4545 East River Road, Suite 320
West Henrietta, NY 14586

April 27th, 2020

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

RE: **Notice of Exempt Modification for Verizon**
Crown Castle Site ID#: 876401
47-51 Unity St, Plainfield, CT 06374
Lat: 41° 42′ 54.49″ Long: -71° 53′ 46.73″

Dear Ms. Bachman:

Verizon currently maintains nine (9) total antennas at the 127-foot mount on the existing 160-foot monopole located at 47-51 Unity Street in Plainfield. The tower is owned by Crown Castle and the property is owned by the Town of Plainfield. Verizon now intends to replace six (6) antennas and remove (3) antennas at the 127-foot mount.

Tower modifications:

- Remove three (3) amphenol antennas
- Replace six (6) Andrew antennas
- Add three (3) diplexers
- Replace six (6) remote radio units
- Remove three (3) remote radio units

Ground modifications:

- None

This facility was approved by the Connecticut Siting Council in Docket No. 234 on April 9, 2003. This approval included the condition that:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunication services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The tower shall also be constructed in such a manner that, in the unlikely event of failure, it would collapse upon itself in a way that it would effectively reduce the diameter of the fall zone.

This modification complies with the aforementioned condition (s).

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.S.C.A. § 16-50j-73, a copy of this letter is being sent to the property owner and jurisdiction; First-Selectman Mr. Kevin Cunningham, and Planning & Zoning Supervisor Ms. Mary Ann Chinatti, both of the Town of Plainfield.

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

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

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

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

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

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon 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). Please send approval/rejection letter to my attention at the address listed below.

Melanie A. Bachman

Sincerely,

Richard Zajac
Network Real Estate Specialist
4545 East River Road, Suite 320
West Henrietta, NY 14586
585-445-5896
richard.zajac@crowncastle.com

cc:

First-Selectman - Mr. Kevin Cunningham
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3001
kcunninghamselectman@plainfieldct.org

Planning & Zoning Supervisor - Ms. Mary Ann Chinatti
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3028
mchinatti@plainfieldct.org

Zajac, Richard

From: Zajac, Richard
Sent: Monday, April 27, 2020 11:45 AM
To: 'mchinatti@plainfieldct.org'
Subject: Connecticut Siting Council exempt modification application notification
Attachments: CSC Exempt Modification Application 47-51 Unity St.pdf

Good morning Ms. Chinatti,
Please see the attached application to the Connecticut Siting Council regarding antenna work on the existing cell tower located at 47-51 Unity Street in Plainfield.

Should you have any questions/comments/concerns regarding this application, please do not hesitate to contact me.

Thank you,
RICH ZAJAC
Network Real Estate Specialist
T: (585) 445-5896 M: (607) 346-7212
F: (724) 416-4461
CROWN CASTLE
4545 East River Road, Suite 320
West Henrietta, NY 14586

Zajac, Richard

From: Zajac, Richard
Sent: Monday, April 27, 2020 11:43 AM
To: kcunninghamselectman@plainfieldct.org
Subject: Connecticut Siting Council exempt modification application notification
Attachments: CSC Exempt Modification Application 47-51 Unity St.pdf

Good morning Mr. Cunningham,
Please see the attached application to the Connecticut Siting Council regarding antenna work on the existing cell tower located at 47-51 Unity Street in Plainfield.

Should you have any questions/comments/concerns regarding this application, please do not hesitate to contact me.

Thank you,
RICH ZAJAC
Network Real Estate Specialist
T: (585) 445-5896 M: (607) 346-7212
F: (724) 416-4461
CROWN CASTLE
4545 East River Road, Suite 320
West Henrietta, NY 14586

Exhibit A

Original Facility Approval

Connecticut Siting Council

Decisions

DOCKET NO. 234 – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility in Plainfield, Connecticut.	}	Connecticut Siting Council

April 9, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes **§** 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless telecommunications facility at proposed Candidate B site located at 47-51 Unity Street, Plainfield, Connecticut. We deny certification of the proposed Candidate A site (Saad property) located at 180 Town Farm Road, Plainfield, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The tower shall also be constructed in such a manner that, in the unlikely event of failure, it would collapse upon itself in a way that would effectively reduce the diameter of the fall zone.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a. a detailed site development plan that depicts the location of the access road, compound, tower, and utility line;

    b. specifications for the tower, tower foundation, antennas, equipment building, and security fence; and

    c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council

worst-case modeling of electromagnetic radio frequency power densities of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

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

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402
(860) 509-6522

Content Last Modified on 4/22/2003 12:15:21 PM

Exhibit B

Property Card

47-51 UNITY ST

Location	47-51 UNITY ST	**Mblu**	015/ 0071/ 0009/ /
Acct#	00145200	**Owner**	PLAINFIELD TOWN OF
Assessment	$402,680	**Appraisal**	$575,250
PID	1571	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$386,850	$188,400	$575,250
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$270,800	$131,880	$402,680

Owner of Record

Owner	PLAINFIELD TOWN OF	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	651 NORWICH RD PLAINFIELD, CT 06374	**Book & Page**	0025/0002
		Sale Date	04/01/1878
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PLAINFIELD TOWN OF	$0		0025/0002		04/01/1878

Building Information

Building 1 : Section 1

Year Built:	1973
Living Area:	12,000
Replacement Cost:	$345,480
Building Percent Good:	73
Replacement Cost Less Depreciation:	$252,200

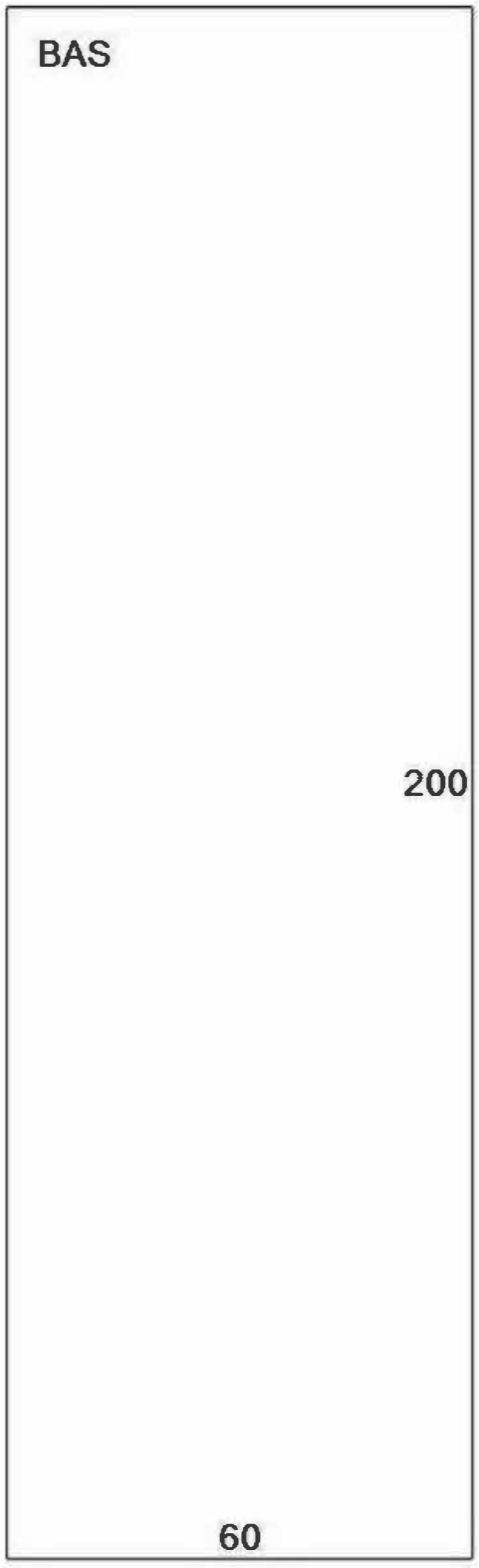
Building Attributes

Field	Description
STYLE	Warehouse
MODEL	Comm/Ind
Grade	C
Stories:	1
Occupancy	
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	16.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\13\21.JPG)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=1571)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	12,000	12,000
		12,000	12,000

Building 2 : Section 1

Year Built: 1975
Living Area: 3,150
Replacement Cost: $108,581
Building Percent Good: 73
Replacement Cost Less Depreciation: $79,260

Building Attributes : Bldg 2 of 3	
Field	**Description**
STYLE	Warehouse
MODEL	Comm/Ind
Grade	C
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Typical
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	NONE
Frame Type	NONE
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout

(ParcelSketch.ashx?pid=1571&bid=20058)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,450	2,450
AOF	Office	700	700
		3,150	3,150

Building 3 : Section 1

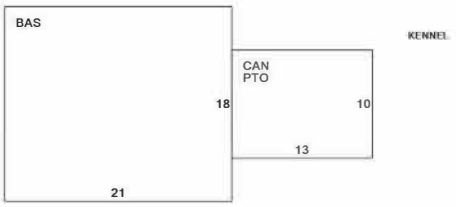
Year Built: 1975
Living Area: 378
Replacement Cost: $20,782
Building Percent Good: 73
Replacement Cost Less Depreciation: $15,170

Building Attributes : Bldg 3 of 3	
Field	**Description**
STYLE	Office/Warehs
MODEL	Comm/Ind
Grade	D
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	REINF. CONCR
Baths/Plumbing	NONE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=20059)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	378	378
CAN	Canopy	130	0
PTO	Patio	130	0
		638	378

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	$730	1
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	$730	2
A/C	Air Conditioning	700.00 S.F.	$1,280	2
OD1	Overhead Dr-Wood/Mtl	3.00 UNITS	$2,190	1
MEZ1	Mezzanine-Unf	1200.00 S.F.	$7,010	1

Land

Land Use

Use Code	903C
Description	MUNICIPAL MDL-94
Zone	IND
Neighborhood	2000
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.85
Frontage	
Depth	
Assessed Value	$131,880
Appraised Value	$188,400

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
AQ1	Quonset Bldg			840.00 S.F.	$12,180	1
KEN2	Kennel-Good			468.00 S.F.	$5,970	3
CNP1	Canopy Avg			312.00 S.F.	$1,870	3
CNP1	Canopy Avg			800.00 S.F.	$3,200	2
SH1	Frame Shed			128.00 S.F.	$800	1
SH1	Frame Shed			170.00 S.F.	$1,060	1
CNP1	Canopy Avg			800.00 S.F.	$3,200	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$386,850	$188,400	$575,250
3000	$386,850	$188,400	$575,250
2018	$386,850	$190,370	$577,220

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$270,800	$131,880	$402,680
3000	$270,800	$131,880	$402,680
2018	$270,800	$133,260	$404,060

Google Maps

41°42'54.5"N 71°53'46.7"W

Crown Castle - tower location

Imagery ©2020 CNES / Airbus, Maxar Technologies, RIGIS, USDA Farm Service Agency, Map data ©2020 1000 ft

41°42'54.5"N 71°53'46.7"W

41.715136, -71.896314

Directions | Save | Nearby | Send to your phone | Share

Plainfield, CT

P483+3F Plainfield, Connecticut

Photos

Exhibit C

Construction Drawings

verizon

VERIZON SITE NUMBER: 71936
VERIZON SITE NAME: PLAINFIELD N 2 CT
SITE TYPE: MONOPOLE
TOWER HEIGHT: 160'-0"

BUSINESS UNIT #: 876401
SITE ADDRESS: 47-51 UNITY STREET PLAINFIELD, CT 06374
COUNTY: WINDHAM
JURISDICTION: TOWN OF PLAINFIELD

VERIZON AWS

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	TOWN OF PLAINFIELD/SSUSA
SITE ADDRESS:	47-51 UNITY STREET PLAINFIELD, CT 06374
COUNTY:	WINDHAM
MAP/PARCEL #:	PLAI-000015-000071-000009
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 42' 5449"
LONGITUDE:	-71° 53' 46. 3"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	230 FT.
CURRENT ZONING:	IND-1
JURISDICTION:	TOWN OF PLAINFIELD
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TOWN OF PLAINFIELD 8 COMMUNITY AVENUE PLAINFIELD, CT 06374
TOWER OWNER:	GLOBAL SIGNAL ACQUISITIONS II LLC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921
ELECTRIC PROVIDER:	NORTHEAST UTILITIES (800) 286-2000
TELCO PROVIDER:	LIGHTOWER (845) 458-7720

PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CROWNAE.APPROVAL@CROWNCASTLE.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 WILLIAM GATES - PROJECT MANAGER (518) 373-3517 JASON D'AMICO - CONSTRUCTION MANAGER (860) 209-0104
VERIZON CONTACT:	ANDREW LEONE ALEONE@STRUCTURECONSULTING.NET

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-2	TOWER ELEVATION & ANTENNA PLANS
C-3	EQUIPMENT SCHEDULES
C-4	EQUIPMENT DETAILS
C-5	EQUIPMENT DETAILS
C-6	PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOBSITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

APPROVALS

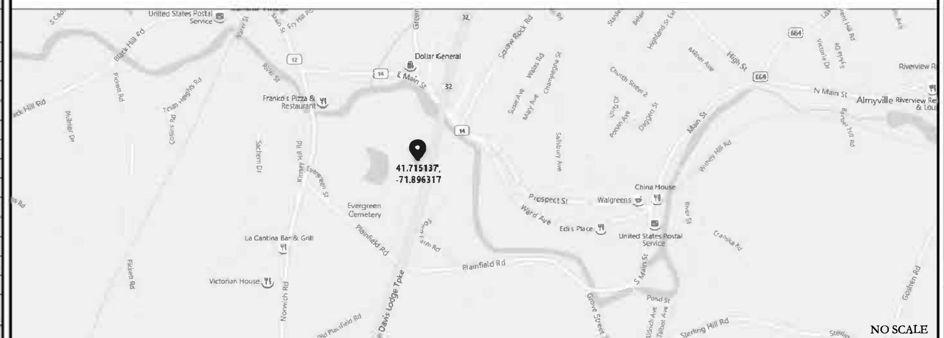
VERIZON SIGNATURE BLOCK

APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
CONSTRUCTION		
RADIO		
MICROWAVE		
TELCO		
EQUIPMENT		
PROJECT ADMINISTRATOR		
WO ADMINISTRATOR		

CROWN CASTLE USA INC. SIGNATURE BLOCK

APPROVAL	SIGNATURE	DATE
SITE ACQUISITION		
PLANNER		
CONSTRUCTION		
PROJECT MANAGER		
UTILITY MANAGER		
LANDLORD		

LOCATION MAP



DRIVING DIRECTIONS FROM AEROPORTUL DANIELSON (KILLINGLY, CT 06241):

1. HEAD NORTH ON AIRPORT RD TOWARD UPPER MAPLE ST
2. TURN RIGHT ONTO UPPER MAPLE ST
3. CONTINUE ONTO MAPLE ST
4. TURN RIGHT TO MERGE ONTO I-395 S TOWARD NORWICH

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: BLACK & VEATCH, CORP.
DATED: FEBRUARY 11, 2020

MOUNT ANALYSIS: INFINIGY ENGINEERING, PLLC
DATED: FEBRUARY 7, 2020

RFDS REVISION: ----
DATED: 4/2/2020

ORDER ID: 512997
REVISION: 0

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

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 (9) ANTENNAS
- REMOVE (9) RRHs
- REMOVE (3) OVPs
- REMOVE (3) HYBRID CABLES
- INSTALL (6) ANTENNAS
- INSTALL (6) RRHs
- INSTALL (3) DIPLEXERS
- INSTALL (3) SIDE-BY-SIDE MOUNTS
- INSTALL (3) OVPs
- INSTALL (3) HYBRID CABLES

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

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

VERIZON SITE NUMBER: 71936
BU #: 876401
TOWN OF PLAINFIELD/SSUSA
47-51 UNITY STREET
PLAINFIELD, CT 06374
EXISTING 160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	02/10/20	JAS	PRELIMINARY	CWJ
0	04/02/20	JAS	CONSTRUCTION	JL
1	04/07/20	JAS	CONSTRUCTION	JL
2	04/21/20	JAS	CONSTRUCTION	JL

DocuSigned by: Justin Linette
STATE OF CONNECTICUT · JUSTIN PETER LINETTE · No. 31965 · LICENSED PROFESSIONAL ENGINEER
4/21/2020 | 2:37:39 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

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

SHEET NUMBER: T-1
REVISION: 2

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION)
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" 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: VERIZON
   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 "VERIZON".
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

verizon✓
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

VERIZON SITE NUMBER: 71936

BU #: 876401
TOWN OF PLAINFIELD/SSUSA

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING 160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	02/10/20	JAS	PRELIMINARY	CWJ
0	04/02/20	JAS	CONSTRUCTION	JL
1	04/07/20	JAS	CONSTRUCTION	JL
2	04/21/20	JAS	CONSTRUCTION	JL

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1B4005B2547C4...

