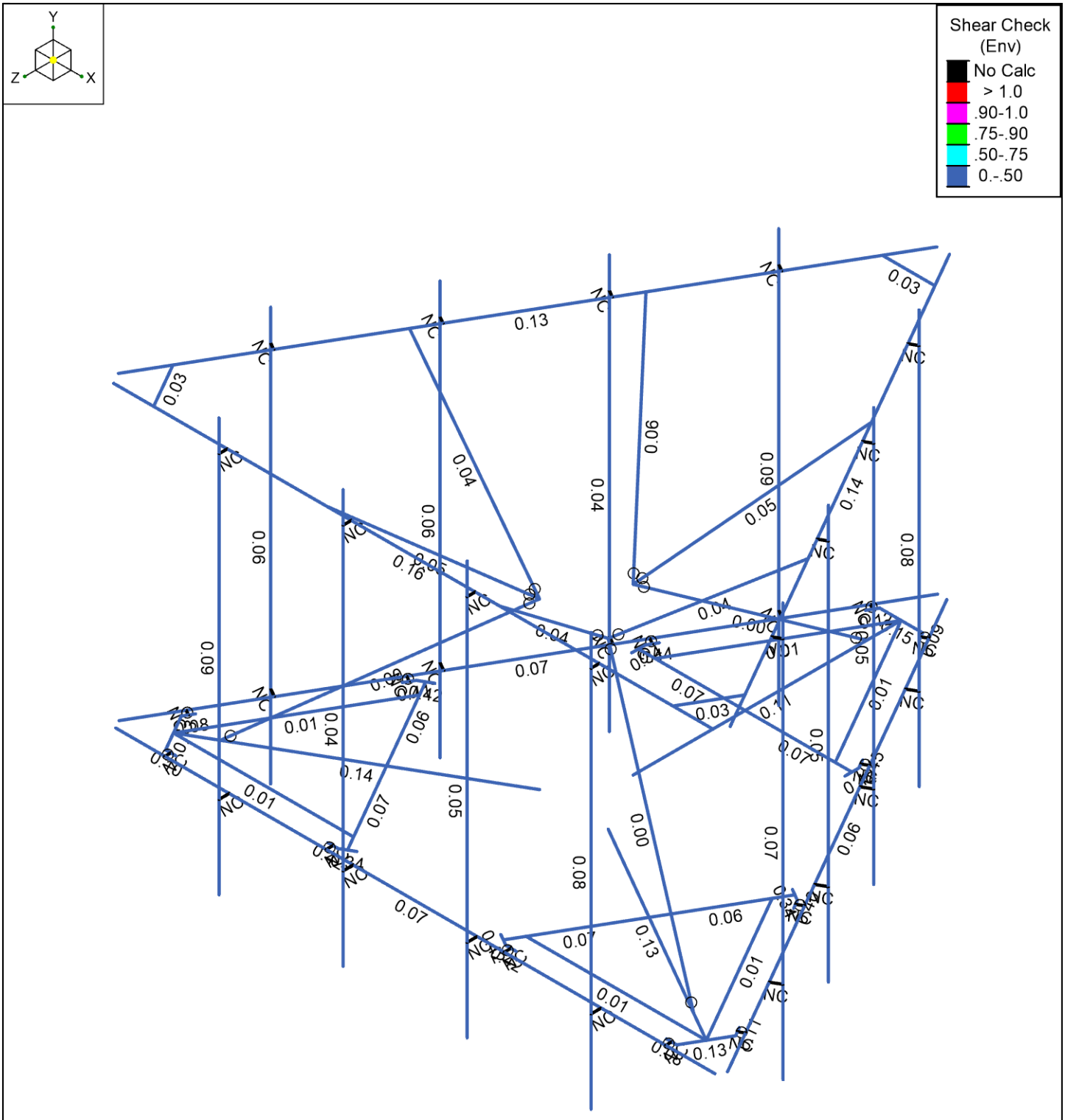

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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APPENDIX B

SOFTWARE INPUT CALCULATIONS

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: 240.76 ft (NAVD 88)
Latitude: 41.223344
Longitude: -73.216772

Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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 Oct 15 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.

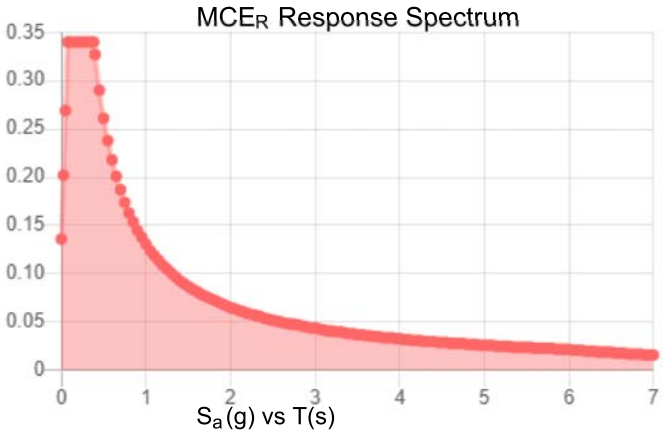
Seismic

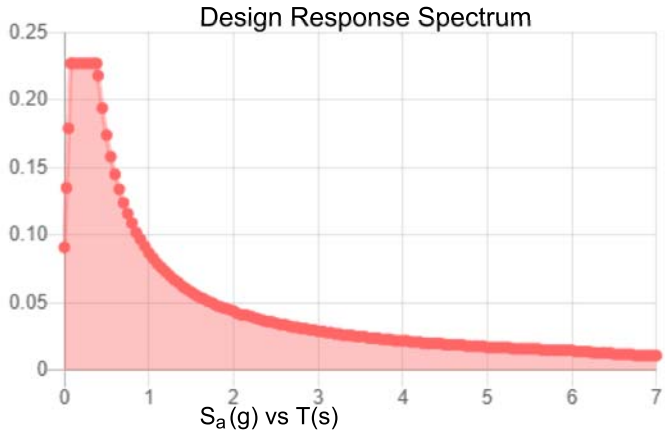
Site Soil Class: D - Default (see Section 11.4.3)

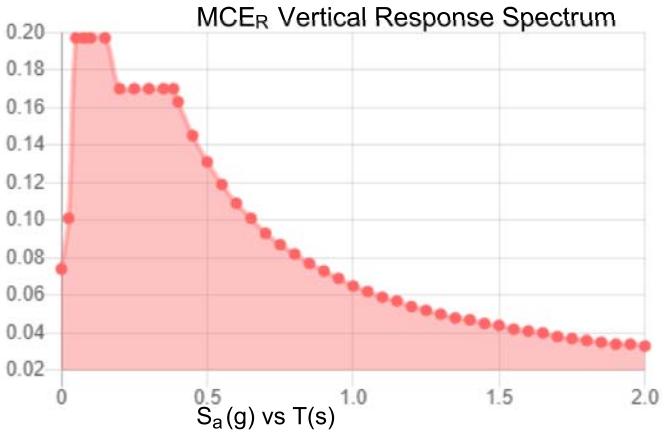
Results:

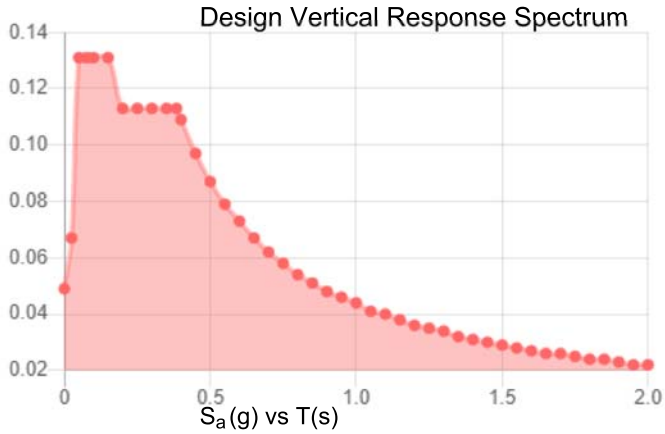
S_S :	0.212	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.121
F_v :	2.4	PGA_M :	0.189
S_{MS} :	0.34	F_{PGA} :	1.558
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.227	C_v :	0.725

Seismic Design Category B









Data Accessed: Fri Oct 15 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 Oct 15 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.

PROJECT	**126536.013.01 - Bridgeport N**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**10-18-21**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	241	ft	[ASCE7 Hazard Tool]
Tower Height		:	150.00	ft	
Mount Elevation		:	152.00	ft	
Antenna Elevation		:	154.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	118	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.21		
	S_1	:	0.05		
	S_{DS}	:	0.23		
	S_{D1}	:	0.09		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.12		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.17	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.114		[Sec. 2.7.7.1]
Amplification	A_s	:	3		[Sec. 16.7]

	q_z	:	37.39	psf

PROJECT	**126536.013.01 - Bridgeport N**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**10-18-21**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
ERICSSON	RADIO 4478 B14	1	2.19	1.20	1.04	1.68	1.50	2.23	0.04	0.07	0.01	0.01
ERICSSON	TME-RRUS 32 B2	1	3.89	1.26	1.32	2.28	1.91	2.95	0.06	0.10	0.01	0.02
ERICSSON	RRUS 32 B66A	1	2.22	1.20	2.39	1.42	3.07	2.02	0.10	0.06	0.02	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
ERICSSON	TME-RRUS 32 B30	1	2.26	1.20	2.28	1.32	2.95	1.91	0.09	0.05	0.02	0.01
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.07	0.05	0.01	0.01
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
ERICSSON	RADIO 4478 B14	1	2.19	1.20	1.04	1.68	1.50	2.23	0.04	0.07	0.01	0.01
ERICSSON	TME-RRUS 32 B2	1	3.89	1.26	1.32	2.28	1.91	2.95	0.06	0.10	0.01	0.02
ERICSSON	RRUS 32 B66A	1	2.22	1.20	2.39	1.42	3.07	2.02	0.10	0.06	0.02	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
ERICSSON	TME-RRUS 32 B30	1	2.26	1.20	2.28	1.32	2.95	1.91	0.09	0.05	0.02	0.01
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.07	0.05	0.01	0.01

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Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	EPA_{N-Ice} (ft^2)	EPA_{T-Ice} (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
UINTEL TECHNOLOG	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.23	0.10	0.04	0.02
ERICSSON	RADIO 4478 B14	1	2.19	1.20	1.04	1.68	1.50	2.23	0.04	0.07	0.01	0.01
ERICSSON	TME-RRUS 32 B2	1	3.89	1.26	1.32	2.28	1.91	2.95	0.06	0.10	0.01	0.02
ERICSSON	RRUS 32 B66A	1	2.22	1.20	2.39	1.42	3.07	2.02	0.10	0.06	0.02	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.08	1.47	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	1.90	0.95	0.06	0.03	0.01	0.00
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	6.72	2.89	0.22	0.08	0.05	0.02
ERICSSON	TME-RRUS 32 B30	1	2.26	1.20	2.28	1.32	2.95	1.91	0.09	0.05	0.02	0.01
ERICSSON	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.07	0.05	0.01	0.01
RAYCAP	TME-DC9-48-60-24-8C-EV	1	3.07	1.23	2.23	3.99	2.95	4.83	0.09	0.17	0.02	0.03
RAYCAP	TME-DC9-48-60-24-8C-EV	1	3.07	1.23	2.23	3.99	2.95	4.83	0.09	0.17	0.02	0.03
RAYCAP	TME-DC9-48-60-24-8C-EV	1	3.07	1.23	2.23	3.99	2.95	4.83	0.09	0.17	0.02	0.03

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	-7.251319	-0.000167	4.315419	
2	2	7.248257	-0.000167	4.315418	
3	3	0	0	0	
4	4	-0.001281	-0.000167	-0.958332	
5	5	-0.001282	-0.000167	-3.667695	
6	6	2.178607	-0.000167	-3.667695	
7	7	-2.180509	-0.000167	-3.667695	
8	8	-0.001282	-0.000167	-7.442802	
9	9	2.58229	-0.000167	-3.667695	
10	10	-2.58229	-0.000167	-3.667695	
11	11	-0.001281	-0.000167	-6.766134	
12	12	-7.251319	7.249833	4.362295	
13	13	7.248257	7.249833	4.362294	
14	14	-0.001281	3.999833	-0.958332	
15	15	-0.001282	-0.000167	-6.609468	
16	16	0.706774	-0.0001667	-7.406669	
17	17	0.581858	-0.0001667	-7.334549	
18	18	0.644358	-0.0001667	-7.226295	
19	19	0.519358	-0.0001667	-7.442802	
20	20	-0.706774	-0.0001667	-7.406669	
21	21	-0.581858	-0.0001667	-7.334549	
22	22	-0.644358	-0.0001667	-7.226295	
23	23	-0.519358	-0.0001667	-7.442802	
24	24	-2.58229	-0.0001667	-3.502402	
25	25	2.58229	-0.0001667	-3.502402	
26	26	2.58229	-0.0001667	-3.833711	
27	27	-2.58229	-0.0001667	-3.833711	
28	28	2.45729	-0.0001667	-4.050218	
29	29	-2.45729	-0.0001667	-4.050218	
30	30	-4.501319	-0.000167	4.315419	
31	31	-1.501319	-0.000167	4.315419	
32	32	1.498681	-0.000167	4.315419	
33	33	4.498681	-0.000167	4.315419	
34	34	1.498681	-0.000167	4.56021	
35	35	-4.501319	-0.000167	4.56021	
36	36	-1.501319	-0.000167	4.56021	
37	37	4.498681	-0.000167	4.56021	
38	38	1.498681	7.999833	4.56021	
39	39	-4.501319	7.999833	4.56021	
40	40	-1.501319	7.999833	4.56021	
41	41	4.498681	7.999833	4.56021	
42	42	1.498681	-2.000167	4.56021	
43	43	-4.501319	-2.000167	4.56021	
44	44	-1.501319	-2.000167	4.56021	
45	45	4.498681	-2.000167	4.56021	
46	46	1.498681	7.249833	4.56021	
47	47	-4.501319	7.249833	4.56021	
48	48	-1.501319	7.249833	4.56021	
49	49	4.498681	7.249833	4.56021	
50	50	-1.501319	7.249833	4.362294	
51	51	1.498681	7.249833	4.362294	
52	52	-4.501319	7.249833	4.362294	
53	53	4.498681	7.249833	4.362294	
54	54	-2.72983	7.249833	-3.996393	
55	55	0.636848	7.249833	-7.621536	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-0.635605	7.249833	-7.623689	
57	57	2.731615	7.249833	-3.993301	
58	58	2.51979	-0.0001667	-3.941964	
59	59	2.660289	-0.0001667	-4.023081	
60	60	-2.51979	-0.0001667	-3.941964	
61	61	-2.660289	-0.0001667	-4.023081	
62	62	-0.829299	-0.000167	0.480275	
63	63	-3.175676	-0.000167	1.834957	
64	64	-4.265621	-0.000167	-0.052882	
65	65	-2.085897	-0.000167	3.722511	
66	66	-6.445015	-0.000167	3.722511	
67	67	-4.467462	-0.000167	-0.402482	
68	68	-1.885172	-0.000167	4.070177	
69	69	-5.859004	-0.000167	3.384177	
70	70	-0.829299	3.999833	0.480275	
71	71	-5.723326	-0.000167	3.305844	
72	72	-6.76775	-0.0001667	3.09125	
73	73	-6.642834	-0.0001667	3.163371	
74	74	-6.580334	-0.0001667	3.055118	
75	75	-6.705334	-0.0001667	3.271624	
76	76	-6.060977	-0.000167	4.315419	
77	77	-6.060977	-0.000167	4.171178	
78	78	-5.935977	-0.0001667	4.171178	
79	79	-6.185977	-0.0001667	4.171178	
80	80	-1.742024	-0.0001667	3.98753	
81	81	-4.324314	-0.0001667	-0.485128	
82	82	-4.611236	-0.0001667	-0.319474	
83	83	-2.028946	-0.0001667	4.153185	
84	84	-4.736236	-0.0001667	-0.102967	
85	85	-2.278946	-0.0001667	4.153185	
86	86	-2.096061	7.249833	4.362294	
87	87	-6.918868	7.249833	3.259241	
88	88	-6.284506	7.249833	4.362294	
89	89	-4.824108	7.249833	-0.368998	
90	90	-4.673736	-0.0001667	-0.21122	
91	91	-4.814235	-0.0001667	-0.292337	
92	92	-2.153946	-0.0001667	4.153185	
93	93	-2.153946	-0.000167	4.315419	
94	94	0.83058	-0.000167	0.478057	
95	95	3.176958	-0.000167	1.832738	
96	96	2.087178	-0.000167	3.720291	
97	97	4.266572	-0.000167	-0.054529	
98	98	6.446296	-0.000167	3.720291	
99	99	1.885172	-0.000167	4.070177	
100	100	4.467462	-0.000167	-0.402482	
101	101	5.860285	-0.000167	3.381958	
102	102	0.83058	3.999833	0.478057	
103	103	5.724607	-0.000167	3.303624	
104	104	6.060977	-0.000167	4.315419	
105	105	6.060977	-0.000167	4.171178	
106	106	5.935977	-0.0001667	4.171178	
107	107	6.185977	-0.0001667	4.171178	
108	108	6.76775	-0.0001667	3.09125	
109	109	6.642834	-0.0001667	3.163371	
110	110	6.580334	-0.0001667	3.055118	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	6.705334	-0.0001667	3.271624	
112	112	4.324314	-0.0001667	-0.485128	
113	113	1.742024	-0.0001667	3.98753	
114	114	2.028946	-0.0001667	4.153185	
115	115	4.611236	-0.0001667	-0.319474	
116	116	2.278946	-0.0001667	4.153185	
117	117	4.736236	-0.0001667	-0.102967	
118	118	4.825893	7.249833	-0.365906	
119	119	6.28202	7.249833	4.362294	
120	120	6.920111	7.249833	3.261395	
121	121	2.092491	7.249833	4.362294	
122	122	2.153946	-0.0001667	4.153185	
123	123	2.153946	-0.000167	4.315419	
124	124	4.673736	-0.0001667	-0.21122	
125	125	4.814235	-0.0001667	-0.292337	
126	126	7.362921	-0.000167	4.122117	
127	127	0.113134	-0.000167	-8.434884	
128	128	7.403517	7.249833	4.098679	
129	129	0.153729	7.249833	-8.458322	
130	130	5.987921	-0.000167	1.740547	
131	131	4.487921	-0.000167	-0.857529	
132	132	2.987921	-0.000167	-3.455605	
133	133	1.487921	-0.000167	-6.053682	
134	134	3.199917	-0.000167	-3.578001	
135	135	6.199917	-0.000167	1.618151	
136	136	4.699917	-0.000167	-0.979925	
137	137	1.699917	-0.000167	-6.176077	
138	138	3.199917	7.999833	-3.578001	
139	139	6.199917	7.999833	1.618151	
140	140	4.699917	7.999833	-0.979925	
141	141	1.699917	7.999833	-6.176077	
142	142	3.199917	-2.000167	-3.578001	
143	143	6.199917	-2.000167	1.618151	
144	144	4.699917	-2.000167	-0.979925	
145	145	1.699917	-2.000167	-6.176077	
146	146	3.199917	7.249833	-3.578001	
147	147	6.199917	7.249833	1.618151	
148	148	4.699917	7.249833	-0.979925	
149	149	1.699917	7.249833	-6.176077	
150	150	4.528517	7.249833	-0.880967	
151	151	3.028517	7.249833	-3.479043	
152	152	6.028517	7.249833	1.717109	
153	153	1.528517	7.249833	-6.07712	
154	154	-0.111603	-0.000167	-8.437535	
155	155	-7.36139	-0.000167	4.119465	
156	156	-0.152198	7.249833	-8.460974	
157	157	-7.401986	7.249833	4.096027	
158	158	-1.486603	-0.000167	-6.055966	
159	159	-2.986603	-0.000167	-3.457889	
160	160	-4.486603	-0.000167	-0.859813	
161	161	-5.986603	-0.000167	1.738263	
162	162	-4.698598	-0.000167	-0.982209	
163	163	-1.698598	-0.000167	-6.178361	
164	164	-3.198598	-0.000167	-3.580285	
165	165	-6.198598	-0.000167	1.615867	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	166	-4.698598	7.999833	-0.982209	
167	167	-1.698598	7.999833	-6.178361	
168	168	-3.198598	7.999833	-3.580285	
169	169	-6.198598	7.999833	1.615867	
170	170	-4.698598	-2.000167	-0.982209	
171	171	-1.698598	-2.000167	-6.178361	
172	172	-3.198598	-2.000167	-3.580285	
173	173	-6.198598	-2.000167	1.615867	
174	174	-4.698598	7.249833	-0.982209	
175	175	-1.698598	7.249833	-6.178361	
176	176	-3.198598	7.249833	-3.580285	
177	177	-6.198598	7.249833	1.615867	
178	178	-3.027198	7.249833	-3.481327	
179	179	-4.527198	7.249833	-0.883251	
180	180	-1.527198	7.249833	-6.079404	
181	181	-6.027198	7.249833	1.714825	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	4	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	14	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	62	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	70	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	94	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	102	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	58	1.2
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	58	1.2
4	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.5	58	1.2
7	Q235	29000	11154	0.3	0.65	0.49	34	1.5	58	1.2
8	J429-Gr5	29000	11154	0.3	0.65	0.49	92	1.5	120	1.2
9	Cable	29000	11154	0.3	0.72	0	125	1.5	142	1.2
10	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
11	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
12	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in^{2}]	Iyy [in^{4}]	Izz [in^{4}]	J [in^{4}]
1	MF-H1	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	MF-H2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	SF-H1	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
4	MF-P1	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
5	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
6	MF-CP2	PL1/2"x6	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
7	SF-H2	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
8	SF-H3	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
9	F1-BR	PIPE_2.5	VBrace	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
10	Cable Rod	SR5/16	VBrace	BAR	Cable	Typical	0.076	0.000465	0.000465	0.00093

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	8	6		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
2	2	8	7	270	SF-H2	Beam	Single Angle	A36 Gr.36	Typical
3	3	8	4		SF-H1	Beam	Tube	A53 Gr.B	Typical
4	4	10	5		SF-H1	Beam	Tube	A53 Gr.B	Typical
5	5	5	9		SF-H1	Beam	Tube	A53 Gr.B	Typical
6	6	1	2		MF-H1	Beam	Pipe	A53 Gr.B	Typical
7	7	13	12		MF-H2	Beam	Pipe	A53 Gr.B	Typical
8	8	14	15		Cable Rod	VBrace	BAR	Cable	Typical
9	9	16	17		RIGID	None	None	RIGID	Typical
10	10	18	19		MF-CP2	Beam	RECT	A36 Gr.36	Typical
11	11	20	21		RIGID	None	None	RIGID	Typical
12	12	22	23		MF-CP2	Beam	RECT	A36 Gr.36	Typical
13	13	23	19		MF-CP2	Beam	RECT	A36 Gr.36	Typical
14	14	24	27		MF-CP1	Beam	RECT	A36 Gr.36	Typical
15	15	25	26		MF-CP1	Beam	RECT	A36 Gr.36	Typical
16	16	26	28		MF-CP1	Beam	RECT	A36 Gr.36	Typical
17	17	27	29		MF-CP1	Beam	RECT	A36 Gr.36	Typical
18	18	56	55	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
19	19	30	35		RIGID	None	None	RIGID	Typical
20	20	31	36		RIGID	None	None	RIGID	Typical
21	21	32	34		RIGID	None	None	RIGID	Typical
22	22	33	37		RIGID	None	None	RIGID	Typical
23	23	39	43		MF-P1	Column	Pipe	A53 Gr.B	Typical
24	24	40	44		MF-P1	Column	Pipe	A53 Gr.B	Typical
25	25	38	42		MF-P1	Column	Pipe	A53 Gr.B	Typical
26	26	41	45		MF-P1	Column	Pipe	A53 Gr.B	Typical
27	27	47	52		RIGID	None	None	RIGID	Typical
28	28	48	50		RIGID	None	None	RIGID	Typical
29	29	46	51		RIGID	None	None	RIGID	Typical
30	30	49	53		RIGID	None	None	RIGID	Typical
31	31	14	54		F1-BR	VBrace	Pipe	A53 Gr.B	Typical
32	32	14	57		F1-BR	VBrace	Pipe	A53 Gr.B	Typical
33	33	58	59		RIGID	None	None	RIGID	Typical
34	34	60	61		RIGID	None	None	RIGID	Typical
35	35	66	64		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
36	36	66	65	270	SF-H2	Beam	Single Angle	A36 Gr.36	Typical
37	37	66	62		SF-H1	Beam	Tube	A53 Gr.B	Typical
38	38	68	63		SF-H1	Beam	Tube	A53 Gr.B	Typical
39	39	63	67		SF-H1	Beam	Tube	A53 Gr.B	Typical
40	40	70	71		Cable Rod	VBrace	BAR	Cable	Typical
41	41	72	73		RIGID	None	None	RIGID	Typical
42	42	74	75		MF-CP2	Beam	RECT	A36 Gr.36	Typical
43	43	76	77		RIGID	None	None	RIGID	Typical
44	44	78	79		MF-CP2	Beam	RECT	A36 Gr.36	Typical
45	45	79	75		MF-CP2	Beam	RECT	A36 Gr.36	Typical
46	46	80	83		MF-CP1	Beam	RECT	A36 Gr.36	Typical
47	47	81	82		MF-CP1	Beam	RECT	A36 Gr.36	Typical
48	48	82	84		MF-CP1	Beam	RECT	A36 Gr.36	Typical
49	49	83	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
50	50	88	87	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
51	51	70	86		F1-BR	VBrace	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
52	52	70	89		F1-BR	VBrace	Pipe	A53 Gr.B	Typical
53	53	90	91		RIGID	None	None	RIGID	Typical
54	54	92	93		RIGID	None	None	RIGID	Typical
55	55	98	96		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
56	56	98	97	270	SF-H2	Beam	Single Angle	A36 Gr.36	Typical
57	57	98	94		SF-H1	Beam	Tube	A53 Gr.B	Typical
58	58	100	95		SF-H1	Beam	Tube	A53 Gr.B	Typical
59	59	95	99		SF-H1	Beam	Tube	A53 Gr.B	Typical
60	60	102	103		Cable Rod	VBrace	BAR	Cable	Typical
61	61	104	105		RIGID	None	None	RIGID	Typical
62	62	106	107		MF-CP2	Beam	RECT	A36 Gr.36	Typical
63	63	108	109		RIGID	None	None	RIGID	Typical
64	64	110	111		MF-CP2	Beam	RECT	A36 Gr.36	Typical
65	65	111	107		MF-CP2	Beam	RECT	A36 Gr.36	Typical
66	66	112	115		MF-CP1	Beam	RECT	A36 Gr.36	Typical
67	67	113	114		MF-CP1	Beam	RECT	A36 Gr.36	Typical
68	68	114	116		MF-CP1	Beam	RECT	A36 Gr.36	Typical
69	69	115	117		MF-CP1	Beam	RECT	A36 Gr.36	Typical
70	70	120	119	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
71	71	102	118		F1-BR	VBrace	Pipe	A53 Gr.B	Typical
72	72	102	121		F1-BR	VBrace	Pipe	A53 Gr.B	Typical
73	73	122	123		RIGID	None	None	RIGID	Typical
74	74	124	125		RIGID	None	None	RIGID	Typical
75	75	126	127		MF-H1	Beam	Pipe	A53 Gr.B	Typical
76	76	129	128		MF-H2	Beam	Pipe	A53 Gr.B	Typical
77	77	130	135		RIGID	None	None	RIGID	Typical
78	78	131	136		RIGID	None	None	RIGID	Typical
79	79	132	134		RIGID	None	None	RIGID	Typical
80	80	133	137		RIGID	None	None	RIGID	Typical
81	81	139	143		MF-P1	Column	Pipe	A53 Gr.B	Typical
82	82	140	144		MF-P1	Column	Pipe	A53 Gr.B	Typical
83	83	138	142		MF-P1	Column	Pipe	A53 Gr.B	Typical
84	84	141	145		MF-P1	Column	Pipe	A53 Gr.B	Typical
85	85	147	152		RIGID	None	None	RIGID	Typical
86	86	148	150		RIGID	None	None	RIGID	Typical
87	87	146	151		RIGID	None	None	RIGID	Typical
88	88	149	153		RIGID	None	None	RIGID	Typical
89	89	154	155		MF-H1	Beam	Pipe	A53 Gr.B	Typical
90	90	157	156		MF-H2	Beam	Pipe	A53 Gr.B	Typical
91	91	158	163		RIGID	None	None	RIGID	Typical
92	92	159	164		RIGID	None	None	RIGID	Typical
93	93	160	162		RIGID	None	None	RIGID	Typical
94	94	161	165		RIGID	None	None	RIGID	Typical
95	95	167	171		MF-P1	Column	Pipe	A53 Gr.B	Typical
96	96	168	172		MF-P1	Column	Pipe	A53 Gr.B	Typical
97	97	166	170		MF-P1	Column	Pipe	A53 Gr.B	Typical
98	98	169	173		MF-P1	Column	Pipe	A53 Gr.B	Typical
99	99	175	180		RIGID	None	None	RIGID	Typical
100	100	176	178		RIGID	None	None	RIGID	Typical
101	101	174	179		RIGID	None	None	RIGID	Typical
102	102	177	181		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	Default	None
2	2				Yes	Default	None
3	3				Yes	Default	None
4	4				Yes	Default	None
5	5				Yes	Default	None
6	6				Yes	Default	None
7	7				Yes	Default	None
8	8	BenPIN	BenPIN	Tension Only	Yes	** NA **	None
9	9	OOOOOX			Yes	** NA **	None
10	10				Yes	N/A	None
11	11	OOOOOX			Yes	** NA **	None
12	12				Yes	N/A	None
13	13				Yes	N/A	None
14	14				Yes	N/A	None
15	15				Yes	N/A	None
16	16				Yes	N/A	None
17	17				Yes	N/A	None
18	18				Yes	Default	None
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes	** NA **	None
23	23				Yes	** NA **	None
24	24				Yes	** NA **	None
25	25				Yes	** NA **	None
26	26				Yes	** NA **	None
27	27				Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes	** NA **	None
31	31	BenPIN			Yes	** NA **	None
32	32	BenPIN			Yes	** NA **	None
33	33		OOOOOX		Yes	** NA **	None
34	34		OOOOOX		Yes	** NA **	None
35	35				Yes	Default	None
36	36				Yes	Default	None
37	37				Yes	Default	None
38	38				Yes	Default	None
39	39				Yes	Default	None
40	40	BenPIN	BenPIN	Tension Only	Yes	** NA **	None
41	41	OOOOOX			Yes	** NA **	None
42	42				Yes	N/A	None
43	43	OOOOOX			Yes	** NA **	None
44	44				Yes	N/A	None
45	45				Yes	N/A	None
46	46				Yes	N/A	None
47	47				Yes	N/A	None
48	48				Yes	N/A	None
49	49				Yes	N/A	None
50	50				Yes	Default	None
51	51	BenPIN			Yes	** NA **	None
52	52	BenPIN			Yes	** NA **	None
53	53		OOOOOX		Yes	** NA **	None
54	54		OOOOOX		Yes	** NA **	None
55	55				Yes	Default	None

Member Advanced Data (Continued)

	Label	I Release	J Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
56	56				Yes	Default	None
57	57				Yes	Default	None
58	58				Yes	Default	None
59	59				Yes	Default	None
60	60	BenPIN	BenPIN	Tension Only	Yes	** NA **	None
61	61	OOOOOX			Yes	** NA **	None
62	62				Yes	N/A	None
63	63	OOOOOX			Yes	** NA **	None
64	64				Yes	N/A	None
65	65				Yes	N/A	None
66	66				Yes	N/A	None
67	67				Yes	N/A	None
68	68				Yes	N/A	None
69	69				Yes	N/A	None
70	70				Yes	Default	None
71	71	BenPIN			Yes	** NA **	None
72	72	BenPIN			Yes	** NA **	None
73	73		OOOOOX		Yes	** NA **	None
74	74		OOOOOX		Yes	** NA **	None
75	75				Yes	Default	None
76	76				Yes	Default	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes	** NA **	None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes	** NA **	None
88	88				Yes	** NA **	None
89	89				Yes	Default	None
90	90				Yes	Default	None
91	91				Yes	** NA **	None
92	92				Yes	** NA **	None
93	93				Yes	** NA **	None
94	94				Yes	** NA **	None
95	95				Yes	** NA **	None
96	96				Yes	** NA **	None
97	97				Yes	** NA **	None
98	98				Yes	** NA **	None
99	99				Yes	** NA **	None
100	100				Yes	** NA **	None
101	101				Yes	** NA **	None
102	102				Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Function
1	1	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
2	2	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
3	3	SF-H1	6.484	Lbyy	0.65	0.65	Lateral
4	4	SF-H1	2.581	Lbyy	0.65	0.65	Lateral
5	5	SF-H1	2.584	Lbyy	0.65	0.65	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Function
6	6	MF-H1	14.5	Lbyy	1	1	Lateral
7	7	MF-H2	14.5	Lbyy			Lateral
8	8	Cable Rod	6.924	Lbyy			Lateral
9	10	MF-CP2	0.25	Lbyy			Lateral
10	12	MF-CP2	0.25	Lbyy			Lateral
11	13	MF-CP2	1.039	Lbyy			Lateral
12	14	MF-CP1	0.331	Lbyy			Lateral
13	15	MF-CP1	0.331	Lbyy			Lateral
14	16	MF-CP1	0.25	Lbyy			Lateral
15	17	MF-CP1	0.25	Lbyy			Lateral
16	18	SF-H3	1.272	Lbyy			Lateral
17	23	MF-P1	10	Lbyy			Lateral
18	24	MF-P1	10	Lbyy			Lateral
19	25	MF-P1	10	Lbyy			Lateral
20	26	MF-P1	10	Lbyy			Lateral
21	31	F1-BR	5.219	Lbyy			Lateral
22	32	F1-BR	5.219	Lbyy			Lateral
23	35	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
24	36	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
25	37	SF-H1	6.484	Lbyy	0.65	0.65	Lateral
26	38	SF-H1	2.581	Lbyy	0.65	0.65	Lateral
27	39	SF-H1	2.584	Lbyy	0.65	0.65	Lateral
28	40	Cable Rod	6.924	Lbyy			Lateral
29	42	MF-CP2	0.25	Lbyy			Lateral
30	44	MF-CP2	0.25	Lbyy			Lateral
31	45	MF-CP2	1.039	Lbyy			Lateral
32	46	MF-CP1	0.331	Lbyy			Lateral
33	47	MF-CP1	0.331	Lbyy			Lateral
34	48	MF-CP1	0.25	Lbyy			Lateral
35	49	MF-CP1	0.25	Lbyy			Lateral
36	50	SF-H3	1.272	Lbyy			Lateral
37	51	F1-BR	5.219	Lbyy			Lateral
38	52	F1-BR	5.219	Lbyy			Lateral
39	55	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
40	56	SF-H2	4.359	Lbyy	0.65	0.65	Lateral
41	57	SF-H1	6.484	Lbyy	0.65	0.65	Lateral
42	58	SF-H1	2.581	Lbyy	0.65	0.65	Lateral
43	59	SF-H1	2.584	Lbyy	0.65	0.65	Lateral
44	60	Cable Rod	6.924	Lbyy			Lateral
45	62	MF-CP2	0.25	Lbyy			Lateral
46	64	MF-CP2	0.25	Lbyy			Lateral
47	65	MF-CP2	1.039	Lbyy			Lateral
48	66	MF-CP1	0.331	Lbyy			Lateral
49	67	MF-CP1	0.331	Lbyy			Lateral
50	68	MF-CP1	0.25	Lbyy			Lateral
51	69	MF-CP1	0.25	Lbyy			Lateral
52	70	SF-H3	1.272	Lbyy			Lateral
53	71	F1-BR	5.219	Lbyy			Lateral
54	72	F1-BR	5.219	Lbyy			Lateral
55	75	MF-H1	14.5	Lbyy	1	1	Lateral
56	76	MF-H2	14.5	Lbyy			Lateral
57	81	MF-P1	10	Lbyy			Lateral
58	82	MF-P1	10	Lbyy			Lateral
59	83	MF-P1	10	Lbyy			Lateral
60	84	MF-P1	10	Lbyy			Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Function
61	89	MF-H1	14.5	Lbyy	1	1	Lateral
62	90	MF-H2	14.5	Lbyy			Lateral
63	95	MF-P1	10	Lbyy			Lateral
64	96	MF-P1	10	Lbyy			Lateral
65	97	MF-P1	10	Lbyy			Lateral
66	98	MF-P1	10	Lbyy			Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Y	-0.065	%5
2	25	Y	-0.065	%60
3	25	Y	-0.059	%20
4	25	Y	-0.053	%20
5	25	Y	-0.055	%50
6	24	Y	-0.048	%5
7	24	Y	-0.048	%30
8	24	Y	-0.033	%55
9	24	Y	-0.033	%85
10	24	Y	0	0
11	23	Y	-0.045	%5
12	23	Y	-0.045	%60
13	23	Y	-0.053	%20
14	23	Y	-0.071	%50
15	23	Y	0	0
16	97	Y	-0.065	%5
17	97	Y	-0.065	%60
18	97	Y	-0.059	%20
19	97	Y	-0.053	%20
20	97	Y	-0.055	%50
21	96	Y	-0.048	%5
22	96	Y	-0.048	%30
23	96	Y	-0.033	%55
24	96	Y	-0.033	%85
25	96	Y	0	0
26	95	Y	-0.045	%5
27	95	Y	-0.045	%60
28	95	Y	-0.053	%20
29	95	Y	-0.071	%50
30	95	Y	0	0
31	83	Y	-0.065	%5
32	83	Y	-0.065	%60
33	83	Y	-0.059	%20
34	83	Y	-0.053	%20
35	83	Y	-0.055	%50
36	82	Y	-0.048	%5
37	82	Y	-0.048	%30
38	82	Y	-0.033	%55
39	82	Y	-0.033	%85
40	82	Y	0	0
41	81	Y	-0.045	%5
42	81	Y	-0.045	%60
43	81	Y	-0.053	%20
44	81	Y	-0.071	%50
45	81	Y	0	0
46	37	Y	-0.026	%90

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
47	37	Y	0	0
48	37	Y	0	0
49	37	Y	0	0
50	37	Y	0	0
51	3	Y	-0.026	%90
52	3	Y	0	0
53	3	Y	0	0
54	3	Y	0	0
55	3	Y	0	0
56	57	Y	-0.026	%90
57	57	Y	0	0
58	57	Y	0	0
59	57	Y	0	0
60	57	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Z	-0.229	%5
2	25	Z	-0.229	%60
3	25	Z	-0.042	%20
4	25	Z	-0.056	%20
5	25	Z	-0.097	%50
6	24	Z	-0.068	%5
7	24	Z	-0.068	%30
8	24	Z	-0.062	%55
9	24	Z	-0.062	%85
10	24	Z	0	0
11	23	Z	-0.224	%5
12	23	Z	-0.224	%60
13	23	Z	-0.092	%20
14	23	Z	-0.067	%50
15	23	Z	0	0
16	97	Z	-0.229	%5
17	97	Z	-0.229	%60
18	97	Z	-0.042	%20
19	97	Z	-0.056	%20
20	97	Z	-0.097	%50
21	96	Z	-0.068	%5
22	96	Z	-0.068	%30
23	96	Z	-0.062	%55
24	96	Z	-0.062	%85
25	96	Z	0	0
26	95	Z	-0.224	%5
27	95	Z	-0.224	%60
28	95	Z	-0.092	%20
29	95	Z	-0.067	%50
30	95	Z	0	0
31	83	Z	-0.229	%5
32	83	Z	-0.229	%60
33	83	Z	-0.042	%20
34	83	Z	-0.056	%20
35	83	Z	-0.097	%50
36	82	Z	-0.068	%5
37	82	Z	-0.068	%30
38	82	Z	-0.062	%55

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
39	82	Z	-0.062	%85
40	82	Z	0	0
41	81	Z	-0.224	%5
42	81	Z	-0.224	%60
43	81	Z	-0.092	%20
44	81	Z	-0.067	%50
45	81	Z	0	0
46	37	Z	-0.092	%90
47	37	Z	0	0
48	37	Z	0	0
49	37	Z	0	0
50	37	Z	0	0
51	3	Z	-0.092	%90
52	3	Z	0	0
53	3	Z	0	0
54	3	Z	0	0
55	3	Z	0	0
56	57	Z	-0.092	%90
57	57	Z	0	0
58	57	Z	0	0
59	57	Z	0	0
60	57	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	X	-0.1	%5
2	25	X	-0.1	%60
3	25	X	-0.068	%20
4	25	X	-0.097	%20
5	25	X	-0.058	%50
6	24	X	-0.046	%5
7	24	X	-0.046	%30
8	24	X	-0.026	%55
9	24	X	-0.026	%85
10	24	X	0	0
11	23	X	-0.084	%5
12	23	X	-0.084	%60
13	23	X	-0.054	%20
14	23	X	-0.048	%50
15	23	X	0	0
16	97	X	-0.1	%5
17	97	X	-0.1	%60
18	97	X	-0.068	%20
19	97	X	-0.097	%20
20	97	X	-0.058	%50
21	96	X	-0.046	%5
22	96	X	-0.046	%30
23	96	X	-0.026	%55
24	96	X	-0.026	%85
25	96	X	0	0
26	95	X	-0.084	%5
27	95	X	-0.084	%60
28	95	X	-0.054	%20
29	95	X	-0.048	%50
30	95	X	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
31	83	X	-0.1	%5
32	83	X	-0.1	%60
33	83	X	-0.068	%20
34	83	X	-0.097	%20
35	83	X	-0.058	%50
36	82	X	-0.046	%5
37	82	X	-0.046	%30
38	82	X	-0.026	%55
39	82	X	-0.026	%85
40	82	X	0	0
41	81	X	-0.084	%5
42	81	X	-0.084	%60
43	81	X	-0.054	%20
44	81	X	-0.048	%50
45	81	X	0	0
46	37	X	-0.165	%90
47	37	X	0	0
48	37	X	0	0
49	37	X	0	0
50	37	X	0	0
51	3	X	-0.165	%90
52	3	X	0	0
53	3	X	0	0
54	3	X	0	0
55	3	X	0	0
56	57	X	-0.165	%90
57	57	X	0	0
58	57	X	0	0
59	57	X	0	0
60	57	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Z	-0.041	%5
2	25	Z	-0.041	%60
3	25	Z	-0.008	%20
4	25	Z	-0.01	%20
5	25	Z	-0.017	%50
6	24	Z	-0.012	%5
7	24	Z	-0.012	%30
8	24	Z	-0.011	%55
9	24	Z	-0.011	%85
10	24	Z	0	0
11	23	Z	-0.045	%5
12	23	Z	-0.045	%60
13	23	Z	-0.017	%20
14	23	Z	-0.012	%50
15	23	Z	0	0
16	97	Z	-0.041	%5
17	97	Z	-0.041	%60
18	97	Z	-0.008	%20
19	97	Z	-0.01	%20
20	97	Z	-0.017	%50
21	96	Z	-0.012	%5
22	96	Z	-0.012	%30