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JUSTIN PETER LINETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER

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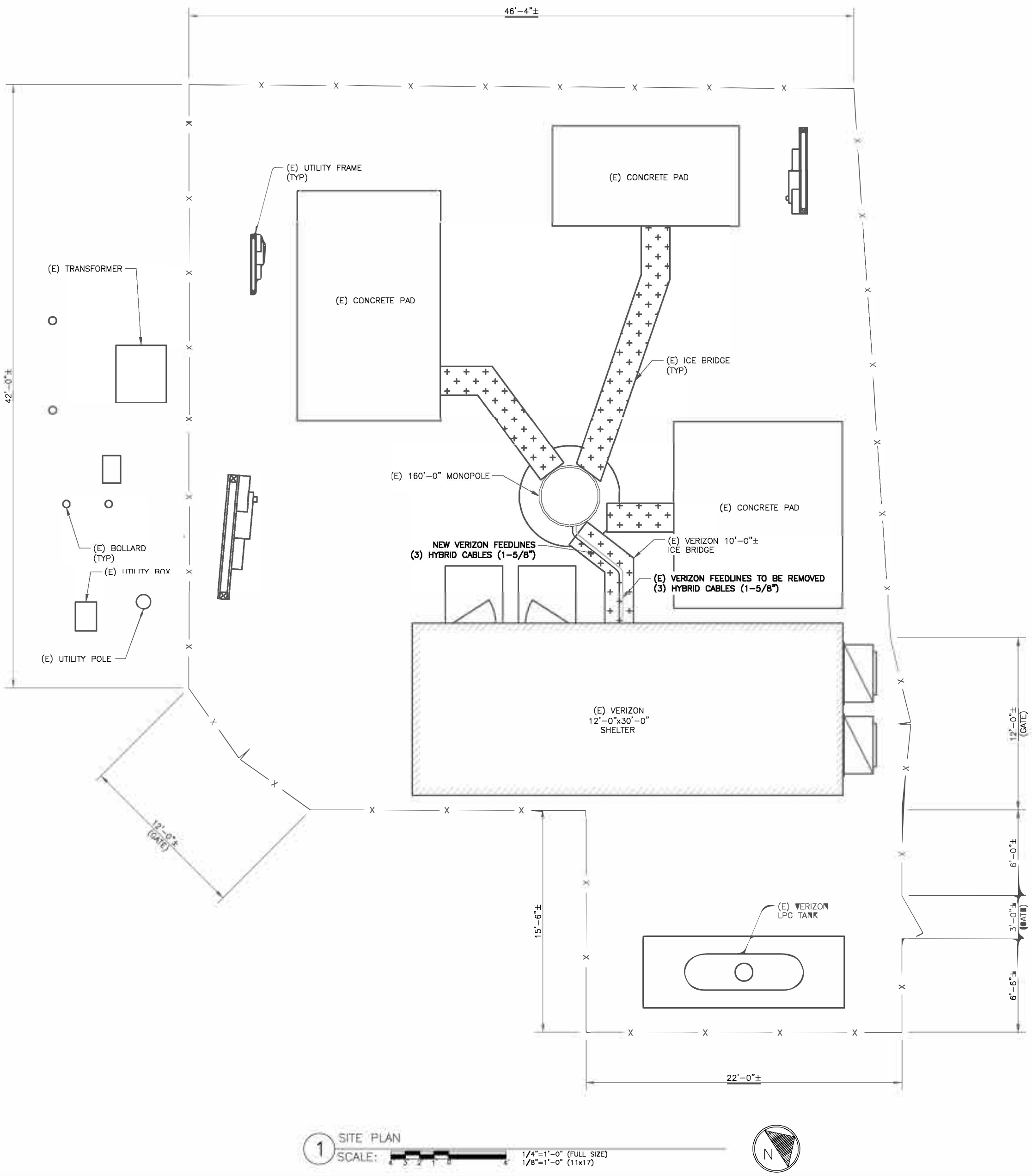
SHEET NUMBER: T-2

REVISION: 2



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

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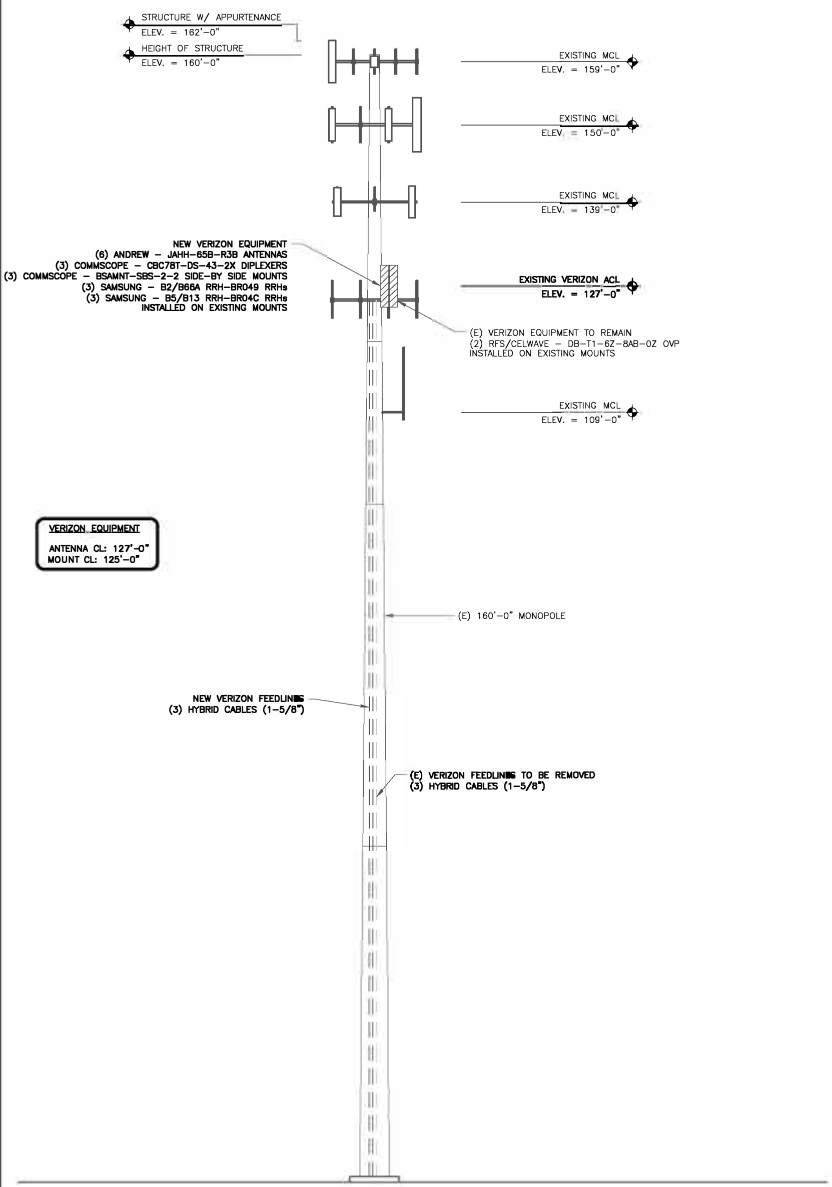
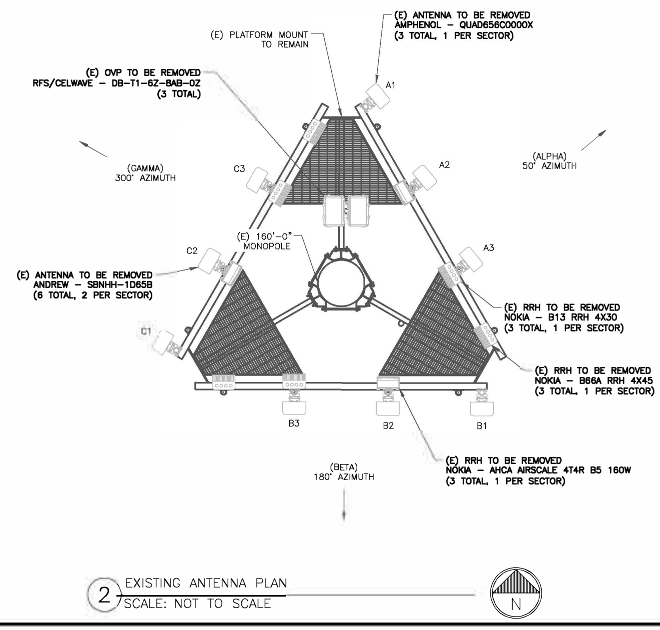
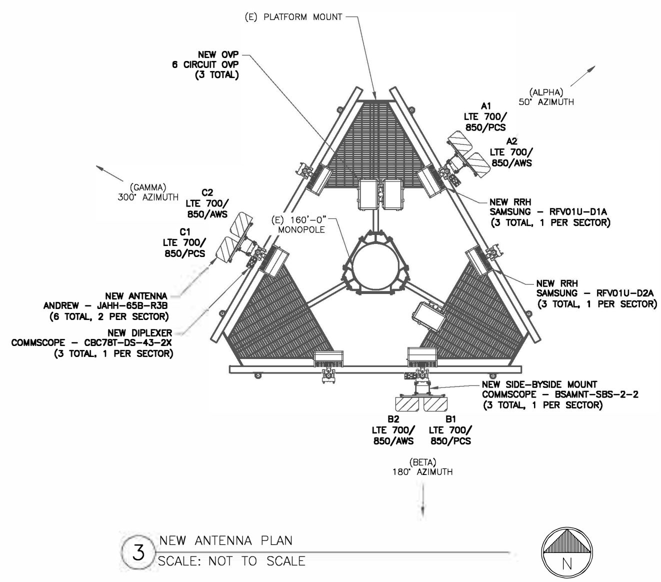
C-1	2



1 TOWER ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: NOT TO SCALE



3 NEW ANTENNA PLAN
SCALE: NOT TO SCALE

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SHEET NUMBER: C-2
REVISION: 2

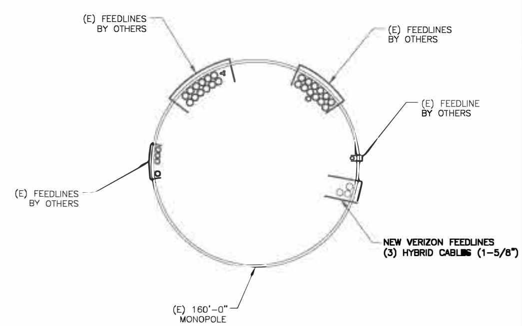
ANTENNA/RRH SCHEDULE

SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	NEW	ANDREW	JAHH-65B-R3B	127'-0"	50°	0°	1°/14°/5°	SAMSUNG COMMSCOPE	(1) RFV01U-D1A (1) CBC78T-DS-43-2X
A2	NEW	ANDREW	JAHH-65B-R3B	127'-0"	50°	0°	1°/14°/5°	SAMSUNG RFS/CELWAVE	(1) RFV01U-D2A (2) DB-T1-6Z-8AB-0Z
B1	NEW	ANDREW	JAHH-65B-R3B	127'-0"	180°	0°	1°/2°/2°	SAMSUNG COMMSCOPE	(1) B2/B66A RRH-BR049 (1) CBC78T-DS-43-2X
B2	NEW	ANDREW	JAHH-65B-R3B	127'-0"	180°	0°	1°/2°/2°	SAMSUNG	(1) B5/B13 RRH-BR04C
C1	NEW	ANDREW	JAHH-65B-R3B	127'-0"	300°	0°	1°/2°/2°	SAMSUNG COMMSCOPE	(1) B2/B66A RRH-BR049 (1) CBC78T-DS-43-2X
C2	NEW	ANDREW	JAHH-65B-R3B	127'-0"	300°	0°	1°/2°/2°	SAMSUNG	(1) B5/B13 RRH-BR04C

1 VERIZON TOWER EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

CABLE SCHEDULE

STATUS	CABLE TYPE	SIZE	LENGTH	QTY
NEW	HYBRID	1-5/8"	177'-0"±	3
TOTAL CABLE QTY:				3



2 BASE LEVEL DETAIL
SCALE: NOT TO SCALE

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SHEET NUMBER: C-3
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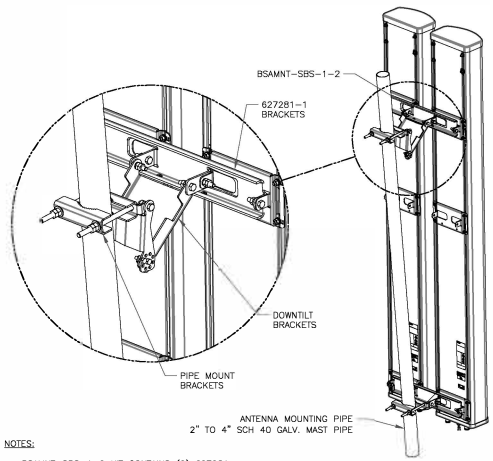


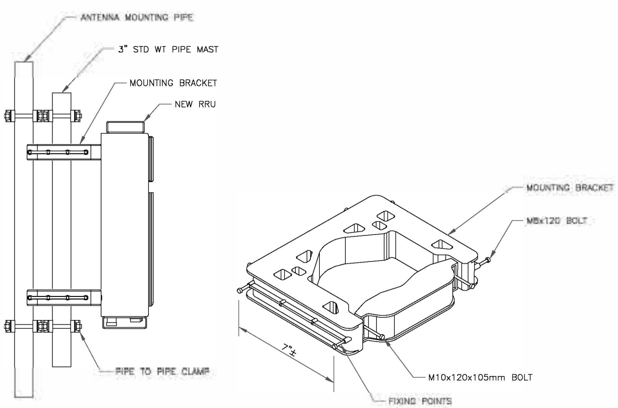
NOTES:

- BSAMNT-SBS-1-2 KIT CONTAINS (2) 627281 MOUNTING BRACKETS.
- TORQUE THE M10 BOLT ASSEMBLY TO 37 N.m. PER MANUFACTURE'S RECOMMENDATIONS

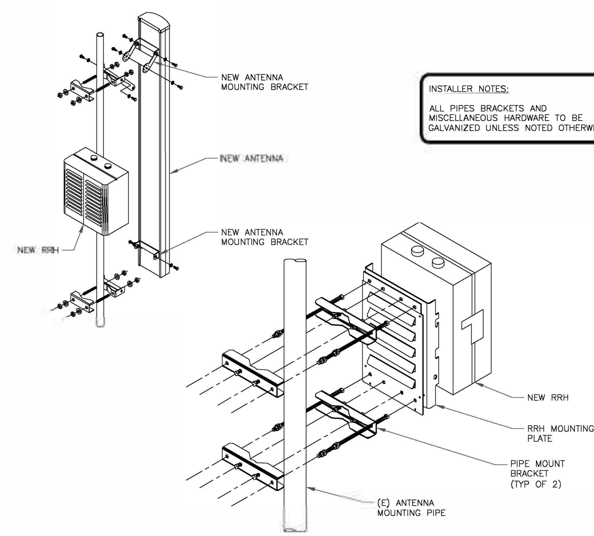
1 COMMSCOPE – BSAMNT-SBS-1-2
SCALE: NOT TO SCALE

2 NOUT USED
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE



4 NOKIA – FPKA BRACKET MOUNTING DETAIL
SCALE: NOT TO SCALE



INSTALLER NOTES:

ALL PIPES BRACKETS AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.

5 ANTENNA & RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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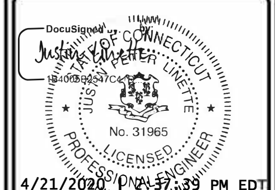

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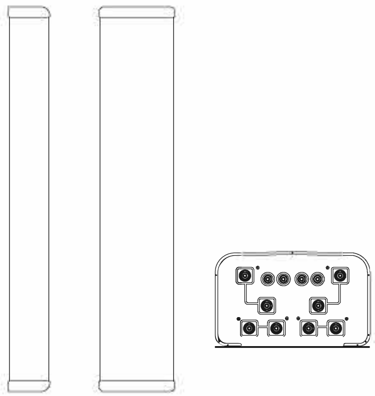
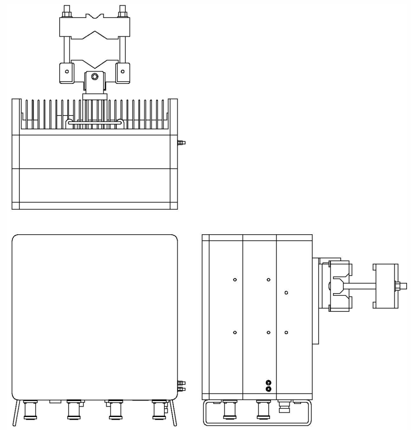
SHEET NUMBER: C-4

REVISION: 2



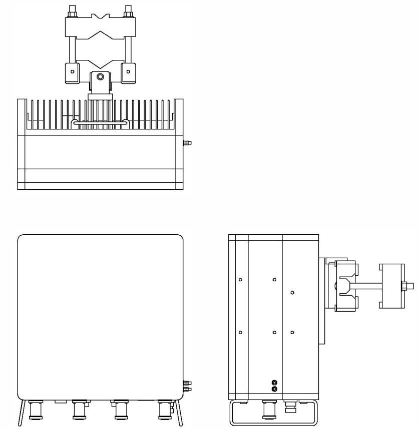
ANDREW – JAHH-65B-R3B
WEIGHT (WITHOUT MOUNTING HARDWARE): 63.3 LBS
SIZE (HxWxD): 72.0x13.8x8.2 IN.
MOUNTING HARDWARE P/N: BSAMNT-3
RATED WIND VELOCITY: 150.0 MPH

1 ANDREW – JAHH-65B-R3B
SCALE: NOT TO SCALE



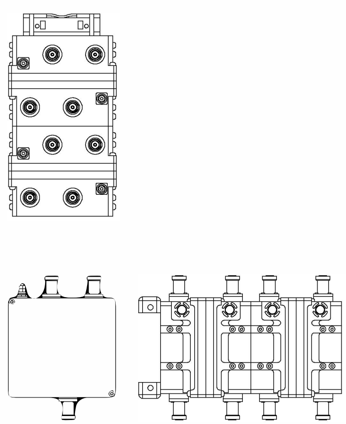
SAMSUNG – RFV01U-D1A
WEIGHT: 84.4 LBS.
SIZE (HxWxD): 15.0x15.0x10.0 IN.

2 SAMSUNG – RFV01U-D1A
SCALE: NOT TO SCALE



SAMSUNG – RFV01U-D2A
WEIGHT: 70.3 LBS.
SIZE (HxWxD): 15.0x15.0x8.1 IN.

3 SAMSUNG – RFV01U-D2A
SCALE: NOT TO SCALE



COMMSCOPE – CBC78T-DS-43-2X
WEIGHT (WITHOUT MOUNTING HARDWARE): 20.7 LBS
SIZE (HxWxD): 6.4x6.9x9.6 IN.

4 COMMSCOPE – CBC78T-DS-43-2X
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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SHEET NUMBER: C-5

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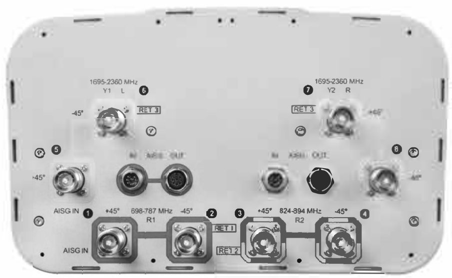
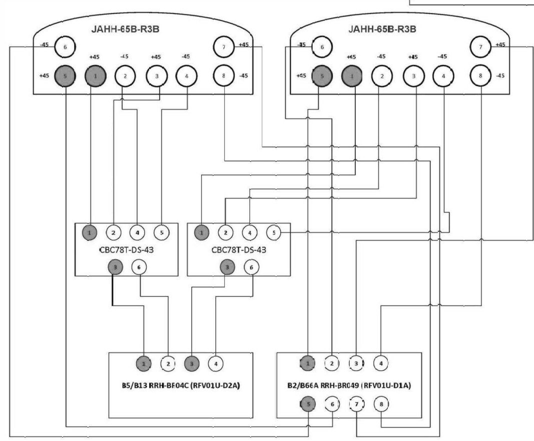
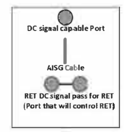


- Ports 1 & 2 are for 700MHz
- Ports 3 & 4 are for 850MHz
- Ports 5, 6, 7 & 8 are for high band (1695-2180 MHz).
- Smart Bias Tee (SBT) is through port 1 forlow band and port 5 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enoughto control all RET motors.
- Notall SBT ports areneeded to control RET, only green port connection to green port will control RET.



Tower/
Watertank/
Rooftop

Equipment
Pad



Comments:

Diagram shows configuration as viewed from below antennas

Cap and weatherproof unused antenna ports

CDMA not shown (not being changed)

All plumbing diagram colors are irrelevant except for AISG cable. (For the coax colors follow Coax Colors guide)

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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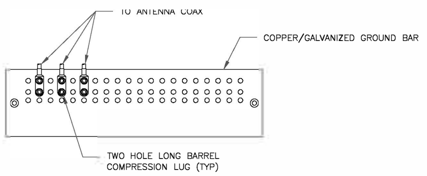
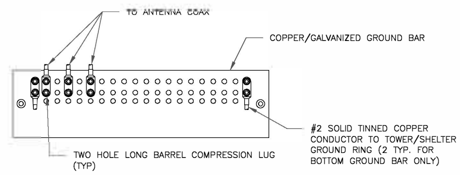


NOTES:

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.

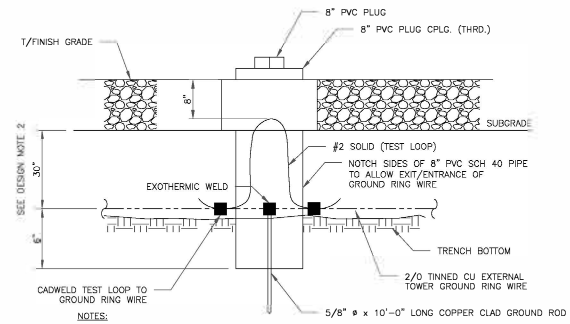
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

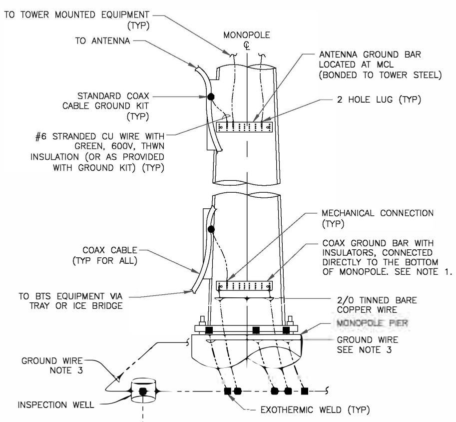
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

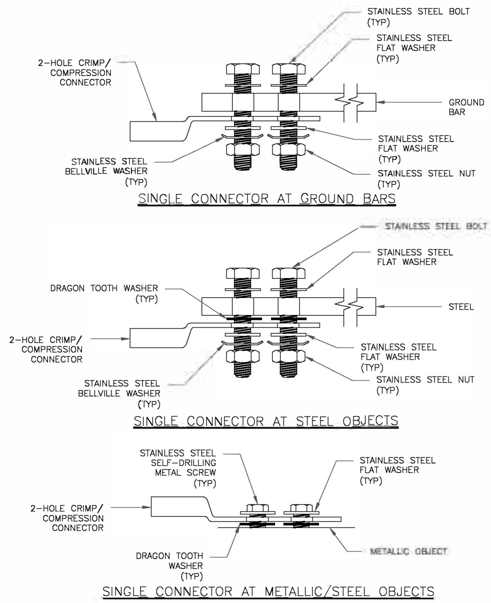
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



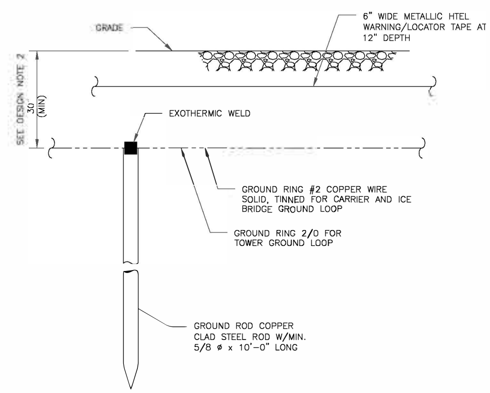
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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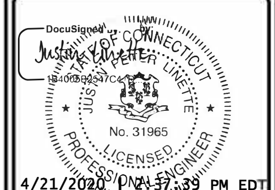

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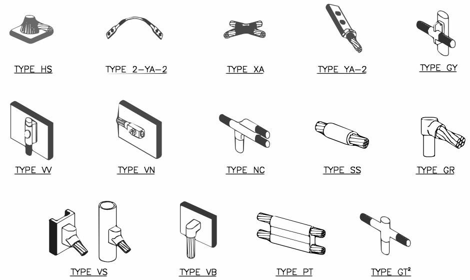
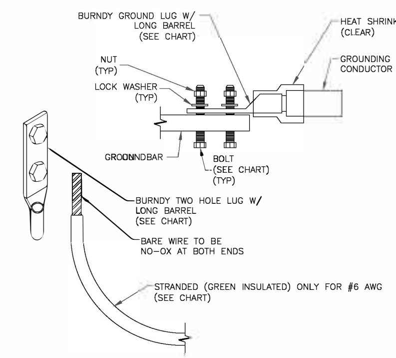


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

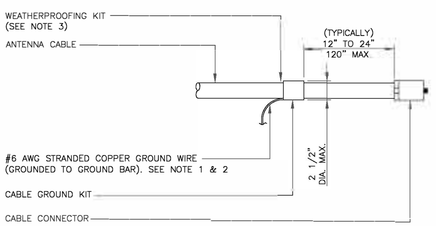
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. 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.

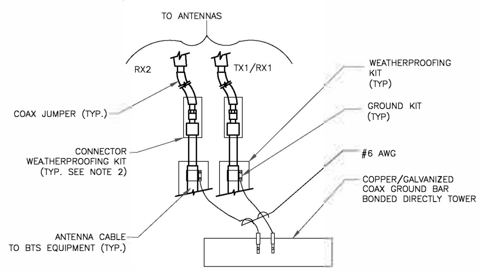
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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.