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
23	96	Z	-0.011	%55
24	96	Z	-0.011	%85
25	96	Z	0	0
26	95	Z	-0.045	%5
27	95	Z	-0.045	%60
28	95	Z	-0.017	%20
29	95	Z	-0.012	%50
30	95	Z	0	0
31	83	Z	-0.041	%5
32	83	Z	-0.041	%60
33	83	Z	-0.008	%20
34	83	Z	-0.01	%20
35	83	Z	-0.017	%50
36	82	Z	-0.012	%5
37	82	Z	-0.012	%30
38	82	Z	-0.011	%55
39	82	Z	-0.011	%85
40	82	Z	0	0
41	81	Z	-0.045	%5
42	81	Z	-0.045	%60
43	81	Z	-0.017	%20
44	81	Z	-0.012	%50
45	81	Z	0	0
46	37	Z	-0.017	%90
47	37	Z	0	0
48	37	Z	0	0
49	37	Z	0	0
50	37	Z	0	0
51	3	Z	-0.017	%90
52	3	Z	0	0
53	3	Z	0	0
54	3	Z	0	0
55	3	Z	0	0
56	57	Z	-0.017	%90
57	57	Z	0	0
58	57	Z	0	0
59	57	Z	0	0
60	57	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	X	-0.018	%5
2	25	X	-0.018	%60
3	25	X	-0.012	%20
4	25	X	-0.017	%20
5	25	X	-0.01	%50
6	24	X	-0.008	%5
7	24	X	-0.008	%30
8	24	X	-0.005	%55
9	24	X	-0.005	%85
10	24	X	0	0
11	23	X	-0.02	%5
12	23	X	-0.02	%60
13	23	X	-0.01	%20
14	23	X	-0.009	%50

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
15	23	X	0	0
16	97	X	-0.018	%5
17	97	X	-0.018	%60
18	97	X	-0.012	%20
19	97	X	-0.017	%20
20	97	X	-0.01	%50
21	96	X	-0.008	%5
22	96	X	-0.008	%30
23	96	X	-0.005	%55
24	96	X	-0.005	%85
25	96	X	0	0
26	95	X	-0.02	%5
27	95	X	-0.02	%60
28	95	X	-0.01	%20
29	95	X	-0.009	%50
30	95	X	0	0
31	83	X	-0.018	%5
32	83	X	-0.018	%60
33	83	X	-0.012	%20
34	83	X	-0.017	%20
35	83	X	-0.01	%50
36	82	X	-0.008	%5
37	82	X	-0.008	%30
38	82	X	-0.005	%55
39	82	X	-0.005	%85
40	82	X	0	0
41	81	X	-0.02	%5
42	81	X	-0.02	%60
43	81	X	-0.01	%20
44	81	X	-0.009	%50
45	81	X	0	0
46	37	X	-0.03	%90
47	37	X	0	0
48	37	X	0	0
49	37	X	0	0
50	37	X	0	0
51	3	X	-0.03	%90
52	3	X	0	0
53	3	X	0	0
54	3	X	0	0
55	3	X	0	0
56	57	X	-0.03	%90
57	57	X	0	0
58	57	X	0	0
59	57	X	0	0
60	57	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Z	-0.015	%5
2	25	Z	-0.015	%60
3	25	Z	-0.003	%20
4	25	Z	-0.004	%20
5	25	Z	-0.006	%50
6	24	Z	-0.004	%5

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	24	Z	-0.004	%30
8	24	Z	-0.004	%55
9	24	Z	-0.004	%85
10	24	Z	0	0
11	23	Z	-0.015	%5
12	23	Z	-0.015	%60
13	23	Z	-0.006	%20
14	23	Z	-0.004	%50
15	23	Z	0	0
16	97	Z	-0.015	%5
17	97	Z	-0.015	%60
18	97	Z	-0.003	%20
19	97	Z	-0.004	%20
20	97	Z	-0.006	%50
21	96	Z	-0.004	%5
22	96	Z	-0.004	%30
23	96	Z	-0.004	%55
24	96	Z	-0.004	%85
25	96	Z	0	0
26	95	Z	-0.015	%5
27	95	Z	-0.015	%60
28	95	Z	-0.006	%20
29	95	Z	-0.004	%50
30	95	Z	0	0
31	83	Z	-0.015	%5
32	83	Z	-0.015	%60
33	83	Z	-0.003	%20
34	83	Z	-0.004	%20
35	83	Z	-0.006	%50
36	82	Z	-0.004	%5
37	82	Z	-0.004	%30
38	82	Z	-0.004	%55
39	82	Z	-0.004	%85
40	82	Z	0	0
41	81	Z	-0.015	%5
42	81	Z	-0.015	%60
43	81	Z	-0.006	%20
44	81	Z	-0.004	%50
45	81	Z	0	0
46	37	Z	-0.006	%90
47	37	Z	0	0
48	37	Z	0	0
49	37	Z	0	0
50	37	Z	0	0
51	3	Z	-0.006	%90
52	3	Z	0	0
53	3	Z	0	0
54	3	Z	0	0
55	3	Z	0	0
56	57	Z	-0.006	%90
57	57	Z	0	0
58	57	Z	0	0
59	57	Z	0	0
60	57	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	X	-0.007	%5
2	25	X	-0.007	%60
3	25	X	-0.004	%20
4	25	X	-0.006	%20
5	25	X	-0.004	%50
6	24	X	-0.003	%5
7	24	X	-0.003	%30
8	24	X	-0.002	%55
9	24	X	-0.002	%85
10	24	X	0	0
11	23	X	-0.005	%5
12	23	X	-0.005	%60
13	23	X	-0.004	%20
14	23	X	-0.003	%50
15	23	X	0	0
16	97	X	-0.007	%5
17	97	X	-0.007	%60
18	97	X	-0.004	%20
19	97	X	-0.006	%20
20	97	X	-0.004	%50
21	96	X	-0.003	%5
22	96	X	-0.003	%30
23	96	X	-0.002	%55
24	96	X	-0.002	%85
25	96	X	0	0
26	95	X	-0.005	%5
27	95	X	-0.005	%60
28	95	X	-0.004	%20
29	95	X	-0.003	%50
30	95	X	0	0
31	83	X	-0.007	%5
32	83	X	-0.007	%60
33	83	X	-0.004	%20
34	83	X	-0.006	%20
35	83	X	-0.004	%50
36	82	X	-0.003	%5
37	82	X	-0.003	%30
38	82	X	-0.002	%55
39	82	X	-0.002	%85
40	82	X	0	0
41	81	X	-0.005	%5
42	81	X	-0.005	%60
43	81	X	-0.004	%20
44	81	X	-0.003	%50
45	81	X	0	0
46	37	X	-0.011	%90
47	37	X	0	0
48	37	X	0	0
49	37	X	0	0
50	37	X	0	0
51	3	X	-0.011	%90
52	3	X	0	0
53	3	X	0	0
54	3	X	0	0
55	3	X	0	0

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	57	X	-0.011	%90
57	57	X	0	0
58	57	X	0	0
59	57	X	0	0
60	57	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Y	-0.108	%5
2	25	Y	-0.108	%60
3	25	Y	-0.036	%20
4	25	Y	-0.049	%20
5	25	Y	-0.051	%50
6	24	Y	-0.037	%5
7	24	Y	-0.037	%30
8	24	Y	-0.03	%55
9	24	Y	-0.03	%85
10	24	Y	0	0
11	23	Y	-0.122	%5
12	23	Y	-0.122	%60
13	23	Y	-0.049	%20
14	23	Y	-0.037	%50
15	23	Y	0	0
16	97	Y	-0.108	%5
17	97	Y	-0.108	%60
18	97	Y	-0.036	%20
19	97	Y	-0.049	%20
20	97	Y	-0.051	%50
21	96	Y	-0.037	%5
22	96	Y	-0.037	%30
23	96	Y	-0.03	%55
24	96	Y	-0.03	%85
25	96	Y	0	0
26	95	Y	-0.122	%5
27	95	Y	-0.122	%60
28	95	Y	-0.049	%20
29	95	Y	-0.037	%50
30	95	Y	0	0
31	83	Y	-0.108	%5
32	83	Y	-0.108	%60
33	83	Y	-0.036	%20
34	83	Y	-0.049	%20
35	83	Y	-0.051	%50
36	82	Y	-0.037	%5
37	82	Y	-0.037	%30
38	82	Y	-0.03	%55
39	82	Y	-0.03	%85
40	82	Y	0	0
41	81	Y	-0.122	%5
42	81	Y	-0.122	%60
43	81	Y	-0.049	%20
44	81	Y	-0.037	%50
45	81	Y	0	0
46	37	Y	-0.083	%90
47	37	Y	0	0

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
48	37	Y	0	0
49	37	Y	0	0
50	37	Y	0	0
51	3	Y	-0.083	%90
52	3	Y	0	0
53	3	Y	0	0
54	3	Y	0	0
55	3	Y	0	0
56	57	Y	-0.083	%90
57	57	Y	0	0
58	57	Y	0	0
59	57	Y	0	0
60	57	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	Z	-0.044	%5
2	25	Z	-0.044	%60
3	25	Z	-0.02	%20
4	25	Z	-0.018	%20
5	25	Z	-0.019	%50
6	24	Z	-0.033	%5
7	24	Z	-0.033	%30
8	24	Z	-0.023	%55
9	24	Z	-0.023	%85
10	24	Z	0	0
11	23	Z	-0.03	%5
12	23	Z	-0.03	%60
13	23	Z	-0.018	%20
14	23	Z	-0.024	%50
15	23	Z	0	0
16	97	Z	-0.044	%5
17	97	Z	-0.044	%60
18	97	Z	-0.02	%20
19	97	Z	-0.018	%20
20	97	Z	-0.019	%50
21	96	Z	-0.033	%5
22	96	Z	-0.033	%30
23	96	Z	-0.023	%55
24	96	Z	-0.023	%85
25	96	Z	0	0
26	95	Z	-0.03	%5
27	95	Z	-0.03	%60
28	95	Z	-0.018	%20
29	95	Z	-0.024	%50
30	95	Z	0	0
31	83	Z	-0.044	%5
32	83	Z	-0.044	%60
33	83	Z	-0.02	%20
34	83	Z	-0.018	%20
35	83	Z	-0.019	%50
36	82	Z	-0.033	%5
37	82	Z	-0.033	%30
38	82	Z	-0.023	%55
39	82	Z	-0.023	%85

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
40	82	Z	0	0
41	81	Z	-0.03	%5
42	81	Z	-0.03	%60
43	81	Z	-0.018	%20
44	81	Z	-0.024	%50
45	81	Z	0	0
46	37	Z	-0.009	%90
47	37	Z	0	0
48	37	Z	0	0
49	37	Z	0	0
50	37	Z	0	0
51	3	Z	-0.009	%90
52	3	Z	0	0
53	3	Z	0	0
54	3	Z	0	0
55	3	Z	0	0
56	57	Z	-0.009	%90
57	57	Z	0	0
58	57	Z	0	0
59	57	Z	0	0
60	57	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	25	X	-0.044	%5
2	25	X	-0.044	%60
3	25	X	-0.02	%20
4	25	X	-0.018	%20
5	25	X	-0.019	%50
6	24	X	-0.033	%5
7	24	X	-0.033	%30
8	24	X	-0.023	%55
9	24	X	-0.023	%85
10	24	X	0	0
11	23	X	-0.03	%5
12	23	X	-0.03	%60
13	23	X	-0.018	%20
14	23	X	-0.024	%50
15	23	X	0	0
16	97	X	-0.044	%5
17	97	X	-0.044	%60
18	97	X	-0.02	%20
19	97	X	-0.018	%20
20	97	X	-0.019	%50
21	96	X	-0.033	%5
22	96	X	-0.033	%30
23	96	X	-0.023	%55
24	96	X	-0.023	%85
25	96	X	0	0
26	95	X	-0.03	%5
27	95	X	-0.03	%60
28	95	X	-0.018	%20
29	95	X	-0.024	%50
30	95	X	0	0
31	83	X	-0.044	%5

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
32	83	X	-0.044	%60
33	83	X	-0.02	%20
34	83	X	-0.018	%20
35	83	X	-0.019	%50
36	82	X	-0.033	%5
37	82	X	-0.033	%30
38	82	X	-0.023	%55
39	82	X	-0.023	%85
40	82	X	0	0
41	81	X	-0.03	%5
42	81	X	-0.03	%60
43	81	X	-0.018	%20
44	81	X	-0.024	%50
45	81	X	0	0
46	37	X	-0.009	%90
47	37	X	0	0
48	37	X	0	0
49	37	X	0	0
50	37	X	0	0
51	3	X	-0.009	%90
52	3	X	0	0
53	3	X	0	0
54	3	X	0	0
55	3	X	0	0
56	57	X	-0.009	%90
57	57	X	0	0
58	57	X	0	0
59	57	X	0	0
60	57	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	89	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	90	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	75	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	89	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	90	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	75	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.25	%5

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	3	Y	-0.25	%5

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.011	-0.011	0	%100
2	2	Z	-0.011	-0.011	0	%100
3	3	Z	-0.02	-0.02	0	%100
4	4	Z	-0.016	-0.016	0	%100
5	5	Z	-0.016	-0.016	0	%100
6	6	Z	-0.012	-0.012	0	%100
7	7	Z	-0.01	-0.01	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	10	Z	-0.02	-0.02	0	%100
10	12	Z	-0.02	-0.02	0	%100
11	13	Z	-0.02	-0.02	0	%100
12	14	Z	-0.02	-0.02	0	%100
13	15	Z	-0.02	-0.02	0	%100
14	16	Z	-0.02	-0.02	0	%100
15	17	Z	-0.02	-0.02	0	%100
16	18	Z	-0.009	-0.009	0	%100
17	23	Z	-0.01	-0.01	0	%100
18	24	Z	-0.01	-0.01	0	%100
19	25	Z	-0.01	-0.01	0	%100
20	26	Z	-0.01	-0.01	0	%100
21	31	Z	-0.009	-0.009	0	%100
22	32	Z	-0.009	-0.009	0	%100
23	35	Z	-0.011	-0.011	0	%100
24	36	Z	-0.011	-0.011	0	%100
25	37	Z	-0.02	-0.02	0	%100
26	38	Z	-0.016	-0.016	0	%100
27	39	Z	-0.016	-0.016	0	%100
28	40	Z	-0.001	-0.001	0	%100
29	42	Z	-0.02	-0.02	0	%100
30	44	Z	-0.02	-0.02	0	%100
31	45	Z	-0.02	-0.02	0	%100
32	46	Z	-0.02	-0.02	0	%100
33	47	Z	-0.02	-0.02	0	%100
34	48	Z	-0.02	-0.02	0	%100
35	49	Z	-0.02	-0.02	0	%100
36	50	Z	-0.009	-0.009	0	%100
37	51	Z	-0.009	-0.009	0	%100
38	52	Z	-0.009	-0.009	0	%100
39	55	Z	-0.011	-0.011	0	%100
40	56	Z	-0.011	-0.011	0	%100
41	57	Z	-0.02	-0.02	0	%100
42	58	Z	-0.016	-0.016	0	%100
43	59	Z	-0.016	-0.016	0	%100
44	60	Z	-0.001	-0.001	0	%100
45	62	Z	-0.02	-0.02	0	%100
46	64	Z	-0.02	-0.02	0	%100
47	65	Z	-0.02	-0.02	0	%100
48	66	Z	-0.02	-0.02	0	%100
49	67	Z	-0.02	-0.02	0	%100
50	68	Z	-0.02	-0.02	0	%100
51	69	Z	-0.02	-0.02	0	%100
52	70	Z	-0.009	-0.009	0	%100
53	71	Z	-0.009	-0.009	0	%100
54	72	Z	-0.009	-0.009	0	%100
55	75	Z	-0.012	-0.012	0	%100

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
56	76	Z	-0.01	-0.01	0	%100
57	81	Z	-0.01	-0.01	0	%100
58	82	Z	-0.01	-0.01	0	%100
59	83	Z	-0.01	-0.01	0	%100
60	84	Z	-0.01	-0.01	0	%100
61	89	Z	-0.012	-0.012	0	%100
62	90	Z	-0.01	-0.01	0	%100
63	95	Z	-0.01	-0.01	0	%100
64	96	Z	-0.01	-0.01	0	%100
65	97	Z	-0.01	-0.01	0	%100
66	98	Z	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.011	-0.011	0	%100
2	2	X	-0.011	-0.011	0	%100
3	3	X	-0.02	-0.02	0	%100
4	4	X	-0.016	-0.016	0	%100
5	5	X	-0.016	-0.016	0	%100
6	6	X	-0.012	-0.012	0	%100
7	7	X	-0.01	-0.01	0	%100
8	8	X	-0.001	-0.001	0	%100
9	10	X	-0.02	-0.02	0	%100
10	12	X	-0.02	-0.02	0	%100
11	13	X	-0.02	-0.02	0	%100
12	14	X	-0.02	-0.02	0	%100
13	15	X	-0.02	-0.02	0	%100
14	16	X	-0.02	-0.02	0	%100
15	17	X	-0.02	-0.02	0	%100
16	18	X	-0.009	-0.009	0	%100
17	23	X	-0.01	-0.01	0	%100
18	24	X	-0.01	-0.01	0	%100
19	25	X	-0.01	-0.01	0	%100
20	26	X	-0.01	-0.01	0	%100
21	31	X	-0.009	-0.009	0	%100
22	32	X	-0.009	-0.009	0	%100
23	35	X	-0.011	-0.011	0	%100
24	36	X	-0.011	-0.011	0	%100
25	37	X	-0.02	-0.02	0	%100
26	38	X	-0.016	-0.016	0	%100
27	39	X	-0.016	-0.016	0	%100
28	40	X	-0.001	-0.001	0	%100
29	42	X	-0.02	-0.02	0	%100
30	44	X	-0.02	-0.02	0	%100
31	45	X	-0.02	-0.02	0	%100
32	46	X	-0.02	-0.02	0	%100
33	47	X	-0.02	-0.02	0	%100
34	48	X	-0.02	-0.02	0	%100
35	49	X	-0.02	-0.02	0	%100
36	50	X	-0.009	-0.009	0	%100
37	51	X	-0.009	-0.009	0	%100
38	52	X	-0.009	-0.009	0	%100
39	55	X	-0.011	-0.011	0	%100
40	56	X	-0.011	-0.011	0	%100
41	57	X	-0.02	-0.02	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
42	58	X	-0.016	-0.016	0	%100
43	59	X	-0.016	-0.016	0	%100
44	60	X	-0.001	-0.001	0	%100
45	62	X	-0.02	-0.02	0	%100
46	64	X	-0.02	-0.02	0	%100
47	65	X	-0.02	-0.02	0	%100
48	66	X	-0.02	-0.02	0	%100
49	67	X	-0.02	-0.02	0	%100
50	68	X	-0.02	-0.02	0	%100
51	69	X	-0.02	-0.02	0	%100
52	70	X	-0.009	-0.009	0	%100
53	71	X	-0.009	-0.009	0	%100
54	72	X	-0.009	-0.009	0	%100
55	75	X	-0.012	-0.012	0	%100
56	76	X	-0.01	-0.01	0	%100
57	81	X	-0.01	-0.01	0	%100
58	82	X	-0.01	-0.01	0	%100
59	83	X	-0.01	-0.01	0	%100
60	84	X	-0.01	-0.01	0	%100
61	89	X	-0.012	-0.012	0	%100
62	90	X	-0.01	-0.01	0	%100
63	95	X	-0.01	-0.01	0	%100
64	96	X	-0.01	-0.01	0	%100
65	97	X	-0.01	-0.01	0	%100
66	98	X	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.005	-0.005	0	%100
2	2	Z	-0.005	-0.005	0	%100
3	3	Z	-0.006	-0.006	0	%100
4	4	Z	-0.005	-0.005	0	%100
5	5	Z	-0.005	-0.005	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	10	Z	-0.009	-0.009	0	%100
10	12	Z	-0.009	-0.009	0	%100
11	13	Z	-0.006	-0.006	0	%100
12	14	Z	-0.008	-0.008	0	%100
13	15	Z	-0.008	-0.008	0	%100
14	16	Z	-0.009	-0.009	0	%100
15	17	Z	-0.009	-0.009	0	%100
16	18	Z	-0.004	-0.004	0	%100
17	23	Z	-0.002	-0.002	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	25	Z	-0.002	-0.002	0	%100
20	26	Z	-0.002	-0.002	0	%100
21	31	Z	-0.002	-0.002	0	%100
22	32	Z	-0.002	-0.002	0	%100
23	35	Z	-0.005	-0.005	0	%100
24	36	Z	-0.005	-0.005	0	%100
25	37	Z	-0.006	-0.006	0	%100
26	38	Z	-0.005	-0.005	0	%100
27	39	Z	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
28	40	Z	-0.002	-0.002	0	%100
29	42	Z	-0.009	-0.009	0	%100
30	44	Z	-0.009	-0.009	0	%100
31	45	Z	-0.006	-0.006	0	%100
32	46	Z	-0.008	-0.008	0	%100
33	47	Z	-0.008	-0.008	0	%100
34	48	Z	-0.009	-0.009	0	%100
35	49	Z	-0.009	-0.009	0	%100
36	50	Z	-0.004	-0.004	0	%100
37	51	Z	-0.002	-0.002	0	%100
38	52	Z	-0.002	-0.002	0	%100
39	55	Z	-0.005	-0.005	0	%100
40	56	Z	-0.005	-0.005	0	%100
41	57	Z	-0.006	-0.006	0	%100
42	58	Z	-0.005	-0.005	0	%100
43	59	Z	-0.005	-0.005	0	%100
44	60	Z	-0.002	-0.002	0	%100
45	62	Z	-0.009	-0.009	0	%100
46	64	Z	-0.009	-0.009	0	%100
47	65	Z	-0.006	-0.006	0	%100
48	66	Z	-0.008	-0.008	0	%100
49	67	Z	-0.008	-0.008	0	%100
50	68	Z	-0.009	-0.009	0	%100
51	69	Z	-0.009	-0.009	0	%100
52	70	Z	-0.004	-0.004	0	%100
53	71	Z	-0.002	-0.002	0	%100
54	72	Z	-0.002	-0.002	0	%100
55	75	Z	-0.002	-0.002	0	%100
56	76	Z	-0.002	-0.002	0	%100
57	81	Z	-0.002	-0.002	0	%100
58	82	Z	-0.002	-0.002	0	%100
59	83	Z	-0.002	-0.002	0	%100
60	84	Z	-0.002	-0.002	0	%100
61	89	Z	-0.002	-0.002	0	%100
62	90	Z	-0.002	-0.002	0	%100
63	95	Z	-0.002	-0.002	0	%100
64	96	Z	-0.002	-0.002	0	%100
65	97	Z	-0.002	-0.002	0	%100
66	98	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.005	-0.005	0	%100
2	2	X	-0.005	-0.005	0	%100
3	3	X	-0.006	-0.006	0	%100
4	4	X	-0.005	-0.005	0	%100
5	5	X	-0.005	-0.005	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	10	X	-0.009	-0.009	0	%100
10	12	X	-0.009	-0.009	0	%100
11	13	X	-0.006	-0.006	0	%100
12	14	X	-0.008	-0.008	0	%100
13	15	X	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
14	16	X	-0.009	-0.009	0	%100
15	17	X	-0.009	-0.009	0	%100
16	18	X	-0.004	-0.004	0	%100
17	23	X	-0.002	-0.002	0	%100
18	24	X	-0.002	-0.002	0	%100
19	25	X	-0.002	-0.002	0	%100
20	26	X	-0.002	-0.002	0	%100
21	31	X	-0.002	-0.002	0	%100
22	32	X	-0.002	-0.002	0	%100
23	35	X	-0.005	-0.005	0	%100
24	36	X	-0.005	-0.005	0	%100
25	37	X	-0.006	-0.006	0	%100
26	38	X	-0.005	-0.005	0	%100
27	39	X	-0.005	-0.005	0	%100
28	40	X	-0.002	-0.002	0	%100
29	42	X	-0.009	-0.009	0	%100
30	44	X	-0.009	-0.009	0	%100
31	45	X	-0.006	-0.006	0	%100
32	46	X	-0.008	-0.008	0	%100
33	47	X	-0.008	-0.008	0	%100
34	48	X	-0.009	-0.009	0	%100
35	49	X	-0.009	-0.009	0	%100
36	50	X	-0.004	-0.004	0	%100
37	51	X	-0.002	-0.002	0	%100
38	52	X	-0.002	-0.002	0	%100
39	55	X	-0.005	-0.005	0	%100
40	56	X	-0.005	-0.005	0	%100
41	57	X	-0.006	-0.006	0	%100
42	58	X	-0.005	-0.005	0	%100
43	59	X	-0.005	-0.005	0	%100
44	60	X	-0.002	-0.002	0	%100
45	62	X	-0.009	-0.009	0	%100
46	64	X	-0.009	-0.009	0	%100
47	65	X	-0.006	-0.006	0	%100
48	66	X	-0.008	-0.008	0	%100
49	67	X	-0.008	-0.008	0	%100
50	68	X	-0.009	-0.009	0	%100
51	69	X	-0.009	-0.009	0	%100
52	70	X	-0.004	-0.004	0	%100
53	71	X	-0.002	-0.002	0	%100
54	72	X	-0.002	-0.002	0	%100
55	75	X	-0.002	-0.002	0	%100
56	76	X	-0.002	-0.002	0	%100
57	81	X	-0.002	-0.002	0	%100
58	82	X	-0.002	-0.002	0	%100
59	83	X	-0.002	-0.002	0	%100
60	84	X	-0.002	-0.002	0	%100
61	89	X	-0.002	-0.002	0	%100
62	90	X	-0.002	-0.002	0	%100
63	95	X	-0.002	-0.002	0	%100
64	96	X	-0.002	-0.002	0	%100
65	97	X	-0.002	-0.002	0	%100
66	98	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0007	-0.0007	0	%100
2	2	Z	-0.0007	-0.0007	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.0003	-0.0003	0	%100
8	8	Z	-1e-04	-1e-04	0	%100
9	10	Z	-0.001	-0.001	0	%100
10	12	Z	-0.001	-0.001	0	%100
11	13	Z	-0.001	-0.001	0	%100
12	14	Z	-0.001	-0.001	0	%100
13	15	Z	-0.001	-0.001	0	%100
14	16	Z	-0.001	-0.001	0	%100
15	17	Z	-0.001	-0.001	0	%100
16	18	Z	-0.0006	-0.0006	0	%100
17	23	Z	-0.0003	-0.0003	0	%100
18	24	Z	-0.0003	-0.0003	0	%100
19	25	Z	-0.0003	-0.0003	0	%100
20	26	Z	-0.0003	-0.0003	0	%100
21	31	Z	-0.0003	-0.0003	0	%100
22	32	Z	-0.0003	-0.0003	0	%100
23	35	Z	-0.0007	-0.0007	0	%100
24	36	Z	-0.0007	-0.0007	0	%100
25	37	Z	-0.001	-0.001	0	%100
26	38	Z	-0.001	-0.001	0	%100
27	39	Z	-0.001	-0.001	0	%100
28	40	Z	-1e-04	-1e-04	0	%100
29	42	Z	-0.001	-0.001	0	%100
30	44	Z	-0.001	-0.001	0	%100
31	45	Z	-0.001	-0.001	0	%100
32	46	Z	-0.001	-0.001	0	%100
33	47	Z	-0.001	-0.001	0	%100
34	48	Z	-0.001	-0.001	0	%100
35	49	Z	-0.001	-0.001	0	%100
36	50	Z	-0.0006	-0.0006	0	%100
37	51	Z	-0.0003	-0.0003	0	%100
38	52	Z	-0.0003	-0.0003	0	%100
39	55	Z	-0.0007	-0.0007	0	%100
40	56	Z	-0.0007	-0.0007	0	%100
41	57	Z	-0.001	-0.001	0	%100
42	58	Z	-0.001	-0.001	0	%100
43	59	Z	-0.001	-0.001	0	%100
44	60	Z	-1e-04	-1e-04	0	%100
45	62	Z	-0.001	-0.001	0	%100
46	64	Z	-0.001	-0.001	0	%100
47	65	Z	-0.001	-0.001	0	%100
48	66	Z	-0.001	-0.001	0	%100
49	67	Z	-0.001	-0.001	0	%100
50	68	Z	-0.001	-0.001	0	%100
51	69	Z	-0.001	-0.001	0	%100
52	70	Z	-0.0006	-0.0006	0	%100
53	71	Z	-0.0003	-0.0003	0	%100
54	72	Z	-0.0003	-0.0003	0	%100
55	75	Z	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
56	76	Z	-0.0003	-0.0003	0	%100
57	81	Z	-0.0003	-0.0003	0	%100
58	82	Z	-0.0003	-0.0003	0	%100
59	83	Z	-0.0003	-0.0003	0	%100
60	84	Z	-0.0003	-0.0003	0	%100
61	89	Z	-0.0004	-0.0004	0	%100
62	90	Z	-0.0003	-0.0003	0	%100
63	95	Z	-0.0003	-0.0003	0	%100
64	96	Z	-0.0003	-0.0003	0	%100
65	97	Z	-0.0003	-0.0003	0	%100
66	98	Z	-0.0003	-0.0003	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0007	-0.0007	0	%100
2	2	X	-0.0007	-0.0007	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.0003	-0.0003	0	%100
8	8	X	-1e-04	-1e-04	0	%100
9	10	X	-0.001	-0.001	0	%100
10	12	X	-0.001	-0.001	0	%100
11	13	X	-0.001	-0.001	0	%100
12	14	X	-0.001	-0.001	0	%100
13	15	X	-0.001	-0.001	0	%100
14	16	X	-0.001	-0.001	0	%100
15	17	X	-0.001	-0.001	0	%100
16	18	X	-0.0006	-0.0006	0	%100
17	23	X	-0.0003	-0.0003	0	%100
18	24	X	-0.0003	-0.0003	0	%100
19	25	X	-0.0003	-0.0003	0	%100
20	26	X	-0.0003	-0.0003	0	%100
21	31	X	-0.0003	-0.0003	0	%100
22	32	X	-0.0003	-0.0003	0	%100
23	35	X	-0.0007	-0.0007	0	%100
24	36	X	-0.0007	-0.0007	0	%100
25	37	X	-0.001	-0.001	0	%100
26	38	X	-0.001	-0.001	0	%100
27	39	X	-0.001	-0.001	0	%100
28	40	X	-1e-04	-1e-04	0	%100
29	42	X	-0.001	-0.001	0	%100
30	44	X	-0.001	-0.001	0	%100
31	45	X	-0.001	-0.001	0	%100
32	46	X	-0.001	-0.001	0	%100
33	47	X	-0.001	-0.001	0	%100
34	48	X	-0.001	-0.001	0	%100
35	49	X	-0.001	-0.001	0	%100
36	50	X	-0.0006	-0.0006	0	%100
37	51	X	-0.0003	-0.0003	0	%100
38	52	X	-0.0003	-0.0003	0	%100
39	55	X	-0.0007	-0.0007	0	%100
40	56	X	-0.0007	-0.0007	0	%100
41	57	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
42	58	X	-0.001	-0.001	0	%100
43	59	X	-0.001	-0.001	0	%100
44	60	X	-1e-04	-1e-04	0	%100
45	62	X	-0.001	-0.001	0	%100
46	64	X	-0.001	-0.001	0	%100
47	65	X	-0.001	-0.001	0	%100
48	66	X	-0.001	-0.001	0	%100
49	67	X	-0.001	-0.001	0	%100
50	68	X	-0.001	-0.001	0	%100
51	69	X	-0.001	-0.001	0	%100
52	70	X	-0.0006	-0.0006	0	%100
53	71	X	-0.0003	-0.0003	0	%100
54	72	X	-0.0003	-0.0003	0	%100
55	75	X	-0.0004	-0.0004	0	%100
56	76	X	-0.0003	-0.0003	0	%100
57	81	X	-0.0003	-0.0003	0	%100
58	82	X	-0.0003	-0.0003	0	%100
59	83	X	-0.0003	-0.0003	0	%100
60	84	X	-0.0003	-0.0003	0	%100
61	89	X	-0.0004	-0.0004	0	%100
62	90	X	-0.0003	-0.0003	0	%100
63	95	X	-0.0003	-0.0003	0	%100
64	96	X	-0.0003	-0.0003	0	%100
65	97	X	-0.0003	-0.0003	0	%100
66	98	X	-0.0003	-0.0003	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.006	-0.006	0	%100
2	2	Y	-0.006	-0.006	0	%100
3	3	Y	-0.01	-0.01	0	%100
4	4	Y	-0.01	-0.01	0	%100
5	5	Y	-0.01	-0.01	0	%100
6	6	Y	-0.007	-0.007	0	%100
7	7	Y	-0.006	-0.006	0	%100
8	8	Y	-0.002	-0.002	0	%100
9	10	Y	-0.011	-0.011	0	%100
10	12	Y	-0.011	-0.011	0	%100
11	13	Y	-0.011	-0.011	0	%100
12	14	Y	-0.01	-0.01	0	%100
13	15	Y	-0.01	-0.01	0	%100
14	16	Y	-0.01	-0.01	0	%100
15	17	Y	-0.01	-0.01	0	%100
16	18	Y	-0.007	-0.007	0	%100
17	23	Y	-0.006	-0.006	0	%100
18	24	Y	-0.006	-0.006	0	%100
19	25	Y	-0.006	-0.006	0	%100
20	26	Y	-0.006	-0.006	0	%100
21	31	Y	-0.006	-0.006	0	%100
22	32	Y	-0.006	-0.006	0	%100
23	35	Y	-0.006	-0.006	0	%100
24	36	Y	-0.006	-0.006	0	%100
25	37	Y	-0.01	-0.01	0	%100
26	38	Y	-0.01	-0.01	0	%100
27	39	Y	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
28	40	Y	-0.002	-0.002	0	%100
29	42	Y	-0.011	-0.011	0	%100
30	44	Y	-0.011	-0.011	0	%100
31	45	Y	-0.011	-0.011	0	%100
32	46	Y	-0.01	-0.01	0	%100
33	47	Y	-0.01	-0.01	0	%100
34	48	Y	-0.01	-0.01	0	%100
35	49	Y	-0.01	-0.01	0	%100
36	50	Y	-0.007	-0.007	0	%100
37	51	Y	-0.006	-0.006	0	%100
38	52	Y	-0.006	-0.006	0	%100
39	55	Y	-0.006	-0.006	0	%100
40	56	Y	-0.006	-0.006	0	%100
41	57	Y	-0.01	-0.01	0	%100
42	58	Y	-0.01	-0.01	0	%100
43	59	Y	-0.01	-0.01	0	%100
44	60	Y	-0.002	-0.002	0	%100
45	62	Y	-0.011	-0.011	0	%100
46	64	Y	-0.011	-0.011	0	%100
47	65	Y	-0.011	-0.011	0	%100
48	66	Y	-0.01	-0.01	0	%100
49	67	Y	-0.01	-0.01	0	%100
50	68	Y	-0.01	-0.01	0	%100
51	69	Y	-0.01	-0.01	0	%100
52	70	Y	-0.007	-0.007	0	%100
53	71	Y	-0.006	-0.006	0	%100
54	72	Y	-0.006	-0.006	0	%100
55	75	Y	-0.007	-0.007	0	%100
56	76	Y	-0.006	-0.006	0	%100
57	81	Y	-0.006	-0.006	0	%100
58	82	Y	-0.006	-0.006	0	%100
59	83	Y	-0.006	-0.006	0	%100
60	84	Y	-0.006	-0.006	0	%100
61	89	Y	-0.007	-0.007	0	%100
62	90	Y	-0.006	-0.006	0	%100
63	95	Y	-0.006	-0.006	0	%100
64	96	Y	-0.006	-0.006	0	%100
65	97	Y	-0.006	-0.006	0	%100
66	98	Y	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0008	-0.0008	0	%100
2	2	Z	-0.0008	-0.0008	0	%100
3	3	Z	-0.004	-0.004	0	%100
4	4	Z	-0.004	-0.004	0	%100
5	5	Z	-0.004	-0.004	0	%100
6	6	Z	-0.003	-0.003	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-1e-04	-1e-04	0	%100
9	10	Z	-0.003	-0.003	0	%100
10	12	Z	-0.003	-0.003	0	%100
11	13	Z	-0.003	-0.003	0	%100
12	14	Z	-0.002	-0.002	0	%100
13	15	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
14	16	Z	-0.002	-0.002	0	%100
15	17	Z	-0.002	-0.002	0	%100
16	18	Z	-0.001	-0.001	0	%100
17	23	Z	-0.002	-0.002	0	%100
18	24	Z	-0.002	-0.002	0	%100
19	25	Z	-0.002	-0.002	0	%100
20	26	Z	-0.002	-0.002	0	%100
21	31	Z	-0.002	-0.002	0	%100
22	32	Z	-0.002	-0.002	0	%100
23	35	Z	-0.0008	-0.0008	0	%100
24	36	Z	-0.0008	-0.0008	0	%100
25	37	Z	-0.004	-0.004	0	%100
26	38	Z	-0.004	-0.004	0	%100
27	39	Z	-0.004	-0.004	0	%100
28	40	Z	-1e-04	-1e-04	0	%100
29	42	Z	-0.003	-0.003	0	%100
30	44	Z	-0.003	-0.003	0	%100
31	45	Z	-0.003	-0.003	0	%100
32	46	Z	-0.002	-0.002	0	%100
33	47	Z	-0.002	-0.002	0	%100
34	48	Z	-0.002	-0.002	0	%100
35	49	Z	-0.002	-0.002	0	%100
36	50	Z	-0.001	-0.001	0	%100
37	51	Z	-0.002	-0.002	0	%100
38	52	Z	-0.002	-0.002	0	%100
39	55	Z	-0.0008	-0.0008	0	%100
40	56	Z	-0.0008	-0.0008	0	%100
41	57	Z	-0.004	-0.004	0	%100
42	58	Z	-0.004	-0.004	0	%100
43	59	Z	-0.004	-0.004	0	%100
44	60	Z	-1e-04	-1e-04	0	%100
45	62	Z	-0.003	-0.003	0	%100
46	64	Z	-0.003	-0.003	0	%100
47	65	Z	-0.003	-0.003	0	%100
48	66	Z	-0.002	-0.002	0	%100
49	67	Z	-0.002	-0.002	0	%100
50	68	Z	-0.002	-0.002	0	%100
51	69	Z	-0.002	-0.002	0	%100
52	70	Z	-0.001	-0.001	0	%100
53	71	Z	-0.002	-0.002	0	%100
54	72	Z	-0.002	-0.002	0	%100
55	75	Z	-0.003	-0.003	0	%100
56	76	Z	-0.002	-0.002	0	%100
57	81	Z	-0.002	-0.002	0	%100
58	82	Z	-0.002	-0.002	0	%100
59	83	Z	-0.002	-0.002	0	%100
60	84	Z	-0.002	-0.002	0	%100
61	89	Z	-0.003	-0.003	0	%100
62	90	Z	-0.002	-0.002	0	%100
63	95	Z	-0.002	-0.002	0	%100
64	96	Z	-0.002	-0.002	0	%100
65	97	Z	-0.002	-0.002	0	%100
66	98	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	0	0	0	%100

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.001	-0.005	0	2.18
2	1	Y	-0.005	-0.009	2.18	4.359
3	2	Y	-0.001	-0.005	0	2.179
4	2	Y	-0.005	-0.009	2.179	4.359
5	3	Y	-0.012	-0.012	1.082	2.81
6	4	Y	-0.009	-0.009	1.6	2.581
7	5	Y	-0.009	-0.009	0	0.977
8	55	Y	-0.001	-0.005	0	2.18
9	55	Y	-0.005	-0.009	2.18	4.359
10	56	Y	-0.001	-0.005	0	2.179
11	56	Y	-0.005	-0.009	2.179	4.359
12	57	Y	-0.011	-0.011	1.078	2.814
13	58	Y	-0.009	-0.009	1.601	2.581
14	59	Y	-0.009	-0.009	0	0.981
15	35	Y	-0.001	-0.005	0	2.18
16	35	Y	-0.005	-0.009	2.18	4.359
17	36	Y	-0.001	-0.005	0	2.18
18	36	Y	-0.005	-0.009	2.18	4.359
19	37	Y	-0.011	-0.011	1.079	2.811
20	38	Y	-0.009	-0.009	1.601	2.581
21	39	Y	-0.009	-0.009	0	0.977

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	35	Y	-0.0006787	-0.003	0	2.18
2	35	Y	-0.003	-0.004	2.18	4.359
3	36	Y	-0.0007081	-0.003	0	2.18
4	36	Y	-0.003	-0.004	2.18	4.359
5	37	Y	-0.006	-0.006	1.082	2.81
6	38	Y	-0.005	-0.005	1.6	2.581
7	39	Y	-0.005	-0.005	0	0.977
8	1	Y	-0.0006788	-0.003	0	2.18
9	1	Y	-0.003	-0.004	2.18	4.359
10	2	Y	-0.000688	-0.003	0	2.179
11	2	Y	-0.003	-0.004	2.179	4.359
12	3	Y	-0.006	-0.006	1.079	2.811
13	4	Y	-0.005	-0.005	1.601	2.581
14	5	Y	-0.005	-0.005	0	0.977
15	55	Y	-0.0007075	-0.003	0	2.18
16	55	Y	-0.003	-0.004	2.18	4.359
17	56	Y	-0.0006879	-0.003	0	2.179
18	56	Y	-0.003	-0.004	2.179	4.359
19	57	Y	-0.006	-0.006	1.078	2.814
20	58	Y	-0.005	-0.005	1.601	2.581
21	59	Y	-0.005	-0.005	0	0.981

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	66	64	65	66	Y	Two Way	-0.01
2	7	8	6	7	Y	Two Way	-0.01
3	96	97	98	96	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Direction	Load Direction	Magnitude [ksf]
1	66	64	65	Y	Two Way	-0.005
2	7	8	6	Y	Two Way	-0.005
3	96	97	98	Y	Two Way	-0.005

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	30	L	Y	-0.5
2	130	L	Y	-0.5
3	158	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	31	L	Y	-0.5
2	131	L	Y	-0.5
3	159	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	32	L	Y	-0.5
2	132	L	Y	-0.5
3	160	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 14 : Live Load d)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	33	L	Y	-0.5
2	133	L	Y	-0.5
3	161	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		60		3
2	0 Wind - No Ice	WLZ			60	66	
3	90 Wind - No Ice	WLX			60	66	
4	0 Wind - Ice	WLZ			60	66	
5	90 Wind - Ice	WLX			60	66	
6	0 Wind - Service	WLZ			60	66	
7	90 Wind - Service	WLX			60	66	
8	Ice	OL1			60	66	3
9	0 Seismic	ELZ			60	66	
10	90 Seismic	ELX			60	1	