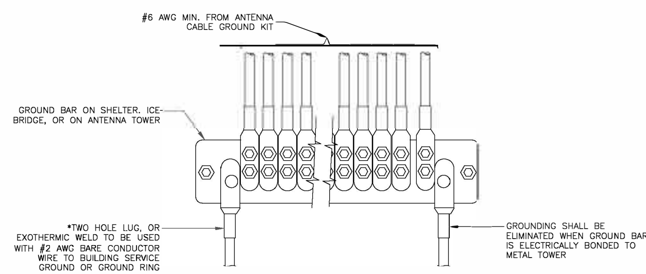
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



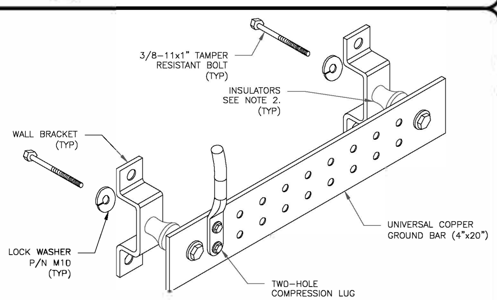
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



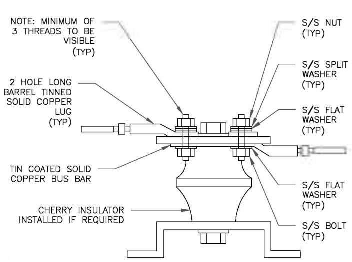
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



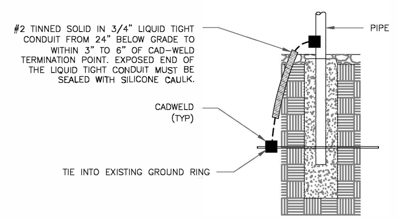
NOTES:

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.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

VERIZON SITE NUMBER: 71936

BU #: 876401
TOWN OF PLAINFIELD/SSUSA

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING 160'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	02/10/20	JAS	PRELIMINARY	CWJ
0	04/02/20	JAS	CONSTRUCTION	JL
1	04/07/20	JAS	CONSTRUCTION	JL
2	04/21/20	JAS	CONSTRUCTION	JL

DocuSigned by: Justin [signature]
STATE OF CONNECTICUT
JUSTIN PETER LINETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER
4/21/2020 | 2:37:39 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

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

SHEET NUMBER: G-2

REVISION: 2

Exhibit D

Structural Analysis Report

Date: **February 11, 2020**

Denice Nicholson
Crown Castle
3 Corporate Dr
Clifton Park, NY 12065

Black & Veatch Corp.
6800 W. 115th St., Suite 2292
Overland Park, KS 66211
(913)-458-6909

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	71936
	Carrier Site Name:	Plainfield N 2 CT
Crown Castle Designation:	**Crown Castle BU Number:**	876401
	Crown Castle Site Name:	TOWN OF PLAINFIELD/SSUSA
	Crown Castle JDE Job Number:	600729
	Crown Castle Work Order Number:	1826743
	Crown Castle Order Number:	512997 Rev. 0
Engineering Firm Designation:	**Black & Veatch Corp. Project Number:**	400087
Site Data:	**47-51 Unity Street, Plainfield, Windham County, CT** **Latitude *41° 42' 54.49"*, Longitude *-71° 53' 46.73"*** **159.857 Foot - Monopole Tower**	

Dear Denice Nicholson,

Black & Veatch Corp. 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 – 83.9%**

This analysis utilizes an ultimate 3-second gust wind speed of 135 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: Jirachot Chotpluksawan / Adichon Akkarapunyathorn

Respectfully submitted by:

Josh Riley, P.E.
Professional Engineer

02/11/2020

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1) INTRODUCTION

This tower is a 159.857 ft Monopole tower designed by Engineered Endeavors, Inc.

The tower has been modified multiple times in the past in order to accommodate additional loading

The tower has been modified per reinforcement drawing prepared by Semaan Endeavors in September of 2005. Reinforcement consists of installation of base plate stiffeners. These modifications are considered ineffective due to no PMI.

The tower was later reinforced per reinforcement drawing prepared by Vertical Solutions in August of 2008. Reinforcement consists of installation of plates from 0' to 127'. This modification has been considered effective in this analysis.

The tower was later reinforced per reinforcement drawing prepared by Paul J. Ford & Company in February of 2013. Reinforcement consists of installation of channels from 0.6' to 76.5' and (3) new anchor rods with brackets. Refer to Modification Inspection Report by Tower Engineering Professionals in September of 2013. This modification has been considered effective in this analysis.

The tower was later reinforced per reinforcement drawing prepared by Black & Veatch Corp. in November of 2014. Reinforcement consists of installation of plates from 0' to 100' and (9) new anchor rods with brackets. Refer to Modification Inspection Report by FDH Velocitel, Inc. in May of 2015. This modification has been considered effective in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	135 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.500 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)
125.0	127.0	2	rfs celwave	DB-T1-6Z-8AB-0Z	2	1-5/8
		3	commscope	CBC78T-DS-43-2X		
		6	commscope	JAHH-65B-R3B		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
	125.0	1	cci tower mounts (v2.1)	Platform Mount [LP 303-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
159.0	159.0	3	alcatel lucent	TD-RRH8x20-25	4	1-1/4
		1	cci tower mounts (v2.1)	Platform Mount [LP 714-1]		
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe		
157.0	159.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
		2	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
	157.0	1	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	cci tower mounts (v2.1)	Pipe Mount [PM 601-3]		
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 102-3]		
152.0	152.0	1	cci tower mounts (v2.1)	Pipe Mount [PM 601-3]	-	-
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 102-3]		
		3	ericsson	RRUS-11		
150.0	150.0	3	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe	1 2 12	3/8 7/16 1-5/8
		1	cci tower mounts (v2.1)	Platform Mount [LP 303-1]		
		3	ericsson	RRUS 32 B2		
		3	powerwave technologies	1001983		
		12	powerwave technologies	7020.00		
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
		6	powerwave technologies	LGP21901		
		1	raycap	DC6-48-60-18-8F		
139.0	139.0	3		Site Pro 1 SFS-H	12 1	1-5/8 1-1/4
		1	cci tower mounts (v2.1)	T-Arm Mount [TA 602-3]		
		3	ericsson	KRY 112 489/2		
		3	ericsson	RADIO 4449 B12/B71		
	137.0	3	rfs celwave	APXV18-203219-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	134.5	1	perfect vision	PV-PKBK		
109.0	114.0	1	decibel	DB589	1	7/8
	109.0	1	cci tower mounts (v2.1)	Side Arm Mount [SO 201-1]		
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc., Inc	1610729	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	1615418	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	1615382	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Paul J. Ford & Comapany	3667143	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	3986355	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Black & Veatch Corp.	5422409	CCISITES
4-POST-MODIFICATION INSPECTION	FDH Velocitel, Inc.	5666814	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Vertical Solutions	2819430	CCISITES
4-EXPOSURE CATEGORY/TOPOGRAPHIC FACTOR	Crown Castle	6799672	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), 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.

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

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
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 wind loading Exposure Category and Topographic Category for this site have been analyzed and determined by the tower owner. Black & Veatch does not assume any responsibility for its accuracy.

4) The wind loading EPA of the panel antennas has been analyzed and determined by the tower owner. Verification of its accuracy is outside the scope of this structural analysis/design. Black & Veatch does not assume any responsibility for its accuracy.
5) This analysis was performed under the assumption that all information provided to Black & Veatch is current and correct. This is to include site data, appurtenance loading, tower/foundation details, and geotechnical data. The loading on the structure is based on CAD level drawings and carrier orders provided by the owner. If any of this information is not current and correct, this report should be considered obsolete and further analysis will be required.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
159.86 - 154.86	Pole	TP17.62x16.5x0.1875	Pole	7.6%	Pass
154.86 - 149.86	Pole	TP18.741x17.62x0.1875	Pole	16.5%	Pass
149.86 - 144.86	Pole	TP19.861x18.741x0.1875	Pole	29.8%	Pass
144.86 - 139.86	Pole	TP20.981x19.861x0.1875	Pole	41.0%	Pass
139.86 - 134.86	Pole	TP22.102x20.981x0.1875	Pole	53.4%	Pass
134.86 - 129.86	Pole	TP23.222x22.102x0.1875	Pole	66.0%	Pass
129.86 - 125.75	Pole	TP24.142x23.222x0.1875	Pole	75.0%	Pass
125.75 - 125.5	Pole	TP24.199x24.142x0.1875	Pole	75.6%	Pass
125.5 - 122.73	Pole	TP25.66x24.199x0.1875	Pole	83.6%	Pass
122.73 - 117.98	Pole + Reinf.	TP25.489x24.445x0.4938	Reinf. 4 Tension Rupture	62.8%	Pass
117.98 - 112.98	Pole + Reinf.	TP26.588x25.489x0.4813	Reinf. 4 Tension Rupture	70.4%	Pass
112.98 - 107.98	Pole + Reinf.	TP27.688x26.588x0.475	Reinf. 4 Tension Rupture	77.4%	Pass
107.98 - 103	Pole + Reinf.	TP28.782x27.688x0.4625	Reinf. 4 Tension Rupture	83.9%	Pass
103 - 102.75	Pole + Reinf.	TP28.837x28.782x0.55	Reinf. 4 Tension Rupture	75.7%	Pass
102.75 - 100.21	Pole + Reinf.	TP29.396x28.837x0.5375	Reinf. 4 Tension Rupture	78.5%	Pass
100.21 - 100.02	Pole + Reinf.	TP30.39x29.396x0.6875	Reinf. 4 Tension Rupture	59.3%	Pass
100.02 - 94.69	Pole + Reinf.	TP30.119x28.937x0.7375	Reinf. 4 Tension Rupture	59.7%	Pass
94.69 - 93.5	Pole + Reinf.	TP30.382x30.119x0.7375	Reinf. 4 Tension Rupture	60.6%	Pass
93.5 - 93.25	Pole + Reinf.	TP30.437x30.382x0.9125	Reinf. 4 Tension Rupture	50.0%	Pass
93.25 - 89.25	Pole + Reinf.	TP31.323x30.437x0.8875	Reinf. 4 Tension Rupture	52.5%	Pass
89.25 - 89	Pole + Reinf.	TP31.379x31.323x0.9375	Reinf. 14 Tension Rupture	48.2%	Pass
89 - 86.5	Pole +	TP31.933x31.379x0.925	Reinf. 14 Tension	49.6%	Pass

	Reinf.		Rupture		
86.5 - 86.25	Pole + Reinf.	TP31.988x31.933x0.7625	Reinf. 3 Tension Rupture	57.4%	Pass
86.25 - 81.25	Pole + Reinf.	TP33.096x31.988x0.7375	Reinf. 3 Tension Rupture	60.4%	Pass
81.25 - 76.25	Pole + Reinf.	TP34.203x33.096x0.725	Reinf. 3 Tension Rupture	63.2%	Pass
76.25 - 75.42	Pole + Reinf.	TP34.387x34.203x0.725	Reinf. 3 Tension Rupture	63.6%	Pass
75.42 - 75.17	Pole + Reinf.	TP34.443x34.387x0.8125	Reinf. 3 Tension Rupture	56.6%	Pass
75.17 - 70.17	Pole + Reinf.	TP35.55x34.443x0.8	Reinf. 3 Tension Rupture	59.1%	Pass
70.17 - 65.17	Pole + Reinf.	TP36.658x35.55x0.7875	Reinf. 3 Tension Rupture	61.4%	Pass
65.17 - 60.17	Pole + Reinf.	TP37.766x36.658x0.7625	Reinf. 3 Tension Rupture	63.6%	Pass
60.17 - 59.5	Pole + Reinf.	TP37.914x37.766x0.7625	Reinf. 3 Tension Rupture	63.9%	Pass
59.5 - 59.25	Pole + Reinf.	TP37.97x37.914x0.7625	Reinf. 2 Tension Rupture	64.0%	Pass
59.25 - 54.25	Pole + Reinf.	TP39.077x37.97x0.75	Reinf. 2 Tension Rupture	66.1%	Pass
54.25 - 53	Pole + Reinf.	TP39.354x39.077x0.7375	Reinf. 2 Tension Rupture	66.6%	Pass
53 - 52.75	Pole + Reinf.	TP39.41x39.354x0.7375	Reinf. 2 Tension Rupture	66.7%	Pass
52.75 - 52.64	Pole + Reinf.	TP40.67x39.41x0.7375	Reinf. 2 Tension Rupture	66.8%	Pass
52.64 - 46.06	Pole + Reinf.	TP40.27x38.808x0.7625	Reinf. 2 Tension Rupture	67.2%	Pass
46.06 - 41.06	Pole + Reinf.	TP41.381x40.27x0.75	Reinf. 2 Tension Rupture	68.8%	Pass
41.06 - 39.33	Pole + Reinf.	TP41.765x41.381x0.75	Reinf. 2 Tension Rupture	69.4%	Pass
39.33 - 39.08	Pole + Reinf.	TP41.821x41.765x0.825	Reinf. 2 Tension Rupture	63.4%	Pass
39.08 - 37.75	Pole + Reinf.	TP42.116x41.821x0.825	Reinf. 2 Tension Rupture	63.8%	Pass
37.75 - 37.5	Pole + Reinf.	TP42.171x42.116x0.75	Reinf. 2 Tension Rupture	70.0%	Pass
37.5 - 32.5	Pole + Reinf.	TP43.282x42.171x0.7375	Reinf. 2 Tension Rupture	71.5%	Pass
32.5 - 29.75	Pole + Reinf.	TP43.893x43.282x0.725	Reinf. 2 Tension Rupture	72.3%	Pass
29.75 - 29.5	Pole + Reinf.	TP43.948x43.893x0.725	Reinf. 1 Tension Rupture	72.4%	Pass
29.5 - 24.5	Pole + Reinf.	TP45.059x43.948x0.7125	Reinf. 1 Tension Rupture	73.8%	Pass
24.5 - 21.25	Pole + Reinf.	TP45.781x45.059x0.7125	Reinf. 1 Tension Rupture	74.7%	Pass
21.25 - 21	Pole + Reinf.	TP45.836x45.781x0.725	Reinf. 12 Tension Rupture	70.3%	Pass
21 - 20	Pole + Reinf.	TP46.058x45.836x0.725	Reinf. 12 Tension Rupture	70.6%	Pass

20 - 19.75	Pole + Reinf.	TP46.114x46.058x0.825	Reinf. 1 Tension Rupture	66.8%	Pass
19.75 - 17	Pole + Reinf.	TP46.724x46.114x0.8125	Reinf. 1 Tension Rupture	67.5%	Pass
17 - 16.75	Pole + Reinf.	TP46.78x46.724x0.775	Reinf. 1 Tension Rupture	73.8%	Pass
16.75 - 11.75	Pole + Reinf.	TP47.89x46.78x0.7625	Reinf. 1 Tension Rupture	75.0%	Pass
11.75 - 6.75	Pole + Reinf.	TP49.001x47.89x0.75	Reinf. 1 Tension Rupture	76.3%	Pass
6.75 - 1.75	Pole + Reinf.	TP50.111x49.001x0.7375	Reinf. 1 Tension Rupture	77.4%	Pass
1.75 - 0	Pole + Reinf.	TP50.5x50.111x0.7375	Reinf. 1 Tension Rupture	77.8%	Pass
				Summary	
			Pole	83.6%	Pass
			Reinforcement	83.9%	Pass
			Overall	83.9%	Pass

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods (Original)	0	44.4	Pass
	Anchor Rods (Existing Modification)		50.8	Pass
	Base Plate		64.7	Pass
1	Base Foundation	0	65.5	Pass
	Base Foundation Soil Interaction		49.7	Pass

Structure Rating (max from all components) =	83.9%

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

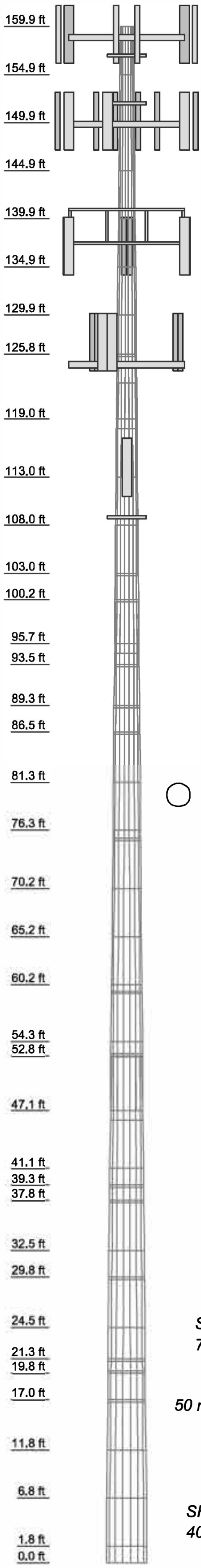
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875		16.5000	17.6204		0.2
2	5.00	18	0.1875		17.6204	18.7407		0.2
3	5.00	18	0.1875		18.7407	19.8611		0.2
4	5.00	18	0.1875		19.8611	20.9814		0.2
5	5.00	18	0.1875		20.9814	22.1018		0.2
6	5.00	18	0.1875		22.1018	23.2221		0.2
7	4.11	18	[illegible]		[illegible]	[illegible]		0.2
8	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
9	4.76	18	[illegible]	3.75	[illegible]	[illegible]		0.3
10	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
11	5.00	18	0.4813		25.4884	26.5885		0.6
12	5.00	18	0.4750		26.5885	27.6878		0.6
13	4.98	18	[illegible]		[illegible]	[illegible]		0.6
14–15	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
16	[illegible]	18	[illegible]	4.33	[illegible]	[illegible]		0.9
17–23	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
24	5.000	18	[illegible]		31.98[illegible]	33.08[illegible]		1.2
25	5.00	18	0.7250		[illegible]	[illegible]	A572-65	1.2
26–27	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
28	5.000	18	0.800		34.44[illegible]	35.55[illegible]		1.4
29	5.00	18	0.7875		35.5504	36.6581		1.4
30	5.00	18	[illegible]		36.6581	[illegible]7658		1.4
31–32	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
33	5.000	18	[illegible]		[illegible]	[illegible]		1.4
34–35	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
36	[illegible]	18	[illegible]	5.58	[illegible]	[illegible]		1.7
37	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
38	5.00	18	[illegible]		[illegible]	[illegible]		1.6
39–42	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
43	5.000	18	[illegible]		[illegible]	[illegible]		1.6
44–45	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
46	5.000	18	[illegible]		[illegible]	[illegible]		1.7
47–52	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
53	5.000	18	[illegible]		46.7[illegible]	47.89[illegible]		2.0
54	5.00	18	0.7500		47.8904	49.0009		2.0
55	5.00	18	0.7375		49.0009	50.1113		2.0
56	.75	18	[illegible]		50.11[illegible]	50.50[illegible]		0.7
								38.4



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 135 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

ALL REACTIONS ARE FACTORED

AXIAL 101 K
SHEAR 7 K
MOMENT 804 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 64 K
SHEAR 40 K
MOMENT 4091 kip-ft
TORQUE 3 kip-ft
REACTIONS - 135 mph WIND

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Job: TOWN OF PLAINFIELD/SSUSA (BU# 876401	
Project: 400087 (876401.1826743)	
Client: Crown Castle	Drawn by: Jirachot Chotpluksawan / App'd:
Code: TIA-222-H	Date: 02/11/20 / Scale: NTS
Path:	Dwg No. E-1

Tower Input Data

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

1) Tower is located in Windham County, Connecticut.
2) Tower base elevation above sea level: 219.00 ft.
3) Basic wind speed of 135 mph.
4) Risk Category II.
5) Exposure Category B.
6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7) Topographic Category: 1.
8) Crest Height: 0.00 ft.
9) Nominal ice thickness of 1.5000 in.
10) Ice thickness is considered to increase with height.
11) Ice density of 56 pcf.
12) A wind speed of 50 mph is used in combination with ice.
13) Deflections calculated using a wind speed of 60 mph.
14) A non-linear (P-delta) analysis was used.
15) Pressures are calculated at each section.
16) Stress ratio used in pole design is 1.05.
17) Tower analysis based on target reliabilities in accordance with Annex S.
18) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
19) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

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	159.86-154.86	5.00	0.00	18	16.5000	17.6204	0.1875	0.7500	A572-65 (65 ksi)
L2	154.86-149.86	5.00	0.00	18	17.6204	18.7407	0.1875	0.7500	A572-65 (65 ksi)
L3	149.86-144.86	5.00	0.00	18	18.7407	19.8611	0.1875	0.7500	A572-65 (65 ksi)
L4	144.86-139.86	5.00	0.00	18	19.8611	20.9814	0.1875	0.7500	A572-65 (65 ksi)
L5	139.86-134.86	5.00	0.00	18	20.9814	22.1018	0.1875	0.7500	A572-65 (65 ksi)
L6	134.86-129.86	5.00	0.00	18	22.1018	23.2221	0.1875	0.7500	A572-65 (65 ksi)
L7	129.86-125.75	4.11	0.00	18	23.2221	24.1425	0.1875	0.7500	A572-65 (65 ksi)
L8	125.75-125.50	0.25	0.00	18	24.1425	24.1985	0.1875	0.7500	A572-65 (65 ksi)
L9	125.50-118.98	6.52	3.75	18	24.1985	25.6600	0.1875	0.7500	A572-65 (65 ksi)
L10	118.98-117.98	4.75	0.00	18	24.4447	25.4891	0.4938	1.9750	A572-65 (65 ksi)
L11	117.98-112.98	5.00	0.00	18	25.4891	26.5885	0.4813	1.9250	A572-65 (65 ksi)
L12	112.98-107.98	5.00	0.00	18	26.5885	27.6878	0.4750	1.9000	A572-65 (65 ksi)
L13	107.98-103.00	4.98	0.00	18	27.6878	28.7822	0.4625	1.8500	A572-65 (65 ksi)
L14	103.00-102.75	0.25	0.00	18	28.7822	28.8372	0.5500	2.2000	A572-65 (65 ksi)
L15	102.75-100.21	2.54	0.00	18	28.8372	29.3956	0.5375	2.1500	A572-65 (65 ksi)
L16	100.21-95.69	4.52	4.33	18	29.3956	30.3900	0.6875	2.7500	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L17	95.69-94.69	5.33	0.00	18	28.9372	30.1188	0.7375	2.9500	(65 ksi) A572-65 (65 ksi)
L18	94.69-93.50	1.19	0.00	18	30.1188	30.3819	0.7375	2.9500	A572-65 (65 ksi)
L19	93.50-93.25	0.25	0.00	18	30.3819	30.4372	0.9125	3.6500	A572-65 (65 ksi)
L20	93.25-89.25	4.00	0.00	18	30.4372	31.3234	0.8875	3.5500	A572-65 (65 ksi)
L21	89.25-89.00	0.25	0.00	18	31.3234	31.3788	0.9375	3.7500	A572-65 (65 ksi)
L22	89.00-86.50	2.50	0.00	18	31.3788	31.9326	0.9250	3.7000	A572-65 (65 ksi)
L23	86.50-86.25	0.25	0.00	18	31.9326	31.9880	0.7625	3.0500	A572-65 (65 ksi)
L24	86.25-81.25	5.00	0.00	18	31.9880	33.0957	0.7375	2.9500	A572-65 (65 ksi)
L25	81.25-76.25	5.00	0.00	18	33.0957	34.2034	0.7250	2.9000	A572-65 (65 ksi)
L26	76.25-75.42	0.83	0.00	18	34.2034	34.3873	0.7250	2.9000	A572-65 (65 ksi)
L27	75.42-75.17	0.25	0.00	18	34.3873	34.4427	0.8125	3.2500	A572-65 (65 ksi)
L28	75.17-70.17	5.00	0.00	18	34.4427	35.5504	0.8000	3.2000	A572-65 (65 ksi)
L29	70.17-65.17	5.00	0.00	18	35.5504	36.6581	0.7875	3.1500	A572-65 (65 ksi)
L30	65.17-60.17	5.00	0.00	18	36.6581	37.7658	0.7625	3.0500	A572-65 (65 ksi)
L31	60.17-59.50	0.67	0.00	18	37.7658	37.9142	0.7625	3.0500	A572-65 (65 ksi)
L32	59.50-59.25	0.25	0.00	18	37.9142	37.9696	0.7625	3.0500	A572-65 (65 ksi)
L33	59.25-54.25	5.00	0.00	18	37.9696	39.0773	0.7500	3.0000	A572-65 (65 ksi)
L34	54.25-53.00	1.25	0.00	18	39.0773	39.3542	0.7375	2.9500	A572-65 (65 ksi)
L35	53.00-52.75	0.25	0.00	18	39.3542	39.4096	0.7375	2.9500	A572-65 (65 ksi)
L36	52.75-47.06	5.69	5.58	18	39.4096	40.6700	0.7375	2.9500	A572-65 (65 ksi)
L37	47.06-46.06	6.58	0.00	18	38.8081	40.2702	0.7625	3.0500	A572-65 (65 ksi)
L38	46.06-41.06	5.00	0.00	18	40.2702	41.3807	0.7500	3.0000	A572-65 (65 ksi)
L39	41.06-39.33	1.73	0.00	18	41.3807	41.7651	0.7500	3.0000	A572-65 (65 ksi)
L40	39.33-39.08	0.25	0.00	18	41.7651	41.8206	0.8250	3.3000	A572-65 (65 ksi)
L41	39.08-37.75	1.33	0.00	18	41.8206	42.1160	0.8250	3.3000	A572-65 (65 ksi)
L42	37.75-37.50	0.25	0.00	18	42.1160	42.1715	0.7500	3.0000	A572-65 (65 ksi)
L43	37.50-32.50	5.00	0.00	18	42.1715	43.2820	0.7375	2.9500	A572-65 (65 ksi)
L44	32.50-29.75	2.75	0.00	18	43.2820	43.8927	0.7250	2.9000	A572-65 (65 ksi)
L45	29.75-29.50	0.25	0.00	18	43.8927	43.9482	0.7250	2.9000	A572-65 (65 ksi)
L46	29.50-24.50	5.00	0.00	18	43.9482	45.0587	0.7125	2.8500	A572-65 (65 ksi)
L47	24.50-21.25	3.25	0.00	18	45.0587	45.7805	0.7125	2.8500	A572-65 (65 ksi)
L48	21.25-21.00	0.25	0.00	18	45.7805	45.8360	0.7250	2.9000	A572-65 (65 ksi)
L49	21.00-20.00	1.00	0.00	18	45.8360	46.0581	0.7250	2.9000	A572-65 (65 ksi)
L50	20.00-19.75	0.25	0.00	18	46.0581	46.1137	0.8250	3.3000	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L51	19.75-17.00	2.75	0.00	18	46.1137	46.7244	0.8125	3.2500	A572-65 (65 ksi)
L52	17.00-16.75	0.25	0.00	18	46.7244	46.7799	0.7750	3.1000	A572-65 (65 ksi)
L53	16.75-11.75	5.00	0.00	18	46.7799	47.8904	0.7625	3.0500	A572-65 (65 ksi)
L54	11.75-6.75	5.00	0.00	18	47.8904	49.0009	0.7500	3.0000	A572-65 (65 ksi)
L55	6.75-1.75	5.00	0.00	18	49.0009	50.1113	0.7375	2.9500	A572-65 (65 ksi)
L56	1.75-0.00	1.75		18	50.1113	50.5000	0.7375	2.9500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.7256	9.7080	326.3677	5.7909	8.3820	38.9367	653.1649	4.8549	2.5740	13.728
	17.8632	10.3747	398.3373	6.1887	8.9511	44.5013	797.1988	5.1883	2.7712	14.78
L2	17.8632	10.3747	398.3373	6.1887	8.9511	44.5013	797.1988	5.1883	2.7712	14.78
	19.0009	11.0415	480.1782	6.5864	9.5203	50.4374	960.9882	5.5218	2.9684	15.831
L3	19.0009	11.0415	480.1782	6.5864	9.5203	50.4374	960.9882	5.5218	2.9684	15.831
	20.1385	11.7082	572.5248	6.9841	10.0894	56.7451	1145.8029	5.8552	3.1655	16.883
L4	20.1385	11.7082	572.5248	6.9841	10.0894	56.7451	1145.8029	5.8552	3.1655	16.883
	21.2762	12.3750	676.0115	7.3818	10.6586	63.4243	1352.9124	6.1887	3.3627	17.935
L5	21.2762	12.3750	676.0115	7.3818	10.6586	63.4243	1352.9124	6.1887	3.3627	17.935
	22.4138	13.0417	791.2726	7.7796	11.2277	70.4751	1583.5865	6.5221	3.5599	18.986
L6	22.4138	13.0417	791.2726	7.7796	11.2277	70.4751	1583.5865	6.5221	3.5599	18.986
	23.5514	13.7085	918.9427	8.1773	11.7968	77.8974	1839.0946	6.8555	3.7571	20.038
L7	23.5514	13.7085	918.9427	8.1773	11.7968	77.8974	1839.0946	6.8555	3.7571	20.038
	24.4860	14.2562	1033.5542	8.5040	12.2644	84.2728	2068.4683	7.1295	3.9191	20.902
L8	24.4860	14.2562	1033.5542	8.5040	12.2644	84.2728	2068.4683	7.1295	3.9191	20.902
	24.5429	14.2895	1040.8219	8.5239	12.2928	84.6690	2083.0133	7.1461	3.9289	20.954
L9	24.5429	14.2895	1040.8219	8.5239	12.2928	84.6690	2083.0133	7.1461	3.9289	20.954
	26.0269	15.1593	1242.6830	9.0427	13.0353	95.3323	2487.0012	7.5811	4.1862	22.326
L10	25.5829	37.5351	2720.3304	8.5026	12.4179	219.0648	5444.2404	18.7711	3.4333	6.953
	25.8062	39.1718	3091.9319	8.8734	12.9485	238.7874	6187.9322	19.5896	3.6171	7.326
L11	25.8081	38.1992	3018.1787	8.8778	12.9485	233.0915	6040.3288	19.1032	3.6391	7.562
	26.9244	39.8784	3433.9704	9.2681	13.5069	254.2375	6872.4593	19.9430	3.8326	7.964
L12	26.9254	39.3700	3391.8082	9.2703	13.5069	251.1160	6788.0794	19.6887	3.8436	8.092
	28.0417	41.0274	3838.4688	9.6605	14.0654	272.9014	7681.9883	20.5176	4.0371	8.499
L13	28.0436	39.9661	3742.6091	9.6650	14.0654	266.0861	7490.1428	19.9868	4.0591	8.776
	29.1549	41.5726	4212.3295	10.0535	14.6214	288.0942	8430.2018	20.7903	4.2517	9.193
L14	29.1414	49.2850	4962.9684	10.0224	14.6214	339.4327	9932.4673	24.6472	4.0977	7.45
	29.1972	49.3809	4992.0132	10.0419	14.6493	340.7684	9990.5950	24.6952	4.1073	7.468
L15	29.1991	48.2800	4885.0287	10.0464	14.6493	333.4654	9776.4852	24.1446	4.1293	7.682
	29.7662	49.2327	5179.9780	10.2446	14.9330	346.8816	10366.7718	24.6210	4.2276	7.865
L16	29.7431	62.6448	6522.7736	10.1914	14.9330	436.8030	13054.1300	31.3283	3.9636	5.765
	30.7528	64.8146	7224.3053	10.5444	15.4381	467.9524	14458.1165	32.4134	4.1386	6.02
L17	30.2447	66.0106	6631.9525	10.0109	14.7001	451.1497	13272.6314	33.0116	3.7950	5.146
	30.4696	68.7764	7500.9897	10.4304	15.3003	490.2498	15011.8494	34.3948	4.0029	5.428
L18	30.4696	68.7764	7500.9897	10.4304	15.3003	490.2498	15011.8494	34.3948	4.0029	5.428
	30.7368	69.3923	7704.2900	10.5237	15.4340	499.1770	15418.7175	34.7027	4.0492	5.49
L19	30.7098	85.3514	9364.6025	10.4616	15.4340	606.7521	18741.5271	42.6838	3.7412	4.1
	30.7660	85.5118	9417.5016	10.4813	15.4621	609.0692	18847.3950	42.7640	3.7510	4.111
L20	30.7699	83.2394	9182.7749	10.4902	15.4621	593.8885	18377.632	41.6276	3.7950	4.276