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL		3			
15	Maint LL 1	LL			1		
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL					
30	BLC 1 Transient Area Loads	None				21	
31	BLC 8 Transient Area Loads	None				21	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	4	max	0.743	5	1.978	14	0.223	2	4.487	2	0.916	11	0.623	11
2		min	-0.745	11	-0.495	8	-2.141	8	-2.293	8	-0.914	5	-0.679	5
3	14	max	0.476	5	1.643	8	3.889	2	0.05	2	0.031	10	0.036	5
4		min	-0.483	11	0.448	2	-1.81	8	-0.155	8	-0.038	5	-0.029	10
5	62	max	0.269	5	1.94	18	1.25	13	0.746	13	1.078	3	0.673	12
6		min	-1.58	12	-0.038	12	-0.508	8	-2.506	7	-1.072	9	-3.572	18
7	70	max	2.716	6	1.607	24	1.048	13	0.055	10	0.046	2	0.113	13
8		min	-1.23	12	0.486	6	-1.946	7	-0.018	4	-0.049	9	-0.059	7
9	94	max	1.579	4	1.938	22	1.196	3	0.753	3	1.043	7	3.635	22
10		min	-0.288	11	-0.029	4	-0.451	8	-2.419	9	-1.045	13	-0.631	4
11	102	max	1.208	4	1.601	16	0.978	3	0.056	5	0.034	6	0.035	9
12		min	-2.685	10	0.523	10	-1.883	9	-0.034	12	-0.046	13	-0.099	3
13	Totals:	max	6.542	5	10.079	24	8.38	2						
14		min	-6.541	11	5.128	6	-8.379	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	L2x2x3	0.195	0	13	0.015	0	y	14	15.646	23.393	0.558	1.13	1.5	H2-1
2	2	L2x2x3	0.183	0	3	0.012	0	z	15	15.647	23.393	0.558	1.13	1.5	H2-1
3	3	HSS4X4X4	0.379	6.484	3	0.111	6.484	y	4	100.316	106.155	12.311	12.311	2.919	H1-1b
4	4	HSS4X4X4	0.267	2.581	3	0.07	0.376	y	2	105.208	106.155	12.311	12.311	1.629	H1-1b
5	5	HSS4X4X4	0.267	0	13	0.071	2.18	y	2	105.206	106.155	12.311	12.311	1.625	H1-1b
6	6	PIPE_3.0	0.112	2.719	42	0.075	5.135		7	21.267	65.205	5.749	5.749	2.683	H1-1b
7	7	PIPE_2.5	0.367	9.364	13	0.162	5.286		8	10.82	50.715	3.596	3.596	3	H1-1b
8	8	SR5/16	0.338	0	2	0.002	6.924		19	0.015	8.601	0.045	0.045	1.136	H1-1a*
9	10	PL1/2"x6	0.078	0.25	2	0.088	0.25	y	2	95.014	97.2	1.012	12.15	1.631	H1-1b
10	12	PL1/2"x6	0.072	0.25	2	0.123	0.25	y	2	95.014	97.2	1.012	12.15	1.793	H1-1b
11	13	PL1/2"x6	0.129	0.509	2	0.147	0.519	y	2	65.639	97.2	1.012	12.15	1.356	H1-1b
12	14	PL3/8"x6	0.09	0.166	2	0.338	0.166	y	62	67.903	72.9	0.57	9.113	1.438	H1-1b
13	15	PL3/8"x6	0.09	0.166	2	0.42	0.166	y	25	67.903	72.9	0.57	9.113	1.44	H1-1b
14	16	PL3/8"x6	0.046	0	13	0.448	0	y	2	70.011	72.9	0.57	9.113	1.889	H1-1b
15	17	PL3/8"x6	0.058	0	3	0.441	0	y	2	70.011	72.9	0.57	9.113	2.195	H1-1b
16	18	L2.5x2.5x4	0.599	0	8	0.027	1.272	y	95	36.572	38.556	1.114	2.537	1.048	H2-1
17	23	PIPE_2.5	0.145	7.917	5	0.091	7.917		13	22.373	50.715	3.596	3.596	1.992	H1-1b
18	24	PIPE_2.5	0.131	7.917	6	0.036	0.833		3	22.373	50.715	3.596	3.596	1.95	H1-1b
19	25	PIPE_2.5	0.165	7.917	11	0.046	7.917		12	22.373	50.715	3.596	3.596	1.929	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
20	26	PIPE_2.5	0.104	7.917	10	0.077	7.917		3	22.373	50.715	3.596	3.596	1.809	H1-1b
21	31	PIPE_2.5	0.208	5.219	8	0.058	0		8	40.582	50.715	3.596	3.596	1.688	H1-1b
22	32	PIPE_2.5	0.19	5.219	8	0.053	0		8	40.58	50.715	3.596	3.596	1.691	H1-1b
23	35	L2x2x3	0.165	0	5	0.014	0	y	18	15.646	23.393	0.558	1.13	1.5	H2-1
24	36	L2x2x3	0.181	0	7	0.012	0	z	19	15.646	23.393	0.558	1.13	1.5	H2-1
25	37	HSS4X4X4	0.364	6.484	7	0.141	6.484	y	8	100.316	106.155	12.311	12.311	2.918	H1-1b
26	38	HSS4X4X4	0.264	2.581	7	0.068	0.376	y	7	105.208	106.155	12.311	12.311	1.63	H1-1b
27	39	HSS4X4X4	0.243	0	17	0.059	2.18	y	6	105.206	106.155	12.311	12.311	1.62	H1-1b
28	40	SR5/16	0.287	0	7	0.002	6.924		23	0.015	8.601	0.045	0.045	1.136	H1-1a*
29	42	PL1/2"x6	0.062	0.25	6	0.084	0.25	y	94	95.014	97.2	1.012	12.15	1.634	H1-1b
30	44	PL1/2"x6	0.065	0.125	7	0.104	0.25	y	86	95.014	97.2	1.012	12.15	1.694	H1-1b
31	45	PL1/2"x6	0.105	0.509	6	0.131	0.509	y	7	65.639	97.2	1.012	12.15	1.333	H1-1b
32	46	PL3/8"x6	0.07	0.166	6	0.337	0.166	y	67	67.903	72.9	0.57	9.113	1.439	H1-1b
33	47	PL3/8"x6	0.088	0.166	7	0.416	0.166	y	17	67.903	72.9	0.57	9.113	1.433	H1-1b
34	48	PL3/8"x6	0.053	0.125	3	0.41	0	y	18	70.011	72.9	0.57	9.113	1.454	H1-1b
35	49	PL3/8"x6	0.057	0	7	0.425	0	y	7	70.011	72.9	0.57	9.113	2.285	H1-1b
36	50	L2.5x2.5x4	0.489	0	12	0.03	1.272	z	8	36.572	38.556	1.114	2.537	1.056	H2-1
37	51	PIPE_2.5	0.174	5.219	13	0.05	0		13	40.582	50.715	3.596	3.596	1.658	H1-1b
38	52	PIPE_2.5	0.15	5.219	12	0.039	0		12	40.58	50.715	3.596	3.596	1.708	H1-1b
39	55	L2x2x3	0.19	0	9	0.015	0	y	21	15.646	23.393	0.558	1.13	1.5	H2-1
40	56	L2x2x3	0.153	0	11	0.012	0	z	23	15.647	23.393	0.558	1.13	1.5	H2-1
41	57	HSS4X4X4	0.357	6.484	9	0.132	6.484	y	8	100.316	106.155	12.311	12.311	2.928	H1-1b
42	58	HSS4X4X4	0.237	2.581	23	0.063	2.581	y	22	105.208	106.155	12.311	12.311	1.636	H1-1b
43	59	HSS4X4X4	0.262	0	9	0.065	2.18	y	9	105.206	106.155	12.311	12.311	1.623	H1-1b
44	60	SR5/16	0.287	0	9	0.002	6.924		15	0.015	8.601	0.045	0.045	1.136	H1-1a*
45	62	PL1/2"x6	0.068	0.25	9	0.084	0.25	y	92	95.014	97.2	1.012	12.15	1.571	H1-1b
46	64	PL1/2"x6	0.063	0.25	10	0.112	0.25	y	9	95.014	97.2	1.012	12.15	1.797	H1-1b
47	65	PL1/2"x6	0.107	0.509	10	0.132	0.519	y	9	65.639	97.2	1.012	12.15	1.388	H1-1b
48	66	PL3/8"x6	0.087	0.166	9	0.336	0.166	y	70	67.903	72.9	0.57	9.113	1.435	H1-1b
49	67	PL3/8"x6	0.069	0.166	11	0.422	0.166	y	21	67.903	72.9	0.57	9.113	1.451	H1-1b
50	68	PL3/8"x6	0.057	0.125	2	0.425	0	y	9	70.011	72.9	0.57	9.113	1.319	H1-1b
51	69	PL3/8"x6	0.047	0.125	7	0.404	0	y	22	70.011	72.9	0.57	9.113	1.646	H1-1b
52	70	L2.5x2.5x4	0.505	1.272	3	0.027	1.272	y	97	36.572	38.556	1.114	2.537	1.007	H2-1
53	71	PIPE_2.5	0.158	5.219	4	0.039	0		4	40.582	50.715	3.596	3.596	1.707	H1-1b
54	72	PIPE_2.5	0.154	5.219	3	0.043	0		3	40.58	50.715	3.596	3.596	1.658	H1-1b
55	75	PIPE_3.0	0.132	2.719	9	0.062	9.364		14	21.267	65.205	5.749	5.749	3	H1-1b
56	76	PIPE_2.5	0.371	5.135	8	0.136	5.286		13	10.82	50.715	3.596	3.596	3	H1-1b
57	81	PIPE_2.5	0.211	7.917	9	0.071	7.917		5	22.373	50.715	3.596	3.596	1.747	H1-1b
58	82	PIPE_2.5	0.157	7.917	9	0.046	7.917		8	22.373	50.715	3.596	3.596	1.966	H1-1b
59	83	PIPE_2.5	0.223	7.917	3	0.051	7.917		3	22.373	50.715	3.596	3.596	1.98	H1-1b
60	84	PIPE_2.5	0.138	7.917	3	0.077	7.917		7	22.373	50.715	3.596	3.596	1.793	H1-1b
61	89	PIPE_3.0	0.141	2.719	2	0.071	5.135		3	21.267	65.205	5.749	5.749	3	H1-1b
62	90	PIPE_2.5	0.407	9.364	8	0.13	5.286		4	10.82	50.715	3.596	3.596	3	H1-1b
63	95	PIPE_2.5	0.213	7.917	13	0.092	7.917		9	22.373	50.715	3.596	3.596	1.984	H1-1b
64	96	PIPE_2.5	0.175	7.917	2	0.037	7.917		13	22.373	50.715	3.596	3.596	1.734	H1-1b
65	97	PIPE_2.5	0.217	7.917	7	0.061	7.917		8	22.373	50.715	3.596	3.596	1.876	H1-1b
66	98	PIPE_2.5	0.133	7.917	7	0.063	7.917		11	22.373	50.715	3.596	3.596	1.787	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

PROJECT	**126536.013.01 - Bridgeport North, CT**				**KSC**
SUBJECT	**Platform Mount Analysis**				
DATE	**10/20/21**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	0.224	k
Vertical Shear	:	1.977	k
Horizontal Shear	:	0.743	k
Torsion	:	0.622	k.ft
Moment from Horizontal Forces	:	0.916	k.ft
Moment from Vertical Forces	:	4.485	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.11	k
Force from Horz. Moment	:	1.66	k
Force from Vert. Moment	:	8.12	k
Shear Load / Bolt	:	0.53	k
Tension Load / Bolt	:	0.06	k
Resultant from Moments / Bolt	:	4.15	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**20.28%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**5.28%**		**OKAY**
Unity Check, Combined	:	**25.56%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.52%**		**OKAY**

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: CTL02106

841288
205 Kaechele Place
Bridgeport, Connecticut 06606

February 18, 2022

EBI Project Number: 6222000322

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**54.10%**

February 18, 2022

AT&T

Emissions Analysis for Site: CTL02106 - 841288

EBI Consulting was directed to analyze the proposed AT&T facility located at **205 Kaechele Place** in **Bridgeport, 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 205 Kaechele Place in Bridgeport, 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) The antennas used in this modeling are the Quintel QD6616-7 for the 700 MHz / 1900 MHz / 2100 MHz / 700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector A, the Quintel QD6616-7 for the 700 MHz / 1900 MHz / 2100 MHz / 700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector B, the Quintel QD6616-7 for the 700 MHz / 1900 MHz / 2100 MHz / 700 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerline of the proposed antennas is 154 feet above ground level (AGL).

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

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 / 1900 MHz / 2100 MHz / 700 MHz	Frequency Bands:	700 MHz / 1900 MHz / 2100 MHz / 700 MHz	Frequency Bands:	700 MHz / 1900 MHz / 2100 MHz / 700 MHz
Gain:	11.97 dBd / 15.11 dBd / 15.33 dBd / 11.97 dBd	Gain:	11.97 dBd / 15.11 dBd / 15.33 dBd / 11.97 dBd	Gain:	11.97 dBd / 15.11 dBd / 15.33 dBd / 11.97 dBd
Height (AGL):	154 feet	Height (AGL):	154 feet	Height (AGL):	154 feet
Channel Count:	14	Channel Count:	14	Channel Count:	14
Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts
ERP (W):	14,426.08	ERP (W):	14,426.08	ERP (W):	14,426.08
Antenna A1 MPE %:	**3.08%**	Antenna B1 MPE %:	**3.08%**	Antenna C1 MPE %:	**3.08%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
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):	154 feet	Height (AGL):	154 feet	Height (AGL):	154 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 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 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):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A3 MPE %:	**5.25%**	Antenna B3 MPE %:	**5.25%**	Antenna C3 MPE %:	**5.25%**
Antenna #:	**4**	Antenna #:	**4**	Antenna #:	**4**
Make / Model:	CCI DMP65R-BU6DA	Make / Model:	CCI DMP65R-BU6DA	Make / Model:	CCI DMP65R-BU6DA
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:	11.85 dBd / 12.45 dBd / 16.25 dBd	Gain:	11.85 dBd / 12.45 dBd / 16.25 dBd	Gain:	11.85 dBd / 12.45 dBd / 16.25 dBd
Height (AGL):	154 feet	Height (AGL):	154 feet	Height (AGL):	154 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts
ERP (W):	9,479.38	ERP (W):	9,479.38	ERP (W):	9,479.38
Antenna A4 MPE %:	**2.37%**	Antenna B4 MPE %:	**2.37%**	Antenna C4 MPE %:	**2.37%**

• 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):	15.95%
Verizon	18.75%
Sprint	4.28%
T-Mobile	15.12%
Site Total MPE % :	54.10%

AT&T MPE % Per Sector	
AT&T Sector A Total:	15.95%
AT&T Sector B Total:	15.95%
AT&T Sector C Total:	15.95%
Site Total MPE % :	54.10%

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	154.0	4.13	700 MHz LTE FN	467	0.89%
AT&T 1900 MHz LTE/5G	4	1297.36	154.0	8.52	1900 MHz LTE/5G	1000	0.85%
AT&T 2100 MHz LTE/5G	4	1364.77	154.0	8.96	2100 MHz LTE/5G	1000	0.90%
AT&T 700 MHz LTE DE	2	629.59	154.0	2.07	700 MHz LTE DE	467	0.44%
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	154.0	52.52	3700 MHz C-Band	1000	5.25%
AT&T 700 MHz LTE	4	612.43	154.0	4.02	700 MHz LTE	467	0.86%
AT&T 850 MHz 5G	4	703.17	154.0	4.62	850 MHz 5G	567	0.81%
AT&T 2300 MHz LTE	4	1054.24	154.0	6.92	2300 MHz LTE	1000	0.69%
						Total:	**15.95%**

• 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:	15.95%
Sector B:	15.95%
Sector C:	15.95%
AT&T Maximum MPE % (Sector A):	15.95%
Site Total:	54.10%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **54.10%** 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.

Date: **October 19, 2021**

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351

Subject: Structural Analysis Report

Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Site Number:	CTL02106
	Site Name:	Bridgeport North
	FA Number:	10034977
Crown Castle Designation:	**BU Number:**	841288
	Site Name:	Bridgeport North
	JDE Job Number:	649395
	Work Order Number:	2018571
	Order Number:	556498 Rev. 2
Engineering Firm Designation:	**TEP Project Number:**	25567.614082
Site Data:	**205 Kaechele Place, Bridgeport, Fairfield County, CT 06606**	
	Latitude *41° 13' 24.04"*, Longitude *-73° 13' 0.38"*	
	150 Foot - Monopole Tower	

Tower Engineering Professionals is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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

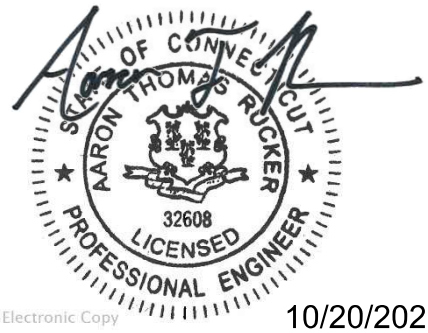
LC7: Proposed Equipment Configuration **Sufficient Capacity - 97.6%**

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

Structural analysis prepared by: James N. Fisher, E.I. / CLT

Respectfully submitted by:

Aaron T. Rucker, P.E.



10/20/2021

TABLE OF CONTENTS

1) INTRODUCTION

This is a 150-ft monopole tower mapped by GPD in April of 2008. The tower has been modified multiple times in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	1.5 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	CCI Antennas	DMP65R-BU6D w/ Mount Pipe	6 6 3 3	1-5/8 1-1/8 7/8 3/8
		3	Ericsson	AIR 6449 N77 w/ Mount Pipe		
		3	Quintel Technology	QD6616-7 w/ Mount Pipe		
		3	Ericsson	AIR 6419 B77G w/ Mount Pipe		
		3	Ericsson	RADIO 4478 B14		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 32 B2		
		3	Ericsson	RRUS 32 B30		
		3	Ericsson	RRUS 32 B66A		
		3	Raycap	DC9-48-60-24-8C-EV		
	152.0	3	Generic	2.5” STD Pipe x 5’-6”		
		3	Generic	2.5” STD Pipe x 12’-6”		
		1	Site Pro 1	RMQP-12-H5 Mount Without Catwalk		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
138.0	143.0	1	Andrew	VHLP2-23	1 3 2	1-5/8 1-1/4 1/2
		1	Andrew	VHLP2-18		
		2	Dragonwave	HORIZON COMPACT		
		1	Clearwire	CW JUNCTION BOX		
	140.0	3	Commscope	NNVV-65B-R4 w/ Mount Pipe		
		3	Nokia	AAHC w/ Mount Pipe		
		6	Alcatel Lucent	RRH2X50-800		
		3	Alcatel Lucent	PCS 1900MHZ 4X45W-65MHZ		
	138.0	1	Tower Mounts	Platform Mount [LP 715-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
120.0	120.0	3	Ericsson	AIR 21 B2A/B4P	9 1	1-5/8 1-1/2
		3	Ericsson	AIR -32 B2A/B66AA		
		3	Ericsson	AIR6449 B41		
		3	RFS Celwave	APXVAARR24_43-U-NA20		
		3	Ericsson	KRY 112 144/1		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RRUS 4415 B25_CCIV2		
		1	Tower Mounts	Platform Mount [LP 301-1_KCKR]		
99.0	100.0	3	Samsung Telecom.	CBRS w/ Mount Pipe	6 1	1-5/8 1-1/4
		6	Commscope	JAHH-65A-R3B w/ Mount Pipe		
		3	VZW	Sub6 Antenna - VZS01 w/ Mount Pipe		
		3	Antel	BXA-70063/4CF w/ Mount Pipe		
		3	Samsung Telecom.	RFV01U-D2A		
		3	Samsung Telecom.	RFV01U-D1A		
		1	RFS Celwave	DB-C1-12C-24AB-0Z		
	99.0	1	Tower Mounts	T-Arm Mount [TA 602-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Geotechnical Report	5110784	CCISites
Tower Foundation Mapping	5110783	CCISites
Tower Mapping	4710143	CCISites
Tower Reinforcement Drawings	4945043	CCISites
Tower Reinforcement Drawings	5237204	CCISites
Tower Reinforcement Drawings	5303781	CCISites
Post-Modification Inspection	5401472	CCISites
Post-Modification Inspection	5739992	CCISites
Tower Reinforcement Drawings	6650617	CCISites
Post-Modification Inspection	6894091	CCISites
Tower Reinforcement Drawings	6801057	CCISites
Post-Modification Inspection	7594134	CCISites
Tower Maintenance Drawings	9308609	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.

RISA-3D, a commercially available analysis software package, was used to model and analyze the foundation. Selected output from the analysis is included in Appendix C.

3.2) Assumptions

1) The tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2, and the referenced drawings.
3) The foundation steel reinforcement was assumed to be the minimum required per ACI 318.
4) The following material grades were assumed:
   a) Anchor bolts: ASTM A615-75
   b) Pole Shaft: ASTM A572-50
   c) Base Plate: ASTM A572-50
   d) #20 Dywidag Reinforcement: fy = 80 ksi, fu = 100 ksi
   e) Concrete compressive strength: f'c = 3 ksi
   f) Foundation flexural reinforcement: fy= 60 ksi
5) The existing rock anchors designed by GPD Group in April of 2013 (CCI Doc# 4945043) were assumed to be sufficiently embedded to develop their full tensile capacity.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)[1,2]

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP15.732x15x0.2188	Pole	27.8%	Pass
145 - 140	Pole	TP16.463x15.732x0.2188	Pole	41.5%	Pass
140 - 135	Pole	TP17.195x16.463x0.2188	Pole	60.8%	Pass
135 - 130	Pole	TP17.927x17.195x0.2188	Pole	78.5%	Pass
130 - 128.5	Pole	TP18.146x17.927x0.2188	Pole	83.4%	Pass
128.5 - 128.25	Pole + Reinf.	TP18.183x18.146x0.6688	Reinf. 10 Bolt-Shaft Bearing	50.5%	Pass
128.25 - 123.25	Pole + Reinf.	TP18.915x18.183x0.6438	Reinf. 10 Tension Rupture	50.6%	Pass
123.25 - 118.25	Pole + Reinf.	TP19.646x18.915x0.6188	Reinf. 10 Tension Rupture	60.5%	Pass
118.25 - 113.25	Pole + Reinf.	TP20.378x19.646x0.6063	Reinf. 10 Tension Rupture	71.7%	Pass
113.25 - 109	Pole + Reinf.	TP21x20.378x0.5938	Reinf. 10 Bolt-Shaft Bearing	97.6%	Pass
109 - 108.75	Pole + Reinf.	TP21.038x21x0.725	Reinf. 6 Tension Rupture	61.6%	Pass
108.75 - 104.17	Pole + Reinf.	TP21.729x21.038x0.7	Reinf. 6 Tension Rupture	68.7%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
104.17 - 103.92	Pole + Reinf.	TP21.767x21.729x0.975	Reinf. 6 Tension Rupture	61.4%	Pass
103.92 - 103.17	Pole + Reinf.	TP21.88x21.767x0.975	Reinf. 6 Tension Rupture	62.4%	Pass
103.17 - 102.92	Pole + Reinf.	TP21.918x21.88x1.125	Reinf. 6 Tension Rupture	50.7%	Pass
102.92 - 102.42	Pole + Reinf.	TP21.994x21.918x1.125	Reinf. 6 Tension Rupture	51.2%	Pass
102.42 - 102.17	Pole + Reinf.	TP22.031x21.994x0.95	Reinf. 6 Tension Rupture	56.2%	Pass
102.17 - 100.92	Pole + Reinf.	TP22.22x22.031x0.95	Reinf. 6 Tension Rupture	57.7%	Pass
100.92 - 100.67	Pole + Reinf.	TP22.258x22.22x1.025	Reinf. 6 Tension Rupture	56.7%	Pass
100.67 - 99.58	Pole + Reinf.	TP22.422x22.258x1	Reinf. 6 Tension Rupture	58.0%	Pass
99.58 - 99.33	Pole + Reinf.	TP22.46x22.422x1.4	Reinf. 14 Tension Rupture	42.1%	Pass
99.33 - 95.42	Pole + Reinf.	TP23.051x22.46x1.35	Reinf. 14 Tension Rupture	46.1%	Pass
95.42 - 95.17	Pole + Reinf.	TP23.088x23.051x1.05	Reinf. 15 Tension Rupture	57.0%	Pass
95.17 - 90.17	Pole + Reinf.	TP23.843x23.088x1	Reinf. 15 Tension Rupture	62.8%	Pass
90.17 - 85.17	Pole + Reinf.	TP24.598x23.843x0.975	Reinf. 15 Tension Rupture	68.3%	Pass
85.17 - 80.5	Pole + Reinf.	TP25.304x24.598x0.95	Reinf. 15 Tension Rupture	73.3%	Pass
80.5 - 80.25	Pole + Reinf.	TP25.341x25.304x1.3	Reinf. 5 Bolt-Shaft Bearing	63.5%	Pass
80.25 - 75.25	Pole + Reinf.	TP26.096x25.341x1.25	Reinf. 5 Tension Rupture	64.3%	Pass
75.25 - 73.58	Pole + Reinf.	TP26.348x26.096x1.25	Reinf. 5 Tension Rupture	65.7%	Pass
73.58 - 73.33	Pole + Reinf.	TP26.386x26.348x1.225	Reinf. 5 Tension Rupture	65.9%	Pass
73.33 - 72	Pole + Reinf.	TP27.04x26.386x1.225	Reinf. 5 Tension Rupture	67.0%	Pass
72 - 67	Pole + Reinf.	TP26.897x26.087x1.2875	Reinf. 5 Tension Rupture	68.7%	Pass
67 - 66.75	Pole + Reinf.	TP26.937x26.897x1.2875	Reinf. 5 Tension Rupture	68.9%	Pass
66.75 - 66.5	Pole + Reinf.	TP26.978x26.937x1.3625	Reinf. 13 Tension Rupture	60.9%	Pass
66.5 - 61.5	Pole + Reinf.	TP27.788x26.978x1.3125	Reinf. 13 Tension Rupture	64.0%	Pass
61.5 - 56.5	Pole + Reinf.	TP28.598x27.788x1.2875	Reinf. 13 Tension Rupture	67.0%	Pass
56.5 - 51.5	Pole + Reinf.	TP29.408x28.598x1.2375	Reinf. 13 Tension Rupture	69.8%	Pass
51.5 - 48.25	Pole + Reinf.	TP29.934x29.408x1.2125	Reinf. 13 Tension Rupture	71.6%	Pass
48.25 - 48	Pole + Reinf.	TP29.974x29.934x1.6125	Reinf. 1 Compression	57.4%	Pass
48 - 44.25	Pole + Reinf.	TP30.582x29.974x1.5625	Reinf. 1 Compression	59.1%	Pass
44.25 - 44	Pole + Reinf.	TP30.622x30.582x1.6625	Reinf. 1 Compression	55.7%	Pass
44 - 39	Pole + Reinf.	TP31.432x30.622x1.6125	Reinf. 1 Compression	57.7%	Pass
39 - 38.5	Pole + Reinf.	TP31.513x31.432x1.6125	Reinf. 1 Compression	57.9%	Pass
38.5 - 38.25	Pole + Reinf.	TP31.554x31.513x1.6125	Reinf. 1 Compression	58.0%	Pass
38.25 - 34	Pole + Reinf.	TP32.89x31.554x1.5625	Reinf. 1 Compression	59.6%	Pass
34 - 29	Pole + Reinf.	TP32.462x31.617x1.6813	Reinf. 1 Compression	59.0%	Pass
29 - 24	Pole + Reinf.	TP33.306x32.462x1.6313	Reinf. 1 Compression	60.6%	Pass
24 - 23.75	Pole + Reinf.	TP33.348x33.306x1.6313	Reinf. 1 Compression	60.6%	Pass
23.75 - 23.5	Pole + Reinf.	TP33.391x33.348x1.6063	Reinf. 1 Compression	60.7%	Pass
23.5 - 18.5	Pole + Reinf.	TP34.235x33.391x1.5813	Reinf. 1 Compression	62.2%	Pass
18.5 - 13.5	Pole + Reinf.	TP35.08x34.235x1.5313	Reinf. 12 Tension Rupture	63.6%	Pass
13.5 - 8.5	Pole + Reinf.	TP35.924x35.08x1.5063	Reinf. 12 Tension Rupture	65.1%	Pass
8.5 - 3.5	Pole + Reinf.	TP36.769x35.924x1.4563	Reinf. 12 Tension Rupture	66.4%	Pass
3.5 - 0	Pole + Reinf.	TP37.36x36.769x1.4313	Reinf. 12 Tension Rupture	67.4%	Pass
				Summary	

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
			Pole	83.4%	Pass
			Reinforcement	97.6%	Pass
			Overall	**97.6%**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Flange Connection	109.0	53.4	Pass
1,2	Anchor Rods	-	75.5	Pass
1,2	Base Plate	-	54.3	Pass
1,2	Base Foundation Structural	-	31.5	Pass
1,2	Base Foundation Soil Interaction	-	35.3	Pass

Structure Rating (max from all components) =	**97.6%**

Notes:
1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.
2) Rating per TIA-222-H Section 15.5

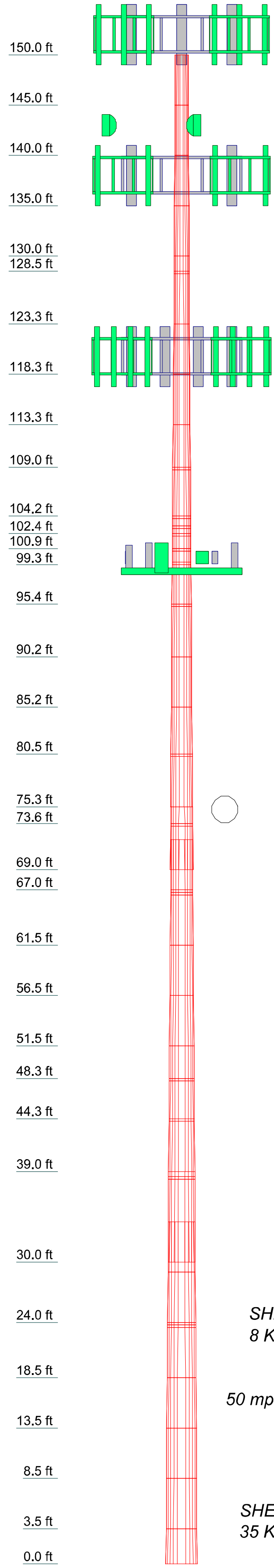
4.1) Recommendations

1) 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	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	12	0.2188		15.0000	15.7317	A572-50	0.2
2	5.00	12	0.2188		15.7317	16.4634		0.2
3	5.00	12	0.2188		16.4634	17.1951		0.2
4	5.00	12	[illegible]		[illegible]	[illegible]		0.2
5	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
6	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
7	[illegible]	12	[illegible]		[illegible]	[illegible]		0.6
8	5.00	12	0.6188		18.9146	19.6463		0.6
9	5.00	12	0.6062		19.6463	20.3780		0.6
10–23	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
24	5.00	12	[illegible]		[illegible]	[illegible]		1.0
25	5.00	12	0.9750		23.8433	24.5983		1.0
26–34	[illegible]	12	[illegible]	3.00	[illegible]	[illegible]		[illegible]
35	5.00	12	[illegible]		[illegible]	[illegible]		1.6
36	5.00	12	1.2875		27.7877	28.5976		1.6
37	5.00	12	1.2375		28.5976	29.4075		1.6
38–44	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
45	[illegible]	12	1.5625	4.00	[illegible]	[illegible]		3.5
46–50	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
51	5.00	12	1.5313		34.2352	35.0797		2.3
52	5.00	12	1.5063		35.0797	35.9243		2.4
53	5.00	12	1.4563		35.9243	36.7688		2.4
54	3.50	12	1.4313		36.7688	37.3600		1.7
								43.3



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 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 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 97.6%

ALL REACTIONS ARE FACTORED

AXIAL 118 K
SHEAR 8 K
MOMENT 874 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 75 K
SHEAR 35 K
MOMENT 3686 kip-ft
TORQUE 1 kip-ft
REACTIONS - 125 mph WIND

Tower Engineering Professionals	**Tower Engineering Professionals** 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job: **Bridgeport North (BU 841288)** Project: **TEP No. 25567.614082** Client: Crown Castle — Drawn by: jfisher — App'd: Code: TIA-222-H — Date: 10/19/21 — Scale: NTS Path: C:\Users\jfisher\Desktop\Temp\bridgeport\841288_2018571_LC7.eri — 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: 241.00 ft.
Basic wind speed of 125 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 1.5000 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	15.0000	15.7317	0.2188	0.8750	A572-50 (50 ksi)
L2	145.00-140.00	5.00	0.00	12	15.7317	16.4634	0.2188	0.8750	A572-50 (50 ksi)
L3	140.00-135.00	5.00	0.00	12	16.4634	17.1951	0.2188	0.8750	A572-50 (50 ksi)
L4	135.00-130.00	5.00	0.00	12	17.1951	17.9268	0.2188	0.8750	A572-50 (50 ksi)
L5	130.00-128.50	1.50	0.00	12	17.9268	18.1463	0.2188	0.8750	A572-50 (50 ksi)
L6	128.50-128.25	0.25	0.00	12	18.1463	18.1829	0.6687	2.6750	A572-50 (50 ksi)
L7	128.25-123.25	5.00	0.00	12	18.1829	18.9146	0.6438	2.5750	A572-50 (50 ksi)
L8	123.25-118.25	5.00	0.00	12	18.9146	19.6463	0.6188	2.4750	A572-50 (50 ksi)
L9	118.25-113.25	5.00	0.00	12	19.6463	20.3780	0.6062	2.4250	A572-50 (50 ksi)
L10	113.25-109.00	4.25	0.00	12	20.3780	21.0000	0.5938	2.3750	A572-50 (50 ksi)
L11	109.00-108.75	0.25	0.00	12	21.0000	21.0377	0.7250	2.9000	A572-50 (50 ksi)
L12	108.75-104.17	4.58	0.00	12	21.0377	21.7293	0.7000	2.8000	A572-50 (50 ksi)
L13	104.17-103.92	0.25	0.00	12	21.7293	21.7671	0.9750	3.9000	A572-50 (50 ksi)
L14	103.92-103.17	0.75	0.00	12	21.7671	21.8803	0.9750	3.9000	A572-50 (50 ksi)
L15	103.17-102.92	0.25	0.00	12	21.8803	21.9181	1.1250	4.5000	A572-50 (50 ksi)
L16	102.92-102.42	0.50	0.00	12	21.9181	21.9936	1.1250	4.5000	A572-50 (50 ksi)
L17	102.42-102.17	0.25	0.00	12	21.9936	22.0313	0.9500	3.8000	A572-50 (50 ksi)
L18	102.17-100.92	1.25	0.00	12	22.0313	22.2201	0.9500	3.8000	A572-50 (50 ksi)
L19	100.92-100.67	0.25	0.00	12	22.2201	22.2578	1.0250	4.1000	A572-50 (50 ksi)
L20	100.67-99.58	1.09	0.00	12	22.2578	22.4224	1.0000	4.0000	A572-50 (50 ksi)
L21	99.58-99.33	0.25	0.00	12	22.4224	22.4602	1.4000	5.6000	A572-50 (50 ksi)
L22	99.33-95.42	3.91	0.00	12	22.4602	23.0506	1.3500	5.4000	A572-50 (50 ksi)
L23	95.42-95.17	0.25	0.00	12	23.0506	23.0883	1.0500	4.2000	A572-50 (50 ksi)
L24	95.17-90.17	5.00	0.00	12	23.0883	23.8433	1.0000	4.0000	A572-50 (50 ksi)
L25	90.17-85.17	5.00	0.00	12	23.8433	24.5983	0.9750	3.9000	A572-50 (50 ksi)
L26	85.17-80.50	4.67	0.00	12	24.5983	25.3035	0.9500	3.8000	A572-50 (50 ksi)
L27	80.50-80.25	0.25	0.00	12	25.3035	25.3412	1.3000	5.2000	A572-50 (50 ksi)
L28	80.25-75.25	5.00	0.00	12	25.3412	26.0963	1.2500	5.0000	A572-50 (50 ksi)
L29	75.25-73.58	1.67	0.00	12	26.0963	26.3484	1.2500	5.0000	A572-50 (50 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
L30	73.58-73.33	0.25	0.00	12	26.3484	26.3862	1.2250	4.9000	A572-50 (50 ksi)
L31	73.33-69.00	4.33	3.00	12	26.3862	27.0400	1.2250	4.9000	A572-50 (50 ksi)
L32	69.00-67.00	5.00	0.00	12	26.0870	26.8969	1.2875	5.1500	A572-50 (50 ksi)
L33	67.00-66.75	0.25	0.00	12	26.8969	26.9374	1.2875	5.1500	A572-50 (50 ksi)
L34	66.75-66.50	0.25	0.00	12	26.9374	26.9779	1.3625	5.4500	A572-50 (50 ksi)
L35	66.50-61.50	5.00	0.00	12	26.9779	27.7877	1.3125	5.2500	A572-50 (50 ksi)
L36	61.50-56.50	5.00	0.00	12	27.7877	28.5976	1.2875	5.1500	A572-50 (50 ksi)
L37	56.50-51.50	5.00	0.00	12	28.5976	29.4075	1.2375	4.9500	A572-50 (50 ksi)
L38	51.50-48.25	3.25	0.00	12	29.4075	29.9339	1.2125	4.8500	A572-50 (50 ksi)
L39	48.25-48.00	0.25	0.00	12	29.9339	29.9744	1.6125	6.4500	A572-50 (50 ksi)
L40	48.00-44.25	3.75	0.00	12	29.9744	30.5818	1.5625	6.2500	A572-50 (50 ksi)
L41	44.25-44.00	0.25	0.00	12	30.5818	30.6223	1.6625	6.6500	A572-50 (50 ksi)
L42	44.00-39.00	5.00	0.00	12	30.6223	31.4322	1.6125	6.4500	A572-50 (50 ksi)
L43	39.00-38.50	0.50	0.00	12	31.4322	31.5132	1.6125	6.4500	A572-50 (50 ksi)
L44	38.50-38.25	0.25	0.00	12	31.5132	31.5537	1.6125	6.4500	A572-50 (50 ksi)
L45	38.25-30.00	8.25	4.00	12	31.5537	32.8900	1.5625	6.2500	A572-50 (50 ksi)
L46	30.00-29.00	5.00	0.00	12	31.6171	32.4616	1.6813	6.7252	A572-50 (50 ksi)
L47	29.00-24.00	5.00	0.00	12	32.4616	33.3062	1.6313	6.5252	A572-50 (50 ksi)
L48	24.00-23.75	0.25	0.00	12	33.3062	33.3484	1.6313	6.5252	A572-50 (50 ksi)
L49	23.75-23.50	0.25	0.00	12	33.3484	33.3906	1.6063	6.4252	A572-50 (50 ksi)
L50	23.50-18.50	5.00	0.00	12	33.3906	34.2352	1.5813	6.3252	A572-50 (50 ksi)
L51	18.50-13.50	5.00	0.00	12	34.2352	35.0797	1.5313	6.1252	A572-50 (50 ksi)
L52	13.50-8.50	5.00	0.00	12	35.0797	35.9243	1.5063	6.0252	A572-50 (50 ksi)
L53	8.50-3.50	5.00	0.00	12	35.9243	36.7688	1.4563	5.8252	A572-50 (50 ksi)
L54	3.50-0.00	3.50		12	36.7688	37.3600	1.4313	5.7252	A572-50 (50 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	15.4520	10.4115	290.3510	5.2917	7.7700	37.3682	588.3299	5.1242	3.4337	15.697

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
	16.2095	10.9269	335.6400	5.5536	8.1490	41.1877	680.0976	5.3779	3.6298	16.594
L2	16.2095	10.9269	335.6400	5.5536	8.1490	41.1877	680.0976	5.3779	3.6298	16.594
	16.9670	11.4423	385.4092	5.8156	8.5280	45.1931	780.9436	5.6316	3.8259	17.49
L3	16.9670	11.4423	385.4092	5.8156	8.5280	45.1931	780.9436	5.6316	3.8259	17.49
	17.7245	11.9577	439.8702	6.0775	8.9071	49.3844	891.2963	5.8852	4.0220	18.386
L4	17.7245	11.9577	439.8702	6.0775	8.9071	49.3844	891.2963	5.8852	4.0220	18.386
	18.4821	12.4731	499.2341	6.3395	9.2861	53.7615	1011.5837	6.1389	4.2181	19.283
L5	18.4821	12.4731	499.2341	6.3395	9.2861	53.7615	1011.5837	6.1389	4.2181	19.283
	18.7093	12.6277	518.0310	6.4181	9.3998	55.1108	1049.6712	6.2150	4.2770	19.552
L6	18.5506	37.6358	1467.4063	6.2570	9.3998	156.1103	2973.3629	18.5232	3.0710	4.592
	18.5884	37.7146	1476.6406	6.2701	9.4188	156.7766	2992.0742	18.5620	3.0808	4.607
L7	18.5973	36.3565	1427.5347	6.2790	9.4188	151.5630	2892.5724	17.8936	3.1478	4.89
	19.3548	37.8733	1613.7556	6.5410	9.7978	164.7062	3269.9063	18.6401	3.3439	5.194
L8	19.3636	36.4523	1557.4612	6.5499	9.7978	158.9606	3155.8387	17.9407	3.4109	5.513
	20.1211	37.9101	1751.8967	6.8119	10.1768	172.1460	3549.8176	18.6582	3.6070	5.829
L9	20.1255	37.1686	1719.8900	6.8164	10.1768	169.0010	3484.9634	18.2933	3.6405	6.005
	20.8830	38.5970	1925.8928	7.0783	10.5558	182.4483	3902.3810	18.9963	3.8366	6.328
L10	20.8875	37.8251	1889.7634	7.0828	10.5558	179.0256	3829.1730	18.6164	3.8701	6.518
	21.5313	39.0142	2073.6481	7.3054	10.8780	190.6277	4201.7732	19.2016	4.0367	6.799
L11	21.4850	47.3320	2483.4900	7.2584	10.8780	228.3039	5032.2241	23.2954	3.6850	5.083
	21.5241	47.4201	2497.3879	7.2720	10.8976	229.1696	5060.3849	23.3387	3.6951	5.097
L12	21.5329	45.8413	2420.1851	7.2809	10.8976	222.0852	4903.9511	22.5617	3.7621	5.374
	22.2489	47.4001	2675.5691	7.5285	11.2558	237.7060	5421.4284	23.3289	3.9475	5.639
L13	22.1519	65.1582	3582.3878	7.4301	11.2558	318.2706	7258.8888	32.0689	3.2105	3.293
	22.1910	65.2767	3601.9713	7.4436	11.2753	319.4555	7298.5704	32.1272	3.2206	3.303
L14	22.1910	65.2767	3601.9713	7.4436	11.2753	319.4555	7298.5704	32.1272	3.2206	3.303
	22.3082	65.6323	3661.1500	7.4841	11.3340	323.0233	7418.4824	32.3022	3.2509	3.334
L15	22.2553	75.1862	4134.1218	7.4304	11.3340	364.7536	8376.8517	37.0044	2.8489	2.532
	22.2944	75.3229	4156.7204	7.4439	11.3536	366.1159	8422.6426	37.0717	2.8590	2.541
L16	22.2944	75.3229	4156.7204	7.4439	11.3536	366.1159	8422.6426	37.0717	2.8590	2.541
	22.3726	75.5964	4202.1644	7.4710	11.3927	368.8479	8514.7244	37.2063	2.8793	2.559
L17	22.4343	64.3723	3638.5161	7.5336	11.3927	319.3733	7372.6201	31.6821	3.3483	3.525
	22.4734	64.4878	3658.1326	7.5471	11.4122	320.5450	7412.3685	31.7389	3.3584	3.535
L18	22.4734	64.4878	3658.1326	7.5471	11.4122	320.5450	7412.3685	31.7389	3.3584	3.535
	22.6688	65.0652	3757.2734	7.6147	11.5100	326.4355	7613.2545	32.0231	3.4090	3.588
L19	22.6423	69.9544	4011.1681	7.5878	11.5100	348.4941	8127.7141	34.4294	3.2080	3.13
	22.6814	70.0790	4032.6389	7.6014	11.5296	349.7653	8171.2197	34.4907	3.2181	3.14
L20	22.6902	68.4502	3948.1952	7.6103	11.5296	342.4412	8000.1138	33.6891	3.2851	3.285
	22.8606	68.9802	4040.6144	7.6692	11.6148	347.8846	8187.3803	33.9500	3.3292	3.329
L21	22.7195	94.7691	5345.8649	7.5260	11.6148	460.2627	10832.1717	46.6425	2.2572	1.612
	22.7586	94.9392	5374.7154	7.5395	11.6344	461.9688	10890.6306	46.7262	2.2673	1.62
L22	22.7763	91.7659	5219.7630	7.5574	11.6344	448.6503	10576.6549	45.1644	2.4013	1.779
	23.3875	94.3324	5670.0856	7.7688	11.9402	474.8736	11489.1307	46.4275	2.5596	1.896
L23	23.4933	74.3840	4595.5078	7.8762	11.9402	384.8769	9311.7448	36.6095	3.3636	3.203
	23.5324	74.5116	4619.2043	7.8897	11.9598	386.2290	9359.7601	36.6723	3.3737	3.213
L24	23.5500	71.1244	4429.2528	7.9076	11.9598	370.3465	8974.8670	35.0053	3.5077	3.508
	24.3317	73.5555	4899.1424	8.1779	12.3508	396.6646	9926.9907	36.2018	3.7100	3.71
L25	24.3405	71.7951	4792.3639	8.1869	12.3508	388.0191	9710.6286	35.3354	3.7770	3.874
	25.1221	74.1654	5282.8683	8.4572	12.7419	414.6049	10704.5235	36.5020	3.9794	4.081
L26	25.1309	72.3402	5163.7696	8.4661	12.7419	405.2579	10463.1972	35.6037	4.0464	4.259
	25.8610	74.4974	5639.6166	8.7186	13.1072	430.2682	11427.3923	36.6653	4.2353	4.458
L27	25.7375	100.4787	7389.3951	8.5933	13.1072	563.7655	14972.9179	49.4525	3.2973	2.536
	25.7766	100.6367	7424.3136	8.6068	13.1268	565.5858	15043.6722	49.5303	3.3075	2.544
L28	25.7942	96.9673	7183.3965	8.6247	13.1268	547.2327	14555.5088	47.7243	3.4415	2.753
	26.5759	100.0062	7880.1482	8.8950	13.5179	582.9436	15967.3167	49.2200	3.6438	2.915
L29	26.5759	100.0062	7880.1482	8.8950	13.5179	582.9436	15967.3167	49.2200	3.6438	2.915
	26.8369	101.0211	8122.5236	8.9852	13.6485	595.1229	16458.4350	49.7195	3.7114	2.969
L30	26.8458	99.0993	7983.8834	8.9942	13.6485	584.9650	16177.5123	48.7737	3.7784	3.084
	26.8848	99.2482	8019.9268	9.0077	13.6680	586.7651	16250.5461	48.8470	3.7885	3.093
L31	26.8848	99.2482	8019.9268	9.0077	13.6680	586.7651	16250.5461	48.8470	3.7885	3.093
	27.5617	101.8273	8661.5237	9.2418	14.0067	618.3834	17550.5953	50.1163	3.9637	3.236
L32	27.0561	102.8125	8070.8232	8.8782	13.5131	597.2607	16353.6759	50.6012	3.5408	2.75