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
	31.6697	85.7357	10033.9379	10.8047	15.9123	630.5779	20081.0787	42.8760	3.9509	4.452
L21	31.6620	90.4171	10547.0789	10.7870	15.9123	662.8260	21108.0358	45.2171	3.8629	4.12
	31.7182	90.5819	10604.8572	10.8067	15.9404	665.2807	21223.6685	45.2995	3.8727	4.131
L22	31.7202	89.4108	10476.3541	10.8111	15.9404	657.2192	20966.4933	44.7139	3.8947	4.21
	32.2826	91.0369	11058.3996	11.0077	16.2218	681.7007	22131.3501	45.5271	3.9921	4.316
L23	32.3076	75.4372	9259.7767	11.0654	16.2218	570.8237	18531.7376	37.7258	4.2781	5.611
	32.3639	75.5712	9309.2245	11.0851	16.2499	572.8783	18630.6983	37.7928	4.2879	5.623
L24	32.3677	73.1520	9025.6479	11.0939	16.2499	555.4273	18063.1719	36.5830	4.3319	5.874
	33.4925	75.7449	10019.8342	11.4872	16.8126	595.9707	20052.8527	37.8797	4.5268	6.138
L25	33.4944	74.4899	9861.4261	11.4916	16.8126	586.5487	19735.8281	37.2520	4.5488	6.274
	34.6192	77.0389	10908.8138	11.8848	17.3753	627.8331	21831.9816	38.5268	4.7438	6.543
L26	34.6192	77.0389	10908.8138	11.8848	17.3753	627.8331	21831.9816	38.5268	4.7438	6.543
	34.8059	77.4620	11089.5509	11.9501	17.4688	634.8222	22193.6938	38.7384	4.7762	6.588
L27	34.7924	86.5852	12331.2831	11.9191	17.4688	705.9052	24678.7920	43.3008	4.6222	5.689
	34.8487	86.7281	12392.4089	11.9387	17.4969	708.2636	24801.1241	43.3723	4.6319	5.701
L28	34.8506	85.4255	12215.3673	11.9432	17.4969	698.1452	24446.8080	42.7209	4.6539	5.817
	35.9754	88.2382	13462.1203	12.3364	18.0596	745.4274	26941.9544	44.1275	4.8489	6.061
L29	35.9773	86.8907	13266.0801	12.3408	18.0596	734.5722	26549.6161	43.4536	4.8709	6.185
	37.1021	89.6594	14575.0677	12.7341	18.6223	782.6670	29169.3136	44.8382	5.0658	6.433
L30	37.1060	86.8736	14141.8945	12.7429	18.6223	759.4060	28302.3973	43.4451	5.1098	6.701
	38.2308	89.5544	15491.9237	13.1362	19.1850	807.5009	31004.2320	44.7857	5.3048	6.957
L31	38.2308	89.5544	15491.9237	13.1362	19.1850	807.5009	31004.2320	44.7857	5.3048	6.957
	38.3815	89.9137	15679.1015	13.1889	19.2604	814.0579	31378.8339	44.9654	5.3309	6.991
L32	38.3815	89.9137	15679.1015	13.1889	19.2604	814.0579	31378.8339	44.9654	5.3309	6.991
	38.4377	90.0477	15749.3283	13.2085	19.2886	816.5113	31519.3800	45.0324	5.3407	7.004
L33	38.4397	88.6013	15506.7610	13.2130	19.2886	803.9356	31033.9261	44.3091	5.3627	7.15
	39.5644	91.2382	16932.8742	13.6062	19.8513	852.9868	33888.0291	45.6278	5.5576	7.41
L34	39.5664	89.7468	16666.9562	13.6106	19.8513	839.5913	33355.8432	44.8819	5.5796	7.566
	39.8476	90.3950	17030.7231	13.7089	19.9920	851.8790	34083.8556	45.2061	5.6283	7.632
L35	39.8476	90.3950	17030.7231	13.7089	19.9920	851.8790	34083.8556	45.2061	5.6283	7.632
	39.9038	90.5247	17104.1058	13.7286	20.0201	854.3472	34230.7177	45.2709	5.6381	7.645
L36	39.9038	90.5247	17104.1058	13.7286	20.0201	854.3472	34230.7177	45.2709	5.6381	7.645
	41.1836	93.4750	18831.5427	14.1760	20.6604	911.4818	37687.8643	46.7464	5.8599	7.946
L37	40.5483	92.0769	16838.2294	13.5062	19.7145	854.1039	33698.6150	46.0472	5.4882	7.198
	40.7738	95.6155	18855.103	14.0252	20.4573	921.6831	37735.017	47.8168	5.7456	7.535

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
			7				4			
L38	40.7757	94.0778	18563.612	14.0297	20.4573	907.4343	37151.651	47.0478	5.7676	7.69
			7				9			
	41.9033	96.7213	20172.838	14.4239	21.0214	959.6347	40372.219	48.3698	5.9630	7.951
			0				9			
L39	41.9033	96.7213	20172.838	14.4239	21.0214	959.6347	40372.219	48.3698	5.9630	7.951
			0				9			
	42.2937	97.6363	20750.838	14.5603	21.2166	978.0450	41528.981	48.8275	6.0307	8.041
			3				1			
L40	42.2821	107.2036	22700.932	14.5337	21.2166	1069.9584	45431.735	53.6120	5.8987	7.15
			7				9			
	42.3385	107.3490	22793.419	14.5534	21.2449	1072.8913	45616.832	53.6847	5.9084	7.162
			9				0			
L41	42.3385	107.3490	22793.419	14.5534	21.2449	1072.8913	45616.832	53.6847	5.9084	7.162
			9				0			
	42.6384	108.1225	23289.677	14.6583	21.3949	1088.5615	46609.999	54.0715	5.9604	7.225
			1				4			
L42	42.6500	98.4717	21288.014	14.6849	21.3949	995.0037	42604.041	49.2452	6.0924	8.123
			8				0			
	42.7064	98.6039	21373.851	14.7046	21.4231	997.7004	42775.827	49.3113	6.1022	8.136
			4				0			
L43	42.7083	96.9897	21036.654	14.7091	21.4231	981.9605	42100.988	48.5041	6.1242	8.304
			1				7			
	43.8359	99.5891	22773.793	15.1033	21.9872	1035.7734	45577.553	49.8040	6.3196	8.569
			6				6			
L44	43.8378	97.9299	22407.536	15.1077	21.9872	1019.1157	44844.556	48.9743	6.3416	8.747
			2				9			
	44.4580	99.3354	23386.195	15.3245	22.2975	1048.8259	46803.162	49.6771	6.4491	8.895
			3				7			
L45	44.4580	99.3354	23386.195	15.3245	22.2975	1048.8259	46803.162	49.6771	6.4491	8.895
			3				7			
	44.5144	99.4632	23476.551	15.3442	22.3257	1051.5480	46983.993	49.7410	6.4589	8.909
			1				3			
L46	44.5163	97.7765	23091.805	15.3487	22.3257	1034.3147	46213.996	48.8976	6.4809	9.096
			6				0			
	45.6439	100.2878	24917.167	15.7429	22.8898	1088.5697	49867.121	50.1534	6.6763	9.37
			6				9			
L47	45.6439	100.2878	24917.167	15.7429	22.8898	1088.5697	49867.121	50.1534	6.6763	9.37
			6				9			
	46.3768	101.9202	26153.776	15.9991	23.2565	1124.5793	52341.967	50.9698	6.8034	9.549
			9				6			
L48	46.3749	103.6795	26590.477	15.9947	23.2565	1143.3568	53215.943	51.8496	6.7814	9.354
			5				5			
	46.4313	103.8073	26688.903	16.0144	23.2847	1146.1989	53412.925	51.9135	6.7911	9.367
			7				4			
L49	46.4313	103.8073	26688.903	16.0144	23.2847	1146.1989	53412.925	51.9135	6.7911	9.367
			7				4			
	46.6568	104.3183	27085.037	16.0933	23.3975	1157.6025	54205.713	52.1691	6.8302	9.421
			3				7			
L50	46.6414	118.4452	30617.391	16.0578	23.3975	1308.5737	61275.069	59.2339	6.6542	8.066
			3				7			
	46.6978	118.5906	30730.277	16.0775	23.4257	1311.8170	61500.991	59.3066	6.6640	8.078
			7				2			
L51	46.6997	116.8260	30289.734	16.0819	23.4257	1293.0111	60619.324	58.4241	6.6860	8.229
			2				4			
	47.3199	118.4011	31531.438	16.2987	23.7360	1328.4226	63104.367	59.2118	6.7935	8.361
			8				5			
L52	47.3257	113.0287	30149.898	16.3120	23.7360	1270.2182	60339.469	56.5251	6.8595	8.851
			8				5			
	47.3820	113.1652	30259.326	16.3318	23.7642	1273.3153	60558.469	56.5934	6.8693	8.864
			6				2			
L53	47.3840	111.3702	29795.547	16.3362	23.7642	1253.7994	59630.299	55.6957	6.8913	9.038
			0				8			
	48.5116	114.0578	32005.048	16.7304	24.3283	1315.5468	64052.210	57.0397	7.0867	9.294
			5				1			
L54	48.5135	112.2177	31505.431	16.7348	24.3283	1295.0104	63052.318	56.1195	7.1087	9.478
			4				5			
	49.6411	114.8612	33784.775	17.1291	24.8924	1357.2303	67614.005	57.4415	7.3042	9.739
			1				1			
L55	49.6430	112.9761	33247.521	17.1335	24.8924	1335.6473	66538.791	56.4988	7.3262	9.934

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
	50.7706	115.5755	35595.6577 0	17.5277	25.4566	1398.2902	71238.1514 6	57.7987	7.5216	10.199
L56	50.7706	115.5755	35595.6577 0	17.5277	25.4566	1398.2902	71238.1514 6	57.7987	7.5216	10.199
	51.1653	116.4853	36442.9033	17.6657	25.6540	1420.5544	72933.7592	58.2537	7.5900	10.292

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 159.86-154.86				1	1	1			
L2 154.86-149.86				1	1	1			
L3 149.86-144.86				1	1	1			
L4 144.86-139.86				1	1	1			
L5 139.86-134.86				1	1	1			
L6 134.86-129.86				1	1	1			
L7 129.86-125.75				1	1	1			
L8 125.75-125.50				1	1	1			
L9 125.50-118.98				1	1	1			
L10 118.98-117.98				1	1	0.93011			
L11 117.98-112.98				1	1	0.935503			
L12 112.98-107.98				1	1	0.930567			
L13 107.98-103.00				1	1	0.939252			
L14 103.00-102.75				1	1	1.03463			
L15 102.75-100.21				1	1	1.04675			
L16 100.21-95.69				1	1	0.917623			
L17 95.69-94.69				1	1	0.930138			
L18 94.69-93.50				1	1	0.925644			
L19 93.50-93.25				1	1	0.909675			
L20 93.25-89.25				1	1	0.917552			
L21 89.25-89.00				1	1	0.910469			
L22 89.00-86.50				1	1	0.911953			
L23 86.50-86.25				1	1	0.920665			
L24 86.25-81.25				1	1	0.933059			
L25 81.25-76.25				1	1	0.931649			
L26 76.25-75.42				1	1	0.928914			
L27 75.42-75.17				1	1	0.931311			
L28 75.17-70.17				1	1	0.927824			

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
L29 70.17-65.17				1	1	0.925371			
L30 65.17-60.17				1	1	0.938724			
L31 60.17-59.50				1	1	0.936611			
L32 59.50-59.25				1	1	0.935827			
L33 59.25-54.25				1	1	0.935659			
L34 54.25-53.00				1	1	0.947425			
L35 53.00-52.75				1	1	0.946675			
L36 52.75-47.06				1	1	0.946358			
L37 47.06-46.06				1	1	0.987321			
L38 46.06-41.06				1	1	0.989699			
L39 41.06-39.33				1	1	0.985109			
L40 39.33-39.08				1	1	0.978201			
L41 39.08-37.75				1	1	0.974455			
L42 37.75-37.50				1	1	0.980349			
L43 37.50-32.50				1	1	0.983922			
L44 32.50-29.75				1	1	0.993754			
L45 29.75-29.50				1	1	0.993141			
L46 29.50-24.50				1	1	0.998154			
L47 24.50-21.25				1	1	0.990597			
L48 21.25-21.00				1	1	1.07558			
L49 21.00-20.00				1	1	1.07285			
L50 20.00-19.75				1	1	1.02229			
L51 19.75-17.00				1	1	1.03007			
L52 17.00-16.75				1	1	1.02529			
L53 16.75-11.75				1	1	1.02885			
L54 11.75-6.75				1	1	1.03316			
L55 6.75-1.75				1	1	1.03821			
L56 1.75-0.00				1	1	1.03408			