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
	27.3915	106.1701	8887.6369	9.1682	13.9326	637.9030	18008.7618	52.2537	3.7579	2.919
L33	27.3915	106.1701	8887.6369	9.1682	13.9326	637.9030	18008.7618	52.2537	3.7579	2.919
	27.4334	106.3380	8929.8635	9.1827	13.9536	639.9703	18094.3244	52.3363	3.7687	2.927
L34	27.4070	112.2034	9367.3963	9.1558	13.9536	671.3266	18980.8844	55.2231	3.5677	2.619
	27.4489	112.3810	9411.9624	9.1703	13.9745	673.5080	19071.1876	55.3105	3.5786	2.626
L35	27.4665	108.4683	9119.7656	9.1882	13.9745	652.5988	18479.1175	53.3848	3.7126	2.829
	28.3050	111.8910	10010.6285	9.4781	14.3941	695.4697	20284.2473	55.0694	3.9296	2.994
L36	28.3138	109.8634	9847.7944	9.4871	14.3941	684.1571	19954.3013	54.0714	3.9966	3.104
	29.1523	113.2210	10778.5517	9.7770	14.8136	727.6132	21840.2679	55.7239	4.2137	3.273
L37	29.1699	109.0233	10416.9731	9.7949	14.8136	703.2046	21107.6118	53.6579	4.3477	3.513
	30.0084	112.2505	11369.6768	10.0849	15.2331	746.3801	23038.0478	55.2463	4.5647	3.689
L38	30.0172	110.0804	11169.6719	10.0938	15.2331	733.2505	22632.7835	54.1782	4.6317	3.82
	30.5622	112.1357	11807.0649	10.2823	15.5058	761.4623	23924.3146	55.1898	4.7728	3.936
L39	30.4211	147.0520	15055.2263	10.1391	15.5058	970.9430	30505.9701	72.3745	3.7008	2.295
	30.4630	147.2622	15119.8966	10.1536	15.5268	973.7964	30637.0098	72.4780	3.7116	2.302
L40	30.4806	142.9475	14728.6856	10.1715	15.5268	948.6004	29844.3101	70.3544	3.8456	2.461
	31.1095	146.0036	15693.6661	10.3889	15.8414	990.6746	31799.6223	71.8585	4.0084	2.565
L41	31.0742	154.8125	16526.0315	10.3531	15.8414	1043.2183	33486.2202	76.1940	3.7404	2.25
	31.1161	155.0292	16595.5500	10.3676	15.8624	1046.2214	33627.0836	76.3007	3.7513	2.256
L42	31.1337	150.6263	16179.9526	10.3855	15.8624	1020.0212	32784.9707	74.1337	3.8853	2.409
	31.9722	154.8314	17573.2456	10.6755	16.2819	1079.3126	35608.1600	76.2033	4.1023	2.544
L43	31.9722	154.8314	17573.2456	10.6755	16.2819	1079.3126	35608.1600	76.2033	4.1023	2.544
	32.0560	155.2519	17716.8177	10.7045	16.3238	1085.3340	35899.0759	76.4103	4.1240	2.558
L44	32.0560	155.2519	17716.8177	10.7045	16.3238	1085.3340	35899.0759	76.4103	4.1240	2.558
	32.0980	155.4622	17788.8960	10.7189	16.3448	1088.3510	36045.1261	76.5138	4.1349	2.564
L45	32.1156	150.8932	17323.8024	10.7368	16.3448	1059.8959	35102.7204	74.2650	4.2689	2.732
	33.4990	157.6165	19744.1783	11.2152	17.0370	1158.8986	40007.0581	77.5740	4.6270	2.961
L46	32.8388	162.0660	18537.8530	10.7170	16.3777	1131.8991	37562.7160	79.7640	3.9675	2.36
	33.0137	166.6382	20151.4952	11.0194	16.8151	1198.4145	40832.3926	82.0142	4.1938	2.494
L47	33.0313	161.9452	19647.6495	11.0373	16.8151	1168.4507	39811.4647	79.7045	4.3278	2.653
	33.9056	166.3814	21306.9258	11.3396	17.2526	1234.9977	43173.6082	81.8879	4.5542	2.792
L48	33.9056	166.3814	21306.9258	11.3396	17.2526	1234.9977	43173.6082	81.8879	4.5542	2.792
	33.9494	166.6032	21392.2552	11.3547	17.2745	1238.3735	43346.5087	81.9970	4.5655	2.799
L49	33.9582	164.1793	21114.2639	11.3637	17.2745	1222.2809	42783.2230	80.8040	4.6325	2.884
	34.0019	164.3977	21198.6424	11.3788	17.2964	1225.6135	42954.1967	80.9115	4.6438	2.891
L50	34.0107	161.9663	20917.9943	11.3877	17.2964	1209.3877	42385.5277	79.7149	4.7108	2.979
	34.8850	166.2666	22628.7538	11.6901	17.7338	1276.0221	45851.9901	81.8314	4.9371	3.122
L51	34.9027	161.2559	22014.0583	11.7080	17.7338	1241.3598	44606.4504	79.3652	5.0711	3.312
	35.7770	165.4201	23763.9521	12.0103	18.1713	1307.7739	48152.2096	81.4148	5.2975	3.459
L52	35.7858	162.8407	23428.2795	12.0193	18.1713	1289.3013	47472.0461	80.1453	5.3645	3.561
	36.6602	166.9370	25241.1535	12.3216	18.6088	1356.4114	51145.4201	82.1613	5.5908	3.712
L53	36.6778	161.6302	24509.8094	12.3395	18.6088	1317.1104	49663.5188	79.5495	5.7248	3.931
	37.5522	165.5905	26355.9548	12.6419	19.0462	1383.7872	53404.3099	81.4986	5.9512	4.086
L54	37.5610	162.8631	25958.5628	12.6508	19.0462	1362.9226	52599.0860	80.1562	6.0182	4.205
	38.1730	165.5877	27283.3066	12.8625	19.3525	1409.8093	55283.3761	81.4972	6.1766	4.315

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 140.00-135.00				1	1	1			
L4 135.00-130.00				1	1	1			
L5 130.00-128.50				1	1	1			

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
L6 128.50-128.25				1	1	0.866566			
L7 128.25-123.25				1	1	0.876544			
L8 123.25-118.25				1	1	0.889288			
L9 118.25-113.25				1	1	0.886814			
L10 113.25-109.00				1	1	0.88856			
L11 109.00-108.75				1	1	0.880849			
L12 108.75-104.17				1	1	0.892966			
L13 104.17-103.92				1	1	0.971053			
L14 103.92-103.17				1	1	0.967182			
L15 103.17-102.92				1	1	0.899658			
L16 102.92-102.42				1	1	0.897207			
L17 102.42-102.17				1	1	0.955174			
L18 102.17-100.92				1	1	0.949033			
L19 100.92-100.67				1	1	0.970881			
L20 100.67-99.58				1	1	0.988267			
L21 99.58-99.33				1	1	0.829123			
L22 99.33-95.42				1	1	0.839495			
L23 95.42-95.17				1	1	0.811217			
L24 95.17-90.17				1	1	0.830024			
L25 90.17-85.17				1	1	0.831393			
L26 85.17-80.50				1	1	0.835309			
L27 80.50-80.25				1	1	0.817668			
L28 80.25-75.25				1	1	0.8289			
L29 75.25-73.58				1	1	0.822581			
L30 73.58-73.33				1	1	0.837582			
L31 73.33-69.00				1	1	0.832565			
L32 69.00-67.00				1	1	0.836765			
L33 67.00-66.75				1	1	0.835827			
L34 66.75-66.50				1	1	0.8358			
L35				1	1	0.846744			

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
66.50-61.50									
L36				1	1	0.843995			
61.50-56.50									
L37				1	1	0.858553			
56.50-51.50									
L38				1	1	0.864155			
51.50-48.25									
L39				1	1	0.791829			
48.25-48.00									
L40				1	1	0.802841			
48.00-44.25									
L41				1	1	0.804811			
44.25-44.00									
L42				1	1	0.811102			
44.00-39.00									
L43				1	1	0.80943			
39.00-38.50									
L44				1	1	0.808598			
38.50-38.25									
L45				1	1	0.818876			
38.25-30.00									
L46				1	1	0.817385			
30.00-29.00									
L47				1	1	0.825287			
29.00-24.00									
L48				1	1	0.82452			
24.00-23.75									
L49				1	1	0.835917			
23.75-23.50									
L50				1	1	0.833167			
23.50-18.50									
L51				1	1	0.844109			
18.50-13.50									
L52 13.50-8.50				1	1	0.843058			
L53 8.50-3.50				1	1	0.856586			
L54 3.50-0.00				1	1	0.861271			

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	-0.250 -0.250	0.3750		0.22
HB114-21U3M12-XXX F(1-1/4)	B	No	Surface Ar (CaAa)	138.00 - 0.00	3	3	0.250 0.250	1.5400		1.22
HB158-21U6S12-60M-01(1-5/8)	B	No	Surface Ar (CaAa)	138.00 - 0.00	1	1	0.250 0.250	1.9900		1.90
***										
AL7-50(1-5/8)	B	No	Surface Ar (CaAa)	120.00 - 0.00	10	5	0.500 0.500	1.9600		0.52
HB114-U6S12-XXX-LI(1-1/4)	B	No	Surface Ar (CaAa)	99.00 - 0.00	1	1	0.000 0.000	1.5400		1.70

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
LDF7-50A(1-5/8)	B	No	Surface Ar (CaAa)	99.00 - 0.00	3	2	0.000 0.000	1.9800		0.82
***										
#20 Bar	A	No	Surface Ar (CaAa)	51.00 - 0.00	1	1	0.000 0.000	2.5000		0.00
#20 Bar	B	No	Surface Ar (CaAa)	51.00 - 0.00	1	1	-0.250 -0.250	2.5000		0.00
#20 Bar	B	No	Surface Ar (CaAa)	51.00 - 0.00	1	1	0.500 0.500	2.5000		0.00
#20 Bar	C	No	Surface Ar (CaAa)	51.00 - 0.00	1	1	0.250 0.250	2.5000		0.00
***										
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	47.00 - 0.00	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	47.00 - 0.00	1	1	0.000 0.000	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	47.00 - 0.00	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	47.00 - 0.00	1	1	0.500 0.500	6.5000	15.5000	0.00
***										
PL 1.25x5	A	No	Surface Af (CaAa)	69.00 - 47.00	1	1	0.250 0.250	5.0000	12.5000	0.00
PL 1.25x5	B	No	Surface Af (CaAa)	69.00 - 47.00	1	1	0.000 0.000	5.0000	12.5000	0.00
PL 1.25x5	C	No	Surface Af (CaAa)	69.00 - 47.00	1	1	-0.250 -0.250	5.0000	12.5000	0.00
PL 1.25x5	C	No	Surface Af (CaAa)	69.00 - 47.00	1	1	0.500 0.500	5.0000	12.5000	0.00
***										
PL 1.25x4	A	No	Surface Af (CaAa)	82.00 - 66.50	1	1	0.000 0.000	4.0000	10.5000	0.00
PL 1.25x4	B	No	Surface Af (CaAa)	82.00 - 66.50	1	1	-0.250 -0.250	4.0000	10.5000	0.00
PL 1.25x4	B	No	Surface Af (CaAa)	82.00 - 66.50	1	1	0.500 0.500	4.0000	10.5000	0.00
PL 1.25x4	C	No	Surface Af (CaAa)	82.00 - 66.50	1	1	0.250 0.250	4.0000	10.5000	0.00
***										
PL 1.25x5	C	No	Surface Af (CaAa)	109.00 - 93.17	1	1	-0.250 -0.250	5.0000	12.5000	0.00
PL 1.25x5	C	No	Surface Af (CaAa)	109.00 - 93.17	1	1	0.500 0.500	5.0000	12.5000	0.00
PL 1.25x5	B	No	Surface Af (CaAa)	103.17 - 93.17	1	1	-0.250 -0.250	5.0000	12.5000	0.00
PL 1.25x5	B	No	Surface Af (CaAa)	109.00 - 100.17	1	1	0.000 0.000	5.0000	12.5000	0.00
PL 1.25x5	A	No	Surface Af (CaAa)	109.00 - 100.17	1	1	0.250 0.250	5.0000	12.5000	0.00
***										
PL 1.25x4	A	No	Surface Af (CaAa)	130.00 - 109.00	1	1	0.250 0.250	4.0000	10.5000	0.00
PL 1.25x4	B	No	Surface Af (CaAa)	130.00 - 109.00	1	1	0.000 0.000	4.0000	10.5000	0.00
PL 1.25x4	C	No	Surface Af (CaAa)	130.00 - 109.00	1	1	-0.250 -0.250	4.0000	10.5000	0.00
PL 1.25x4	C	No	Surface Af (CaAa)	130.00 - 109.00	1	1	0.500 0.500	4.0000	10.5000	0.00
***										
PL 2x6	A	No	Surface Af	108.67 -	1	1	-0.250	6.0000	16.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
			(CaAa)	0.00			-0.250			
PL 2x6	C	No	Surface Af	106.00 -	1	1	0.000	6.0000	16.0000	0.00
			(CaAa)	0.00			0.000			
PL 2x6	B	No	Surface Af	108.67 -	1	1	0.250	6.0000	16.0000	0.00
			(CaAa)	0.00			0.250			
PL 2x6	A	No	Surface Af	107.75 -	1	1	0.500	6.0000	16.0000	0.00
			(CaAa)	0.00			0.500			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
**									
LDF7-50A(1-5/8")	C	No	No	Inside Pole	150.00 - 0.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
PWRT-604-S(1-1/8)	C	No	No	Inside Pole	150.00 - 0.00	6	No Ice	0.00	1.25
							1/2" Ice	0.00	1.25
							1" Ice	0.00	1.25
							2" Ice	0.00	1.25
PWRT-606-S(7/8)	C	No	No	Inside Pole	150.00 - 0.00	3	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89
							2" Ice	0.00	0.89
FB-L98B-235-XXX(3/8)	C	No	No	Inside Pole	150.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.05
							1/2" Ice	0.00	0.05
							1" Ice	0.00	0.05
							2" Ice	0.00	0.05
2" Flexible Conduit	C	No	No	Inside Pole	150.00 - 0.00	14	No Ice	0.00	0.34
							1/2" Ice	0.00	0.34
							1" Ice	0.00	0.34
							2" Ice	0.00	0.34
***									
EC4-50(1/2)	B	No	No	Inside Pole	138.00 - 0.00	2	No Ice	0.00	0.16
							1/2" Ice	0.00	0.16
							1" Ice	0.00	0.16
							2" Ice	0.00	0.16
***									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	99.00 - 0.00	3	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82

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	0.188	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10
L2	145.00-140.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10
L3	140.00-135.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	1.983	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.10
L4	135.00-130.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	3.305	0.000	0.03
		C	0.000	0.000	0.000	0.000	0.10
L5	130.00-128.50	A	0.000	0.000	1.056	0.000	0.00
		B	0.000	0.000	1.992	0.000	0.01
		C	0.000	0.000	2.000	0.000	0.03
L6	128.50-128.25	A	0.000	0.000	0.176	0.000	0.00
		B	0.000	0.000	0.332	0.000	0.00
		C	0.000	0.000	0.333	0.000	0.01
L7	128.25-123.25	A	0.000	0.000	3.521	0.000	0.00
		B	0.000	0.000	6.638	0.000	0.03
		C	0.000	0.000	6.667	0.000	0.10
L8	123.25-118.25	A	0.000	0.000	3.521	0.000	0.00
		B	0.000	0.000	8.353	0.000	0.04
		C	0.000	0.000	6.667	0.000	0.10
L9	118.25-113.25	A	0.000	0.000	3.521	0.000	0.00
		B	0.000	0.000	11.538	0.000	0.06
		C	0.000	0.000	6.667	0.000	0.10
L10	113.25-109.00	A	0.000	0.000	2.993	0.000	0.00
		B	0.000	0.000	9.808	0.000	0.05
		C	0.000	0.000	5.667	0.000	0.09
L11	109.00-108.75	A	0.000	0.000	0.202	0.000	0.00
		B	0.000	0.000	0.603	0.000	0.00
		C	0.000	0.000	0.417	0.000	0.01
L12	108.75-104.17	A	0.000	0.000	11.786	0.000	0.00
		B	0.000	0.000	15.550	0.000	0.05
		C	0.000	0.000	9.463	0.000	0.09
L13	104.17-103.92	A	0.000	0.000	0.702	0.000	0.00
		B	0.000	0.000	0.853	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L14	103.92-103.17	A	0.000	0.000	2.107	0.000	0.00
		B	0.000	0.000	2.559	0.000	0.01
		C	0.000	0.000	2.000	0.000	0.02
L15	103.17-102.92	A	0.000	0.000	0.702	0.000	0.00
		B	0.000	0.000	1.056	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L16	102.92-102.42	A	0.000	0.000	1.405	0.000	0.00
		B	0.000	0.000	2.111	0.000	0.01
		C	0.000	0.000	1.333	0.000	0.01
L17	102.42-102.17	A	0.000	0.000	0.702	0.000	0.00
		B	0.000	0.000	1.056	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L18	102.17-100.92	A	0.000	0.000	3.511	0.000	0.00
		B	0.000	0.000	5.278	0.000	0.01
		C	0.000	0.000	3.333	0.000	0.03
L19	100.92-100.67	A	0.000	0.000	0.702	0.000	0.00
		B	0.000	0.000	1.056	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L20	100.67-99.58	A	0.000	0.000	2.607	0.000	0.00
		B	0.000	0.000	4.147	0.000	0.01
		C	0.000	0.000	2.907	0.000	0.02

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
L21	99.58-99.33	A	0.000	0.000	0.509	0.000	0.00
		B	0.000	0.000	0.863	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L22	99.33-95.42	A	0.000	0.000	7.967	0.000	0.00
		B	0.000	0.000	15.460	0.000	0.07
		C	0.000	0.000	10.427	0.000	0.08
L23	95.42-95.17	A	0.000	0.000	0.509	0.000	0.00
		B	0.000	0.000	1.000	0.000	0.00
		C	0.000	0.000	0.667	0.000	0.01
L24	95.17-90.17	A	0.000	0.000	10.188	0.000	0.00
		B	0.000	0.000	17.574	0.000	0.09
		C	0.000	0.000	8.333	0.000	0.10
L25	90.17-85.17	A	0.000	0.000	10.188	0.000	0.00
		B	0.000	0.000	15.955	0.000	0.09
		C	0.000	0.000	5.000	0.000	0.10
L26	85.17-80.50	A	0.000	0.000	10.515	0.000	0.00
		B	0.000	0.000	16.902	0.000	0.08
		C	0.000	0.000	5.670	0.000	0.09
L27	80.50-80.25	A	0.000	0.000	0.676	0.000	0.00
		B	0.000	0.000	1.131	0.000	0.00
		C	0.000	0.000	0.417	0.000	0.01
L28	80.25-75.25	A	0.000	0.000	13.521	0.000	0.00
		B	0.000	0.000	22.622	0.000	0.09
		C	0.000	0.000	8.333	0.000	0.10
L29	75.25-73.58	A	0.000	0.000	4.516	0.000	0.00
		B	0.000	0.000	7.556	0.000	0.03
		C	0.000	0.000	2.783	0.000	0.03
L30	73.58-73.33	A	0.000	0.000	0.676	0.000	0.00
		B	0.000	0.000	1.131	0.000	0.00
		C	0.000	0.000	0.417	0.000	0.01
L31	73.33-69.00	A	0.000	0.000	11.709	0.000	0.00
		B	0.000	0.000	19.590	0.000	0.08
		C	0.000	0.000	7.217	0.000	0.09
L32	69.00-67.00	A	0.000	0.000	7.075	0.000	0.00
		B	0.000	0.000	10.715	0.000	0.04
		C	0.000	0.000	6.667	0.000	0.04
L33	67.00-66.75	A	0.000	0.000	0.884	0.000	0.00
		B	0.000	0.000	1.339	0.000	0.00
		C	0.000	0.000	0.833	0.000	0.01
L34	66.75-66.50	A	0.000	0.000	0.884	0.000	0.00
		B	0.000	0.000	1.339	0.000	0.00
		C	0.000	0.000	0.833	0.000	0.01
L35	66.50-61.50	A	0.000	0.000	14.354	0.000	0.00
		B	0.000	0.000	20.122	0.000	0.09
		C	0.000	0.000	13.333	0.000	0.10
L36	61.50-56.50	A	0.000	0.000	14.354	0.000	0.00
		B	0.000	0.000	20.122	0.000	0.09
		C	0.000	0.000	13.333	0.000	0.10
L37	56.50-51.50	A	0.000	0.000	14.354	0.000	0.00
		B	0.000	0.000	20.122	0.000	0.09
		C	0.000	0.000	13.333	0.000	0.10
L38	51.50-48.25	A	0.000	0.000	10.018	0.000	0.00
		B	0.000	0.000	14.454	0.000	0.06
		C	0.000	0.000	9.354	0.000	0.07
L39	48.25-48.00	A	0.000	0.000	0.780	0.000	0.00
		B	0.000	0.000	1.131	0.000	0.00
		C	0.000	0.000	0.729	0.000	0.01
L40	48.00-44.25	A	0.000	0.000	12.391	0.000	0.00
		B	0.000	0.000	17.654	0.000	0.07
		C	0.000	0.000	12.313	0.000	0.08
L41	44.25-44.00	A	0.000	0.000	0.843	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	1.194	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.01
L42	44.00-39.00	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L43	39.00-38.50	A	0.000	0.000	1.685	0.000	0.00
		B	0.000	0.000	2.387	0.000	0.01
		C	0.000	0.000	1.708	0.000	0.01
L44	38.50-38.25	A	0.000	0.000	0.843	0.000	0.00
		B	0.000	0.000	1.194	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.01
L45	38.25-30.00	A	0.000	0.000	27.809	0.000	0.00
		B	0.000	0.000	39.388	0.000	0.15
		C	0.000	0.000	28.188	0.000	0.17
L46	30.00-29.00	A	0.000	0.000	3.371	0.000	0.00
		B	0.000	0.000	4.774	0.000	0.02
		C	0.000	0.000	3.417	0.000	0.02
L47	29.00-24.00	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L48	24.00-23.75	A	0.000	0.000	0.843	0.000	0.00
		B	0.000	0.000	1.194	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.01
L49	23.75-23.50	A	0.000	0.000	0.843	0.000	0.00
		B	0.000	0.000	1.194	0.000	0.00
		C	0.000	0.000	0.854	0.000	0.01
L50	23.50-18.50	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L51	18.50-13.50	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L52	13.50-8.50	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L53	8.50-3.50	A	0.000	0.000	16.854	0.000	0.00
		B	0.000	0.000	23.872	0.000	0.09
		C	0.000	0.000	17.083	0.000	0.10
L54	3.50-0.00	A	0.000	0.000	11.798	0.000	0.00
		B	0.000	0.000	16.710	0.000	0.06
		C	0.000	0.000	11.958	0.000	0.07

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-145.00	A	1.481	0.000	0.000	1.668	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10
L2	145.00-140.00	A	1.476	0.000	0.000	1.663	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10
L3	140.00-135.00	A	1.471	0.000	0.000	1.658	0.000	0.02
		B		0.000	0.000	4.315	0.000	0.06
		C		0.000	0.000	0.000	0.000	0.10
L4	135.00-130.00	A	1.465	0.000	0.000	1.653	0.000	0.02
		B		0.000	0.000	7.179	0.000	0.11

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	0.000	0.000	0.10
L5	130.00-128.50	A	1.462	0.000	0.000	1.933	0.000	0.02
		B		0.000	0.000	3.590	0.000	0.05
		C		0.000	0.000	2.877	0.000	0.06
L6	128.50-128.25	A	1.461	0.000	0.000	0.322	0.000	0.00
		B		0.000	0.000	0.598	0.000	0.01
		C		0.000	0.000	0.479	0.000	0.01
L7	128.25-123.25	A	1.457	0.000	0.000	6.436	0.000	0.06
		B		0.000	0.000	11.953	0.000	0.15
		C		0.000	0.000	9.582	0.000	0.19
L8	123.25-118.25	A	1.452	0.000	0.000	6.424	0.000	0.06
		B		0.000	0.000	14.712	0.000	0.20
		C		0.000	0.000	9.570	0.000	0.19
L9	118.25-113.25	A	1.445	0.000	0.000	6.412	0.000	0.06
		B		0.000	0.000	19.845	0.000	0.28
		C		0.000	0.000	9.558	0.000	0.19
L10	113.25-109.00	A	1.440	0.000	0.000	5.440	0.000	0.05
		B		0.000	0.000	16.846	0.000	0.23
		C		0.000	0.000	8.114	0.000	0.16
L11	109.00-108.75	A	1.437	0.000	0.000	0.312	0.000	0.00
		B		0.000	0.000	0.983	0.000	0.01
		C		0.000	0.000	0.558	0.000	0.01
L12	108.75-104.17	A	1.433	0.000	0.000	16.114	0.000	0.16
		B		0.000	0.000	23.785	0.000	0.31
		C		0.000	0.000	12.567	0.000	0.21
L13	104.17-103.92	A	1.430	0.000	0.000	0.955	0.000	0.01
		B		0.000	0.000	1.303	0.000	0.02
		C		0.000	0.000	0.879	0.000	0.01
L14	103.92-103.17	A	1.429	0.000	0.000	2.864	0.000	0.03
		B		0.000	0.000	3.909	0.000	0.05
		C		0.000	0.000	2.636	0.000	0.04
L15	103.17-102.92	A	1.429	0.000	0.000	0.955	0.000	0.01
		B		0.000	0.000	1.543	0.000	0.02
		C		0.000	0.000	0.879	0.000	0.01
L16	102.92-102.42	A	1.428	0.000	0.000	1.909	0.000	0.02
		B		0.000	0.000	3.086	0.000	0.04
		C		0.000	0.000	1.757	0.000	0.03
L17	102.42-102.17	A	1.428	0.000	0.000	0.954	0.000	0.01
		B		0.000	0.000	1.543	0.000	0.02
		C		0.000	0.000	0.878	0.000	0.01
L18	102.17-100.92	A	1.427	0.000	0.000	4.771	0.000	0.05
		B		0.000	0.000	7.712	0.000	0.10
		C		0.000	0.000	4.391	0.000	0.06
L19	100.92-100.67	A	1.426	0.000	0.000	0.954	0.000	0.01
		B		0.000	0.000	1.542	0.000	0.02
		C		0.000	0.000	0.878	0.000	0.01
L20	100.67-99.58	A	1.425	0.000	0.000	3.614	0.000	0.03
		B		0.000	0.000	6.177	0.000	0.08
		C		0.000	0.000	3.828	0.000	0.06
L21	99.58-99.33	A	1.424	0.000	0.000	0.723	0.000	0.01
		B		0.000	0.000	1.311	0.000	0.02
		C		0.000	0.000	0.878	0.000	0.01
L22	99.33-95.42	A	1.421	0.000	0.000	11.300	0.000	0.11
		B		0.000	0.000	25.100	0.000	0.34
		C		0.000	0.000	13.723	0.000	0.20
L23	95.42-95.17	A	1.418	0.000	0.000	0.722	0.000	0.01
		B		0.000	0.000	1.631	0.000	0.02
		C		0.000	0.000	0.877	0.000	0.01
L24	95.17-90.17	A	1.414	0.000	0.000	14.428	0.000	0.13
		B		0.000	0.000	29.713	0.000	0.42
		C		0.000	0.000	10.860	0.000	0.20

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
L25	90.17-85.17	A	1.406	0.000	0.000	14.405	0.000	0.13
		B		0.000	0.000	27.742	0.000	0.39
		C		0.000	0.000	6.406	0.000	0.16
L26	85.17-80.50	A	1.398	0.000	0.000	14.851	0.000	0.14
		B		0.000	0.000	28.700	0.000	0.39
		C		0.000	0.000	7.395	0.000	0.16
L27	80.50-80.25	A	1.394	0.000	0.000	0.955	0.000	0.01
		B		0.000	0.000	1.856	0.000	0.02
		C		0.000	0.000	0.556	0.000	0.01
L28	80.25-75.25	A	1.389	0.000	0.000	19.077	0.000	0.17
		B		0.000	0.000	37.073	0.000	0.47
		C		0.000	0.000	11.111	0.000	0.20
L29	75.25-73.58	A	1.383	0.000	0.000	6.364	0.000	0.06
		B		0.000	0.000	12.365	0.000	0.16
		C		0.000	0.000	3.707	0.000	0.07
L30	73.58-73.33	A	1.381	0.000	0.000	0.952	0.000	0.01
		B		0.000	0.000	1.850	0.000	0.02
		C		0.000	0.000	0.555	0.000	0.01
L31	73.33-69.00	A	1.377	0.000	0.000	16.478	0.000	0.15
		B		0.000	0.000	32.013	0.000	0.41
		C		0.000	0.000	9.601	0.000	0.17
L32	69.00-67.00	A	1.371	0.000	0.000	9.829	0.000	0.09
		B		0.000	0.000	17.004	0.000	0.21
		C		0.000	0.000	8.870	0.000	0.12
L33	67.00-66.75	A	1.368	0.000	0.000	1.226	0.000	0.01
		B		0.000	0.000	2.121	0.000	0.03
		C		0.000	0.000	1.107	0.000	0.01
L34	66.75-66.50	A	1.368	0.000	0.000	1.226	0.000	0.01
		B		0.000	0.000	2.121	0.000	0.03
		C		0.000	0.000	1.107	0.000	0.01
L35	66.50-61.50	A	1.362	0.000	0.000	19.803	0.000	0.17
		B		0.000	0.000	32.977	0.000	0.43
		C		0.000	0.000	17.420	0.000	0.25
L36	61.50-56.50	A	1.351	0.000	0.000	19.759	0.000	0.17
		B		0.000	0.000	32.891	0.000	0.43
		C		0.000	0.000	17.387	0.000	0.25
L37	56.50-51.50	A	1.339	0.000	0.000	19.712	0.000	0.17
		B		0.000	0.000	32.799	0.000	0.42
		C		0.000	0.000	17.351	0.000	0.25
L38	51.50-48.25	A	1.329	0.000	0.000	14.203	0.000	0.13
		B		0.000	0.000	24.103	0.000	0.31
		C		0.000	0.000	12.676	0.000	0.18
L39	48.25-48.00	A	1.324	0.000	0.000	1.111	0.000	0.01
		B		0.000	0.000	1.891	0.000	0.02
		C		0.000	0.000	0.994	0.000	0.01
L40	48.00-44.25	A	1.318	0.000	0.000	17.335	0.000	0.15
		B		0.000	0.000	29.018	0.000	0.36
		C		0.000	0.000	16.268	0.000	0.21
L41	44.25-44.00	A	1.313	0.000	0.000	1.171	0.000	0.01
		B		0.000	0.000	1.948	0.000	0.02
		C		0.000	0.000	1.117	0.000	0.01
L42	44.00-39.00	A	1.305	0.000	0.000	23.377	0.000	0.20
		B		0.000	0.000	38.888	0.000	0.48
		C		0.000	0.000	22.301	0.000	0.29
L43	39.00-38.50	A	1.296	0.000	0.000	2.333	0.000	0.02
		B		0.000	0.000	3.880	0.000	0.05
		C		0.000	0.000	2.227	0.000	0.03
L44	38.50-38.25	A	1.294	0.000	0.000	1.166	0.000	0.01
		B		0.000	0.000	1.939	0.000	0.02
		C		0.000	0.000	1.113	0.000	0.01
L45	38.25-30.00	A	1.279	0.000	0.000	38.363	0.000	0.33

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
		B		0.000	0.000	63.758	0.000	0.78
		C		0.000	0.000	36.630	0.000	0.47
L46	30.00-29.00	A	1.261	0.000	0.000	4.650	0.000	0.04
		B		0.000	0.000	7.728	0.000	0.09
		C		0.000	0.000	4.440	0.000	0.06
L47	29.00-24.00	A	1.247	0.000	0.000	23.091	0.000	0.19
		B		0.000	0.000	38.330	0.000	0.46
		C		0.000	0.000	22.072	0.000	0.28
L48	24.00-23.75	A	1.234	0.000	0.000	1.151	0.000	0.01
		B		0.000	0.000	1.910	0.000	0.02
		C		0.000	0.000	1.101	0.000	0.01
L49	23.75-23.50	A	1.233	0.000	0.000	1.151	0.000	0.01
		B		0.000	0.000	1.910	0.000	0.02
		C		0.000	0.000	1.101	0.000	0.01
L50	23.50-18.50	A	1.219	0.000	0.000	22.947	0.000	0.19
		B		0.000	0.000	38.050	0.000	0.45
		C		0.000	0.000	21.958	0.000	0.27
L51	18.50-13.50	A	1.186	0.000	0.000	22.784	0.000	0.18
		B		0.000	0.000	37.732	0.000	0.44
		C		0.000	0.000	21.827	0.000	0.27
L52	13.50-8.50	A	1.142	0.000	0.000	22.565	0.000	0.17
		B		0.000	0.000	37.306	0.000	0.42
		C		0.000	0.000	21.652	0.000	0.26
L53	8.50-3.50	A	1.075	0.000	0.000	22.229	0.000	0.16
		B		0.000	0.000	36.650	0.000	0.40
		C		0.000	0.000	21.383	0.000	0.25
L54	3.50-0.00	A	0.950	0.000	0.000	15.124	0.000	0.10
		B		0.000	0.000	24.804	0.000	0.25
		C		0.000	0.000	14.619	0.000	0.16

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	-0.2287	0.0000	-1.1868	0.0000
L2	145.00-140.00	-0.2287	0.0000	-1.1982	0.0000
L3	140.00-135.00	1.6986	0.0000	1.4618	0.0000
L4	135.00-130.00	2.4001	0.0000	2.4521	0.0000
L5	130.00-128.50	1.6020	-1.5719	1.7183	-1.4217
L6	128.50-128.25	1.6135	-1.5839	1.7300	-1.4323
L7	128.25-123.25	1.6327	-1.6049	1.7551	-1.4555
L8	123.25-118.25	2.1806	-1.1913	2.2661	-1.0187
L9	118.25-113.25	3.0307	-0.5080	3.0103	-0.3351
L10	113.25-109.00	3.0874	-0.5245	3.0801	-0.3488
L11	109.00-108.75	2.8919	-0.6753	2.9472	-0.2481
L12	108.75-104.17	2.8421	0.1173	2.8972	0.3301
L13	104.17-103.92	2.8321	0.5263	2.8949	0.6781
L14	103.92-103.17	2.8396	0.5275	2.9031	0.6798
L15	103.17-102.92	2.7227	-0.3620	2.8048	-0.0633
L16	102.92-102.42	2.7282	-0.3629	2.8107	-0.0637
L17	102.42-102.17	2.7380	-0.3644	2.8203	-0.0641
L18	102.17-100.92	2.7489	-0.3662	2.8322	-0.0649
L19	100.92-100.67	2.7579	-0.3678	2.8424	-0.0656
L20	100.67-99.58	2.6337	0.3045	2.7478	0.5081
L21	99.58-99.33	2.5020	0.9560	2.6491	1.0512
L22	99.33-95.42	2.9249	0.6279	3.1762	0.5150

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L23	95.42-95.17	2.9980	0.6062	3.2585	0.4768
L24	95.17-90.17	3.7375	1.2026	3.9102	0.8903
L25	90.17-85.17	4.4306	1.7429	4.5115	1.2527
L26	85.17-80.50	3.7351	1.7235	3.9136	1.2742
L27	80.50-80.25	2.4959	1.6454	2.7802	1.2687
L28	80.25-75.25	2.5250	1.6666	2.8150	1.2871
L29	75.25-73.58	2.5602	1.6923	2.8577	1.3098
L30	73.58-73.33	2.5710	1.7001	2.8704	1.3166
L31	73.33-69.00	2.5950	1.7176	2.8996	1.3321
L32	69.00-67.00	2.2793	0.3186	2.5627	0.1748
L33	67.00-66.75	2.2916	0.3203	2.5767	0.1766
L34	66.75-66.50	2.2914	0.3202	2.5775	0.1766
L35	66.50-61.50	3.8255	0.1254	4.0634	-0.0338
L36	61.50-56.50	3.9113	0.1273	4.1607	-0.0342
L37	56.50-51.50	3.9971	0.1291	4.2579	-0.0343
L38	51.50-48.25	3.8108	0.1224	3.9709	-0.0314
L39	48.25-48.00	3.7829	0.1212	3.9323	-0.0308
L40	48.00-44.25	3.6783	-0.1472	3.8710	-0.2037
L41	44.25-44.00	3.6593	-0.2394	3.8689	-0.2651
L42	44.00-39.00	3.6998	-0.2427	3.9140	-0.2683
L43	39.00-38.50	3.7406	-0.2460	3.9600	-0.2714
L44	38.50-38.25	3.7462	-0.2465	3.9662	-0.2718
L45	38.25-30.00	3.8102	-0.2517	4.0379	-0.2766
L46	30.00-29.00	3.8211	-0.2527	4.0521	-0.2778
L47	29.00-24.00	3.8682	-0.2565	4.1035	-0.2797
L48	24.00-23.75	3.9080	-0.2598	4.1484	-0.2824
L49	23.75-23.50	3.9125	-0.2602	4.1532	-0.2827
L50	23.50-18.50	3.9528	-0.2635	4.1983	-0.2852
L51	18.50-13.50	4.0291	-0.2697	4.2836	-0.2896
L52	13.50-8.50	4.1040	-0.2759	4.3671	-0.2928
L53	8.50-3.50	4.1761	-0.2818	4.4469	-0.2937
L54	3.50-0.00	4.2338	-0.2866	4.5079	-0.2877

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	2	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L2	2	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L3	2	Safety Line 3/8	135.00 - 140.00	1.0000	1.0000
L3	13	HB114-21U3M12-XXXF(1-1/4)	135.00 - 138.00	1.0000	1.0000
L3	14	HB158-21U6S12-60M-01(1-5/8)	135.00 - 138.00	1.0000	1.0000
L4	2	Safety Line 3/8	130.00 - 135.00	1.0000	1.0000
L4	13	HB114-21U3M12-XXXF(1-1/4)	130.00 - 135.00	1.0000	1.0000
L4	14	HB158-21U6S12-60M-01(1-	130.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		5/8)	135.00		
L5	2	Safety Line 3/8	128.50 - 130.00	1.0000	1.0000
L5	13	HB114-21U3M12-XXXF(1-1/4)	128.50 - 130.00	1.0000	1.0000
L5	14	HB158-21U6S12-60M-01(1-5/8)	128.50 - 130.00	1.0000	1.0000
L5	52	PL 1.25x4	128.50 - 130.00	1.0000	1.0000
L5	53	PL 1.25x4	128.50 - 130.00	1.0000	1.0000
L5	54	PL 1.25x4	128.50 - 130.00	1.0000	1.0000
L5	55	PL 1.25x4	128.50 - 130.00	1.0000	1.0000
L6	2	Safety Line 3/8	128.25 - 128.50	1.0000	1.0000
L6	13	HB114-21U3M12-XXXF(1-1/4)	128.25 - 128.50	1.0000	1.0000
L6	14	HB158-21U6S12-60M-01(1-5/8)	128.25 - 128.50	1.0000	1.0000
L6	52	PL 1.25x4	128.25 - 128.50	1.0000	1.0000
L6	53	PL 1.25x4	128.25 - 128.50	1.0000	1.0000
L6	54	PL 1.25x4	128.25 - 128.50	1.0000	1.0000
L6	55	PL 1.25x4	128.25 - 128.50	1.0000	1.0000
L7	2	Safety Line 3/8	123.25 - 128.25	1.0000	1.0000
L7	13	HB114-21U3M12-XXXF(1-1/4)	123.25 - 128.25	1.0000	1.0000
L7	14	HB158-21U6S12-60M-01(1-5/8)	123.25 - 128.25	1.0000	1.0000
L7	52	PL 1.25x4	123.25 - 128.25	1.0000	1.0000
L7	53	PL 1.25x4	123.25 - 128.25	1.0000	1.0000
L7	54	PL 1.25x4	123.25 - 128.25	1.0000	1.0000
L7	55	PL 1.25x4	123.25 - 128.25	1.0000	1.0000
L8	2	Safety Line 3/8	118.25 - 123.25	1.0000	1.0000
L8	13	HB114-21U3M12-XXXF(1-1/4)	118.25 - 123.25	1.0000	1.0000
L8	14	HB158-21U6S12-60M-01(1-5/8)	118.25 - 123.25	1.0000	1.0000
L8	16	AL7-50(1-5/8)	118.25 - 120.00	1.0000	1.0000
L8	52	PL 1.25x4	118.25 - 123.25	1.0000	1.0000
L8	53	PL 1.25x4	118.25 - 123.25	1.0000	1.0000
L8	54	PL 1.25x4	118.25 - 123.25	1.0000	1.0000
L8	55	PL 1.25x4	118.25 - 123.25	1.0000	1.0000
L9	2	Safety Line 3/8	113.25 - 118.25	1.0000	1.0000
L9	13	HB114-21U3M12-XXXF(1-1	113.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		/4)	118.25		
L9	14	HB158-21U6S12-60M-01(1-5/8)	113.25 - 118.25	1.0000	1.0000
L9	16	AL7-50(1-5/8)	113.25 - 118.25	1.0000	1.0000
L9	52	PL 1.25x4	113.25 - 118.25	1.0000	1.0000
L9	53	PL 1.25x4	113.25 - 118.25	1.0000	1.0000
L9	54	PL 1.25x4	113.25 - 118.25	1.0000	1.0000
L9	55	PL 1.25x4	113.25 - 118.25	1.0000	1.0000
L10	2	Safety Line 3/8	109.00 - 113.25	1.0000	1.0000
L10	13	HB114-21U3M12-XXXF(1-1/4)	109.00 - 113.25	1.0000	1.0000
L10	14	HB158-21U6S12-60M-01(1-5/8)	109.00 - 113.25	1.0000	1.0000
L10	16	AL7-50(1-5/8)	109.00 - 113.25	1.0000	1.0000
L10	52	PL 1.25x4	109.00 - 113.25	1.0000	1.0000
L10	53	PL 1.25x4	109.00 - 113.25	1.0000	1.0000
L10	54	PL 1.25x4	109.00 - 113.25	1.0000	1.0000
L10	55	PL 1.25x4	109.00 - 113.25	1.0000	1.0000
L11	2	Safety Line 3/8	108.75 - 109.00	1.0000	1.0000
L11	13	HB114-21U3M12-XXXF(1-1/4)	108.75 - 109.00	1.0000	1.0000
L11	14	HB158-21U6S12-60M-01(1-5/8)	108.75 - 109.00	1.0000	1.0000
L11	16	AL7-50(1-5/8)	108.75 - 109.00	1.0000	1.0000
L11	45	PL 1.25x5	108.75 - 109.00	1.0000	1.0000
L11	46	PL 1.25x5	108.75 - 109.00	1.0000	1.0000
L11	49	PL 1.25x5	108.75 - 109.00	1.0000	1.0000
L11	50	PL 1.25x5	108.75 - 109.00	1.0000	1.0000
L12	2	Safety Line 3/8	104.17 - 108.75	1.0000	1.0000
L12	13	HB114-21U3M12-XXXF(1-1/4)	104.17 - 108.75	1.0000	1.0000
L12	14	HB158-21U6S12-60M-01(1-5/8)	104.17 - 108.75	1.0000	1.0000
L12	16	AL7-50(1-5/8)	104.17 - 108.75	1.0000	1.0000
L12	45	PL 1.25x5	104.17 - 108.75	1.0000	1.0000
L12	46	PL 1.25x5	104.17 - 108.75	1.0000	1.0000
L12	49	PL 1.25x5	104.17 - 108.75	1.0000	1.0000
L12	50	PL 1.25x5	104.17 - 108.75	1.0000	1.0000
L12	57	PL 2x6	104.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			108.67		
L12	58	PL 2x6	104.17 - 106.00	1.0000	1.0000
L12	59	PL 2x6	104.17 - 108.67	1.0000	1.0000
L12	60	PL 2x6	104.17 - 107.75	1.0000	1.0000
L13	2	Safety Line 3/8	103.92 - 104.17	1.0000	1.0000
L13	13	HB114-21U3M12-XXXF(1-1/4)	103.92 - 104.17	1.0000	1.0000
L13	14	HB158-21U6S12-60M-01(1-5/8)	103.92 - 104.17	1.0000	1.0000
L13	16	AL7-50(1-5/8)	103.92 - 104.17	1.0000	1.0000
L13	45	PL 1.25x5	103.92 - 104.17	1.0000	1.0000
L13	46	PL 1.25x5	103.92 - 104.17	1.0000	1.0000
L13	49	PL 1.25x5	103.92 - 104.17	1.0000	1.0000
L13	50	PL 1.25x5	103.92 - 104.17	1.0000	1.0000
L13	57	PL 2x6	103.92 - 104.17	1.0000	1.0000
L13	58	PL 2x6	103.92 - 104.17	1.0000	1.0000
L13	59	PL 2x6	103.92 - 104.17	1.0000	1.0000
L13	60	PL 2x6	103.92 - 104.17	1.0000	1.0000
L14	2	Safety Line 3/8	103.17 - 103.92	1.0000	1.0000
L14	13	HB114-21U3M12-XXXF(1-1/4)	103.17 - 103.92	1.0000	1.0000
L14	14	HB158-21U6S12-60M-01(1-5/8)	103.17 - 103.92	1.0000	1.0000
L14	16	AL7-50(1-5/8)	103.17 - 103.92	1.0000	1.0000
L14	45	PL 1.25x5	103.17 - 103.92	1.0000	1.0000
L14	46	PL 1.25x5	103.17 - 103.92	1.0000	1.0000
L14	49	PL 1.25x5	103.17 - 103.92	1.0000	1.0000
L14	50	PL 1.25x5	103.17 - 103.92	1.0000	1.0000
L14	57	PL 2x6	103.17 - 103.92	1.0000	1.0000
L14	58	PL 2x6	103.17 - 103.92	1.0000	1.0000
L14	59	PL 2x6	103.17 - 103.92	1.0000	1.0000
L14	60	PL 2x6	103.17 - 103.92	1.0000	1.0000
L15	2	Safety Line 3/8	102.92 - 103.17	1.0000	1.0000
L15	13	HB114-21U3M12-XXXF(1-1/4)	102.92 - 103.17	1.0000	1.0000
L15	14	HB158-21U6S12-60M-01(1-5/8)	102.92 - 103.17	1.0000	1.0000
L15	16	AL7-50(1-5/8)	102.92 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L15	45	PL 1.25x5	102.92 - 103.17	1.0000	1.0000
L15	46	PL 1.25x5	102.92 - 103.17	1.0000	1.0000
L15	47	PL 1.25x5	102.92 - 103.17	1.0000	1.0000
L15	49	PL 1.25x5	102.92 - 103.17	1.0000	1.0000
L15	50	PL 1.25x5	102.92 - 103.17	1.0000	1.0000
L15	57	PL 2x6	102.92 - 103.17	1.0000	1.0000
L15	58	PL 2x6	102.92 - 103.17	1.0000	1.0000
L15	59	PL 2x6	102.92 - 103.17	1.0000	1.0000
L15	60	PL 2x6	102.92 - 103.17	1.0000	1.0000
L16	2	Safety Line 3/8	102.42 - 102.92	1.0000	1.0000
L16	13	HB114-21U3M12-XXXF(1-1/4)	102.42 - 102.92	1.0000	1.0000
L16	14	HB158-21U6S12-60M-01(1-5/8)	102.42 - 102.92	1.0000	1.0000
L16	16	AL7-50(1-5/8)	102.42 - 102.92	1.0000	1.0000
L16	45	PL 1.25x5	102.42 - 102.92	1.0000	1.0000
L16	46	PL 1.25x5	102.42 - 102.92	1.0000	1.0000
L16	47	PL 1.25x5	102.42 - 102.92	1.0000	1.0000
L16	49	PL 1.25x5	102.42 - 102.92	1.0000	1.0000
L16	50	PL 1.25x5	102.42 - 102.92	1.0000	1.0000
L16	57	PL 2x6	102.42 - 102.92	1.0000	1.0000
L16	58	PL 2x6	102.42 - 102.92	1.0000	1.0000
L16	59	PL 2x6	102.42 - 102.92	1.0000	1.0000
L16	60	PL 2x6	102.42 - 102.92	1.0000	1.0000
L17	2	Safety Line 3/8	102.17 - 102.42	1.0000	1.0000
L17	13	HB114-21U3M12-XXXF(1-1/4)	102.17 - 102.42	1.0000	1.0000
L17	14	HB158-21U6S12-60M-01(1-5/8)	102.17 - 102.42	1.0000	1.0000
L17	16	AL7-50(1-5/8)	102.17 - 102.42	1.0000	1.0000
L17	45	PL 1.25x5	102.17 - 102.42	1.0000	1.0000
L17	46	PL 1.25x5	102.17 - 102.42	1.0000	1.0000
L17	47	PL 1.25x5	102.17 - 102.42	1.0000	1.0000
L17	49	PL 1.25x5	102.17 - 102.42	1.0000	1.0000
L17	50	PL 1.25x5	102.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			102.42		
L17	57	PL 2x6	102.17 - 102.42	1.0000	1.0000
L17	58	PL 2x6	102.17 - 102.42	1.0000	1.0000
L17	59	PL 2x6	102.17 - 102.42	1.0000	1.0000
L17	60	PL 2x6	102.17 - 102.42	1.0000	1.0000
L18	2	Safety Line 3/8	100.92 - 102.17	1.0000	1.0000
L18	13	HB114-21U3M12-XXXF(1-1/4)	100.92 - 102.17	1.0000	1.0000
L18	14	HB158-21U6S12-60M-01(1-5/8)	100.92 - 102.17	1.0000	1.0000
L18	16	AL7-50(1-5/8)	100.92 - 102.17	1.0000	1.0000
L18	45	PL 1.25x5	100.92 - 102.17	1.0000	1.0000
L18	46	PL 1.25x5	100.92 - 102.17	1.0000	1.0000
L18	47	PL 1.25x5	100.92 - 102.17	1.0000	1.0000
L18	49	PL 1.25x5	100.92 - 102.17	1.0000	1.0000
L18	50	PL 1.25x5	100.92 - 102.17	1.0000	1.0000
L18	57	PL 2x6	100.92 - 102.17	1.0000	1.0000
L18	58	PL 2x6	100.92 - 102.17	1.0000	1.0000
L18	59	PL 2x6	100.92 - 102.17	1.0000	1.0000
L18	60	PL 2x6	100.92 - 102.17	1.0000	1.0000
L19	2	Safety Line 3/8	100.67 - 100.92	1.0000	1.0000
L19	13	HB114-21U3M12-XXXF(1-1/4)	100.67 - 100.92	1.0000	1.0000
L19	14	HB158-21U6S12-60M-01(1-5/8)	100.67 - 100.92	1.0000	1.0000
L19	16	AL7-50(1-5/8)	100.67 - 100.92	1.0000	1.0000
L19	45	PL 1.25x5	100.67 - 100.92	1.0000	1.0000
L19	46	PL 1.25x5	100.67 - 100.92	1.0000	1.0000
L19	47	PL 1.25x5	100.67 - 100.92	1.0000	1.0000
L19	49	PL 1.25x5	100.67 - 100.92	1.0000	1.0000
L19	50	PL 1.25x5	100.67 - 100.92	1.0000	1.0000
L19	57	PL 2x6	100.67 - 100.92	1.0000	1.0000
L19	58	PL 2x6	100.67 - 100.92	1.0000	1.0000
L19	59	PL 2x6	100.67 - 100.92	1.0000	1.0000
L19	60	PL 2x6	100.67 - 100.92	1.0000	1.0000
L20	2	Safety Line 3/8	99.58 - 100.67	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L20	13	HB114-21U3M12-XXXF(1-1/4)	99.58 - 100.67	1.0000	1.0000
L20	14	HB158-21U6S12-60M-01(1-5/8)	99.58 - 100.67	1.0000	1.0000
L20	16	AL7-50(1-5/8)	99.58 - 100.67	1.0000	1.0000
L20	45	PL 1.25x5	99.58 - 100.67	1.0000	1.0000
L20	46	PL 1.25x5	99.58 - 100.67	1.0000	1.0000
L20	47	PL 1.25x5	99.58 - 100.67	1.0000	1.0000
L20	49	PL 1.25x5	100.17 - 100.67	1.0000	1.0000
L20	50	PL 1.25x5	100.17 - 100.67	1.0000	1.0000
L20	57	PL 2x6	99.58 - 100.67	1.0000	1.0000
L20	58	PL 2x6	99.58 - 100.67	1.0000	1.0000
L20	59	PL 2x6	99.58 - 100.67	1.0000	1.0000
L20	60	PL 2x6	99.58 - 100.67	1.0000	1.0000
L21	2	Safety Line 3/8	99.33 - 99.58	1.0000	1.0000
L21	13	HB114-21U3M12-XXXF(1-1/4)	99.33 - 99.58	1.0000	1.0000
L21	14	HB158-21U6S12-60M-01(1-5/8)	99.33 - 99.58	1.0000	1.0000
L21	16	AL7-50(1-5/8)	99.33 - 99.58	1.0000	1.0000
L21	45	PL 1.25x5	99.33 - 99.58	1.0000	1.0000
L21	46	PL 1.25x5	99.33 - 99.58	1.0000	1.0000
L21	47	PL 1.25x5	99.33 - 99.58	1.0000	1.0000
L21	57	PL 2x6	99.33 - 99.58	1.0000	1.0000
L21	58	PL 2x6	99.33 - 99.58	1.0000	1.0000
L21	59	PL 2x6	99.33 - 99.58	1.0000	1.0000
L21	60	PL 2x6	99.33 - 99.58	1.0000	1.0000
L22	2	Safety Line 3/8	95.42 - 99.33	1.0000	1.0000
L22	13	HB114-21U3M12-XXXF(1-1/4)	95.42 - 99.33	1.0000	1.0000
L22	14	HB158-21U6S12-60M-01(1-5/8)	95.42 - 99.33	1.0000	1.0000
L22	16	AL7-50(1-5/8)	95.42 - 99.33	1.0000	1.0000
L22	22	HB114-U6S12-XXX-LI(1-1/4)	95.42 - 99.00	1.0000	1.0000
L22	23	LDF7-50A(1-5/8)	95.42 - 99.00	1.0000	1.0000
L22	45	PL 1.25x5	95.42 - 99.33	1.0000	1.0000
L22	46	PL 1.25x5	95.42 - 99.33	1.0000	1.0000
L22	47	PL 1.25x5	95.42 - 99.33	1.0000	1.0000
L22	57	PL 2x6	95.42 - 99.33	1.0000	1.0000
L22	58	PL 2x6	95.42 - 99.33	1.0000	1.0000
L22	59	PL 2x6	95.42 - 99.33	1.0000	1.0000
L22	60	PL 2x6	95.42 - 99.33	1.0000	1.0000
L23	2	Safety Line 3/8	95.17 - 95.42	1.0000	1.0000
L23	13	HB114-21U3M12-XXXF(1-1/4)	95.17 - 95.42	1.0000	1.0000
L23	14	HB158-21U6S12-60M-01(1-5/8)	95.17 - 95.42	1.0000	1.0000
L23	16	AL7-50(1-5/8)	95.17 - 95.42	1.0000	1.0000
L23	22	HB114-U6S12-XXX-LI(1-1/4)	95.17 - 95.42	1.0000	1.0000
L23	23	LDF7-50A(1-5/8)	95.17 - 95.42	1.0000	1.0000
L23	45	PL 1.25x5	95.17 - 95.42	1.0000	1.0000
L23	46	PL 1.25x5	95.17 - 95.42	1.0000	1.0000
L23	47	PL 1.25x5	95.17 - 95.42	1.0000	1.0000
L23	57	PL 2x6	95.17 - 95.42	1.0000	1.0000
L23	58	PL 2x6	95.17 - 95.42	1.0000	1.0000
L23	59	PL 2x6	95.17 - 95.42	1.0000	1.0000
L23	60	PL 2x6	95.17 - 95.42	1.0000	1.0000
L24	2	Safety Line 3/8	90.17 - 95.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	13	HB114-21U3M12-XXXF(1-1/4)	90.17 - 95.17	1.0000	1.0000
L24	14	HB158-21U6S12-60M-01(1-5/8)	90.17 - 95.17	1.0000	1.0000
L24	16	AL7-50(1-5/8)	90.17 - 95.17	1.0000	1.0000
L24	22	HB114-U6S12-XXX-LI(1-1/4)	90.17 - 95.17	1.0000	1.0000
L24	23	LDF7-50A(1-5/8)	90.17 - 95.17	1.0000	1.0000
L24	45	PL 1.25x5	93.17 - 95.17	1.0000	1.0000
L24	46	PL 1.25x5	93.17 - 95.17	1.0000	1.0000
L24	47	PL 1.25x5	93.17 - 95.17	1.0000	1.0000
L24	57	PL 2x6	90.17 - 95.17	1.0000	1.0000
L24	58	PL 2x6	90.17 - 95.17	1.0000	1.0000
L24	59	PL 2x6	90.17 - 95.17	1.0000	1.0000
L24	60	PL 2x6	90.17 - 95.17	1.0000	1.0000
L25	2	Safety Line 3/8	85.17 - 90.17	1.0000	1.0000
L25	13	HB114-21U3M12-XXXF(1-1/4)	85.17 - 90.17	1.0000	1.0000
L25	14	HB158-21U6S12-60M-01(1-5/8)	85.17 - 90.17	1.0000	1.0000
L25	16	AL7-50(1-5/8)	85.17 - 90.17	1.0000	1.0000
L25	22	HB114-U6S12-XXX-LI(1-1/4)	85.17 - 90.17	1.0000	1.0000
L25	23	LDF7-50A(1-5/8)	85.17 - 90.17	1.0000	1.0000
L25	57	PL 2x6	85.17 - 90.17	1.0000	1.0000
L25	58	PL 2x6	85.17 - 90.17	1.0000	1.0000
L25	59	PL 2x6	85.17 - 90.17	1.0000	1.0000
L25	60	PL 2x6	85.17 - 90.17	1.0000	1.0000
L26	2	Safety Line 3/8	80.50 - 85.17	1.0000	1.0000
L26	13	HB114-21U3M12-XXXF(1-1/4)	80.50 - 85.17	1.0000	1.0000
L26	14	HB158-21U6S12-60M-01(1-5/8)	80.50 - 85.17	1.0000	1.0000
L26	16	AL7-50(1-5/8)	80.50 - 85.17	1.0000	1.0000
L26	22	HB114-U6S12-XXX-LI(1-1/4)	80.50 - 85.17	1.0000	1.0000
L26	23	LDF7-50A(1-5/8)	80.50 - 85.17	1.0000	1.0000
L26	40	PL 1.25x4	80.50 - 82.00	1.0000	1.0000
L26	41	PL 1.25x4	80.50 - 82.00	1.0000	1.0000
L26	42	PL 1.25x4	80.50 - 82.00	1.0000	1.0000
L26	43	PL 1.25x4	80.50 - 82.00	1.0000	1.0000
L26	57	PL 2x6	80.50 - 85.17	1.0000	1.0000
L26	58	PL 2x6	80.50 - 85.17	1.0000	1.0000
L26	59	PL 2x6	80.50 - 85.17	1.0000	1.0000
L26	60	PL 2x6	80.50 - 85.17	1.0000	1.0000
L27	2	Safety Line 3/8	80.25 - 80.50	1.0000	1.0000
L27	13	HB114-21U3M12-XXXF(1-1/4)	80.25 - 80.50	1.0000	1.0000
L27	14	HB158-21U6S12-60M-01(1-5/8)	80.25 - 80.50	1.0000	1.0000
L27	16	AL7-50(1-5/8)	80.25 - 80.50	1.0000	1.0000
L27	22	HB114-U6S12-XXX-LI(1-1/4)	80.25 - 80.50	1.0000	1.0000
L27	23	LDF7-50A(1-5/8)	80.25 - 80.50	1.0000	1.0000
L27	40	PL 1.25x4	80.25 - 80.50	1.0000	1.0000
L27	41	PL 1.25x4	80.25 - 80.50	1.0000	1.0000
L27	42	PL 1.25x4	80.25 - 80.50	1.0000	1.0000
L27	43	PL 1.25x4	80.25 - 80.50	1.0000	1.0000
L27	57	PL 2x6	80.25 - 80.50	1.0000	1.0000
L27	58	PL 2x6	80.25 - 80.50	1.0000	1.0000
L27	59	PL 2x6	80.25 - 80.50	1.0000	1.0000
L27	60	PL 2x6	80.25 - 80.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	2	Safety Line 3/8	75.25 - 80.25	1.0000	1.0000
L28	13	HB114-21U3M12-XXXF(1-1/4)	75.25 - 80.25	1.0000	1.0000
L28	14	HB158-21U6S12-60M-01(1-5/8)	75.25 - 80.25	1.0000	1.0000
L28	16	AL7-50(1-5/8)	75.25 - 80.25	1.0000	1.0000
L28	22	HB114-U6S12-XXX-LI(1-1/4)	75.25 - 80.25	1.0000	1.0000
L28	23	LDF7-50A(1-5/8)	75.25 - 80.25	1.0000	1.0000
L28	40	PL 1.25x4	75.25 - 80.25	1.0000	1.0000
L28	41	PL 1.25x4	75.25 - 80.25	1.0000	1.0000
L28	42	PL 1.25x4	75.25 - 80.25	1.0000	1.0000
L28	43	PL 1.25x4	75.25 - 80.25	1.0000	1.0000
L28	57	PL 2x6	75.25 - 80.25	1.0000	1.0000
L28	58	PL 2x6	75.25 - 80.25	1.0000	1.0000
L28	59	PL 2x6	75.25 - 80.25	1.0000	1.0000
L28	60	PL 2x6	75.25 - 80.25	1.0000	1.0000
L29	2	Safety Line 3/8	73.58 - 75.25	1.0000	1.0000
L29	13	HB114-21U3M12-XXXF(1-1/4)	73.58 - 75.25	1.0000	1.0000
L29	14	HB158-21U6S12-60M-01(1-5/8)	73.58 - 75.25	1.0000	1.0000
L29	16	AL7-50(1-5/8)	73.58 - 75.25	1.0000	1.0000
L29	22	HB114-U6S12-XXX-LI(1-1/4)	73.58 - 75.25	1.0000	1.0000
L29	23	LDF7-50A(1-5/8)	73.58 - 75.25	1.0000	1.0000
L29	40	PL 1.25x4	73.58 - 75.25	1.0000	1.0000
L29	41	PL 1.25x4	73.58 - 75.25	1.0000	1.0000
L29	42	PL 1.25x4	73.58 - 75.25	1.0000	1.0000
L29	43	PL 1.25x4	73.58 - 75.25	1.0000	1.0000
L29	57	PL 2x6	73.58 - 75.25	1.0000	1.0000
L29	58	PL 2x6	73.58 - 75.25	1.0000	1.0000
L29	59	PL 2x6	73.58 - 75.25	1.0000	1.0000
L29	60	PL 2x6	73.58 - 75.25	1.0000	1.0000
L30	2	Safety Line 3/8	73.33 - 73.58	1.0000	1.0000
L30	13	HB114-21U3M12-XXXF(1-1/4)	73.33 - 73.58	1.0000	1.0000
L30	14	HB158-21U6S12-60M-01(1-5/8)	73.33 - 73.58	1.0000	1.0000
L30	16	AL7-50(1-5/8)	73.33 - 73.58	1.0000	1.0000
L30	22	HB114-U6S12-XXX-LI(1-1/4)	73.33 - 73.58	1.0000	1.0000
L30	23	LDF7-50A(1-5/8)	73.33 - 73.58	1.0000	1.0000
L30	40	PL 1.25x4	73.33 - 73.58	1.0000	1.0000
L30	41	PL 1.25x4	73.33 - 73.58	1.0000	1.0000
L30	42	PL 1.25x4	73.33 - 73.58	1.0000	1.0000
L30	43	PL 1.25x4	73.33 - 73.58	1.0000	1.0000
L30	57	PL 2x6	73.33 - 73.58	1.0000	1.0000
L30	58	PL 2x6	73.33 - 73.58	1.0000	1.0000
L30	59	PL 2x6	73.33 - 73.58	1.0000	1.0000
L30	60	PL 2x6	73.33 - 73.58	1.0000	1.0000
L31	2	Safety Line 3/8	69.00 - 73.33	1.0000	1.0000
L31	13	HB114-21U3M12-XXXF(1-1/4)	69.00 - 73.33	1.0000	1.0000
L31	14	HB158-21U6S12-60M-01(1-5/8)	69.00 - 73.33	1.0000	1.0000
L31	16	AL7-50(1-5/8)	69.00 - 73.33	1.0000	1.0000
L31	22	HB114-U6S12-XXX-LI(1-1/4)	69.00 - 73.33	1.0000	1.0000
L31	23	LDF7-50A(1-5/8)	69.00 - 73.33	1.0000	1.0000
L31	40	PL 1.25x4	69.00 - 73.33	1.0000	1.0000
L31	41	PL 1.25x4	69.00 - 73.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	42	PL 1.25x4	69.00 - 73.33	1.0000	1.0000
L31	43	PL 1.25x4	69.00 - 73.33	1.0000	1.0000
L31	57	PL 2x6	69.00 - 73.33	1.0000	1.0000
L31	58	PL 2x6	69.00 - 73.33	1.0000	1.0000
L31	59	PL 2x6	69.00 - 73.33	1.0000	1.0000
L31	60	PL 2x6	69.00 - 73.33	1.0000	1.0000
L32	2	Safety Line 3/8	67.00 - 69.00	1.0000	1.0000
L32	13	HB114-21U3M12-XXXF(1-1/4)	67.00 - 69.00	1.0000	1.0000
L32	14	HB158-21U6S12-60M-01(1-5/8)	67.00 - 69.00	1.0000	1.0000
L32	16	AL7-50(1-5/8)	67.00 - 69.00	1.0000	1.0000
L32	22	HB114-U6S12-XXX-LI(1-1/4)	67.00 - 69.00	1.0000	1.0000
L32	23	LDF7-50A(1-5/8)	67.00 - 69.00	1.0000	1.0000
L32	35	PL 1.25x5	67.00 - 69.00	1.0000	1.0000
L32	36	PL 1.25x5	67.00 - 69.00	1.0000	1.0000
L32	37	PL 1.25x5	67.00 - 69.00	1.0000	1.0000
L32	38	PL 1.25x5	67.00 - 69.00	1.0000	1.0000
L32	40	PL 1.25x4	67.00 - 69.00	1.0000	1.0000
L32	41	PL 1.25x4	67.00 - 69.00	1.0000	1.0000
L32	42	PL 1.25x4	67.00 - 69.00	1.0000	1.0000
L32	43	PL 1.25x4	67.00 - 69.00	1.0000	1.0000
L32	57	PL 2x6	67.00 - 69.00	1.0000	1.0000
L32	58	PL 2x6	67.00 - 69.00	1.0000	1.0000
L32	59	PL 2x6	67.00 - 69.00	1.0000	1.0000
L32	60	PL 2x6	67.00 - 69.00	1.0000	1.0000
L33	2	Safety Line 3/8	66.75 - 67.00	1.0000	1.0000
L33	13	HB114-21U3M12-XXXF(1-1/4)	66.75 - 67.00	1.0000	1.0000
L33	14	HB158-21U6S12-60M-01(1-5/8)	66.75 - 67.00	1.0000	1.0000
L33	16	AL7-50(1-5/8)	66.75 - 67.00	1.0000	1.0000
L33	22	HB114-U6S12-XXX-LI(1-1/4)	66.75 - 67.00	1.0000	1.0000
L33	23	LDF7-50A(1-5/8)	66.75 - 67.00	1.0000	1.0000
L33	35	PL 1.25x5	66.75 - 67.00	1.0000	1.0000
L33	36	PL 1.25x5	66.75 - 67.00	1.0000	1.0000
L33	37	PL 1.25x5	66.75 - 67.00	1.0000	1.0000
L33	38	PL 1.25x5	66.75 - 67.00	1.0000	1.0000
L33	40	PL 1.25x4	66.75 - 67.00	1.0000	1.0000
L33	41	PL 1.25x4	66.75 - 67.00	1.0000	1.0000
L33	42	PL 1.25x4	66.75 - 67.00	1.0000	1.0000
L33	43	PL 1.25x4	66.75 - 67.00	1.0000	1.0000
L33	57	PL 2x6	66.75 - 67.00	1.0000	1.0000
L33	58	PL 2x6	66.75 - 67.00	1.0000	1.0000
L33	59	PL 2x6	66.75 - 67.00	1.0000	1.0000
L33	60	PL 2x6	66.75 - 67.00	1.0000	1.0000
L34	2	Safety Line 3/8	66.50 - 66.75	1.0000	1.0000
L34	13	HB114-21U3M12-XXXF(1-1/4)	66.50 - 66.75	1.0000	1.0000
L34	14	HB158-21U6S12-60M-01(1-5/8)	66.50 - 66.75	1.0000	1.0000
L34	16	AL7-50(1-5/8)	66.50 - 66.75	1.0000	1.0000
L34	22	HB114-U6S12-XXX-LI(1-1/4)	66.50 - 66.75	1.0000	1.0000
L34	23	LDF7-50A(1-5/8)	66.50 - 66.75	1.0000	1.0000
L34	35	PL 1.25x5	66.50 - 66.75	1.0000	1.0000
L34	36	PL 1.25x5	66.50 - 66.75	1.0000	1.0000
L34	37	PL 1.25x5	66.50 - 66.75	1.0000	1.0000
L34	38	PL 1.25x5	66.50 - 66.75	1.0000	1.0000
L34	40	PL 1.25x4	66.50 - 66.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L34	41	PL 1.25x4	66.50 - 66.75	1.0000	1.0000
L34	42	PL 1.25x4	66.50 - 66.75	1.0000	1.0000
L34	43	PL 1.25x4	66.50 - 66.75	1.0000	1.0000
L34	57	PL 2x6	66.50 - 66.75	1.0000	1.0000
L34	58	PL 2x6	66.50 - 66.75	1.0000	1.0000
L34	59	PL 2x6	66.50 - 66.75	1.0000	1.0000
L34	60	PL 2x6	66.50 - 66.75	1.0000	1.0000
L35	2	Safety Line 3/8	61.50 - 66.50	1.0000	1.0000
L35	13	HB114-21U3M12-XXXF(1-1/4)	61.50 - 66.50	1.0000	1.0000
L35	14	HB158-21U6S12-60M-01(1-5/8)	61.50 - 66.50	1.0000	1.0000
L35	16	AL7-50(1-5/8)	61.50 - 66.50	1.0000	1.0000
L35	22	HB114-U6S12-XXX-LI(1-1/4)	61.50 - 66.50	1.0000	1.0000
L35	23	LDF7-50A(1-5/8)	61.50 - 66.50	1.0000	1.0000
L35	35	PL 1.25x5	61.50 - 66.50	1.0000	1.0000
L35	36	PL 1.25x5	61.50 - 66.50	1.0000	1.0000
L35	37	PL 1.25x5	61.50 - 66.50	1.0000	1.0000
L35	38	PL 1.25x5	61.50 - 66.50	1.0000	1.0000
L35	57	PL 2x6	61.50 - 66.50	1.0000	1.0000
L35	58	PL 2x6	61.50 - 66.50	1.0000	1.0000
L35	59	PL 2x6	61.50 - 66.50	1.0000	1.0000
L35	60	PL 2x6	61.50 - 66.50	1.0000	1.0000
L36	2	Safety Line 3/8	56.50 - 61.50	1.0000	1.0000
L36	13	HB114-21U3M12-XXXF(1-1/4)	56.50 - 61.50	1.0000	1.0000
L36	14	HB158-21U6S12-60M-01(1-5/8)	56.50 - 61.50	1.0000	1.0000
L36	16	AL7-50(1-5/8)	56.50 - 61.50	1.0000	1.0000
L36	22	HB114-U6S12-XXX-LI(1-1/4)	56.50 - 61.50	1.0000	1.0000
L36	23	LDF7-50A(1-5/8)	56.50 - 61.50	1.0000	1.0000
L36	35	PL 1.25x5	56.50 - 61.50	1.0000	1.0000
L36	36	PL 1.25x5	56.50 - 61.50	1.0000	1.0000
L36	37	PL 1.25x5	56.50 - 61.50	1.0000	1.0000
L36	38	PL 1.25x5	56.50 - 61.50	1.0000	1.0000
L36	57	PL 2x6	56.50 - 61.50	1.0000	1.0000
L36	58	PL 2x6	56.50 - 61.50	1.0000	1.0000
L36	59	PL 2x6	56.50 - 61.50	1.0000	1.0000
L36	60	PL 2x6	56.50 - 61.50	1.0000	1.0000
L37	2	Safety Line 3/8	51.50 - 56.50	1.0000	1.0000
L37	13	HB114-21U3M12-XXXF(1-1/4)	51.50 - 56.50	1.0000	1.0000
L37	14	HB158-21U6S12-60M-01(1-5/8)	51.50 - 56.50	1.0000	1.0000
L37	16	AL7-50(1-5/8)	51.50 - 56.50	1.0000	1.0000
L37	22	HB114-U6S12-XXX-LI(1-1/4)	51.50 - 56.50	1.0000	1.0000
L37	23	LDF7-50A(1-5/8)	51.50 - 56.50	1.0000	1.0000
L37	35	PL 1.25x5	51.50 - 56.50	1.0000	1.0000
L37	36	PL 1.25x5	51.50 - 56.50	1.0000	1.0000
L37	37	PL 1.25x5	51.50 - 56.50	1.0000	1.0000
L37	38	PL 1.25x5	51.50 - 56.50	1.0000	1.0000
L37	57	PL 2x6	51.50 - 56.50	1.0000	1.0000
L37	58	PL 2x6	51.50 - 56.50	1.0000	1.0000
L37	59	PL 2x6	51.50 - 56.50	1.0000	1.0000
L37	60	PL 2x6	51.50 - 56.50	1.0000	1.0000
L38	2	Safety Line 3/8	48.25 - 51.50	1.0000	1.0000
L38	13	HB114-21U3M12-XXXF(1-1/4)	48.25 - 51.50	1.0000	1.0000
L38	14	HB158-21U6S12-60M-01(1-	48.25 - 51.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		5/8)			
L38	16	AL7-50(1-5/8)	48.25 - 51.50	1.0000	1.0000
L38	22	HB114-U6S12-XXX-LI(1-1/4)	48.25 - 51.50	1.0000	1.0000
L38	23	LDF7-50A(1-5/8)	48.25 - 51.50	1.0000	1.0000
L38	25	#20 Bar	48.25 - 51.00	1.0000	1.0000
L38	26	#20 Bar	48.25 - 51.00	1.0000	1.0000
L38	27	#20 Bar	48.25 - 51.00	1.0000	1.0000
L38	28	#20 Bar	48.25 - 51.00	1.0000	1.0000
L38	35	PL 1.25x5	48.25 - 51.50	1.0000	1.0000
L38	36	PL 1.25x5	48.25 - 51.50	1.0000	1.0000
L38	37	PL 1.25x5	48.25 - 51.50	1.0000	1.0000
L38	38	PL 1.25x5	48.25 - 51.50	1.0000	1.0000
L38	57	PL 2x6	48.25 - 51.50	1.0000	1.0000
L38	58	PL 2x6	48.25 - 51.50	1.0000	1.0000
L38	59	PL 2x6	48.25 - 51.50	1.0000	1.0000
L38	60	PL 2x6	48.25 - 51.50	1.0000	1.0000
L39	2	Safety Line 3/8	48.00 - 48.25	1.0000	1.0000
L39	13	HB114-21U3M12-XXXF(1-1/4)	48.00 - 48.25	1.0000	1.0000
L39	14	HB158-21U6S12-60M-01(1-5/8)	48.00 - 48.25	1.0000	1.0000
L39	16	AL7-50(1-5/8)	48.00 - 48.25	1.0000	1.0000
L39	22	HB114-U6S12-XXX-LI(1-1/4)	48.00 - 48.25	1.0000	1.0000
L39	23	LDF7-50A(1-5/8)	48.00 - 48.25	1.0000	1.0000
L39	25	#20 Bar	48.00 - 48.25	1.0000	1.0000
L39	26	#20 Bar	48.00 - 48.25	1.0000	1.0000
L39	27	#20 Bar	48.00 - 48.25	1.0000	1.0000
L39	28	#20 Bar	48.00 - 48.25	1.0000	1.0000
L39	35	PL 1.25x5	48.00 - 48.25	1.0000	1.0000
L39	36	PL 1.25x5	48.00 - 48.25	1.0000	1.0000
L39	37	PL 1.25x5	48.00 - 48.25	1.0000	1.0000
L39	38	PL 1.25x5	48.00 - 48.25	1.0000	1.0000
L39	57	PL 2x6	48.00 - 48.25	1.0000	1.0000
L39	58	PL 2x6	48.00 - 48.25	1.0000	1.0000
L39	59	PL 2x6	48.00 - 48.25	1.0000	1.0000
L39	60	PL 2x6	48.00 - 48.25	1.0000	1.0000
L40	2	Safety Line 3/8	44.25 - 48.00	1.0000	1.0000
L40	13	HB114-21U3M12-XXXF(1-1/4)	44.25 - 48.00	1.0000	1.0000
L40	14	HB158-21U6S12-60M-01(1-5/8)	44.25 - 48.00	1.0000	1.0000
L40	16	AL7-50(1-5/8)	44.25 - 48.00	1.0000	1.0000
L40	22	HB114-U6S12-XXX-LI(1-1/4)	44.25 - 48.00	1.0000	1.0000
L40	23	LDF7-50A(1-5/8)	44.25 - 48.00	1.0000	1.0000
L40	25	#20 Bar	44.25 - 48.00	1.0000	1.0000
L40	26	#20 Bar	44.25 - 48.00	1.0000	1.0000
L40	27	#20 Bar	44.25 - 48.00	1.0000	1.0000
L40	28	#20 Bar	44.25 - 48.00	1.0000	1.0000
L40	30	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	1.0000	1.0000
L40	31	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	1.0000	1.0000
L40	32	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	1.0000	1.0000
L40	33	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	1.0000	1.0000
L40	35	PL 1.25x5	47.00 - 48.00	1.0000	1.0000
L40	36	PL 1.25x5	47.00 - 48.00	1.0000	1.0000
L40	37	PL 1.25x5	47.00 - 48.00	1.0000	1.0000
L40	38	PL 1.25x5	47.00 - 48.00	1.0000	1.0000
L40	57	PL 2x6	44.25 - 48.00	1.0000	1.0000
L40	58	PL 2x6	44.25 - 48.00	1.0000	1.0000
L40	59	PL 2x6	44.25 - 48.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	60	PL 2x6	44.25 - 48.00	1.0000	1.0000
L41	2	Safety Line 3/8	44.00 - 44.25	1.0000	1.0000
L41	13	HB114-21U3M12-XXXF(1-1/4)	44.00 - 44.25	1.0000	1.0000
L41	14	HB158-21U6S12-60M-01(1-5/8)	44.00 - 44.25	1.0000	1.0000
L41	16	AL7-50(1-5/8)	44.00 - 44.25	1.0000	1.0000
L41	22	HB114-U6S12-XXX-LI(1-1/4)	44.00 - 44.25	1.0000	1.0000
L41	23	LDF7-50A(1-5/8)	44.00 - 44.25	1.0000	1.0000
L41	25	#20 Bar	44.00 - 44.25	1.0000	1.0000
L41	26	#20 Bar	44.00 - 44.25	1.0000	1.0000
L41	27	#20 Bar	44.00 - 44.25	1.0000	1.0000
L41	28	#20 Bar	44.00 - 44.25	1.0000	1.0000
L41	30	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	1.0000	1.0000
L41	31	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	1.0000	1.0000
L41	32	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	1.0000	1.0000
L41	33	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	1.0000	1.0000
L41	57	PL 2x6	44.00 - 44.25	1.0000	1.0000
L41	58	PL 2x6	44.00 - 44.25	1.0000	1.0000
L41	59	PL 2x6	44.00 - 44.25	1.0000	1.0000
L41	60	PL 2x6	44.00 - 44.25	1.0000	1.0000
L42	2	Safety Line 3/8	39.00 - 44.00	1.0000	1.0000
L42	13	HB114-21U3M12-XXXF(1-1/4)	39.00 - 44.00	1.0000	1.0000
L42	14	HB158-21U6S12-60M-01(1-5/8)	39.00 - 44.00	1.0000	1.0000
L42	16	AL7-50(1-5/8)	39.00 - 44.00	1.0000	1.0000
L42	22	HB114-U6S12-XXX-LI(1-1/4)	39.00 - 44.00	1.0000	1.0000
L42	23	LDF7-50A(1-5/8)	39.00 - 44.00	1.0000	1.0000
L42	25	#20 Bar	39.00 - 44.00	1.0000	1.0000
L42	26	#20 Bar	39.00 - 44.00	1.0000	1.0000
L42	27	#20 Bar	39.00 - 44.00	1.0000	1.0000
L42	28	#20 Bar	39.00 - 44.00	1.0000	1.0000
L42	30	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	1.0000	1.0000
L42	31	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	1.0000	1.0000
L42	32	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	1.0000	1.0000
L42	33	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	1.0000	1.0000
L42	57	PL 2x6	39.00 - 44.00	1.0000	1.0000
L42	58	PL 2x6	39.00 - 44.00	1.0000	1.0000
L42	59	PL 2x6	39.00 - 44.00	1.0000	1.0000
L42	60	PL 2x6	39.00 - 44.00	1.0000	1.0000
L43	2	Safety Line 3/8	38.50 - 39.00	1.0000	1.0000
L43	13	HB114-21U3M12-XXXF(1-1/4)	38.50 - 39.00	1.0000	1.0000
L43	14	HB158-21U6S12-60M-01(1-5/8)	38.50 - 39.00	1.0000	1.0000
L43	16	AL7-50(1-5/8)	38.50 - 39.00	1.0000	1.0000
L43	22	HB114-U6S12-XXX-LI(1-1/4)	38.50 - 39.00	1.0000	1.0000
L43	23	LDF7-50A(1-5/8)	38.50 - 39.00	1.0000	1.0000
L43	25	#20 Bar	38.50 - 39.00	1.0000	1.0000
L43	26	#20 Bar	38.50 - 39.00	1.0000	1.0000
L43	27	#20 Bar	38.50 - 39.00	1.0000	1.0000
L43	28	#20 Bar	38.50 - 39.00	1.0000	1.0000
L43	30	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	1.0000	1.0000
L43	31	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	1.0000	1.0000
L43	32	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	1.0000	1.0000
L43	33	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	1.0000	1.0000
L43	57	PL 2x6	38.50 - 39.00	1.0000	1.0000
L43	58	PL 2x6	38.50 - 39.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	59	PL 2x6	38.50 - 39.00	1.0000	1.0000
L43	60	PL 2x6	38.50 - 39.00	1.0000	1.0000
L44	2	Safety Line 3/8	38.25 - 38.50	1.0000	1.0000
L44	13	HB114-21U3M12-XXXF(1-1/4)	38.25 - 38.50	1.0000	1.0000
L44	14	HB158-21U6S12-60M-01(1-5/8)	38.25 - 38.50	1.0000	1.0000
L44	16	AL7-50(1-5/8)	38.25 - 38.50	1.0000	1.0000
L44	22	HB114-U6S12-XXX-LI(1-1/4)	38.25 - 38.50	1.0000	1.0000
L44	23	LDF7-50A(1-5/8)	38.25 - 38.50	1.0000	1.0000
L44	25	#20 Bar	38.25 - 38.50	1.0000	1.0000
L44	26	#20 Bar	38.25 - 38.50	1.0000	1.0000
L44	27	#20 Bar	38.25 - 38.50	1.0000	1.0000
L44	28	#20 Bar	38.25 - 38.50	1.0000	1.0000
L44	30	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	1.0000	1.0000
L44	31	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	1.0000	1.0000
L44	32	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	1.0000	1.0000
L44	33	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	1.0000	1.0000
L44	57	PL 2x6	38.25 - 38.50	1.0000	1.0000
L44	58	PL 2x6	38.25 - 38.50	1.0000	1.0000
L44	59	PL 2x6	38.25 - 38.50	1.0000	1.0000
L44	60	PL 2x6	38.25 - 38.50	1.0000	1.0000
L45	2	Safety Line 3/8	30.00 - 38.25	1.0000	1.0000
L45	13	HB114-21U3M12-XXXF(1-1/4)	30.00 - 38.25	1.0000	1.0000
L45	14	HB158-21U6S12-60M-01(1-5/8)	30.00 - 38.25	1.0000	1.0000
L45	16	AL7-50(1-5/8)	30.00 - 38.25	1.0000	1.0000
L45	22	HB114-U6S12-XXX-LI(1-1/4)	30.00 - 38.25	1.0000	1.0000
L45	23	LDF7-50A(1-5/8)	30.00 - 38.25	1.0000	1.0000
L45	25	#20 Bar	30.00 - 38.25	1.0000	1.0000
L45	26	#20 Bar	30.00 - 38.25	1.0000	1.0000
L45	27	#20 Bar	30.00 - 38.25	1.0000	1.0000
L45	28	#20 Bar	30.00 - 38.25	1.0000	1.0000
L45	30	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	1.0000	1.0000
L45	31	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	1.0000	1.0000
L45	32	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	1.0000	1.0000
L45	33	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	1.0000	1.0000
L45	57	PL 2x6	30.00 - 38.25	1.0000	1.0000
L45	58	PL 2x6	30.00 - 38.25	1.0000	1.0000
L45	59	PL 2x6	30.00 - 38.25	1.0000	1.0000
L45	60	PL 2x6	30.00 - 38.25	1.0000	1.0000
L46	2	Safety Line 3/8	29.00 - 30.00	1.0000	1.0000
L46	13	HB114-21U3M12-XXXF(1-1/4)	29.00 - 30.00	1.0000	1.0000
L46	14	HB158-21U6S12-60M-01(1-5/8)	29.00 - 30.00	1.0000	1.0000
L46	16	AL7-50(1-5/8)	29.00 - 30.00	1.0000	1.0000
L46	22	HB114-U6S12-XXX-LI(1-1/4)	29.00 - 30.00	1.0000	1.0000
L46	23	LDF7-50A(1-5/8)	29.00 - 30.00	1.0000	1.0000
L46	25	#20 Bar	29.00 - 30.00	1.0000	1.0000
L46	26	#20 Bar	29.00 - 30.00	1.0000	1.0000
L46	27	#20 Bar	29.00 - 30.00	1.0000	1.0000
L46	28	#20 Bar	29.00 - 30.00	1.0000	1.0000
L46	30	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	1.0000	1.0000
L46	31	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	1.0000	1.0000
L46	32	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	1.0000	1.0000
L46	33	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	1.0000	1.0000
L46	57	PL 2x6	29.00 - 30.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L46	58	PL 2x6	29.00 - 30.00	1.0000	1.0000
L46	59	PL 2x6	29.00 - 30.00	1.0000	1.0000
L46	60	PL 2x6	29.00 - 30.00	1.0000	1.0000
L47	2	Safety Line 3/8	24.00 - 29.00	1.0000	1.0000
L47	13	HB114-21U3M12-XXXF(1-1/4)	24.00 - 29.00	1.0000	1.0000
L47	14	HB158-21U6S12-60M-01(1-5/8)	24.00 - 29.00	1.0000	1.0000
L47	16	AL7-50(1-5/8)	24.00 - 29.00	1.0000	1.0000
L47	22	HB114-U6S12-XXX-LI(1-1/4)	24.00 - 29.00	1.0000	1.0000
L47	23	LDF7-50A(1-5/8)	24.00 - 29.00	1.0000	1.0000
L47	25	#20 Bar	24.00 - 29.00	1.0000	1.0000
L47	26	#20 Bar	24.00 - 29.00	1.0000	1.0000
L47	27	#20 Bar	24.00 - 29.00	1.0000	1.0000
L47	28	#20 Bar	24.00 - 29.00	1.0000	1.0000
L47	30	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	1.0000	1.0000
L47	31	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	1.0000	1.0000
L47	32	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	1.0000	1.0000
L47	33	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	1.0000	1.0000
L47	57	PL 2x6	24.00 - 29.00	1.0000	1.0000
L47	58	PL 2x6	24.00 - 29.00	1.0000	1.0000
L47	59	PL 2x6	24.00 - 29.00	1.0000	1.0000
L47	60	PL 2x6	24.00 - 29.00	1.0000	1.0000
L48	2	Safety Line 3/8	23.75 - 24.00	1.0000	1.0000
L48	13	HB114-21U3M12-XXXF(1-1/4)	23.75 - 24.00	1.0000	1.0000
L48	14	HB158-21U6S12-60M-01(1-5/8)	23.75 - 24.00	1.0000	1.0000
L48	16	AL7-50(1-5/8)	23.75 - 24.00	1.0000	1.0000
L48	22	HB114-U6S12-XXX-LI(1-1/4)	23.75 - 24.00	1.0000	1.0000
L48	23	LDF7-50A(1-5/8)	23.75 - 24.00	1.0000	1.0000
L48	25	#20 Bar	23.75 - 24.00	1.0000	1.0000
L48	26	#20 Bar	23.75 - 24.00	1.0000	1.0000
L48	27	#20 Bar	23.75 - 24.00	1.0000	1.0000
L48	28	#20 Bar	23.75 - 24.00	1.0000	1.0000
L48	30	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	1.0000	1.0000
L48	31	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	1.0000	1.0000
L48	32	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	1.0000	1.0000
L48	33	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	1.0000	1.0000
L48	57	PL 2x6	23.75 - 24.00	1.0000	1.0000
L48	58	PL 2x6	23.75 - 24.00	1.0000	1.0000
L48	59	PL 2x6	23.75 - 24.00	1.0000	1.0000
L48	60	PL 2x6	23.75 - 24.00	1.0000	1.0000
L49	2	Safety Line 3/8	23.50 - 23.75	1.0000	1.0000
L49	13	HB114-21U3M12-XXXF(1-1/4)	23.50 - 23.75	1.0000	1.0000
L49	14	HB158-21U6S12-60M-01(1-5/8)	23.50 - 23.75	1.0000	1.0000
L49	16	AL7-50(1-5/8)	23.50 - 23.75	1.0000	1.0000
L49	22	HB114-U6S12-XXX-LI(1-1/4)	23.50 - 23.75	1.0000	1.0000
L49	23	LDF7-50A(1-5/8)	23.50 - 23.75	1.0000	1.0000
L49	25	#20 Bar	23.50 - 23.75	1.0000	1.0000
L49	26	#20 Bar	23.50 - 23.75	1.0000	1.0000
L49	27	#20 Bar	23.50 - 23.75	1.0000	1.0000
L49	28	#20 Bar	23.50 - 23.75	1.0000	1.0000
L49	30	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	1.0000	1.0000
L49	31	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	1.0000	1.0000
L49	32	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	1.0000	1.0000
L49	33	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L49	57	PL 2x6	23.50 - 23.75	1.0000	1.0000
L49	58	PL 2x6	23.50 - 23.75	1.0000	1.0000
L49	59	PL 2x6	23.50 - 23.75	1.0000	1.0000
L49	60	PL 2x6	23.50 - 23.75	1.0000	1.0000
L50	2	Safety Line 3/8	18.50 - 23.50	1.0000	1.0000
L50	13	HB114-21U3M12-XXXF(1-1/4)	18.50 - 23.50	1.0000	1.0000
L50	14	HB158-21U6S12-60M-01(1-5/8)	18.50 - 23.50	1.0000	1.0000
L50	16	AL7-50(1-5/8)	18.50 - 23.50	1.0000	1.0000
L50	22	HB114-U6S12-XXX-LI(1-1/4)	18.50 - 23.50	1.0000	1.0000
L50	23	LDF7-50A(1-5/8)	18.50 - 23.50	1.0000	1.0000
L50	25	#20 Bar	18.50 - 23.50	1.0000	1.0000
L50	26	#20 Bar	18.50 - 23.50	1.0000	1.0000
L50	27	#20 Bar	18.50 - 23.50	1.0000	1.0000
L50	28	#20 Bar	18.50 - 23.50	1.0000	1.0000
L50	30	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	1.0000	1.0000
L50	31	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	1.0000	1.0000
L50	32	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	1.0000	1.0000
L50	33	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	1.0000	1.0000
L50	57	PL 2x6	18.50 - 23.50	1.0000	1.0000
L50	58	PL 2x6	18.50 - 23.50	1.0000	1.0000
L50	59	PL 2x6	18.50 - 23.50	1.0000	1.0000
L50	60	PL 2x6	18.50 - 23.50	1.0000	1.0000
L51	2	Safety Line 3/8	13.50 - 18.50	1.0000	1.0000
L51	13	HB114-21U3M12-XXXF(1-1/4)	13.50 - 18.50	1.0000	1.0000
L51	14	HB158-21U6S12-60M-01(1-5/8)	13.50 - 18.50	1.0000	1.0000
L51	16	AL7-50(1-5/8)	13.50 - 18.50	1.0000	1.0000
L51	22	HB114-U6S12-XXX-LI(1-1/4)	13.50 - 18.50	1.0000	1.0000
L51	23	LDF7-50A(1-5/8)	13.50 - 18.50	1.0000	1.0000
L51	25	#20 Bar	13.50 - 18.50	1.0000	1.0000
L51	26	#20 Bar	13.50 - 18.50	1.0000	1.0000
L51	27	#20 Bar	13.50 - 18.50	1.0000	1.0000
L51	28	#20 Bar	13.50 - 18.50	1.0000	1.0000
L51	30	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	1.0000	1.0000
L51	31	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	1.0000	1.0000
L51	32	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	1.0000	1.0000
L51	33	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	1.0000	1.0000
L51	57	PL 2x6	13.50 - 18.50	1.0000	1.0000
L51	58	PL 2x6	13.50 - 18.50	1.0000	1.0000
L51	59	PL 2x6	13.50 - 18.50	1.0000	1.0000
L51	60	PL 2x6	13.50 - 18.50	1.0000	1.0000
L52	2	Safety Line 3/8	8.50 - 13.50	1.0000	1.0000
L52	13	HB114-21U3M12-XXXF(1-1/4)	8.50 - 13.50	1.0000	1.0000
L52	14	HB158-21U6S12-60M-01(1-5/8)	8.50 - 13.50	1.0000	1.0000
L52	16	AL7-50(1-5/8)	8.50 - 13.50	1.0000	1.0000
L52	22	HB114-U6S12-XXX-LI(1-1/4)	8.50 - 13.50	1.0000	1.0000
L52	23	LDF7-50A(1-5/8)	8.50 - 13.50	1.0000	1.0000
L52	25	#20 Bar	8.50 - 13.50	1.0000	1.0000
L52	26	#20 Bar	8.50 - 13.50	1.0000	1.0000
L52	27	#20 Bar	8.50 - 13.50	1.0000	1.0000
L52	28	#20 Bar	8.50 - 13.50	1.0000	1.0000
L52	30	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	1.0000	1.0000
L52	31	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	1.0000	1.0000
L52	32	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L52	33	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	1.0000	1.0000
L52	57	PL 2x6	8.50 - 13.50	1.0000	1.0000
L52	58	PL 2x6	8.50 - 13.50	1.0000	1.0000
L52	59	PL 2x6	8.50 - 13.50	1.0000	1.0000
L52	60	PL 2x6	8.50 - 13.50	1.0000	1.0000
L53	2	Safety Line 3/8	3.50 - 8.50	1.0000	1.0000
L53	13	HB114-21U3M12-XXXF(1-1/4)	3.50 - 8.50	1.0000	1.0000
L53	14	HB158-21U6S12-60M-01(1-5/8)	3.50 - 8.50	1.0000	1.0000
L53	16	AL7-50(1-5/8)	3.50 - 8.50	1.0000	1.0000
L53	22	HB114-U6S12-XXX-LI(1-1/4)	3.50 - 8.50	1.0000	1.0000
L53	23	LDF7-50A(1-5/8)	3.50 - 8.50	1.0000	1.0000
L53	25	#20 Bar	3.50 - 8.50	1.0000	1.0000
L53	26	#20 Bar	3.50 - 8.50	1.0000	1.0000
L53	27	#20 Bar	3.50 - 8.50	1.0000	1.0000
L53	28	#20 Bar	3.50 - 8.50	1.0000	1.0000
L53	30	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	1.0000	1.0000
L53	31	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	1.0000	1.0000
L53	32	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	1.0000	1.0000
L53	33	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	1.0000	1.0000
L53	57	PL 2x6	3.50 - 8.50	1.0000	1.0000
L53	58	PL 2x6	3.50 - 8.50	1.0000	1.0000
L53	59	PL 2x6	3.50 - 8.50	1.0000	1.0000
L53	60	PL 2x6	3.50 - 8.50	1.0000	1.0000
L54	2	Safety Line 3/8	0.00 - 3.50	1.0000	1.0000
L54	13	HB114-21U3M12-XXXF(1-1/4)	0.00 - 3.50	1.0000	1.0000
L54	14	HB158-21U6S12-60M-01(1-5/8)	0.00 - 3.50	1.0000	1.0000
L54	16	AL7-50(1-5/8)	0.00 - 3.50	1.0000	1.0000
L54	22	HB114-U6S12-XXX-LI(1-1/4)	0.00 - 3.50	1.0000	1.0000
L54	23	LDF7-50A(1-5/8)	0.00 - 3.50	1.0000	1.0000
L54	25	#20 Bar	0.00 - 3.50	1.0000	1.0000
L54	26	#20 Bar	0.00 - 3.50	1.0000	1.0000
L54	27	#20 Bar	0.00 - 3.50	1.0000	1.0000
L54	28	#20 Bar	0.00 - 3.50	1.0000	1.0000
L54	30	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	1.0000	1.0000
L54	31	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	1.0000	1.0000
L54	32	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	1.0000	1.0000
L54	33	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	1.0000	1.0000
L54	57	PL 2x6	0.00 - 3.50	1.0000	1.0000
L54	58	PL 2x6	0.00 - 3.50	1.0000	1.0000
L54	59	PL 2x6	0.00 - 3.50	1.0000	1.0000
L54	60	PL 2x6	0.00 - 3.50	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
L5	52	PL 1.25x4	128.50 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L5	53	PL 1.25x4	128.50 - 130.00	Auto	0.0000
L5	54	PL 1.25x4	128.50 - 130.00	Auto	0.0000
L5	55	PL 1.25x4	128.50 - 130.00	Auto	0.0000
L6	52	PL 1.25x4	128.25 - 128.50	Auto	0.2310
L6	53	PL 1.25x4	128.25 - 128.50	Auto	0.2310
L6	54	PL 1.25x4	128.25 - 128.50	Auto	0.2310
L6	55	PL 1.25x4	128.25 - 128.50	Auto	0.2310
L7	52	PL 1.25x4	123.25 - 128.25	Auto	0.1885
L7	53	PL 1.25x4	123.25 - 128.25	Auto	0.1885
L7	54	PL 1.25x4	123.25 - 128.25	Auto	0.1885
L7	55	PL 1.25x4	123.25 - 128.25	Auto	0.1885
L8	52	PL 1.25x4	118.25 - 123.25	Auto	0.1228
L8	53	PL 1.25x4	118.25 - 123.25	Auto	0.1228
L8	54	PL 1.25x4	118.25 - 123.25	Auto	0.1228
L8	55	PL 1.25x4	118.25 - 123.25	Auto	0.1228
L9	52	PL 1.25x4	113.25 - 118.25	Auto	0.0654
L9	53	PL 1.25x4	113.25 - 118.25	Auto	0.0654
L9	54	PL 1.25x4	113.25 - 118.25	Auto	0.0654
L9	55	PL 1.25x4	113.25 - 118.25	Auto	0.0654
L10	52	PL 1.25x4	109.00 - 113.25	Auto	0.0127
L10	53	PL 1.25x4	109.00 - 113.25	Auto	0.0127
L10	54	PL 1.25x4	109.00 - 113.25	Auto	0.0127
L10	55	PL 1.25x4	109.00 - 113.25	Auto	0.0127
L11	45	PL 1.25x5	108.75 - 109.00	Auto	0.2620
L11	46	PL 1.25x5	108.75 - 109.00	Auto	0.2620
L11	49	PL 1.25x5	108.75 - 109.00	Auto	0.2620
L11	50	PL 1.25x5	108.75 - 109.00	Auto	0.2620
L12	45	PL 1.25x5	104.17 - 108.75	Auto	0.2290
L12	46	PL 1.25x5	104.17 - 108.75	Auto	0.2290
L12	49	PL 1.25x5	104.17 - 108.75	Auto	0.2290