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	B	No	Surface Ar (CaAa)	159.85 - 9.00	1	1	-0.010 0.010	0.3750		0.22

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Reinforcement										
Aero Channel MP303	A	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	B	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	C	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	A	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	B	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	C	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
PL1.25x5.375	A	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x5.375	B	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x5.375	C	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x4.375	A	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x4.375	B	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x4.375	C	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x3.125	A	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
PL1.25x3.125	B	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
PL1.25x3.125	C	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
CCI-SFP-085125	A	No	Surface Af (CaAa)	25.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-085125	B	No	Surface Af (CaAa)	20.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-085125	C	No	Surface Af (CaAa)	20.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-060100	A	No	Surface Af (CaAa)	105.00 - 15.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	C	No	Surface Af (CaAa)	105.00 - 20.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	B	No	Surface Af (CaAa)	55.00 - 20.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	B	No	Surface Af (CaAa)	102.20 - 47.20	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-045100	A	No	Surface Af (CaAa)	95.00 - 85.00	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	95.00 - 85.00	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	95.00 - 85.00	1	1	0.000 0.000	4.5000	11.0000	0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
***									
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	159.00 - 0.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
							2" Ice	0.00	1.22
HB114-1-08U4-M5J(1-1/4)	C	No	No	Inside Pole	159.00 - 0.00	3	No Ice	0.00	1.08
							1/2" Ice	0.00	1.08

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1" Ice	0.00	1.08
							2" Ice	0.00	1.08
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	150.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
FB-L98B-002-75000(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
WR-VG122ST-BRDA(7/16)	C	No	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.14
							1/2" Ice	0.00	0.14
							1" Ice	0.00	0.14
							2" Ice	0.00	0.14
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	139.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
HB114-U6S12-XXX-LI(1-1/4)	C	No	No	Inside Pole	139.00 - 0.00	1	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
							2" Ice	0.00	1.70
***									
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	125.00 - 0.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30
***									
CR 50 1070(7/8)	C	No	No	Inside Pole	109.00 - 0.00	1	No Ice	0.00	0.28
							1/2" Ice	0.00	0.28
							1" Ice	0.00	0.28
							2" Ice	0.00	0.28

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	159.86-154.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.187	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	154.86-149.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L3	149.86-144.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.07
L4	144.86-139.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.07
L5	139.86-134.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.12
L6	134.86-129.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.13
L7	129.86-125.75	A	0.000	0.000	0.651	0.000	0.00
		B	0.000	0.000	0.805	0.000	0.00
		C	0.000	0.000	0.651	0.000	0.11
L8	125.75-125.50	A	0.000	0.000	0.130	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	0.140	0.000	0.00
		C	0.000	0.000	0.130	0.000	0.01
L9	125.50-118.98	A	0.000	0.000	3.402	0.000	0.00
		B	0.000	0.000	3.646	0.000	0.00
		C	0.000	0.000	3.402	0.000	0.19
L10	118.98-117.98	A	0.000	0.000	0.729	0.000	0.00
		B	0.000	0.000	0.767	0.000	0.00
		C	0.000	0.000	0.729	0.000	0.03
L11	117.98-112.98	A	0.000	0.000	3.646	0.000	0.00
		B	0.000	0.000	3.833	0.000	0.00
		C	0.000	0.000	3.646	0.000	0.14
L12	112.98-107.98	A	0.000	0.000	3.646	0.000	0.00
		B	0.000	0.000	3.833	0.000	0.00
		C	0.000	0.000	3.646	0.000	0.14
L13	107.98-103.00	A	0.000	0.000	5.629	0.000	0.00
		B	0.000	0.000	3.816	0.000	0.00
		C	0.000	0.000	5.629	0.000	0.14
L14	103.00-102.75	A	0.000	0.000	0.432	0.000	0.00
		B	0.000	0.000	0.192	0.000	0.00
		C	0.000	0.000	0.432	0.000	0.01
L15	102.75-100.21	A	0.000	0.000	4.392	0.000	0.00
		B	0.000	0.000	3.937	0.000	0.00
		C	0.000	0.000	4.392	0.000	0.07
L16	100.21-95.69	A	0.000	0.000	7.820	0.000	0.00
		B	0.000	0.000	7.990	0.000	0.00
		C	0.000	0.000	7.820	0.000	0.13
L17	95.69-94.69	A	0.000	0.000	1.964	0.000	0.00
		B	0.000	0.000	2.001	0.000	0.00
		C	0.000	0.000	1.964	0.000	0.03
L18	94.69-93.50	A	0.000	0.000	2.944	0.000	0.00
		B	0.000	0.000	2.989	0.000	0.00
		C	0.000	0.000	2.944	0.000	0.03
L19	93.50-93.25	A	0.000	0.000	0.620	0.000	0.00
		B	0.000	0.000	0.629	0.000	0.00
		C	0.000	0.000	0.620	0.000	0.01
L20	93.25-89.25	A	0.000	0.000	9.917	0.000	0.00
		B	0.000	0.000	10.067	0.000	0.00
		C	0.000	0.000	9.917	0.000	0.12
L21	89.25-89.00	A	0.000	0.000	0.661	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.661	0.000	0.01
L22	89.00-86.50	A	0.000	0.000	6.615	0.000	0.00
		B	0.000	0.000	6.708	0.000	0.00
		C	0.000	0.000	6.615	0.000	0.07
L23	86.50-86.25	A	0.000	0.000	0.661	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.661	0.000	0.01
L24	86.25-81.25	A	0.000	0.000	10.417	0.000	0.00
		B	0.000	0.000	10.604	0.000	0.00
		C	0.000	0.000	10.417	0.000	0.15
L25	81.25-76.25	A	0.000	0.000	9.705	0.000	0.00
		B	0.000	0.000	9.892	0.000	0.00
		C	0.000	0.000	9.705	0.000	0.15
L26	76.25-75.42	A	0.000	0.000	2.136	0.000	0.00
		B	0.000	0.000	2.167	0.000	0.00
		C	0.000	0.000	2.136	0.000	0.02
L27	75.42-75.17	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.01
L28	75.17-70.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L29	70.17-65.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L30	65.17-60.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L31	60.17-59.50	A	0.000	0.000	1.724	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	1.749	0.000	0.00
		C	0.000	0.000	1.724	0.000	0.02
L32	59.50-59.25	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.01
L33	59.25-54.25	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.802	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L34	54.25-53.00	A	0.000	0.000	3.216	0.000	0.00
		B	0.000	0.000	4.513	0.000	0.00
		C	0.000	0.000	3.216	0.000	0.04
L35	53.00-52.75	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.903	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.01
L36	52.75-47.06	A	0.000	0.000	14.638	0.000	0.00
		B	0.000	0.000	20.401	0.000	0.00
		C	0.000	0.000	14.638	0.000	0.17
L37	47.06-46.06	A	0.000	0.000	2.573	0.000	0.00
		B	0.000	0.000	2.610	0.000	0.00
		C	0.000	0.000	2.573	0.000	0.03
L38	46.06-41.06	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L39	41.06-39.33	A	0.000	0.000	5.245	0.000	0.00
		B	0.000	0.000	5.310	0.000	0.00
		C	0.000	0.000	5.245	0.000	0.05
L40	39.33-39.08	A	0.000	0.000	0.813	0.000	0.00
		B	0.000	0.000	0.822	0.000	0.00
		C	0.000	0.000	0.813	0.000	0.01
L41	39.08-37.75	A	0.000	0.000	4.322	0.000	0.00
		B	0.000	0.000	4.372	0.000	0.00
		C	0.000	0.000	4.322	0.000	0.04
L42	37.75-37.50	A	0.000	0.000	0.813	0.000	0.00
		B	0.000	0.000	0.822	0.000	0.00
		C	0.000	0.000	0.813	0.000	0.01
L43	37.50-32.50	A	0.000	0.000	13.485	0.000	0.00
		B	0.000	0.000	13.673	0.000	0.00
		C	0.000	0.000	13.485	0.000	0.15
L44	32.50-29.75	A	0.000	0.000	7.076	0.000	0.00
		B	0.000	0.000	7.179	0.000	0.00
		C	0.000	0.000	7.076	0.000	0.08
L45	29.75-29.50	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.01
L46	29.50-24.50	A	0.000	0.000	13.573	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.15
L47	24.50-21.25	A	0.000	0.000	12.966	0.000	0.00
		B	0.000	0.000	8.484	0.000	0.00
		C	0.000	0.000	8.362	0.000	0.09
L48	21.25-21.00	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.01
L49	21.00-20.00	A	0.000	0.000	3.990	0.000	0.00
		B	0.000	0.000	2.610	0.000	0.00
		C	0.000	0.000	2.573	0.000	0.03
L50	20.00-19.75	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.757	0.000	0.00
		C	0.000	0.000	0.747	0.000	0.01
L51	19.75-17.00	A	0.000	0.000	10.971	0.000	0.00
		B	0.000	0.000	8.324	0.000	0.00
		C	0.000	0.000	8.221	0.000	0.08
L52	17.00-16.75	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.757	0.000	0.00
		C	0.000	0.000	0.747	0.000	0.01
L53	16.75-11.75	A	0.000	0.000	16.698	0.000	0.00
		B	0.000	0.000	15.135	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.15
L54	11.75-6.75	A	0.000	0.000	14.948	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	15.051	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.15
L55	6.75-1.75	A	0.000	0.000	14.948	0.000	0.00
		B	0.000	0.000	14.948	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.15
L56	1.75-0.00	A	0.000	0.000	4.893	0.000	0.00
		B	0.000	0.000	4.893	0.000	0.00
		C	0.000	0.000	4.893	0.000	0.05

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	159.86-154.86	A	1.491	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.677	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.02
L2	154.86-149.86	A	1.486	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.673	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.02
L3	149.86-144.86	A	1.481	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.668	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.07
L4	144.86-139.86	A	1.476	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.663	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.07
L5	139.86-134.86	A	1.470	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.658	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.12
L6	134.86-129.86	A	1.465	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.652	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.13
L7	129.86-125.75	A	1.460	0.000	0.000	0.882	0.000	0.01
		B		0.000	0.000	2.236	0.000	0.02
		C		0.000	0.000	0.882	0.000	0.12
L8	125.75-125.50	A	1.457	0.000	0.000	0.176	0.000	0.00
		B		0.000	0.000	0.259	0.000	0.00
		C		0.000	0.000	0.176	0.000	0.01
L9	125.50-118.98	A	1.453	0.000	0.000	4.606	0.000	0.05
		B		0.000	0.000	6.747	0.000	0.08
		C		0.000	0.000	4.606	0.000	0.24
L10	118.98-117.98	A	1.449	0.000	0.000	1.020	0.000	0.01
		B		0.000	0.000	1.348	0.000	0.01
		C		0.000	0.000	1.020	0.000	0.04
L11	117.98-112.98	A	1.445	0.000	0.000	5.091	0.000	0.05
		B		0.000	0.000	6.724	0.000	0.06
		C		0.000	0.000	5.091	0.000	0.19
L12	112.98-107.98	A	1.439	0.000	0.000	5.085	0.000	0.05
		B		0.000	0.000	6.711	0.000	0.06
		C		0.000	0.000	5.085	0.000	0.19
L13	107.98-103.00	A	1.432	0.000	0.000	7.628	0.000	0.07
		B		0.000	0.000	6.667	0.000	0.06
		C		0.000	0.000	7.628	0.000	0.21
L14	103.00-102.75	A	1.429	0.000	0.000	0.575	0.000	0.01
		B		0.000	0.000	0.335	0.000	0.00
		C		0.000	0.000	0.575	0.000	0.01
L15	102.75-100.21	A	1.427	0.000	0.000	5.841	0.000	0.05
		B		0.000	0.000	5.955	0.000	0.05
		C		0.000	0.000	5.841	0.000	0.12
L16	100.21-95.69	A	1.422	0.000	0.000	10.392	0.000	0.09
		B		0.000	0.000	11.847	0.000	0.11
		C		0.000	0.000	10.392	0.000	0.22
L17	95.69-94.69	A	1.417	0.000	0.000	2.583	0.000	0.02
		B		0.000	0.000	2.904	0.000	0.03
		C		0.000	0.000	2.583	0.000	0.05
L18	94.69-93.50	A	1.416	0.000	0.000	3.807	0.000	0.03