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L12	50	PL 1.25x5	104.17 - 108.75	Auto	0.2290
L12	57	PL 2x6	104.17 - 108.67	Manual	1.0000
L12	58	PL 2x6	104.17 - 106.00	Manual	1.0000
L12	59	PL 2x6	104.17 - 108.67	Manual	1.0000
L12	60	PL 2x6	104.17 - 107.75	Manual	1.0000
L13	45	PL 1.25x5	103.92 - 104.17	Auto	0.3569
L13	46	PL 1.25x5	103.92 - 104.17	Auto	0.3569
L13	49	PL 1.25x5	103.92 - 104.17	Auto	0.3569
L13	50	PL 1.25x5	103.92 - 104.17	Auto	0.3569
L13	57	PL 2x6	103.92 - 104.17	Manual	1.0000
L13	58	PL 2x6	103.92 - 104.17	Manual	1.0000
L13	59	PL 2x6	103.92 - 104.17	Manual	1.0000
L13	60	PL 2x6	103.92 - 104.17	Manual	1.0000
L14	45	PL 1.25x5	103.17 - 103.92	Auto	0.3528
L14	46	PL 1.25x5	103.17 - 103.92	Auto	0.3528
L14	49	PL 1.25x5	103.17 - 103.92	Auto	0.3528
L14	50	PL 1.25x5	103.17 - 103.92	Auto	0.3528
L14	57	PL 2x6	103.17 - 103.92	Manual	1.0000
L14	58	PL 2x6	103.17 - 103.92	Manual	1.0000
L14	59	PL 2x6	103.17 - 103.92	Manual	1.0000
L14	60	PL 2x6	103.17 - 103.92	Manual	1.0000
L15	45	PL 1.25x5	102.92 - 103.17	Auto	0.4292
L15	46	PL 1.25x5	102.92 - 103.17	Auto	0.4292
L15	47	PL 1.25x5	102.92 - 103.17	Auto	0.4292
L15	49	PL 1.25x5	102.92 - 103.17	Auto	0.4292
L15	50	PL 1.25x5	102.92 - 103.17	Auto	0.4292
L15	57	PL 2x6	102.92 - 103.17	Manual	1.0000
L15	58	PL 2x6	102.92 - 103.17	Manual	1.0000
L15	59	PL 2x6	102.92 - 103.17	Manual	1.0000
L15	60	PL 2x6	102.92 - 103.17	Manual	1.0000
L16	45	PL 1.25x5	102.42 -	Auto	0.4262

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			102.92		
L16	46	PL 1.25x5	102.42 - 102.92	Auto	0.4262
L16	47	PL 1.25x5	102.42 - 102.92	Auto	0.4262
L16	49	PL 1.25x5	102.42 - 102.92	Auto	0.4262
L16	50	PL 1.25x5	102.42 - 102.92	Auto	0.4262
L16	57	PL 2x6	102.42 - 102.92	Manual	1.0000
L16	58	PL 2x6	102.42 - 102.92	Manual	1.0000
L16	59	PL 2x6	102.42 - 102.92	Manual	1.0000
L16	60	PL 2x6	102.42 - 102.92	Manual	1.0000
L17	45	PL 1.25x5	102.17 - 102.42	Auto	0.3293
L17	46	PL 1.25x5	102.17 - 102.42	Auto	0.3293
L17	47	PL 1.25x5	102.17 - 102.42	Auto	0.3293
L17	49	PL 1.25x5	102.17 - 102.42	Auto	0.3293
L17	50	PL 1.25x5	102.17 - 102.42	Auto	0.3293
L17	57	PL 2x6	102.17 - 102.42	Manual	1.0000
L17	58	PL 2x6	102.17 - 102.42	Manual	1.0000
L17	59	PL 2x6	102.17 - 102.42	Manual	1.0000
L17	60	PL 2x6	102.17 - 102.42	Manual	1.0000
L18	45	PL 1.25x5	100.92 - 102.17	Auto	0.3233
L18	46	PL 1.25x5	100.92 - 102.17	Auto	0.3233
L18	47	PL 1.25x5	100.92 - 102.17	Auto	0.3233
L18	49	PL 1.25x5	100.92 - 102.17	Auto	0.3233
L18	50	PL 1.25x5	100.92 - 102.17	Auto	0.3233
L18	57	PL 2x6	100.92 - 102.17	Manual	1.0000
L18	58	PL 2x6	100.92 - 102.17	Manual	1.0000
L18	59	PL 2x6	100.92 - 102.17	Manual	1.0000
L18	60	PL 2x6	100.92 - 102.17	Manual	1.0000
L19	45	PL 1.25x5	100.67 - 100.92	Auto	0.3574
L19	46	PL 1.25x5	100.67 - 100.92	Auto	0.3574
L19	47	PL 1.25x5	100.67 - 100.92	Auto	0.3574
L19	49	PL 1.25x5	100.67 - 100.92	Auto	0.3574

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L19	50	PL 1.25x5	100.67 - 100.92	Auto	0.3574
L19	57	PL 2x6	100.67 - 100.92	Manual	1.0000
L19	58	PL 2x6	100.67 - 100.92	Manual	1.0000
L19	59	PL 2x6	100.67 - 100.92	Manual	1.0000
L19	60	PL 2x6	100.67 - 100.92	Manual	1.0000
L20	45	PL 1.25x5	99.58 - 100.67	Auto	0.3386
L20	46	PL 1.25x5	99.58 - 100.67	Auto	0.3386
L20	47	PL 1.25x5	99.58 - 100.67	Auto	0.3386
L20	49	PL 1.25x5	100.17 - 100.67	Auto	0.3410
L20	50	PL 1.25x5	100.17 - 100.67	Auto	0.3410
L20	57	PL 2x6	99.58 - 100.67	Manual	1.0000
L20	58	PL 2x6	99.58 - 100.67	Manual	1.0000
L20	59	PL 2x6	99.58 - 100.67	Manual	1.0000
L20	60	PL 2x6	99.58 - 100.67	Manual	1.0000
L21	45	PL 1.25x5	99.33 - 99.58	Auto	0.5475
L21	46	PL 1.25x5	99.33 - 99.58	Auto	0.5475
L21	47	PL 1.25x5	99.33 - 99.58	Auto	0.5475
L21	57	PL 2x6	99.33 - 99.58	Manual	1.0000
L21	58	PL 2x6	99.33 - 99.58	Manual	1.0000
L21	59	PL 2x6	99.33 - 99.58	Manual	1.0000
L21	60	PL 2x6	99.33 - 99.58	Manual	1.0000
L22	45	PL 1.25x5	95.42 - 99.33	Auto	0.5039
L22	46	PL 1.25x5	95.42 - 99.33	Auto	0.5039
L22	47	PL 1.25x5	95.42 - 99.33	Auto	0.5039
L22	57	PL 2x6	95.42 - 99.33	Manual	1.0000
L22	58	PL 2x6	95.42 - 99.33	Manual	1.0000
L22	59	PL 2x6	95.42 - 99.33	Manual	1.0000
L22	60	PL 2x6	95.42 - 99.33	Manual	1.0000
L23	45	PL 1.25x5	95.17 - 95.42	Auto	0.3263
L23	46	PL 1.25x5	95.17 - 95.42	Auto	0.3263
L23	47	PL 1.25x5	95.17 - 95.42	Auto	0.3263
L23	57	PL 2x6	95.17 - 95.42	Manual	1.0000
L23	58	PL 2x6	95.17 - 95.42	Manual	1.0000
L23	59	PL 2x6	95.17 - 95.42	Manual	1.0000
L23	60	PL 2x6	95.17 - 95.42	Manual	1.0000
L24	45	PL 1.25x5	93.17 - 95.17	Auto	0.2904
L24	46	PL 1.25x5	93.17 - 95.17	Auto	0.2904
L24	47	PL 1.25x5	93.17 - 95.17	Auto	0.2904
L24	57	PL 2x6	90.17 - 95.17	Manual	1.0000
L24	58	PL 2x6	90.17 - 95.17	Manual	1.0000
L24	59	PL 2x6	90.17 - 95.17	Manual	1.0000
L24	60	PL 2x6	90.17 - 95.17	Manual	1.0000
L25	57	PL 2x6	85.17 - 90.17	Manual	1.0000
L25	58	PL 2x6	85.17 - 90.17	Manual	1.0000
L25	59	PL 2x6	85.17 - 90.17	Manual	1.0000
L25	60	PL 2x6	85.17 - 90.17	Manual	1.0000
L26	40	PL 1.25x4	80.50 - 82.00	Auto	0.0000
L26	41	PL 1.25x4	80.50 - 82.00	Auto	0.0000
L26	42	PL 1.25x4	80.50 - 82.00	Auto	0.0000
L26	43	PL 1.25x4	80.50 - 82.00	Auto	0.0000
L26	57	PL 2x6	80.50 - 85.17	Manual	1.0000
L26	58	PL 2x6	80.50 - 85.17	Manual	1.0000
L26	59	PL 2x6	80.50 - 85.17	Manual	1.0000
L26	60	PL 2x6	80.50 - 85.17	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L27	40	PL 1.25x4	80.25 - 80.50	Auto	0.1744
L27	41	PL 1.25x4	80.25 - 80.50	Auto	0.1744
L27	42	PL 1.25x4	80.25 - 80.50	Auto	0.1744
L27	43	PL 1.25x4	80.25 - 80.50	Auto	0.1744
L27	57	PL 2x6	80.25 - 80.50	Manual	1.0000
L27	58	PL 2x6	80.25 - 80.50	Manual	1.0000
L27	59	PL 2x6	80.25 - 80.50	Manual	1.0000
L27	60	PL 2x6	80.25 - 80.50	Manual	1.0000
L28	40	PL 1.25x4	75.25 - 80.25	Auto	0.1143
L28	41	PL 1.25x4	75.25 - 80.25	Auto	0.1143
L28	42	PL 1.25x4	75.25 - 80.25	Auto	0.1143
L28	43	PL 1.25x4	75.25 - 80.25	Auto	0.1143
L28	57	PL 2x6	75.25 - 80.25	Manual	1.0000
L28	58	PL 2x6	75.25 - 80.25	Manual	1.0000
L28	59	PL 2x6	75.25 - 80.25	Manual	1.0000
L28	60	PL 2x6	75.25 - 80.25	Manual	1.0000
L29	40	PL 1.25x4	73.58 - 75.25	Auto	0.0806
L29	41	PL 1.25x4	73.58 - 75.25	Auto	0.0806
L29	42	PL 1.25x4	73.58 - 75.25	Auto	0.0806
L29	43	PL 1.25x4	73.58 - 75.25	Auto	0.0806
L29	57	PL 2x6	73.58 - 75.25	Manual	1.0000
L29	58	PL 2x6	73.58 - 75.25	Manual	1.0000
L29	59	PL 2x6	73.58 - 75.25	Manual	1.0000
L29	60	PL 2x6	73.58 - 75.25	Manual	1.0000
L30	40	PL 1.25x4	73.33 - 73.58	Auto	0.0541
L30	41	PL 1.25x4	73.33 - 73.58	Auto	0.0541
L30	42	PL 1.25x4	73.33 - 73.58	Auto	0.0541
L30	43	PL 1.25x4	73.33 - 73.58	Auto	0.0541
L30	57	PL 2x6	73.33 - 73.58	Manual	1.0000
L30	58	PL 2x6	73.33 - 73.58	Manual	1.0000
L30	59	PL 2x6	73.33 - 73.58	Manual	1.0000
L30	60	PL 2x6	73.33 - 73.58	Manual	1.0000
L31	40	PL 1.25x4	69.00 - 73.33	Auto	0.0310
L31	41	PL 1.25x4	69.00 - 73.33	Auto	0.0310
L31	42	PL 1.25x4	69.00 - 73.33	Auto	0.0310
L31	43	PL 1.25x4	69.00 - 73.33	Auto	0.0310
L31	57	PL 2x6	69.00 - 73.33	Manual	1.0000
L31	58	PL 2x6	69.00 - 73.33	Manual	1.0000
L31	59	PL 2x6	69.00 - 73.33	Manual	1.0000
L31	60	PL 2x6	69.00 - 73.33	Manual	1.0000
L32	35	PL 1.25x5	67.00 - 69.00	Auto	0.2571
L32	36	PL 1.25x5	67.00 - 69.00	Auto	0.2571
L32	37	PL 1.25x5	67.00 - 69.00	Auto	0.2571
L32	38	PL 1.25x5	67.00 - 69.00	Auto	0.2571
L32	40	PL 1.25x4	67.00 - 69.00	Auto	0.0714
L32	41	PL 1.25x4	67.00 - 69.00	Auto	0.0714
L32	42	PL 1.25x4	67.00 - 69.00	Auto	0.0714
L32	43	PL 1.25x4	67.00 - 69.00	Auto	0.0714
L32	57	PL 2x6	67.00 - 69.00	Manual	1.0000
L32	58	PL 2x6	67.00 - 69.00	Manual	1.0000
L32	59	PL 2x6	67.00 - 69.00	Manual	1.0000
L32	60	PL 2x6	67.00 - 69.00	Manual	1.0000
L33	35	PL 1.25x5	66.75 - 67.00	Auto	0.2473
L33	36	PL 1.25x5	66.75 - 67.00	Auto	0.2473
L33	37	PL 1.25x5	66.75 - 67.00	Auto	0.2473
L33	38	PL 1.25x5	66.75 - 67.00	Auto	0.2473
L33	40	PL 1.25x4	66.75 - 67.00	Auto	0.0592
L33	41	PL 1.25x4	66.75 - 67.00	Auto	0.0592
L33	42	PL 1.25x4	66.75 - 67.00	Auto	0.0592
L33	43	PL 1.25x4	66.75 - 67.00	Auto	0.0592
L33	57	PL 2x6	66.75 - 67.00	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L33	58	PL 2x6	66.75 - 67.00	Manual	1.0000
L33	59	PL 2x6	66.75 - 67.00	Manual	1.0000
L33	60	PL 2x6	66.75 - 67.00	Manual	1.0000
L34	35	PL 1.25x5	66.50 - 66.75	Auto	0.2854
L34	36	PL 1.25x5	66.50 - 66.75	Auto	0.2854
L34	37	PL 1.25x5	66.50 - 66.75	Auto	0.2854
L34	38	PL 1.25x5	66.50 - 66.75	Auto	0.2854
L34	40	PL 1.25x4	66.50 - 66.75	Auto	0.1067
L34	41	PL 1.25x4	66.50 - 66.75	Auto	0.1067
L34	42	PL 1.25x4	66.50 - 66.75	Auto	0.1067
L34	43	PL 1.25x4	66.50 - 66.75	Auto	0.1067
L34	57	PL 2x6	66.50 - 66.75	Manual	1.0000
L34	58	PL 2x6	66.50 - 66.75	Manual	1.0000
L34	59	PL 2x6	66.50 - 66.75	Manual	1.0000
L34	60	PL 2x6	66.50 - 66.75	Manual	1.0000
L35	35	PL 1.25x5	61.50 - 66.50	Auto	0.2358
L35	36	PL 1.25x5	61.50 - 66.50	Auto	0.2358
L35	37	PL 1.25x5	61.50 - 66.50	Auto	0.2358
L35	38	PL 1.25x5	61.50 - 66.50	Auto	0.2358
L35	57	PL 2x6	61.50 - 66.50	Manual	1.0000
L35	58	PL 2x6	61.50 - 66.50	Manual	1.0000
L35	59	PL 2x6	61.50 - 66.50	Manual	1.0000
L35	60	PL 2x6	61.50 - 66.50	Manual	1.0000
L36	35	PL 1.25x5	56.50 - 61.50	Auto	0.1790
L36	36	PL 1.25x5	56.50 - 61.50	Auto	0.1790
L36	37	PL 1.25x5	56.50 - 61.50	Auto	0.1790
L36	38	PL 1.25x5	56.50 - 61.50	Auto	0.1790
L36	57	PL 2x6	56.50 - 61.50	Manual	1.0000
L36	58	PL 2x6	56.50 - 61.50	Manual	1.0000
L36	59	PL 2x6	56.50 - 61.50	Manual	1.0000
L36	60	PL 2x6	56.50 - 61.50	Manual	1.0000
L37	35	PL 1.25x5	51.50 - 56.50	Auto	0.1088
L37	36	PL 1.25x5	51.50 - 56.50	Auto	0.1088
L37	37	PL 1.25x5	51.50 - 56.50	Auto	0.1088
L37	38	PL 1.25x5	51.50 - 56.50	Auto	0.1088
L37	57	PL 2x6	51.50 - 56.50	Manual	1.0000
L37	58	PL 2x6	51.50 - 56.50	Manual	1.0000
L37	59	PL 2x6	51.50 - 56.50	Manual	1.0000
L37	60	PL 2x6	51.50 - 56.50	Manual	1.0000
L38	35	PL 1.25x5	48.25 - 51.50	Auto	0.0595
L38	36	PL 1.25x5	48.25 - 51.50	Auto	0.0595
L38	37	PL 1.25x5	48.25 - 51.50	Auto	0.0595
L38	38	PL 1.25x5	48.25 - 51.50	Auto	0.0595
L38	57	PL 2x6	48.25 - 51.50	Manual	1.0000
L38	58	PL 2x6	48.25 - 51.50	Manual	1.0000
L38	59	PL 2x6	48.25 - 51.50	Manual	1.0000
L38	60	PL 2x6	48.25 - 51.50	Manual	1.0000
L39	35	PL 1.25x5	48.00 - 48.25	Auto	0.2588
L39	36	PL 1.25x5	48.00 - 48.25	Auto	0.2588
L39	37	PL 1.25x5	48.00 - 48.25	Auto	0.2588
L39	38	PL 1.25x5	48.00 - 48.25	Auto	0.2588
L39	57	PL 2x6	48.00 - 48.25	Manual	1.0000
L39	58	PL 2x6	48.00 - 48.25	Manual	1.0000
L39	59	PL 2x6	48.00 - 48.25	Manual	1.0000
L39	60	PL 2x6	48.00 - 48.25	Manual	1.0000
L40	30	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	Auto	0.3925
L40	31	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	Auto	0.3925
L40	32	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	Auto	0.3925
L40	33	(Area) CCI-65FP-065125 (H)	44.25 - 47.00	Auto	0.3925
L40	35	PL 1.25x5	47.00 - 48.00	Auto	0.2265
L40	36	PL 1.25x5	47.00 - 48.00	Auto	0.2265

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L40	37	PL 1.25x5	47.00 - 48.00	Auto	0.2265
L40	38	PL 1.25x5	47.00 - 48.00	Auto	0.2265
L40	57	PL 2x6	44.25 - 48.00	Manual	1.0000
L40	58	PL 2x6	44.25 - 48.00	Manual	1.0000
L40	59	PL 2x6	44.25 - 48.00	Manual	1.0000
L40	60	PL 2x6	44.25 - 48.00	Manual	1.0000
L41	30	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	Auto	0.4237
L41	31	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	Auto	0.4237
L41	32	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	Auto	0.4237
L41	33	(Area) CCI-65FP-065125 (H)	44.00 - 44.25	Auto	0.4237
L41	57	PL 2x6	44.00 - 44.25	Manual	1.0000
L41	58	PL 2x6	44.00 - 44.25	Manual	1.0000
L41	59	PL 2x6	44.00 - 44.25	Manual	1.0000
L41	60	PL 2x6	44.00 - 44.25	Manual	1.0000
L42	30	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	Auto	0.3856
L42	31	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	Auto	0.3856
L42	32	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	Auto	0.3856
L42	33	(Area) CCI-65FP-065125 (H)	39.00 - 44.00	Auto	0.3856
L42	57	PL 2x6	39.00 - 44.00	Manual	1.0000
L42	58	PL 2x6	39.00 - 44.00	Manual	1.0000
L42	59	PL 2x6	39.00 - 44.00	Manual	1.0000
L42	60	PL 2x6	39.00 - 44.00	Manual	1.0000
L43	30	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	Auto	0.3672
L43	31	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	Auto	0.3672
L43	32	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	Auto	0.3672
L43	33	(Area) CCI-65FP-065125 (H)	38.50 - 39.00	Auto	0.3672
L43	57	PL 2x6	38.50 - 39.00	Manual	1.0000
L43	58	PL 2x6	38.50 - 39.00	Manual	1.0000
L43	59	PL 2x6	38.50 - 39.00	Manual	1.0000
L43	60	PL 2x6	38.50 - 39.00	Manual	1.0000
L44	30	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.3647
L44	31	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.3647
L44	32	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.3647
L44	33	(Area) CCI-65FP-065125 (H)	38.25 - 38.50	Auto	0.3647
L44	57	PL 2x6	38.25 - 38.50	Manual	1.0000
L44	58	PL 2x6	38.25 - 38.50	Manual	1.0000
L44	59	PL 2x6	38.25 - 38.50	Manual	1.0000
L44	60	PL 2x6	38.25 - 38.50	Manual	1.0000
L45	30	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	Auto	0.3157
L45	31	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	Auto	0.3157
L45	32	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	Auto	0.3157
L45	33	(Area) CCI-65FP-065125 (H)	30.00 - 38.25	Auto	0.3157
L45	57	PL 2x6	30.00 - 38.25	Manual	1.0000
L45	58	PL 2x6	30.00 - 38.25	Manual	1.0000
L45	59	PL 2x6	30.00 - 38.25	Manual	1.0000
L45	60	PL 2x6	30.00 - 38.25	Manual	1.0000
L46	30	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	Auto	0.3583
L46	31	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	Auto	0.3583
L46	32	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	Auto	0.3583
L46	33	(Area) CCI-65FP-065125 (H)	29.00 - 30.00	Auto	0.3583
L46	57	PL 2x6	29.00 - 30.00	Manual	1.0000
L46	58	PL 2x6	29.00 - 30.00	Manual	1.0000
L46	59	PL 2x6	29.00 - 30.00	Manual	1.0000
L46	60	PL 2x6	29.00 - 30.00	Manual	1.0000
L47	30	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	Auto	0.3168
L47	31	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	Auto	0.3168
L47	32	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	Auto	0.3168
L47	33	(Area) CCI-65FP-065125 (H)	24.00 - 29.00	Auto	0.3168
L47	57	PL 2x6	24.00 - 29.00	Manual	1.0000
L47	58	PL 2x6	24.00 - 29.00	Manual	1.0000
L47	59	PL 2x6	24.00 - 29.00	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L47	60	PL 2x6	24.00 - 29.00	Manual	1.0000
L48	30	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	Auto	0.2985
L48	31	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	Auto	0.2985
L48	32	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	Auto	0.2985
L48	33	(Area) CCI-65FP-065125 (H)	23.75 - 24.00	Auto	0.2985
L48	57	PL 2x6	23.75 - 24.00	Manual	1.0000
L48	58	PL 2x6	23.75 - 24.00	Manual	1.0000
L48	59	PL 2x6	23.75 - 24.00	Manual	1.0000
L48	60	PL 2x6	23.75 - 24.00	Manual	1.0000
L49	30	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	Auto	0.2864
L49	31	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	Auto	0.2864
L49	32	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	Auto	0.2864
L49	33	(Area) CCI-65FP-065125 (H)	23.50 - 23.75	Auto	0.2864
L49	57	PL 2x6	23.50 - 23.75	Manual	1.0000
L49	58	PL 2x6	23.50 - 23.75	Manual	1.0000
L49	59	PL 2x6	23.50 - 23.75	Manual	1.0000
L49	60	PL 2x6	23.50 - 23.75	Manual	1.0000
L50	30	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	Auto	0.2578
L50	31	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	Auto	0.2578
L50	32	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	Auto	0.2578
L50	33	(Area) CCI-65FP-065125 (H)	18.50 - 23.50	Auto	0.2578
L50	57	PL 2x6	18.50 - 23.50	Manual	1.0000
L50	58	PL 2x6	18.50 - 23.50	Manual	1.0000
L50	59	PL 2x6	18.50 - 23.50	Manual	1.0000
L50	60	PL 2x6	18.50 - 23.50	Manual	1.0000
L51	30	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	Auto	0.2024
L51	31	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	Auto	0.2024
L51	32	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	Auto	0.2024
L51	33	(Area) CCI-65FP-065125 (H)	13.50 - 18.50	Auto	0.2024
L51	57	PL 2x6	13.50 - 18.50	Manual	1.0000
L51	58	PL 2x6	13.50 - 18.50	Manual	1.0000
L51	59	PL 2x6	13.50 - 18.50	Manual	1.0000
L51	60	PL 2x6	13.50 - 18.50	Manual	1.0000
L52	30	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	Auto	0.1573
L52	31	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	Auto	0.1573
L52	32	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	Auto	0.1573
L52	33	(Area) CCI-65FP-065125 (H)	8.50 - 13.50	Auto	0.1573
L52	57	PL 2x6	8.50 - 13.50	Manual	1.0000
L52	58	PL 2x6	8.50 - 13.50	Manual	1.0000
L52	59	PL 2x6	8.50 - 13.50	Manual	1.0000
L52	60	PL 2x6	8.50 - 13.50	Manual	1.0000
L53	30	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	Auto	0.1018
L53	31	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	Auto	0.1018
L53	32	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	Auto	0.1018
L53	33	(Area) CCI-65FP-065125 (H)	3.50 - 8.50	Auto	0.1018
L53	57	PL 2x6	3.50 - 8.50	Manual	1.0000
L53	58	PL 2x6	3.50 - 8.50	Manual	1.0000
L53	59	PL 2x6	3.50 - 8.50	Manual	1.0000
L53	60	PL 2x6	3.50 - 8.50	Manual	1.0000
L54	30	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	Auto	0.0619
L54	31	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	Auto	0.0619
L54	32	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	Auto	0.0619
L54	33	(Area) CCI-65FP-065125 (H)	0.00 - 3.50	Auto	0.0619
L54	57	PL 2x6	0.00 - 3.50	Manual	1.0000
L54	58	PL 2x6	0.00 - 3.50	Manual	1.0000
L54	59	PL 2x6	0.00 - 3.50	Manual	1.0000
L54	60	PL 2x6	0.00 - 3.50	Manual	1.0000

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
***									
DMP65R-BU6D w/ Mount Pipe	A	From Centroid-Leg	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.96 12.70 13.46 15.02	5.97 6.63 7.30 8.69	0.11 0.20 0.30 0.53
DMP65R-BU6D w/ Mount Pipe	B	From Centroid-Leg	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.96 12.70 13.46 15.02	5.97 6.63 7.30 8.69	0.11 0.20 0.30 0.53
DMP65R-BU6D w/ Mount Pipe	C	From Centroid-Leg	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	11.96 12.70 13.46 15.02	5.97 6.63 7.30 8.69	0.11 0.20 0.30 0.53
AIR 6449 N77 w/ Mount Pipe	A	From Centroid-Leg	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.65 3.99 4.35 5.11	2.72 3.03 3.36 4.05	0.11 0.15 0.20 0.31
AIR 6449 N77 w/ Mount Pipe	B	From Centroid-Leg	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.65 3.99 4.35 5.11	2.72 3.03 3.36 4.05	0.11 0.15 0.20 0.31
AIR 6449 N77 w/ Mount Pipe	C	From Centroid-Leg	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.65 3.99 4.35 5.11	2.72 3.03 3.36 4.05	0.11 0.15 0.20 0.31
QD6616-7 w/ Mount Pipe	A	From Centroid-Leg	4.00 2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.56 13.30 14.06 15.63	6.93 7.60 8.28 9.68	0.16 0.25 0.36 0.61
QD6616-7 w/ Mount Pipe	B	From Centroid-Leg	4.00 2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.56 13.30 14.06 15.63	6.93 7.60 8.28 9.68	0.16 0.25 0.36 0.61
QD6616-7 w/ Mount Pipe	C	From Centroid-Leg	4.00 2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.56 13.30 14.06 15.63	6.93 7.60 8.28 9.68	0.16 0.25 0.36 0.61
AIR 6419 B77G w/ Mount Pipe	A	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.32 4.74 5.17 6.09	2.49 2.84 3.21 4.00	0.08 0.11 0.15 0.24
AIR 6419 B77G w/ Mount Pipe	B	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.32 4.74 5.17 6.09	2.49 2.84 3.21 4.00	0.08 0.11 0.15 0.24
AIR 6419 B77G w/ Mount Pipe	C	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.32 4.74 5.17 6.09	2.49 2.84 3.21 4.00	0.08 0.11 0.15 0.24
RADIO 4478 B14	A	From Centroid-Leg	4.00 -6.00	30.0000	152.00	No Ice 1/2" Ice	2.02 2.20	1.25 1.40	0.06 0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		g	2.00			1" Ice	2.39	1.55	0.10
						2" Ice	2.78	1.89	0.15
RADIO 4478 B14	B	From Centroid-Le g	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.02 2.20 2.39 2.78	1.25 1.40 1.55 1.89	0.06 0.08 0.10 0.15
RADIO 4478 B14	C	From Centroid-Le g	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.02 2.20 2.39 2.78	1.25 1.40 1.55 1.89	0.06 0.08 0.10 0.15
RRUS 4449 B5/B12	A	From Centroid-Le g	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.14 2.33 2.72	1.41 1.56 1.73 2.07	0.07 0.09 0.11 0.16
RRUS 4449 B5/B12	B	From Centroid-Le g	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.14 2.33 2.72	1.41 1.56 1.73 2.07	0.07 0.09 0.11 0.16
RRUS 4449 B5/B12	C	From Centroid-Le g	4.00 -6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.14 2.33 2.72	1.41 1.56 1.73 2.07	0.07 0.09 0.11 0.16
RRUS 32 B2	A	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B2	B	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B2	C	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B30	A	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B30	B	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B30	C	From Centroid-Le g	4.00 -2.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B66a	A	From Centroid-Le g	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.85 3.08 3.31 3.80	1.78 1.97 2.17 2.59	0.06 0.08 0.10 0.16
RRUS 32 B66a	B	From Centroid-Le g	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.85 3.08 3.31 3.80	1.78 1.97 2.17 2.59	0.06 0.08 0.10 0.16
RRUS 32 B66a	C	From Centroid-Le g	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice	2.85 3.08 3.31	1.78 1.97 2.17	0.06 0.08 0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.80	2.59	0.16
DC9-48-60-24-8C-EV	A	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.14 1.79 2.00 2.45	1.14 1.79 2.00 2.45	0.03 0.05 0.07 0.13
DC9-48-60-24-8C-EV	B	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.14 1.79 2.00 2.45	1.14 1.79 2.00 2.45	0.03 0.05 0.07 0.13
DC9-48-60-24-8C-EV	C	From Centroid-Leg	4.00 6.00 2.00	30.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.14 1.79 2.00 2.45	1.14 1.79 2.00 2.45	0.03 0.05 0.07 0.13
2.9" x 5'-6" Mount Pipe	A	From Centroid-Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.52 1.85 2.20 2.91	1.52 1.85 2.20 2.91	0.03 0.04 0.06 0.10
2.9" x 5'-6" Mount Pipe	B	From Centroid-Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.52 1.85 2.20 2.91	1.52 1.85 2.20 2.91	0.03 0.04 0.06 0.10
2.9" x 5'-6" Mount Pipe	C	From Centroid-Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.52 1.85 2.20 2.91	1.52 1.85 2.20 2.91	0.03 0.04 0.06 0.10
2.9" x 12'-6" Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.59 4.88 6.17 8.40	3.59 4.88 6.17 8.40	0.07 0.10 0.13 0.23
2.9" x 12'-6" Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.59 4.88 6.17 8.40	3.59 4.88 6.17 8.40	0.07 0.10 0.13 0.23
2.9" x 12'-6" Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.59 4.88 6.17 8.40	3.59 4.88 6.17 8.40	0.07 0.10 0.13 0.23
RMQP-12-H5 (Without Catwalk)	C	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 18.01 21.34 28.08	14.69 18.01 21.34 28.08	1.25 1.57 1.94 2.85
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***									
NNVV-65B-R4 w/ Mount Pipe	A	From Centroid-Leg	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
NNVV-65B-R4 w/ Mount Pipe	B	From Centroid-Leg	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
NNVV-65B-R4 w/ Mount Pipe	C	From Centroid-Leg	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	7.55 8.04 8.53 9.56	4.23 4.67 5.12 6.05	0.11 0.20 0.30 0.53
AAHC w/ Mount Pipe	A	From Centroid-Le	4.00 6.00	25.0000	138.00	No Ice 1/2" Ice	4.41 4.73	2.69 3.08	0.12 0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		g	2.00			1" Ice	5.06	3.49	0.20
						2" Ice	5.74	4.36	0.31
AAHC w/ Mount Pipe	B	From Centroid-Le g	4.00 6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	4.41 4.73 5.06	2.69 3.08 3.49	0.12 0.16 0.20
						2" Ice	5.74	4.36	0.31
AAHC w/ Mount Pipe	C	From Centroid-Le g	4.00 6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	4.41 4.73 5.06	2.69 3.08 3.49	0.12 0.16 0.20
						2" Ice	5.74	4.36	0.31
(3) RRH2X50-800	A	From Centroid-Le g	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
						2" Ice	2.92	2.51	0.16
(3) RRH2X50-800	C	From Centroid-Le g	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
						2" Ice	2.92	2.51	0.16
(3) PCS 1900MHZ 4X45W-65MHZ	B	From Centroid-Le g	4.00 -6.00 2.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
						2" Ice	3.19	3.09	0.17
HORIZON COMPACT	B	From Centroid-Le g	4.00 6.00 5.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	0.72 0.83 0.94	0.37 0.45 0.54	0.01 0.02 0.03
						2" Ice	1.19	0.74	0.05
HORIZON COMPACT	C	From Centroid-Le g	4.00 6.00 5.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	0.72 0.83 0.94	0.37 0.45 0.54	0.01 0.02 0.03
						2" Ice	1.19	0.74	0.05
CW JUNCTION BOX	C	From Centroid-Le g	4.00 6.00 5.00	25.0000	138.00	No Ice 1/2" Ice 1" Ice	1.20 1.34 1.48	0.60 0.70 0.81	0.00 0.01 0.02
						2" Ice	1.79	1.06	0.05
Platform Mount [LP 715-1]	C	None		0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	46.77 50.25 53.97 62.22	46.77 50.25 53.97 62.22	1.77 2.88 4.09 6.81
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AIR 21 B2A/B4P	A	From Centroid-Fa ce	4.00 -6.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice	3.19 3.51 3.85	1.98 2.28 2.58	0.08 0.12 0.17
						2" Ice	4.53	3.23	0.28
AIR 21 B2A/B4P	B	From Centroid-Fa ce	4.00 -6.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice	3.19 3.51 3.85	1.98 2.28 2.58	0.08 0.12 0.17
						2" Ice	4.53	3.23	0.28
AIR 21 B2A/B4P	C	From Centroid-Fa ce	4.00 -6.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice	3.19 3.51 3.85	1.98 2.28 2.58	0.08 0.12 0.17
						2" Ice	4.53	3.23	0.28
AIR -32 B2A/B66AA	A	From Centroid-Fa ce	4.00 -2.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice	3.86 4.23 4.61	2.51 2.86 3.22	0.17 0.22 0.27
						2" Ice	5.41	3.97	0.40
AIR -32 B2A/B66AA	B	From Centroid-Fa	4.00 -2.00	30.0000	120.00	No Ice 1/2" Ice	3.86 4.23	2.51 2.86	0.17 0.22

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		ce	0.00			1" Ice	4.61	3.22	0.27
						2" Ice	5.41	3.97	0.40
AIR -32 B2A/B66AA	C	From	4.00	30.0000	120.00	No Ice	3.86	2.51	0.17
		Centroid-Fa	-2.00			1/2" Ice	4.23	2.86	0.22
		ce	0.00			1" Ice	4.61	3.22	0.27
						2" Ice	5.41	3.97	0.40
AIR6449 B41	A	From	4.00	30.0000	120.00	No Ice	5.68	2.49	0.10
		Centroid-Fa	2.00			1/2" Ice	5.98	2.72	0.14
		ce	0.00			1" Ice	6.29	2.95	0.19
						2" Ice	6.93	3.44	0.29
AIR6449 B41	B	From	4.00	30.0000	120.00	No Ice	5.68	2.49	0.10
		Centroid-Fa	2.00			1/2" Ice	5.98	2.72	0.14
		ce	0.00			1" Ice	6.29	2.95	0.19
						2" Ice	6.93	3.44	0.29
AIR6449 B41	C	From	4.00	30.0000	120.00	No Ice	5.68	2.49	0.10
		Centroid-Fa	2.00			1/2" Ice	5.98	2.72	0.14
		ce	0.00			1" Ice	6.29	2.95	0.19
						2" Ice	6.93	3.44	0.29
APXVAARR24_43-U-NA20	A	From	4.00	30.0000	120.00	No Ice	14.67	5.32	0.15
		Centroid-Fa	6.00			1/2" Ice	15.43	5.99	0.27
		ce	0.00			1" Ice	16.21	6.68	0.39
						2" Ice	17.81	8.08	0.66
APXVAARR24_43-U-NA20	B	From	4.00	30.0000	120.00	No Ice	14.67	5.32	0.15
		Centroid-Fa	6.00			1/2" Ice	15.43	5.99	0.27
		ce	0.00			1" Ice	16.21	6.68	0.39
						2" Ice	17.81	8.08	0.66
APXVAARR24_43-U-NA20	C	From	4.00	30.0000	120.00	No Ice	14.67	5.32	0.15
		Centroid-Fa	6.00			1/2" Ice	15.43	5.99	0.27
		ce	0.00			1" Ice	16.21	6.68	0.39
						2" Ice	17.81	8.08	0.66
KRY 112 144/1	A	From	4.00	30.0000	120.00	No Ice	0.35	0.17	0.01
		Centroid-Fa	-6.00			1/2" Ice	0.43	0.23	0.01
		ce	0.00			1" Ice	0.51	0.30	0.02
						2" Ice	0.70	0.46	0.03
KRY 112 144/1	B	From	4.00	30.0000	120.00	No Ice	0.35	0.17	0.01
		Centroid-Fa	-6.00			1/2" Ice	0.43	0.23	0.01
		ce	0.00			1" Ice	0.51	0.30	0.02
						2" Ice	0.70	0.46	0.03
KRY 112 144/1	C	From	4.00	30.0000	120.00	No Ice	0.35	0.17	0.01
		Centroid-Fa	-6.00			1/2" Ice	0.43	0.23	0.01
		ce	0.00			1" Ice	0.51	0.30	0.02
						2" Ice	0.70	0.46	0.03
RADIO 4449 B71 B85A_T-MOBILE	A	From	4.00	30.0000	120.00	No Ice	1.97	1.59	0.07
		Centroid-Fa	6.00			1/2" Ice	2.15	1.75	0.09
		ce	0.00			1" Ice	2.33	1.92	0.12
						2" Ice	2.72	2.28	0.17
RADIO 4449 B71 B85A_T-MOBILE	B	From	4.00	30.0000	120.00	No Ice	1.97	1.59	0.07
		Centroid-Fa	6.00			1/2" Ice	2.15	1.75	0.09
		ce	0.00			1" Ice	2.33	1.92	0.12
						2" Ice	2.72	2.28	0.17
RADIO 4449 B71 B85A_T-MOBILE	C	From	4.00	30.0000	120.00	No Ice	1.97	1.59	0.07
		Centroid-Fa	6.00			1/2" Ice	2.15	1.75	0.09
		ce	0.00			1" Ice	2.33	1.92	0.12
						2" Ice	2.72	2.28	0.17
RRUS 4415 B25_CCIV2	A	From	4.00	30.0000	120.00	No Ice	1.84	0.82	0.05
		Centroid-Fa	6.00			1/2" Ice	2.01	0.94	0.06
		ce	0.00			1" Ice	2.19	1.07	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	2.57	1.37	0.12
RRUS 4415 B25_CCIV2	B	From Centroid-Face	4.00 6.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.84 2.01 2.19 2.57	0.82 0.94 1.07 1.37	0.05 0.06 0.08 0.12
RRUS 4415 B25_CCIV2	C	From Centroid-Face	4.00 6.00 0.00	30.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.84 2.01 2.19 2.57	0.82 0.94 1.07 1.37	0.05 0.06 0.08 0.12
Platform Mount [LP 301-1_KCKR]	C	None		0.0000	120.00	No Ice 1/2" Ice 1" Ice 2" Ice	35.03 44.46 53.72 72.29	35.03 44.46 53.72 72.29	1.86 2.52 3.33 5.42
***									
CBRS w/ Mount Pipe	A	From Face	4.00 -6.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.45 1.67 1.90 2.42	0.99 1.18 1.39 1.85	0.03 0.05 0.07 0.12
CBRS w/ Mount Pipe	B	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.45 1.67 1.90 2.42	0.99 1.18 1.39 1.85	0.03 0.05 0.07 0.12
CBRS w/ Mount Pipe	C	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.45 1.67 1.90 2.42	0.99 1.18 1.39 1.85	0.03 0.05 0.07 0.12
(2) JAHH-65A-R3B w/ Mount Pipe	A	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.35 3.64 3.95 4.59	2.61 2.89 3.18 3.79	0.07 0.13 0.19 0.35
(2) JAHH-65A-R3B w/ Mount Pipe	B	From Face	4.00 -4.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.35 3.64 3.95 4.59	2.61 2.89 3.18 3.79	0.07 0.13 0.19 0.35
(2) JAHH-65A-R3B w/ Mount Pipe	C	From Face	4.00 -4.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.35 3.64 3.95 4.59	2.61 2.89 3.18 3.79	0.07 0.13 0.19 0.35
Sub6 Antenna - VZS01 w/ Mount Pipe	A	From Face	4.00 2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.92 5.26 5.62 6.37	2.69 3.15 3.63 4.64	0.10 0.14 0.19 0.29
Sub6 Antenna - VZS01 w/ Mount Pipe	B	From Face	4.00 2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.92 5.26 5.62 6.37	2.69 3.15 3.63 4.64	0.10 0.14 0.19 0.29
Sub6 Antenna - VZS01 w/ Mount Pipe	C	From Face	4.00 2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.92 5.26 5.62 6.37	2.69 3.15 3.63 4.64	0.10 0.14 0.19 0.29
BXA-70063/4CF w/ Mount Pipe	A	From Face	4.00 6.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.84 5.35 5.88 6.99	3.54 4.03 4.53 5.59	0.04 0.08 0.12 0.24
BXA-70063/4CF w/ Mount Pipe	B	From Face	4.00 6.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	6.99	5.59	0.24
BXA-70063/4CF w/ Mount Pipe	C	From Face	4.00 6.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.84 5.35 5.88 6.99	3.54 4.03 4.53 5.59	0.04 0.08 0.12 0.24
RFV01U-D2A	A	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D2A	B	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D2A	C	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
RFV01U-D1A	A	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
RFV01U-D1A	B	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
RFV01U-D1A	C	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
DB-C1-12C-24AB-0Z	A	From Face	4.00 -2.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.06 4.32 4.58 5.14	3.10 3.34 3.58 4.09	0.03 0.07 0.11 0.20
T-Arm Mount [TA 602-3]	C	None		0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	13.40 16.44 19.70 25.86	13.40 16.44 19.70 25.86	0.77 1.00 1.29 2.05
***									
Bridge Stiffener (76" x 10.5" x 1.25")	A	From Leg	0.50 0.00 0.00	0.0000	109.50	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 2.04 2.77 3.93	7.80 8.29 8.77 9.74	0.28 0.31 0.35 0.45
Bridge Stiffener (76" x 10.5" x 1.25")	B	From Leg	0.50 0.00 0.00	0.0000	109.50	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 2.04 2.77 3.93	7.80 8.29 8.77 9.74	0.28 0.31 0.35 0.45
Bridge Stiffener (76" x 10.5" x 1.25")	C	From Leg	0.50 0.00 0.00	0.0000	109.50	No Ice 1/2" Ice 1" Ice 2" Ice	1.32 2.04 2.77 3.93	7.80 8.29 8.77 9.74	0.28 0.31 0.35 0.45
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
VHLP2-23	B	Paraboloid w/Shroud (HP)	From Centroid -Leg	4.00 6.00 5.00	60.0000		138.00	2.17	No Ice 1/2" Ice 1" Ice 2" Ice	3.72 4.01 4.30 4.88	0.03 0.05 0.07 0.11
VHLP2-18	C	Paraboloid w/Shroud (HP)	From Centroid -Leg	4.00 6.00 5.00	60.0000		138.00	2.17	No Ice 1/2" Ice 1" Ice 2" Ice	3.72 4.01 4.30 4.88	0.03 0.05 0.07 0.11

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	150 - 145 (1)	TP15.7317x15x0.2188	5.00	0.00	0.0	10.9269	-4.15	491.71	0.008
L2	145 - 140 (2)	TP16.4634x15.7317x0.2188	5.00	0.00	0.0	11.4423	-4.54	514.90	0.009
L3	140 - 135 (3)	TP17.1951x16.4634x0.2188	5.00	0.00	0.0	11.9577	-8.02	538.10	0.015
L4	135 - 130 (4)	TP17.9268x17.1951x0.2188	5.00	0.00	0.0	12.4731	-8.48	561.29	0.015
L5	130 - 128.5 (5)	TP18.1463x17.9268x0.2188	1.50	0.00	0.0	12.6277	-8.62	568.25	0.015
L6	128.5 - 128.25 (6)	TP18.1829x18.1463x0.6688	0.25	0.00	0.0	37.7146	-8.68	1697.16	0.005
L7	128.25 - 123.25 (7)	TP18.9146x18.1829x0.6438	5.00	0.00	0.0	37.8733	-9.49	1704.30	0.006
L8	123.25 - 118.25 (8)	TP19.6463x18.9146x0.6188	5.00	0.00	0.0	37.9101	-14.50	1705.95	0.009
L9	118.25 - 113.25 (9)	TP20.378x19.6463x0.6063	5.00	0.00	0.0	38.5970	-15.42	1736.87	0.009
L10	113.25 - 109 (10)	TP21x20.378x0.5938	4.25	0.00	0.0	39.0142	-17.18	1755.64	0.010
L11	109 - 108.75 (11)	TP21.0378x21x0.725	0.25	0.00	0.0	47.4201	-17.24	2133.91	0.008
L12	108.75 - 104.17 (12)	TP21.7293x21.0378x0.7	4.58	0.00	0.0	47.4001	-18.23	2133.01	0.009
L13	104.17 - 103.92 (13)	TP21.7671x21.7293x0.975	0.25	0.00	0.0	65.2767	-18.32	2937.45	0.006
L14	103.92 - 103.17 (14)	TP21.8803x21.7671x0.975	0.75	0.00	0.0	65.6323	-18.54	2953.45	0.006
L15	103.17 - 102.92 (15)	TP21.9181x21.8803x1.125	0.25	0.00	0.0	75.3229	-18.62	3389.53	0.005
L16	102.92 - 102.42 (16)	TP21.9936x21.9181x1.125	0.50	0.00	0.0	75.5964	-18.78	3401.84	0.006
L17	102.42 - 102.17 (17)	TP22.0313x21.9936x0.95	0.25	0.00	0.0	64.4878	-18.86	2901.95	0.006
L18	102.17 - 100.92 (18)	TP22.2201x22.0313x0.95	1.25	0.00	0.0	65.0652	-19.22	2927.93	0.007
L19	100.92 - 100.67 (19)	TP22.2578x22.2201x1.025	0.25	0.00	0.0	70.0790	-19.31	3153.55	0.006
L20	100.67 - 99.58	TP22.4224x22.2578x1	1.09	0.00	0.0	68.9802	-19.65	3104.11	0.006

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L21	99.58 - 99.33 (20)	TP22.4602x22.4224x1.4	0.25	0.00	0.0	94.9392	-19.75	4272.27	0.005
L22	99.33 - 95.42 (21)	TP23.0506x22.4602x1.35	3.91	0.00	0.0	94.3324	-23.64	4244.96	0.006
L23	95.42 - 95.17 (22)	TP23.0883x23.0506x1.05	0.25	0.00	0.0	74.5116	-23.72	3353.02	0.007
L24	95.17 - 90.17 (23)	TP23.8433x23.0883x1	5.00	0.00	0.0	73.5555	-25.23	3310.00	0.008
L25	90.17 - 85.17 (24)	TP24.5983x23.8433x0.975	5.00	0.00	0.0	74.1654	-26.76	3337.45	0.008
L26	85.17 - 80.5 (25)	TP25.3035x24.5983x0.95	4.67	0.00	0.0	74.4974	-28.22	3352.38	0.008
L27	80.5 - 80.25 (26)	TP25.3413x25.3035x1.3	0.25	0.00	0.0	100.6370	-28.33	4528.65	0.006
L28	80.25 - 75.25 (27)	TP26.0963x25.3413x1.25	5.00	0.00	0.0	100.0060	-30.29	4500.28	0.007
L29	75.25 - 73.58 (28)	TP26.3484x26.0963x1.25	1.67	0.00	0.0	101.0210	-30.94	4545.95	0.007
L30	73.58 - 73.33 (29)	TP26.3862x26.3484x1.225	0.25	0.00	0.0	99.2482	-31.06	4466.17	0.007
L31	73.33 - 69 (30)	TP27.04x26.3862x1.225	4.33	0.00	0.0	100.0400	-31.58	4501.82	0.007
L32	69 - 67 (31)	TP26.8969x26.087x1.2875	5.00	0.00	0.0	106.1700	-34.66	4777.65	0.007
L33	67 - 66.75 (32)	TP26.9374x26.8969x1.2875	0.25	0.00	0.0	106.3380	-34.78	4785.21	0.007
L34	66.75 - 66.5 (33)	TP26.9779x26.9374x1.3625	0.25	0.00	0.0	112.3810	-34.89	5057.15	0.007
L35	66.5 - 61.5 (34)	TP27.7878x26.9779x1.3125	5.00	0.00	0.0	111.8910	-37.10	5035.10	0.007
L36	61.5 - 56.5 (35)	TP28.5976x27.7878x1.2875	5.00	0.00	0.0	113.2210	-39.34	5094.94	0.008
L37	56.5 - 51.5 (36)	TP29.4075x28.5976x1.2375	5.00	0.00	0.0	112.2500	-41.61	5051.27	0.008
L38	51.5 - 48.25 (37)	TP29.9339x29.4075x1.2125	3.25	0.00	0.0	112.1360	-43.10	5046.10	0.009
L39	48.25 - 48 (38)	TP29.9744x29.9339x1.6125	0.25	0.00	0.0	147.2620	-43.25	6626.80	0.007
L40	48 - 44.25 (39)	TP30.5818x29.9744x1.5625	3.75	0.00	0.0	146.0040	-45.25	6570.16	0.007
L41	44.25 - 44 (40)	TP30.6223x30.5818x1.6625	0.25	0.00	0.0	155.0290	-45.40	6976.32	0.007
L42	44 - 39 (41)	TP31.4322x30.6223x1.6125	5.00	0.00	0.0	154.8310	-48.23	6967.41	0.007
L43	39 - 38.5 (42)	TP31.5132x31.4322x1.6125	0.50	0.00	0.0	155.2520	-48.53	6986.34	0.007
L44	38.5 - 38.25 (43)	TP31.5537x31.5132x1.6125	0.25	0.00	0.0	155.4620	-48.67	6995.80	0.007
L45	38.25 - 30 (44)	TP32.89x31.5537x1.5625	8.25	0.00	0.0	154.3570	-51.11	6946.05	0.007
L46	30 - 29 (45)	TP32.4616x31.6171x1.6813	5.00	0.00	0.0	166.6380	-56.21	7498.72	0.007
L47	29 - 24 (46)	TP33.3062x32.4616x1.6313	5.00	0.00	0.0	166.3810	-59.31	7487.16	0.008
L48	24 - 23.75 (47)	TP33.3484x33.3062x1.6313	0.25	0.00	0.0	166.6030	-59.47	7497.14	0.008
L49	23.75 - 23.5 (48)	TP33.3906x33.3484x1.6063	0.25	0.00	0.0	164.3980	-59.63	7397.90	0.008
L50	23.5 - 18.5 (49)	TP34.2352x33.3906x1.5813	5.00	0.00	0.0	166.267	-62.74	7482.00	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L51	18.5 - 13.5 (51)	TP35.0797x34.2352x1.5313	5.00	0.00	0.0	165.4200	-65.89	7443.91	0.009
L52	13.5 - 8.5 (52)	TP35.9243x35.0797x1.5063	5.00	0.00	0.0	166.9370	-69.07	7512.17	0.009
L53	8.5 - 3.5 (53)	TP36.7688x35.9243x1.4563	5.00	0.00	0.0	165.5900	-72.27	7451.57	0.010
L54	3.5 - 0 (54)	TP37.36x36.7688x1.4313	3.50	0.00	0.0	165.5880	-74.53	7451.45	0.010

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)	TP15.7317x15x0.2188	54.95	194.61	0.282	0.00	194.61	0.000
L2	145 - 140 (2)	TP16.4634x15.7317x0.2188	90.88	213.54	0.426	0.00	213.54	0.000
L3	140 - 135 (3)	TP17.1951x16.4634x0.2188	144.54	233.34	0.619	0.00	233.34	0.000
L4	135 - 130 (4)	TP17.9268x17.1951x0.2188	204.89	254.02	0.807	0.00	254.02	0.000
L5	130 - 128.5 (5)	TP18.1463x17.9268x0.2188	223.44	260.40	0.858	0.00	260.40	0.000
L6	128.5 - 128.25 (6)	TP18.1829x18.1463x0.6688	226.55	740.77	0.306	0.00	740.77	0.000
L7	128.25 - 123.25 (7)	TP18.9146x18.1829x0.6438	290.17	778.24	0.373	0.00	778.24	0.000
L8	123.25 - 118.25 (8)	TP19.6463x18.9146x0.6188	363.76	813.39	0.447	0.00	813.39	0.000
L9	118.25 - 113.25 (9)	TP20.378x19.6463x0.6063	453.56	862.07	0.526	0.00	862.07	0.000
L10	113.25 - 109 (10)	TP21x20.378x0.5938	532.33	900.72	0.591	0.00	900.72	0.000
L11	109 - 108.75 (11)	TP21.0378x21x0.725	537.17	1082.83	0.496	0.00	1082.83	0.000
L12	108.75 - 104.17 (12)	TP21.7293x21.0378x0.7	627.14	1123.16	0.558	0.00	1123.16	0.000
L13	104.17 - 103.92 (13)	TP21.7671x21.7293x0.975	632.13	1509.43	0.419	0.00	1509.43	0.000
L14	103.92 - 103.17 (14)	TP21.8803x21.7671x0.975	647.15	1526.28	0.424	0.00	1526.28	0.000
L15	103.17 - 102.92 (15)	TP21.9181x21.8803x1.125	652.18	1729.90	0.377	0.00	1729.90	0.000
L16	102.92 - 102.42 (16)	TP21.9936x21.9181x1.125	662.26	1742.81	0.380	0.00	1742.81	0.000
L17	102.42 - 102.17 (17)	TP22.0313x21.9936x0.95	667.31	1514.58	0.441	0.00	1514.58	0.000
L18	102.17 - 100.92 (18)	TP22.2201x22.0313x0.95	692.72	1542.41	0.449	0.00	1542.41	0.000
L19	100.92 - 100.67 (19)	TP22.2578x22.2201x1.025	697.83	1652.64	0.422	0.00	1652.64	0.000
L20	100.67 - 99.58 (20)	TP22.4224x22.2578x1	720.21	1643.76	0.438	0.00	1643.76	0.000
L21	99.58 - 99.33 (21)	TP22.4602x22.4224x1.4	725.37	2182.80	0.332	0.00	2182.80	0.000
L22	99.33 - 95.42 (22)	TP23.0506x22.4602x1.35	818.32	2243.78	0.365	0.00	2243.78	0.000
L23	95.42 - 95.17 (23)	TP23.0883x23.0506x1.05	824.27	1824.93	0.452	0.00	1824.93	0.000

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 $\frac{M_{uy}}{\phi M_{ny}}$
L24	95.17 - 90.17 (24)	TP23.8433x23.0883x1	945.15	1874.24	0.504	0.00	1874.24	0.000
L25	90.17 - 85.17 (25)	TP24.5983x23.8433x0.975	1069.53	1959.01	0.546	0.00	1959.01	0.000
L26	85.17 - 80.5 (26)	TP25.3035x24.5983x0.95	1188.78	2033.02	0.585	0.00	2033.02	0.000
L27	80.5 - 80.25 (27)	TP25.3413x25.3035x1.3	1195.24	2672.39	0.447	0.00	2672.39	0.000
L28	80.25 - 75.25 (28)	TP26.0963x25.3413x1.25	1326.44	2754.41	0.482	0.00	2754.41	0.000
L29	75.25 - 73.58 (29)	TP26.3484x26.0963x1.25	1371.05	2811.96	0.488	0.00	2811.96	0.000
L30	73.58 - 73.33 (30)	TP26.3862x26.3484x1.225	1377.76	2772.47	0.497	0.00	2772.47	0.000
L31	73.33 - 69 (31)	TP27.04x26.3862x1.225	1413.61	2817.93	0.502	0.00	2817.93	0.000
L32	69 - 67 (32)	TP26.8969x26.087x1.2875	1550.88	3014.09	0.515	0.00	3014.09	0.000
L33	67 - 66.75 (33)	TP26.9374x26.8969x1.2875	1557.83	3023.86	0.515	0.00	3023.86	0.000
L34	66.75 - 66.5 (34)	TP26.9779x26.9374x1.3625	1564.80	3182.32	0.492	0.00	3182.32	0.000
L35	66.5 - 61.5 (35)	TP27.7878x26.9779x1.3125	1705.91	3286.09	0.519	0.00	3286.09	0.000
L36	61.5 - 56.5 (36)	TP28.5976x27.7878x1.2875	1850.28	3437.97	0.538	0.00	3437.97	0.000
L37	56.5 - 51.5 (37)	TP29.4075x28.5976x1.2375	1997.78	3526.65	0.566	0.00	3526.65	0.000
L38	51.5 - 48.25 (38)	TP29.9339x29.4075x1.2125	2095.27	3597.91	0.582	0.00	3597.91	0.000
L39	48.25 - 48 (39)	TP29.9744x29.9339x1.6125	2102.82	4601.19	0.457	0.00	4601.19	0.000
L40	48 - 44.25 (40)	TP30.5818x29.9744x1.5625	2217.03	4680.94	0.474	0.00	4680.94	0.000
L41	44.25 - 44 (41)	TP30.6223x30.5818x1.6625	2224.71	4943.40	0.450	0.00	4943.40	0.000
L42	44 - 39 (42)	TP31.4322x30.6223x1.6125	2379.86	5099.75	0.467	0.00	5099.75	0.000
L43	39 - 38.5 (43)	TP31.5132x31.4322x1.6125	2395.54	5128.20	0.467	0.00	5128.20	0.000
L44	38.5 - 38.25 (44)	TP31.5537x31.5132x1.6125	2403.40	5142.46	0.467	0.00	5142.46	0.000
L45	38.25 - 30 (45)	TP32.89x31.5537x1.5625	2537.98	5246.38	0.484	0.00	5246.38	0.000
L46	30 - 29 (46)	TP32.4616x31.6171x1.6813	2699.28	5662.51	0.477	0.00	5662.51	0.000
L47	29 - 24 (47)	TP33.3062x32.4616x1.6313	2863.47	5835.37	0.491	0.00	5835.37	0.000
L48	24 - 23.75 (48)	TP33.3484x33.3062x1.6313	2871.75	5851.32	0.491	0.00	5851.32	0.000
L49	23.75 - 23.5 (49)	TP33.3906x33.3484x1.6063	2880.03	5791.02	0.497	0.00	5791.02	0.000
L50	23.5 - 18.5 (50)	TP34.2352x33.3906x1.5813	3047.05	6029.21	0.505	0.00	6029.21	0.000
L51	18.5 - 13.5 (51)	TP35.0797x34.2352x1.5313	3216.57	6179.23	0.521	0.00	6179.23	0.000
L52	13.5 - 8.5 (52)	TP35.9243x35.0797x1.5063	3388.52	6409.04	0.529	0.00	6409.04	0.000
L53	8.5 - 3.5 (53)	TP36.7688x35.9243x1.4563	3562.87	6538.39	0.545	0.00	6538.39	0.000
L54	3.5 - 0 (54)	TP37.36x36.7688x1.4313	3686.30	6661.35	0.553	0.00	6661.35	0.000

Pole Shear Design Data

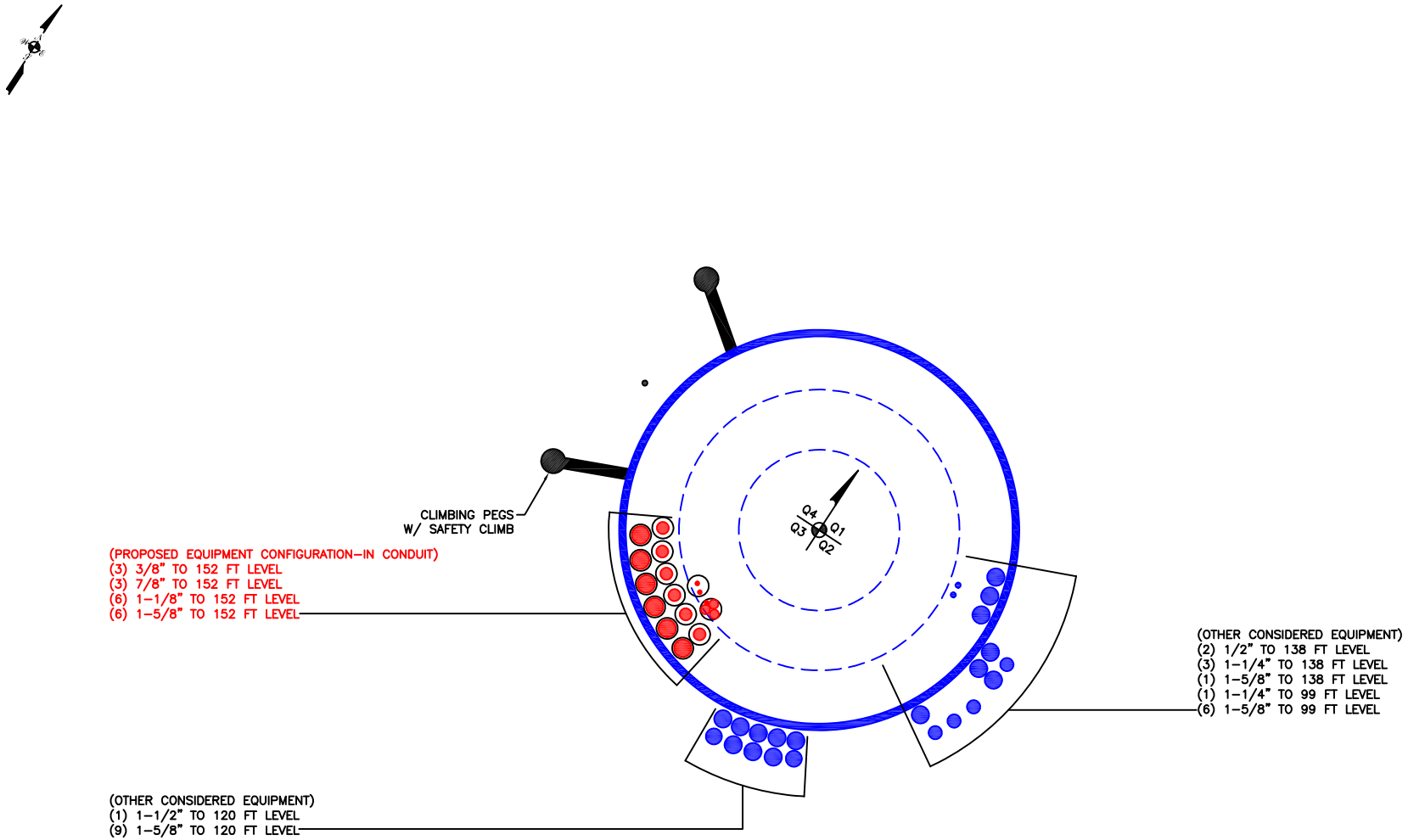
Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	150 - 145 (1)	TP15.7317x15x0.2188	6.83	147.51	0.046	0.01	201.29	0.000
L2	145 - 140 (2)	TP16.4634x15.7317x0.2188	7.43	154.47	0.048	0.46	220.73	0.002
L3	140 - 135 (3)	TP17.1951x16.4634x0.2188	11.85	161.43	0.073	0.61	241.06	0.003
L4	135 - 130 (4)	TP17.9268x17.1951x0.2188	12.30	168.39	0.073	0.55	262.29	0.002
L5	130 - 128.5 (5)	TP18.1463x17.9268x0.2188	12.44	170.47	0.073	0.53	268.83	0.002
L6	128.5 - 128.25 (6)	TP18.1829x18.1463x0.6688	12.46	509.15	0.024	0.53	784.39	0.001
L7	128.25 -	TP18.9146x18.1829x0.6438	13.00	511.29	0.025	0.51	821.72	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 $\frac{T_u}{\phi T_n}$
L8	123.25 (7) 123.25 - 118.25 (8)	TP19.6463x18.9146x0.6188	17.69	511.79	0.035	0.48	856.59	0.001
L9	118.25 - 113.25 (9)	TP20.378x19.6463x0.6063	18.24	521.06	0.035	0.43	906.22	0.000
L10	113.25 - 109 (10)	TP21x20.378x0.5938	19.33	526.69	0.037	0.39	945.41	0.000
L11	109 - 108.75 (11)	TP21.0378x21x0.725	19.35	640.17	0.030	0.38	1143.84	0.000
L12	108.75 - 104.17 (12)	TP21.7293x21.0378x0.7	19.95	639.90	0.031	0.33	1183.69	0.000
L13	104.17 - 103.92 (13)	TP21.7671x21.7293x0.975	19.98	881.24	0.023	0.31	1611.72	0.000
L14	103.92 - 103.17 (14)	TP21.8803x21.7671x0.975	20.09	886.04	0.023	0.31	1629.33	0.000
L15	103.17 - 102.92 (15)	TP21.9181x21.8803x1.125	20.13	1016.86	0.020	0.30	1859.86	0.000
L16	102.92 - 102.42 (16)	TP21.9936x21.9181x1.125	20.20	1020.55	0.020	0.29	1873.39	0.000
L17	102.42 - 102.17 (17)	TP22.0313x21.9936x0.95	20.24	870.59	0.023	0.29	1614.39	0.000
L18	102.17 - 100.92 (18)	TP22.2201x22.0313x0.95	20.42	878.38	0.023	0.28	1643.43	0.000
L19	100.92 - 100.67 (19)	TP22.2578x22.2201x1.025	20.45	946.07	0.022	0.27	1766.97	0.000
L20	100.67 - 99.58 (20)	TP22.4224x22.2578x1	20.61	931.23	0.022	0.26	1754.79	0.000
L21	99.58 - 99.33 (21)	TP22.4602x22.4224x1.4	20.65	1281.68	0.016	0.25	2374.33	0.000
L22	99.33 - 95.42 (22)	TP23.0506x22.4602x1.35	23.79	1273.49	0.019	0.62	2430.89	0.000
L23	95.42 - 95.17 (23)	TP23.0883x23.0506x1.05	23.82	1005.91	0.024	0.60	1950.01	0.000
L24	95.17 - 90.17 (24)	TP23.8433x23.0883x1	24.54	993.00	0.025	0.51	1995.30	0.000
L25	90.17 - 85.17 (25)	TP24.5983x23.8433x0.975	25.23	1001.23	0.025	0.39	2080.54	0.000
L26	85.17 - 80.5 (26)	TP25.3035x24.5983x0.95	25.85	1005.71	0.026	0.29	2154.45	0.000
L27	80.5 - 80.25 (27)	TP25.3413x25.3035x1.3	25.89	1358.60	0.019	0.26	2873.07	0.000
L28	80.25 - 75.25 (28)	TP26.0963x25.3413x1.25	26.60	1350.08	0.020	0.20	2950.68	0.000
L29	75.25 - 73.58 (29)	TP26.3484x26.0963x1.25	26.84	1363.79	0.020	0.19	3010.88	0.000
L30	73.58 - 73.33 (30)	TP26.3862x26.3484x1.225	26.87	1339.85	0.020	0.17	2965.43	0.000
L31	73.33 - 69 (31)	TP27.04x26.3862x1.225	27.05	1350.55	0.020	0.16	3012.96	0.000
L32	69 - 67 (32)	TP26.8969x26.087x1.2875	27.83	1433.30	0.019	0.09	3228.75	0.000
L33	67 - 66.75 (33)	TP26.9374x26.8969x1.2875	27.86	1435.56	0.019	0.08	3238.97	0.000
L34	66.75 - 66.5 (34)	TP26.9779x26.9374x1.3625	27.89	1517.14	0.018	0.08	3418.43	0.000
L35	66.5 - 61.5 (35)	TP27.7878x26.9779x1.3125	28.56	1510.53	0.019	0.02	3517.78	0.000
L36	61.5 - 56.5 (36)	TP28.5976x27.7878x1.2875	29.20	1528.48	0.019	0.11	3671.84	0.000
L37	56.5 - 51.5 (37)	TP29.4075x28.5976x1.2375	29.81	1515.38	0.020	0.21	3754.99	0.000
L38	51.5 - 48.25 (38)	TP29.9339x29.4075x1.2125	30.20	1513.83	0.020	0.27	3824.57	0.000
L39	48.25 - 48 (39)	TP29.9744x29.9339x1.6125	30.22	1988.04	0.015	0.27	4959.76	0.000
L40	48 - 44.25 (40)	TP30.5818x29.9744x1.5625	30.70	1971.05	0.016	0.34	5031.35	0.000
L41	44.25 - 44 (41)	TP30.6223x30.5818x1.6625	30.73	2092.89	0.015	0.34	5331.43	0.000

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 $\frac{T_u}{\phi T_n}$
L42	44 - 39 (42)	TP31.4322x30.6223x1.6125	31.34	2090.22	0.015	0.42	5482.73	0.000
L43	39 - 38.5 (43)	TP31.5132x31.4322x1.6125	31.40	2095.90	0.015	0.43	5512.54	0.000
L44	38.5 - 38.25 (44)	TP31.5537x31.5132x1.6125	31.43	2098.74	0.015	0.43	5527.48	0.000
L45	38.25 - 30 (45)	TP32.89x31.5537x1.5625	31.91	2083.82	0.015	0.50	5623.52	0.000
L46	30 - 29 (46)	TP32.4616x31.6171x1.6813	32.59	2249.62	0.014	0.58	6090.90	0.000
L47	29 - 24 (47)	TP33.3062x32.4616x1.6313	33.11	2246.15	0.015	0.66	6258.26	0.000
L48	24 - 23.75 (48)	TP33.3484x33.3062x1.6313	33.13	2249.14	0.015	0.66	6274.96	0.000
L49	23.75 - 23.5 (49)	TP33.3906x33.3484x1.6063	33.15	2219.37	0.015	0.67	6205.01	0.000
L50	23.5 - 18.5 (50)	TP34.2352x33.3906x1.5813	33.66	2244.60	0.015	0.75	6447.23	0.000
L51	18.5 - 13.5 (51)	TP35.0797x34.2352x1.5313	34.16	2233.17	0.015	0.83	6590.13	0.000
L52	13.5 - 8.5 (52)	TP35.9243x35.0797x1.5063	34.64	2253.65	0.015	0.91	6822.94	0.000
L53	8.5 - 3.5 (53)	TP36.7688x35.9243x1.4563	35.11	2235.47	0.016	1.00	6943.81	0.000
L54	3.5 - 0 (54)	TP37.36x36.7688x1.4313	35.44	2235.43	0.016	1.06	7064.85	0.000

APPENDIX B

BASE LEVEL DRAWING


CLIMBING PEGS
W/ SAFETY CLIMB
(PROPOSED EQUIPMENT CONFIGURATION–IN CONDUIT)
(3) 3/8" TO 152 FT LEVEL
(3) 7/8" TO 152 FT LEVEL
(6) 1–1/8" TO 152 FT LEVEL
(6) 1–5/8" TO 152 FT LEVEL
Q4
Q1
Q3
Q2
(OTHER CONSIDERED EQUIPMENT)
(2) 1/2" TO 138 FT LEVEL
(3) 1–1/4" TO 138 FT LEVEL
(1) 1–5/8" TO 138 FT LEVEL
(1) 1–1/4" TO 99 FT LEVEL
(6) 1–5/8" TO 99 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1–1/2" TO 120 FT LEVEL
(9) 1–5/8" TO 120 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 240.76 ft (NAVD 88)
Latitude: 41.223344
Longitude: -73.216772

Wind

Results:

Wind Speed:	122 Vmph 125 Vmph per Local Jurisdiction
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph

Data Accessed: Mon Oct 18 2021

Date Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

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

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

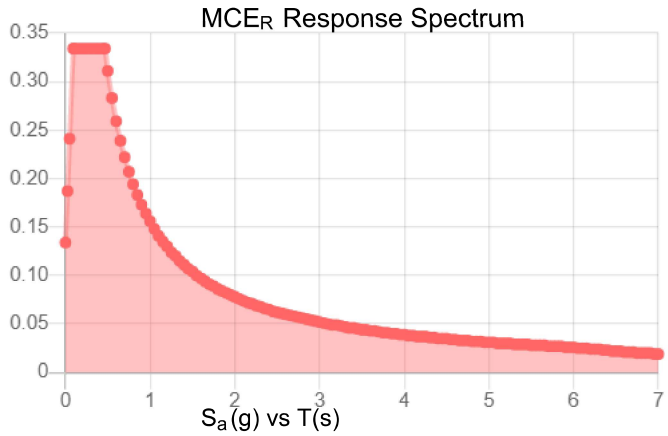
Seismic

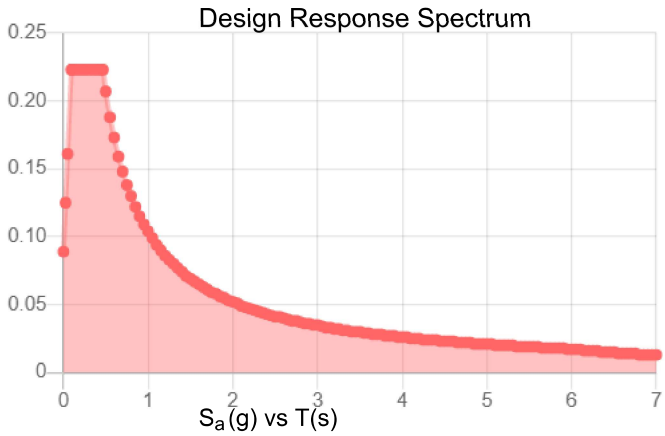
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.209	S_{DS} :	0.223
S_1 :	0.065	S_{D1} :	0.104
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.113
S_{MS} :	0.334	PGA_M :	0.178
S_{M1} :	0.156	F_{PGA} :	1.573
		I_e :	1

Seismic Design Category B





Data Accessed: Mon Oct 18 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Oct 18 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 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

CCIpole

per TIA-222- H

Site BU: 841288

Work Order: 2018571

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	41	0	12	15	21	0.21875	Auto	A572-50
2	109	40	3	12	21.00	27.04	0.25	Auto	A572-50
3	72	42	4	12	26.09	32.89	0.3125	Auto	A572-50
4	34	34	0	12	31.62	37.36	0.4063	Auto	A572-50

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	48.25	solid round	Dywidag #20	4			x			x			x			x
2	0	23.75	plate	PL 6.5x1.25	4		x			x			x			x	
3	23.75	44.25	plate	PL 6.5x1.25	4		x			x			x			x	
4	44.25	66.75	plate	PL 5x1.25	4		x			x			x			x	
5	66.75	80.5	plate	PL 4x1.25	4			x			x			x			x
6	95.42	109	plate	PL 5x1.25	2		x			x							
7	95.42	100.92	plate	PL 5x1.25	1									x			
8	100.92	109	plate	PL 5x1.25	1								x				
9	102.42	109	plate	PL 5x1.25	1											x	
10	109	128.5	plate	PL 4x1.25	4		x			x			x			x	
11	0	38.5	plate	(1) PL 6x1 w/ PL 4.5x1	1	x											
12	0	38.5	plate	(2) PL 6x1 w/ PL 4.5x1	3				x			x			x		
13	38.5	73.58	plate	(3) PL 6x1 w/ PL 4.5x1	4	x			x			x			x		
14	73.58	104.17	plate	(3) PL 6x1 w/ PL 4.5x1	2	x									x		
15	73.58	99.58	plate	(3) PL 6x1 w/ PL 4.5x1	1				x								
16	73.58	103.17	plate	(3) PL 6x1 w/ PL 4.5x1	1							x					
17																	

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	0	0	4.90874	3	None	0	None	0.000	34.400	4.909	0.0000	Dywidag
2	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
3	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
4	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	4.688	1.1875	A572-65
5	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	18.000	3.438	1.1875	A572-65
6	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	4.688	1.1875	A572-65
7	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	4.688	1.1875	A572-65
8	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	4.688	1.1875	A572-65
9	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	4.688	1.1875	A572-65
10	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	18.000	3.438	1.1875	A572-65
11	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	45	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65
12	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	39	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65
13	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	54	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65
14	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	54	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65
15	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	54	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65
16	5.40899	1.94121	10.5	1.07	FORGBolt - M20 (A)	54	FORGBolt - M20 (A)	54.000	20.000	8.000	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
Dywidag #20	Top	0	-	0	0	0	0	0	-	-	0	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-
PL 6.5x1.25	Top	11	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	11	N	3	3	-	-	-	-	-	-	-	-	-
PL 5x1.25	Top	9	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	9	N	3	3	-	-	-	-	-	-	-	-	-
PL 4x1.25	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
(1) PL 6x1 w/ PL 4.5x1	Top	18	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	15	N	3	3	-	-	-	-	-	-	-	-	-
(2) PL 6x1 w/ PL 4.5x1	Top	18	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	13	N	3	3	-	-	-	-	-	-	-	-	-
(3) PL 6x1 w/ PL 4.5x1	Top	18	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	18	N	3	3	-	-	-	-	-	-	-	-	-

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	15.000	15.732	0.21875	A572-50	1.000
2	145 - 140	5		12	15.732	16.463	0.21875	A572-50	1.000
3	140 - 135	5		12	16.463	17.195	0.21875	A572-50	1.000
4	135 - 130	5		12	17.195	17.927	0.21875	A572-50	1.000
5	130 - 128.5	1.5		12	17.927	18.146	0.21875	A572-50	1.000
6	128.5 - 128.25	0.25		12	18.146	18.183	0.66875	A572-50	0.867
7	128.25 - 123.25	5		12	18.183	18.915	0.64375	A572-50	0.877
8	123.25 - 118.25	5		12	18.915	19.646	0.61875	A572-50	0.889
9	118.25 - 113.25	5		12	19.646	20.378	0.60625	A572-50	0.887
10	113.25 - 109	4.25	0	12	20.378	21.000	0.59375	A572-50	0.889
11	109 - 108.75	0.25		12	21.000	21.038	0.725	A572-50	0.881
12	108.75 - 104.17	4.58		12	21.038	21.729	0.7	A572-50	0.893
13	104.17 - 103.92	0.25		12	21.729	21.767	0.975	A572-50	0.971
14	103.92 - 103.17	0.75		12	21.767	21.880	0.975	A572-50	0.967
15	103.17 - 102.92	0.25		12	21.880	21.918	1.125	A572-50	0.900
16	102.92 - 102.42	0.5		12	21.918	21.994	1.125	A572-50	0.897
17	102.42 - 102.17	0.25		12	21.994	22.031	0.95	A572-50	0.955
18	102.17 - 100.92	1.25		12	22.031	22.220	0.95	A572-50	0.949
19	100.92 - 100.67	0.25		12	22.220	22.258	1.025	A572-50	0.971
20	100.67 - 99.58	1.09		12	22.258	22.422	1	A572-50	0.988
21	99.58 - 99.33	0.25		12	22.422	22.460	1.4	A572-50	0.829
22	99.33 - 95.42	3.91		12	22.460	23.051	1.35	A572-50	0.839
23	95.42 - 95.17	0.25		12	23.051	23.088	1.05	A572-50	0.811
24	95.17 - 90.17	5		12	23.088	23.843	1	A572-50	0.830
25	90.17 - 85.17	5		12	23.843	24.598	0.975	A572-50	0.831
26	85.17 - 80.5	4.67		12	24.598	25.304	0.95	A572-50	0.835
27	80.5 - 80.25	0.25		12	25.304	25.341	1.3	A572-50	0.818
28	80.25 - 75.25	5		12	25.341	26.096	1.25	A572-50	0.829
29	75.25 - 73.58	1.67		12	26.096	26.348	1.25	A572-50	0.823
30	73.58 - 73.33	0.25		12	26.348	26.386	1.225	A572-50	0.838
31	73.33 - 72	4.33	3	12	26.386	27.040	1.225	A572-50	0.833
32	72 - 67	5		12	26.087	26.897	1.2875	A572-50	0.837
33	67 - 66.75	0.25		12	26.897	26.937	1.2875	A572-50	0.836
34	66.75 - 66.5	0.25		12	26.937	26.978	1.3625	A572-50	0.836
35	66.5 - 61.5	5		12	26.978	27.788	1.3125	A572-50	0.847
36	61.5 - 56.5	5		12	27.788	28.598	1.2875	A572-50	0.844
37	56.5 - 51.5	5		12	28.598	29.408	1.2375	A572-50	0.859
38	51.5 - 48.25	3.25		12	29.408	29.934	1.2125	A572-50	0.864
39	48.25 - 48	0.25		12	29.934	29.974	1.6125	A572-50	0.792
40	48 - 44.25	3.75		12	29.974	30.582	1.5625	A572-50	0.803
41	44.25 - 44	0.25		12	30.582	30.622	1.6625	A572-50	0.805
42	44 - 39	5		12	30.622	31.432	1.6125	A572-50	0.811
43	39 - 38.5	0.5		12	31.432	31.513	1.6125	A572-50	0.809
44	38.5 - 38.25	0.25		12	31.513	31.554	1.6125	A572-50	0.809
45	38.25 - 34	8.25	4	12	31.554	32.890	1.5625	A572-50	0.819
46	34 - 29	5		12	31.617	32.462	1.6813	A572-50	0.817
47	29 - 24	5		12	32.462	33.306	1.6313	A572-50	0.825
48	24 - 23.75	0.25		12	33.306	33.348	1.6313	A572-50	0.825
49	23.75 - 23.5	0.25		12	33.348	33.391	1.6063	A572-50	0.836
50	23.5 - 18.5	5		12	33.391	34.235	1.5813	A572-50	0.833
51	18.5 - 13.5	5		12	34.235	35.080	1.5313	A572-50	0.844
52	13.5 - 8.5	5		12	35.080	35.924	1.5063	A572-50	0.843
53	8.5 - 3.5	5		12	35.924	36.769	1.4563	A572-50	0.857
54	3.5 - 0	3.5		12	36.769	37.360	1.4313	A572-50	0.861

TNX Section Forces

Increment (ft): 5		TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	150 - 145	4.15	54.95	6.83
2	145 - 140	4.54	90.88	7.43
3	140 - 135	8.02	144.54	11.85
4	135 - 130	8.48	204.89	12.30
5	130 - 128.5	8.62	223.44	12.44
6	128.5 - 128.25	8.68	226.55	12.46
7	128.25 - 123.25	9.49	290.17	13.00
8	123.25 - 118.25	14.50	363.76	17.69
9	118.25 - 113.25	15.42	453.56	18.24
10	113.25 - 109	17.18	532.33	19.33
11	109 - 108.75	17.24	537.17	19.35
12	108.75 - 104.17	18.23	627.14	19.95
13	104.17 - 103.92	18.32	632.13	19.98
14	103.92 - 103.17	18.54	647.15	20.09
15	103.17 - 102.92	18.62	652.18	20.13
16	102.92 - 102.42	18.78	662.26	20.20
17	102.42 - 102.17	18.86	667.31	20.24
18	102.17 - 100.92	19.22	692.72	20.42
19	100.92 - 100.67	19.31	697.83	20.45
20	100.67 - 99.58	19.65	720.21	20.61
21	99.58 - 99.33	19.75	725.37	20.65
22	99.33 - 95.42	23.64	818.32	23.79
23	95.42 - 95.17	23.72	824.27	23.82
24	95.17 - 90.17	25.23	945.15	24.54
25	90.17 - 85.17	26.76	1069.53	25.23
26	85.17 - 80.5	28.22	1188.78	25.85
27	80.5 - 80.25	28.33	1195.24	25.89
28	80.25 - 75.25	30.29	1326.44	26.60
29	75.25 - 73.58	30.94	1371.05	26.84
30	73.58 - 73.33	31.06	1377.76	26.87
31	73.33 - 72	31.58	1413.61	27.05
32	72 - 67	34.66	1550.87	27.83
33	67 - 66.75	34.78	1557.83	27.86
34	66.75 - 66.5	34.89	1564.80	27.89
35	66.5 - 61.5	37.10	1705.91	28.56
36	61.5 - 56.5	39.34	1850.28	29.20
37	56.5 - 51.5	41.61	1997.78	29.81
38	51.5 - 48.25	43.10	2095.27	30.20
39	48.25 - 48	43.25	2102.82	30.22
40	48 - 44.25	45.25	2217.03	30.70
41	44.25 - 44	45.40	2224.71	30.73
42	44 - 39	48.23	2379.86	31.34
43	39 - 38.5	48.53	2395.54	31.40
44	38.5 - 38.25	48.67	2403.40	31.43
45	38.25 - 34	51.11	2537.98	31.91
46	34 - 29	56.21	2699.28	32.59
47	29 - 24	59.31	2863.47	33.11
48	24 - 23.75	59.47	2871.75	33.13
49	23.75 - 23.5	59.63	2880.04	33.15
50	23.5 - 18.5	62.74	3047.05	33.66
51	18.5 - 13.5	65.89	3216.56	34.16
52	13.5 - 8.5	69.07	3388.52	34.64
53	8.5 - 3.5	72.27	3562.86	35.11
54	3.5 - 0	74.53	3686.30	35.44

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP15.732x15x0.2188	Pole	27.8%	Pass
145 - 140	Pole	TP16.463x15.732x0.2188	Pole	41.5%	Pass
140 - 135	Pole	TP17.195x16.463x0.2188	Pole	60.8%	Pass
135 - 130	Pole	TP17.927x17.195x0.2188	Pole	78.5%	Pass
130 - 128.5	Pole	TP18.146x17.927x0.2188	Pole	83.4%	Pass
128.5 - 128.25	Pole + Reinf.	TP18.183x18.146x0.6688	Reinf. 10 Bolt-Shaft Bearing	50.5%	Pass
128.25 - 123.25	Pole + Reinf.	TP18.915x18.183x0.6438	Reinf. 10 Tension Rupture	50.6%	Pass
123.25 - 118.25	Pole + Reinf.	TP19.646x18.915x0.6188	Reinf. 10 Tension Rupture	60.5%	Pass
118.25 - 113.25	Pole + Reinf.	TP20.378x19.646x0.6063	Reinf. 10 Tension Rupture	71.7%	Pass
113.25 - 109	Pole + Reinf.	TP21x20.378x0.5938	Reinf. 10 Bolt-Shaft Bearing	97.6%	Pass
109 - 108.75	Pole + Reinf.	TP21.038x21x0.725	Reinf. 6 Tension Rupture	61.6%	Pass
108.75 - 104.17	Pole + Reinf.	TP21.729x21.038x0.7	Reinf. 6 Tension Rupture	68.7%	Pass
104.17 - 103.92	Pole + Reinf.	TP21.767x21.729x0.975	Reinf. 6 Tension Rupture	61.4%	Pass
103.92 - 103.17	Pole + Reinf.	TP21.88x21.767x0.975	Reinf. 6 Tension Rupture	62.4%	Pass
103.17 - 102.92	Pole + Reinf.	TP21.918x21.88x1.125	Reinf. 6 Tension Rupture	50.7%	Pass
102.92 - 102.42	Pole + Reinf.	TP21.994x21.918x1.125	Reinf. 6 Tension Rupture	51.2%	Pass
102.42 - 102.17	Pole + Reinf.	TP22.031x21.994x0.95	Reinf. 6 Tension Rupture	56.2%	Pass
102.17 - 100.92	Pole + Reinf.	TP22.22x22.031x0.95	Reinf. 6 Tension Rupture	57.7%	Pass
100.92 - 100.67	Pole + Reinf.	TP22.258x22.22x1.025	Reinf. 6 Tension Rupture	56.7%	Pass
100.67 - 99.58	Pole + Reinf.	TP22.422x22.258x1	Reinf. 6 Tension Rupture	58.0%	Pass
99.58 - 99.33	Pole + Reinf.	TP22.46x22.422x1.4	Reinf. 14 Tension Rupture	42.1%	Pass
99.33 - 95.42	Pole + Reinf.	TP23.051x22.46x1.35	Reinf. 14 Tension Rupture	46.1%	Pass
95.42 - 95.17	Pole + Reinf.	TP23.088x23.051x1.05	Reinf. 15 Tension Rupture	57.0%	Pass
95.17 - 90.17	Pole + Reinf.	TP23.843x23.088x1	Reinf. 15 Tension Rupture	62.8%	Pass
90.17 - 85.17	Pole + Reinf.	TP24.598x23.843x0.975	Reinf. 15 Tension Rupture	68.3%	Pass
85.17 - 80.5	Pole + Reinf.	TP25.304x24.598x0.95	Reinf. 15 Tension Rupture	73.3%	Pass
80.5 - 80.25	Pole + Reinf.	TP25.341x25.304x1.3	Reinf. 5 Bolt-Shaft Bearing	63.5%	Pass
80.25 - 75.25	Pole + Reinf.	TP26.096x25.341x1.25	Reinf. 5 Tension Rupture	64.3%	Pass
75.25 - 73.58	Pole + Reinf.	TP26.348x26.096x1.25	Reinf. 5 Tension Rupture	65.7%	Pass
73.58 - 73.33	Pole + Reinf.	TP26.386x26.348x1.225	Reinf. 5 Tension Rupture	65.9%	Pass
73.33 - 72	Pole + Reinf.	TP27.04x26.386x1.225	Reinf. 5 Tension Rupture	67.0%	Pass
72 - 67	Pole + Reinf.	TP26.897x26.087x1.2875	Reinf. 5 Tension Rupture	68.7%	Pass
67 - 66.75	Pole + Reinf.	TP26.937x26.897x1.2875	Reinf. 5 Tension Rupture	68.9%	Pass
66.75 - 66.5	Pole + Reinf.	TP26.978x26.937x1.3625	Reinf. 13 Tension Rupture	60.9%	Pass
66.5 - 61.5	Pole + Reinf.	TP27.788x26.978x1.3125	Reinf. 13 Tension Rupture	64.0%	Pass
61.5 - 56.5	Pole + Reinf.	TP28.598x27.788x1.2875	Reinf. 13 Tension Rupture	67.0%	Pass
56.5 - 51.5	Pole + Reinf.	TP29.408x28.598x1.2375	Reinf. 13 Tension Rupture	69.8%	Pass
51.5 - 48.25	Pole + Reinf.	TP29.934x29.408x1.2125	Reinf. 13 Tension Rupture	71.6%	Pass
48.25 - 48	Pole + Reinf.	TP29.974x29.934x1.6125	Reinf. 1 Compression	57.4%	Pass
48 - 44.25	Pole + Reinf.	TP30.582x29.974x1.5625	Reinf. 1 Compression	59.1%	Pass
44.25 - 44	Pole + Reinf.	TP30.622x30.582x1.6625	Reinf. 1 Compression	55.7%	Pass
44 - 39	Pole + Reinf.	TP31.432x30.622x1.6125	Reinf. 1 Compression	57.7%	Pass
39 - 38.5	Pole + Reinf.	TP31.513x31.432x1.6125	Reinf. 1 Compression	57.9%	Pass
38.5 - 38.25	Pole + Reinf.	TP31.554x31.513x1.6125	Reinf. 1 Compression	58.0%	Pass
38.25 - 34	Pole + Reinf.	TP32.89x31.554x1.5625	Reinf. 1 Compression	59.6%	Pass
34 - 29	Pole + Reinf.	TP32.462x31.617x1.6813	Reinf. 1 Compression	59.0%	Pass
29 - 24	Pole + Reinf.	TP33.306x32.462x1.6313	Reinf. 1 Compression	60.6%	Pass
24 - 23.75	Pole + Reinf.	TP33.348x33.306x1.6313	Reinf. 1 Compression	60.6%	Pass
23.75 - 23.5	Pole + Reinf.	TP33.391x33.348x1.6063	Reinf. 1 Compression	60.7%	Pass
23.5 - 18.5	Pole + Reinf.	TP34.235x33.391x1.5813	Reinf. 1 Compression	62.2%	Pass
18.5 - 13.5	Pole + Reinf.	TP35.08x34.235x1.5313	Reinf. 12 Tension Rupture	63.6%	Pass
13.5 - 8.5	Pole + Reinf.	TP35.924x35.08x1.5063	Reinf. 12 Tension Rupture	65.1%	Pass
8.5 - 3.5	Pole + Reinf.	TP36.769x35.924x1.4563	Reinf. 12 Tension Rupture	66.4%	Pass
3.5 - 0	Pole + Reinf.	TP37.36x36.769x1.4313	Reinf. 12 Tension Rupture	67.4%	Pass
				Summary	
			Pole	83.4%	Pass
			Reinforcement	97.6%	Pass
			Overall	97.6%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*															
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16
150 - 145	336	n/a	336	10.91	n/a	10.91	27.8%																
145 - 140	386	n/a	386	11.43	n/a	11.43	41.5%																
140 - 135	440	n/a	440	11.94	n/a	11.94	60.8%																
135 - 130	500	n/a	500	12.46	n/a	12.46	78.5%																
130 - 128.5	519	n/a	519	12.61	n/a	12.61	83.4%																
128.5 - 128.25	522	959	1481	12.64	20.00	32.64	28.6%										50.5%						
128.25 - 123.25	588	1031	1619	13.15	20.00	33.15	34.7%										50.6%						
123.25 - 118.25	660	1106	1766	13.66	20.00	33.66	41.7%										60.5%						
118.25 - 113.25	738	1184	1922	14.18	20.00	34.18	49.4%										71.7%						
113.25 - 109	808	1252	2060	14.62	20.00	34.62	56.1%										97.6%						
109 - 108.75	924	1580	2504	16.71	25.00	41.71	46.3%						61.6%		61.6%	61.6%							
108.75 - 104.17	1020	1678	2697	17.27	25.00	42.27	51.8%						68.7%		68.7%	68.7%							
104.17 - 103.92	1157	2598	3755	17.30	46.00	63.30	47.6%						61.4%		49.5%	38.0%					40.2%		
103.92 - 103.17	1175	2623	3798	17.39	46.00	63.39	48.4%						62.4%		50.4%	38.7%					40.9%		
103.17 - 102.92	1087	3113	4200	17.42	50.25	67.67	40.8%						50.7%			38.6%					44.9%		41.7%
102.92 - 102.42	1099	3132	4231	17.48	50.25	67.73	41.3%						51.2%			39.1%					45.4%		42.2%
102.42 - 102.17	1069	2600	3669	17.51	44.00	61.51	44.3%						56.2%								56.1%		42.3%
102.17 - 100.92	1097	2640	3737	17.66	44.00	61.66	45.5%						57.7%								57.6%		43.5%
100.92 - 100.67	1123	2913	4036	17.69	50.25	67.94	44.8%						56.7%	41.1%							47.0%		41.8%
100.67 - 99.58	1148	2952	4100	17.82	50.25	68.07	45.8%						58.0%	42.0%							48.1%		42.8%
99.58 - 99.33	1128	4237	5365	17.85	60.75	78.60	32.6%						39.2%	37.2%							42.1%	37.1%	40.9%
99.33 - 95.42	1220	4441	5661	18.33	60.75	79.08	35.8%						43.0%	40.8%							46.2%	40.7%	44.8%
95.42 - 95.17	1226	3399	4625	18.36	42.00	60.36	42.2%														57.0%	57.0%	57.0%
95.17 - 90.17	1351	3602	4954	18.97	42.00	60.97	46.8%														62.8%	62.8%	62.8%
90.17 - 85.17	1485	3811	5296	19.57	42.00	61.57	51.6%														68.3%	68.3%	68.3%
85.17 - 80.5	1618	4012	5630	20.14	42.00	62.14	56.0%														73.3%	73.3%	73.3%
80.5 - 80.25	1625	5805	7430	20.17	62.00	82.17	42.7%					63.5%									55.9%	55.9%	55.9%
80.25 - 75.25	1776	6128	7904	20.78	62.00	82.78	46.3%					64.3%									59.9%	59.9%	59.9%
75.25 - 73.58	1829	6237	8066	20.98	62.00	82.98	47.5%					65.7%									61.2%	61.2%	61.2%
73.58 - 73.33	1837	6254	8091	21.01	62.00	83.01	47.7%					65.9%								61.4%			
73.33 - 72	1880	6342	8222	21.17	62.00	83.17	48.6%					67.0%								62.5%			
72 - 67	2416	6480	8896	26.71	62.00	88.71	48.0%					68.7%								64.0%			
67 - 66.75	2427	6498	8925	26.75	62.00	88.75	48.1%					68.9%								64.2%			
66.75 - 66.5	2439	7027	9465	26.79	67.00	93.79	45.7%				60.0%									60.9%			
66.5 - 61.5	2668	7423	10090	27.61	67.00	94.61	48.1%				63.1%									64.0%			
61.5 - 56.5	2910	7830	10740	28.42	67.00	95.42	50.4%				66.1%									67.0%			
56.5 - 51.5	3168	8248	11415	29.23	67.00	96.23	52.7%				69.0%									69.8%			
51.5 - 48.25	3343	8525	11868	29.76	67.00	96.76	54.4%				70.8%									71.6%			
48.25 - 48	3356	11731	15088	29.80	86.63	116.44	43.1%	57.4%			56.0%									56.7%			
48 - 44.25	3567	12166	15733	30.41	86.63	117.05	44.7%	59.1%			57.7%									58.4%			
44.25 - 44	3581	13179	16760	30.46	94.13	124.59	42.2%	55.7%		50.6%										55.1%			
44 - 39	3876	13821	17697	31.27	94.13	125.40	44.2%	57.7%		52.6%										57.2%			
39 - 38.5	3906	13886	17792	31.35	94.13	125.49	44.4%	57.9%		52.8%										57.4%			
38.5 - 38.25	3922	13918	17840	31.39	94.13	125.53	44.5%	58.0%		52.9%								57.5%	57.5%				
38.25 - 34	4187	14478	18664	32.08	94.13	126.22	46.3%	59.6%		54.5%								59.2%	59.2%				
34 - 29	5508	14659	20166	41.88	94.13	136.01	44.6%	59.0%		54.0%								58.7%	58.7%				
29 - 24	5955	15365	21319	42.98	94.13	137.12	45.9%	60.6%		55.6%								60.3%	60.3%				
24 - 23.75	5978	15400	21378	43.04	94.13	137.17	46.0%	60.6%		55.6%								60.4%	60.4%				
23.75 - 23.5	6001	15436	21437	43.09	94.13	137.23	46.1%	60.7%	55.7%									60.5%	60.5%				
23.5 - 18.5	6474	16161	22634	44.19	94.13	138.33	47.3%	62.2%	57.2%									62.1%	62.1%				
18.5 - 13.5	6971	16902	23872	45.30	94.13	139.43	48.6%	63.5%	58.6%									63.6%	63.6%				
13.5 - 8.5	7492	17660	25152	46.40	94.13	140.54	49.7%	64.9%	60.0%									65.1%	65.1%				
8.5 - 3.5	8040	18435	26474	47.50	94.13	141.64	50.9%	66.1%	61.3%									66.4%	66.4%				
3.5 - 0	8438	18987	27425	48.28	94.13	142.41	51.6%	67.0%	62.2%									67.4%	67.4%				

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

TOWER ENGINEERING PROFESSIONALS

Bridgeport North (BU 841288)
TEP #: 25567.614082
Analysis: JNF 10/19/2021
Check: CLT 10/19/2021

Elevation: 109.00-ft

Loads	
Axial:	17.2 k
Moment:	532.3 k·ft
Shear:	19.3 k
Torsion:	0.7 k·ft

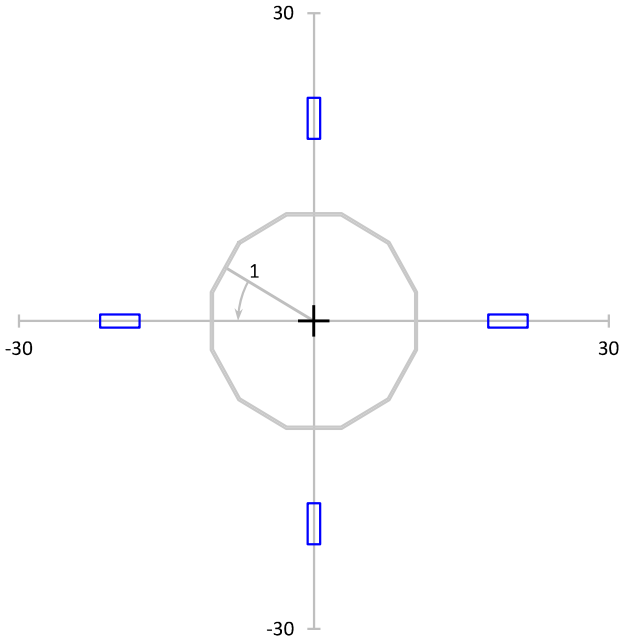
Pole Info	
OD:	21.00 in
t:	0.2188 in
Pole A_G:	0.00 in^2
Pole I_G:	0.0 in^4

Equivalent Loads to Pole	
Axial:	0.0 k
Moment:	0.0 k·ft
Shear:	0.0 k
Torsion:	0.0 k·ft

Controlling	
Angle:	**300.00°**
I_G:	3,915.3 in^4
A_G:	20.00 in^2

Shear Flow	
Controlling Mod:	1
q:	0.453 k/in
Bolt/Weld Cap:	1000.0 k/bolt
Max Spacing:	2206.58 in
Stitch:	15.00 in
Capacity:	0.7%

Minimum	
Angle:	**159.00°**
I_{MIN}:	3,915.3 in^4
t_{EFF}:	1.2335 in



Pole Segment: L1, F_Y = 50 ksi

POLE CAPACITY

Angle (°)	y_{CONT} (in)	I (in^4)	σ_A (ksi)	σ_B (ksi)	σ_V (ksi)	σ_T (ksi)	ϕF_A (ksi)	ϕF_B (ksi)	ϕF_V (ksi)	ϕF_T (ksi)	Capacity
345.00	10.88	3915.3	0.000	0.000	0.000	0.000	45.000	56.348	13.500	28.500	**0.0%**

MODIFICATION CAPACITIES

Mod Number	#	Angle (°)	$\bar{y}_{CONT}$ (in)	I (in^4)	σ_A (ksi)	σ_B (ksi)	σ_V (ksi)	ϕF_A (ksi)	ϕF_B (ksi)	ϕF_V (ksi)	Capacity
1	1	**30.00**	19.75	3915.3	0.793	28.659	0.898	52.663	52.663	29.250	**53.4%**
1	2	**120.00**	19.75	3915.3	0.793	28.659	0.898	52.663	52.663	29.250	**53.4%**
1	3	**210.00**	19.75	3915.3	0.793	28.659	0.898	52.663	52.663	29.250	**53.4%**
1	4	**300.00**	19.75	3915.3	0.793	28.659	0.898	52.663	52.663	29.250	**53.4%**

Tower Engineering Professionals, Inc.
326 Tryon Road|Raleigh, NC 27603-3530|Office: (919) 661-6351|Fax: (919) 661-6350|www.tepgroup.net

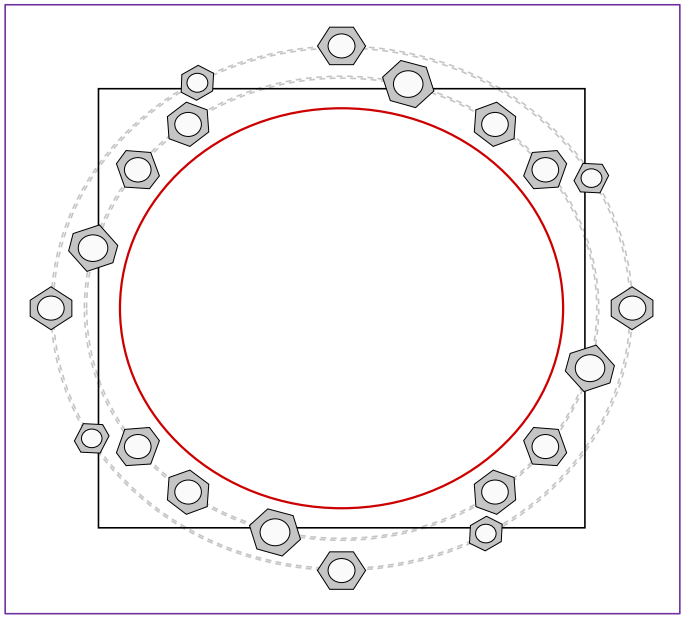
Monopole Base Plate Connection

Site Info	
BU #	841288
Site Name	Bridgeport North
Order #	556498 Rev. 2

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

Applied Loads	
Moment (kip-ft)	3686.00
Axial Force (kips)	75.00
Shear Force (kips)	35.00

**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 43" BC
Anchor Spacing: 6 in
GROUP 2: (4) 2-1/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 49" BC
GROUP 3: (4) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 48.63" BC
GROUP 4: (4) 2-1/2" ø bolts (Dywidag N; Fy=80 ksi, Fu=100 ksi) on 43.36" BC

Base Plate Data

41" W x 2.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi); Clip: 0 in

Stiffener Data

N/A

Pole Data

37.36" x 0.4063" 12-sided pole (A572-50; Fy=50 ksi, Fu=65 ksi)

Analysis Results

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

GROUP 1:		
Pu_c = 193.32	ϕPn_c = 268.39	**Stress Rating**
Vu = 4.38	ϕVn = 120.77	**68.7%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 209.74	ϕPn_t = 304.69	**Stress Rating**
Vu = 0	ϕVn = 186.38	**65.6%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_t = 121.69	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**65.1%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 4:		
Pu_c = 280.4	ϕPn_c = 353.52	**Stress Rating**
Vu = 0	ϕVn = 159.08	**75.5%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	25.65	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**54.3%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

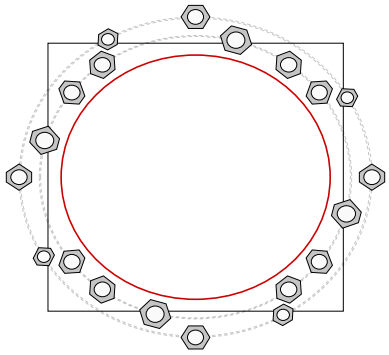
note: Bending interaction not considered when Grout Considered = "Yes"

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	No	No	
3	No	No	No	No	No	
4	No	No	No	No	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	36.979067	2.25	A615-75	43	0.5	2.25	N-Included		No
2	1	53.020933	2.25	A615-75	43	0.5	2.25	N-Included		No
3	1	126.97907	2.25	A615-75	43	0.5	2.25	N-Included		No
4	1	143.02093	2.25	A615-75	43	0.5	2.25	N-Included		No
5	1	216.97907	2.25	A615-75	43	0.5	2.25	N-Included		No
6	1	233.02093	2.25	A615-75	43	0.5	2.25	N-Included		No
7	1	306.97907	2.25	A615-75	43	0.5	2.25	N-Included		No
8	1	323.02093	2.25	A615-75	43	0.5	2.25	N-Included		No
9	2	90	2.25	A193 Gr. B7	49	0.5	0	N-Included		No
10	2	180	2.25	A193 Gr. B7	49	0.5	0	N-Included		No
11	2	270	2.25	A193 Gr. B7	49	0.5	0	N-Included		No
12	2	360	2.25	A193 Gr. B7	49	0.5	0	N-Included		No
13	3	30	1.75	A193 Gr. B7	48.63	0.5	0	N-Included		No
14	3	120	1.75	A193 Gr. B7	48.63	0.5	0	N-Included		No
15	3	210	1.75	A193 Gr. B7	48.63	0.5	0	N-Included		No
16	3	300	1.75	A193 Gr. B7	48.63	0.5	0	N-Included		No
17	4	75	2.5	Dywidag	43.36	0.5	0	N-Included	4.91	No
18	4	165	2.5	Dywidag	43.36	0.5	0	N-Included	4.91	No
19	4	255	2.5	Dywidag	43.36	0.5	0	N-Included	4.91	No
20	4	345	2.5	Dywidag	43.36	0.5	0	N-Included	4.91	No

Plot Graphic



Monopole on Mat Foundation with Rock Anchors - TIA-222-H

Site Data	
Site Name:	Bridgeport North
CCI Number:	BU 841288
TEP Job Number:	25567.614082

Factored Reactions from TNX		
Axial	75	k
Shear	35	k
Moment	3686	k-ft

Mat and Pier Properties		
Mat Width	18.0	ft
Mat Length	20.0	ft
Mat Thickness	6.8	ft
Pier Type	Square	
Pier Width/Diam.	0.0	ft
Pier Height	0.0	ft

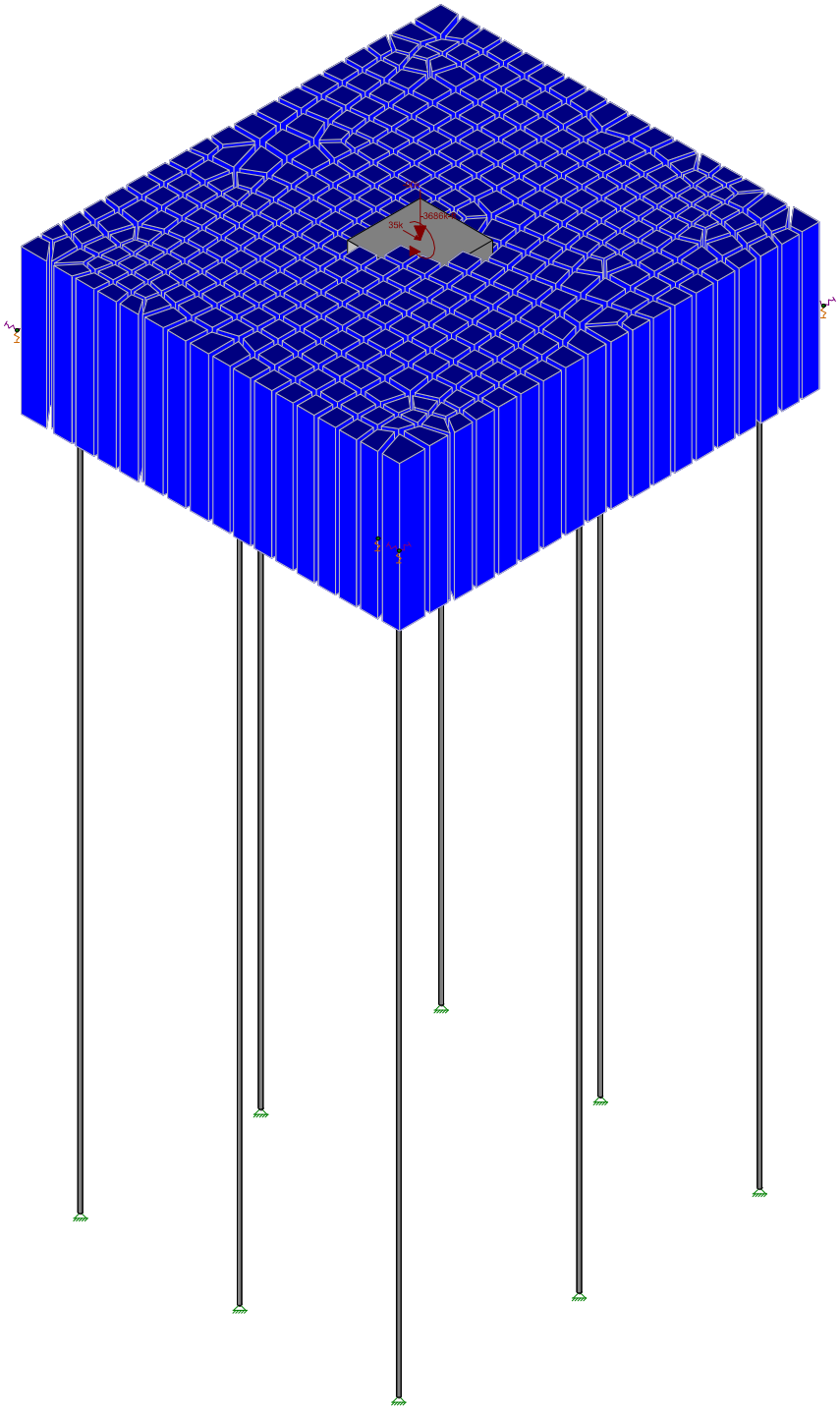
Mat Foundation Results		
Bearing Stress	8.0	ksf
Bearing Capacity, ϕq_{allow}	22.5	ksf
% Capacity	35.3%	Pass

Soil Properties		
q_{allow}	10.0	ksf
FS	3.0	
Subgrade Mod.	360	kcf

Mat and Pier Structural Results		
Bending Moment	1817.4	kft
Clearance	3	in
Rebar Fy	60	ksi
Rebar Diameter	1	in
Rebar Spacing	12	in
Concrete F'c	3	ksi
Flexural Capacity, ϕMn	5763.1	kft
% Capacity	31.5%	Pass

Rock Anchor Properties		
Type of Bar	WilliamsForm150	
Bar Size	1.75	in
Net Area	2.60	in^2
Ultimate Stress, Fu	150.0	ksi
Yield Stress, Fy	120.0	ksi
Bar Diameter	1.750	in

Rock Anchor Steel Results		
Max Tension Force	33.1	k
Anchor Capacity, ϕPn	280.8	k
% Capacity	11.8%	Pass



Loads: LC 1, 1.2D+Wind 0
Envelope Only Solution

Tower Engineering Profes...		SK - 1
JNF	Bridgeport North (BU 841288)	Oct 19, 2021 at 4:26 PM
TEP No. 25567.614082		841288_Fdn.r3d