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	4.188	0.000	0.04
		C		0.000	0.000	3.807	0.000	0.07
L19	93.50-93.25	A	1.415	0.000	0.000	0.801	0.000	0.01
		B		0.000	0.000	0.882	0.000	0.01
		C		0.000	0.000	0.801	0.000	0.01
L20	93.25-89.25	A	1.411	0.000	0.000	12.816	0.000	0.11
		B		0.000	0.000	14.095	0.000	0.13
		C		0.000	0.000	12.816	0.000	0.23
L21	89.25-89.00	A	1.408	0.000	0.000	0.842	0.000	0.01
		B		0.000	0.000	0.922	0.000	0.01
		C		0.000	0.000	0.842	0.000	0.01
L22	89.00-86.50	A	1.406	0.000	0.000	8.420	0.000	0.07
		B		0.000	0.000	9.216	0.000	0.08
		C		0.000	0.000	8.420	0.000	0.15
L23	86.50-86.25	A	1.404	0.000	0.000	0.842	0.000	0.01
		B		0.000	0.000	0.921	0.000	0.01
		C		0.000	0.000	0.842	0.000	0.01
L24	86.25-81.25	A	1.399	0.000	0.000	13.414	0.000	0.11
		B		0.000	0.000	15.001	0.000	0.13
		C		0.000	0.000	13.414	0.000	0.26
L25	81.25-76.25	A	1.391	0.000	0.000	12.579	0.000	0.11
		B		0.000	0.000	14.158	0.000	0.12
		C		0.000	0.000	12.579	0.000	0.25
L26	76.25-75.42	A	1.386	0.000	0.000	2.826	0.000	0.02
		B		0.000	0.000	3.087	0.000	0.03
		C		0.000	0.000	2.826	0.000	0.05
L27	75.42-75.17	A	1.385	0.000	0.000	0.851	0.000	0.01
		B		0.000	0.000	0.930	0.000	0.01
		C		0.000	0.000	0.851	0.000	0.01
L28	75.17-70.17	A	1.380	0.000	0.000	17.004	0.000	0.15
		B		0.000	0.000	18.571	0.000	0.16
		C		0.000	0.000	17.004	0.000	0.29
L29	70.17-65.17	A	1.370	0.000	0.000	16.974	0.000	0.14
		B		0.000	0.000	18.532	0.000	0.16
		C		0.000	0.000	16.974	0.000	0.29
L30	65.17-60.17	A	1.359	0.000	0.000	16.943	0.000	0.14
		B		0.000	0.000	18.490	0.000	0.16
		C		0.000	0.000	16.943	0.000	0.29
L31	60.17-59.50	A	1.353	0.000	0.000	2.268	0.000	0.02
		B		0.000	0.000	2.474	0.000	0.02
		C		0.000	0.000	2.268	0.000	0.04
L32	59.50-59.25	A	1.352	0.000	0.000	0.846	0.000	0.01
		B		0.000	0.000	0.923	0.000	0.01
		C		0.000	0.000	0.846	0.000	0.01
L33	59.25-54.25	A	1.346	0.000	0.000	16.903	0.000	0.14
		B		0.000	0.000	19.388	0.000	0.16
		C		0.000	0.000	16.903	0.000	0.29
L34	54.25-53.00	A	1.338	0.000	0.000	4.220	0.000	0.03
		B		0.000	0.000	6.186	0.000	0.05
		C		0.000	0.000	4.220	0.000	0.07
L35	53.00-52.75	A	1.337	0.000	0.000	0.844	0.000	0.01
		B		0.000	0.000	1.237	0.000	0.01
		C		0.000	0.000	0.844	0.000	0.01
L36	52.75-47.06	A	1.329	0.000	0.000	19.174	0.000	0.16
		B		0.000	0.000	27.924	0.000	0.23
		C		0.000	0.000	19.174	0.000	0.32
L37	47.06-46.06	A	1.320	0.000	0.000	3.370	0.000	0.03
		B		0.000	0.000	3.673	0.000	0.03
		C		0.000	0.000	3.370	0.000	0.06
L38	46.06-41.06	A	1.311	0.000	0.000	16.797	0.000	0.14
		B		0.000	0.000	18.296	0.000	0.15
		C		0.000	0.000	16.797	0.000	0.28
L39	41.06-39.33	A	1.300	0.000	0.000	6.900	0.000	0.06
		B		0.000	0.000	7.415	0.000	0.06
		C		0.000	0.000	6.900	0.000	0.11
L40	39.33-39.08	A	1.297	0.000	0.000	1.072	0.000	0.01
		B		0.000	0.000	1.146	0.000	0.01
		C		0.000	0.000	1.072	0.000	0.02
L41	39.08-37.75	A	1.295	0.000	0.000	5.700	0.000	0.05

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
		B		0.000	0.000	6.094	0.000	0.05
		C		0.000	0.000	5.700	0.000	0.09
L42	37.75-37.50	A	1.292	0.000	0.000	1.071	0.000	0.01
		B		0.000	0.000	1.145	0.000	0.01
		C		0.000	0.000	1.071	0.000	0.02
L43	37.50-32.50	A	1.282	0.000	0.000	17.568	0.000	0.14
		B		0.000	0.000	19.038	0.000	0.15
		C		0.000	0.000	17.568	0.000	0.29
L44	32.50-29.75	A	1.268	0.000	0.000	9.167	0.000	0.07
		B		0.000	0.000	9.967	0.000	0.08
		C		0.000	0.000	9.167	0.000	0.15
L45	29.75-29.50	A	1.261	0.000	0.000	0.832	0.000	0.01
		B		0.000	0.000	0.905	0.000	0.01
		C		0.000	0.000	0.832	0.000	0.01
L46	29.50-24.50	A	1.250	0.000	0.000	17.447	0.000	0.13
		B		0.000	0.000	18.051	0.000	0.14
		C		0.000	0.000	16.613	0.000	0.27
L47	24.50-21.25	A	1.229	0.000	0.000	16.162	0.000	0.12
		B		0.000	0.000	11.680	0.000	0.09
		C		0.000	0.000	10.759	0.000	0.18
L48	21.25-21.00	A	1.219	0.000	0.000	1.241	0.000	0.01
		B		0.000	0.000	0.896	0.000	0.01
		C		0.000	0.000	0.826	0.000	0.01
L49	21.00-20.00	A	1.216	0.000	0.000	4.962	0.000	0.04
		B		0.000	0.000	3.583	0.000	0.03
		C		0.000	0.000	3.302	0.000	0.05
L50	20.00-19.75	A	1.212	0.000	0.000	1.240	0.000	0.01
		B		0.000	0.000	0.988	0.000	0.01
		C		0.000	0.000	0.918	0.000	0.01
L51	19.75-17.00	A	1.202	0.000	0.000	13.617	0.000	0.10
		B		0.000	0.000	10.849	0.000	0.08
		C		0.000	0.000	10.085	0.000	0.15
L52	17.00-16.75	A	1.192	0.000	0.000	1.236	0.000	0.01
		B		0.000	0.000	0.985	0.000	0.01
		C		0.000	0.000	0.916	0.000	0.01
L53	16.75-11.75	A	1.172	0.000	0.000	20.625	0.000	0.15
		B		0.000	0.000	19.620	0.000	0.14
		C		0.000	0.000	18.260	0.000	0.28
L54	11.75-6.75	A	1.123	0.000	0.000	18.316	0.000	0.12
		B		0.000	0.000	18.856	0.000	0.13
		C		0.000	0.000	18.135	0.000	0.27
L55	6.75-1.75	A	1.038	0.000	0.000	18.063	0.000	0.11
		B		0.000	0.000	17.924	0.000	0.11
		C		0.000	0.000	17.924	0.000	0.26
L56	1.75-0.00	A	0.887	0.000	0.000	5.736	0.000	0.03
		B		0.000	0.000	5.713	0.000	0.03
		C		0.000	0.000	5.713	0.000	0.08

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	159.86-154.86	0.2597	-0.1499	1.0716	-0.6187
L2	154.86-149.86	0.2600	-0.1501	1.0864	-0.6272
L3	149.86-144.86	0.2602	-0.1502	1.0989	-0.6345
L4	144.86-139.86	0.2603	-0.1503	1.1100	-0.6409
L5	139.86-134.86	0.2605	-0.1504	1.1198	-0.6465
L6	134.86-129.86	0.2606	-0.1504	1.1284	-0.6515
L7	129.86-125.75	0.1979	-0.1142	0.9358	-0.5403
L8	125.75-125.50	0.1289	-0.0744	0.6739	-0.3891
L9	125.50-118.98	0.1308	-0.0755	0.6828	-0.3942
L10	118.98-117.98	0.1104	-0.0637	0.5858	-0.3382
L11	117.98-112.98	0.1120	-0.0647	0.5922	-0.3419
L12	112.98-107.98	0.1146	-0.0662	0.6043	-0.3489

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L13	107.98-103.00	-0.7901	0.4562	-0.3432	0.1981
L14	103.00-102.75	-1.7071	0.9856	-1.3456	0.7769
L15	102.75-100.21	-0.2871	0.1657	0.0503	-0.0290
L16	100.21-95.69	0.0586	-0.0338	0.3952	-0.2282
L17	95.69-94.69	0.0540	-0.0312	0.3655	-0.2110
L18	94.69-93.50	0.0460	-0.0266	0.3131	-0.1808
L19	93.50-93.25	0.0462	-0.0267	0.3143	-0.1815
L20	93.25-89.25	0.0467	-0.0270	0.3175	-0.1833
L21	89.25-89.00	0.0450	-0.0260	0.3087	-0.1782
L22	89.00-86.50	0.0453	-0.0262	0.3107	-0.1794
L23	86.50-86.25	0.0456	-0.0264	0.3127	-0.1805
L24	86.25-81.25	0.0547	-0.0316	0.3727	-0.2152
L25	81.25-76.25	0.0587	-0.0339	0.3971	-0.2293
L26	76.25-75.42	0.0490	-0.0283	0.3244	-0.1873
L27	75.42-75.17	0.0491	-0.0284	0.3251	-0.1877
L28	75.17-70.17	0.0497	-0.0287	0.3285	-0.1897
L29	70.17-65.17	0.0508	-0.0293	0.3348	-0.1933
L30	65.17-60.17	0.0519	-0.0299	0.3407	-0.1967
L31	60.17-59.50	0.0525	-0.0303	0.3440	-0.1986
L32	59.50-59.25	0.0526	-0.0303	0.3445	-0.1989
L33	59.25-54.25	0.2681	-0.1548	0.5618	-0.3244
L34	54.25-53.00	1.3931	-0.8043	1.6868	-0.9739
L35	53.00-52.75	1.3972	-0.8067	1.6918	-0.9767
L36	52.75-47.06	1.3819	-0.7978	1.6803	-0.9701
L37	47.06-46.06	0.0546	-0.0315	0.3551	-0.2050
L38	46.06-41.06	0.0552	-0.0319	0.3561	-0.2056
L39	41.06-39.33	0.0499	-0.0288	0.3170	-0.1830
L40	39.33-39.08	0.0477	-0.0275	0.3009	-0.1737
L41	39.08-37.75	0.0478	-0.0276	0.3015	-0.1741
L42	37.75-37.50	0.0480	-0.0277	0.3020	-0.1744
L43	37.50-32.50	0.0551	-0.0318	0.3502	-0.2022
L44	32.50-29.75	0.0577	-0.0333	0.3650	-0.2107
L45	29.75-29.50	0.0580	-0.0335	0.3657	-0.2112
L46	29.50-24.50	-0.1673	-0.1633	0.1460	-0.3347
L47	24.50-21.25	-1.9962	-1.2140	-1.6527	-1.3374
L48	21.25-21.00	-2.0076	-1.2209	-1.6650	-1.3448
L49	21.00-20.00	-2.0116	-1.2233	-1.6695	-1.3474
L50	20.00-19.75	-1.3140	-0.8170	-1.1600	-1.0355
L51	19.75-17.00	-1.3205	-0.8210	-1.1663	-1.0391
L52	17.00-16.75	-1.3269	-0.8250	-1.1727	-1.0425
L53	16.75-11.75	-0.4507	-0.3223	-0.2481	-0.5247
L54	11.75-6.75	0.0307	-0.0177	0.1370	-0.1335
L55	6.75-1.75	0.0000	0.0000	-0.0377	-0.0217
L56	1.75-0.00	0.0000	0.0000	-0.0192	-0.0111

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	154.86 - 159.85	1.0000	1.0000
L2	1	Safety Line 3/8	149.86 - 154.86	1.0000	1.0000
L3	1	Safety Line 3/8	144.86 - 149.86	1.0000	1.0000
L4	1	Safety Line 3/8	139.86 - 144.86	1.0000	1.0000
L5	1	Safety Line 3/8	134.86 - 139.86	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L6	1	Safety Line 3/8	129.86 - 134.86	1.0000	1.0000
L7	1	Safety Line 3/8	125.75 - 129.86	1.0000	1.0000
L7	30	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L7	31	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L7	32	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L8	1	Safety Line 3/8	125.50 - 125.75	1.0000	1.0000
L8	30	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L8	31	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L8	32	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L9	1	Safety Line 3/8	118.98 - 125.50	1.0000	1.0000
L9	27	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	28	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	29	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	30	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L9	31	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L9	32	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L11	1	Safety Line 3/8	112.98 - 117.98	1.0000	1.0000
L11	27	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L11	28	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L11	29	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L12	1	Safety Line 3/8	107.98 - 112.98	1.0000	1.0000
L12	27	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000
L12	28	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000
L12	29	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000
L13	1	Safety Line 3/8	103.00 - 107.98	1.0000	1.0000
L13	27	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	28	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	29	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	36	CCI-SFP-060100	103.00 - 105.00	1.0000	1.0000
L13	37	CCI-SFP-060100	103.00 - 105.00	1.0000	1.0000
L14	1	Safety Line 3/8	102.75 - 103.00	1.0000	1.0000
L14	27	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	28	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	29	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	36	CCI-SFP-060100	102.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	37	CCI-SFP-060100	103.00 - 102.75	1.0000	1.0000
L15	1	Safety Line 3/8	103.00 - 100.21	1.0000	1.0000
L15	27	PL1.25x4.375	102.75 - 100.21	1.0000	1.0000
L15	28	PL1.25x4.375	102.75 - 100.21	1.0000	1.0000
L15	29	PL1.25x4.375	102.75 - 100.21	1.0000	1.0000
L15	36	CCI-SFP-060100	102.75 - 100.21	1.0000	1.0000
L15	37	CCI-SFP-060100	102.75 - 100.21	1.0000	1.0000
L15	39	CCI-SFP-060100	102.75 - 100.21	1.0000	1.0000
L16	1	Safety Line 3/8	102.20 - 95.69	1.0000	1.0000
L16	27	PL1.25x4.375	100.21 - 95.69	1.0000	1.0000
L16	28	PL1.25x4.375	100.21 - 95.69	1.0000	1.0000
L16	29	PL1.25x4.375	100.21 - 95.69	1.0000	1.0000
L16	36	CCI-SFP-060100	100.21 - 95.69	1.0000	1.0000
L16	37	CCI-SFP-060100	100.21 - 95.69	1.0000	1.0000
L16	39	CCI-SFP-060100	100.21 - 95.69	1.0000	1.0000
L16	40	CCI-SFP-045100	100.21 - 95.69	1.0000	1.0000
L16	41	CCI-SFP-045100	95.00 - 95.69	1.0000	1.0000
L16	42	CCI-SFP-045100	95.00 - 95.69	1.0000	1.0000
L18	1	Safety Line 3/8	95.00 - 93.50	1.0000	1.0000
L18	27	PL1.25x4.375	94.69 - 93.50	1.0000	1.0000
L18	28	PL1.25x4.375	94.69 - 93.50	1.0000	1.0000
L18	29	PL1.25x4.375	94.69 - 93.50	1.0000	1.0000
L18	36	CCI-SFP-060100	94.69 - 93.50	1.0000	1.0000
L18	37	CCI-SFP-060100	94.69 - 93.50	1.0000	1.0000
L18	39	CCI-SFP-060100	94.69 - 93.50	1.0000	1.0000
L18	40	CCI-SFP-045100	94.69 - 93.50	1.0000	1.0000
L18	41	CCI-SFP-045100	94.69 - 93.50	1.0000	1.0000
L18	42	CCI-SFP-045100	94.69 - 93.50	1.0000	1.0000
L19	1	Safety Line 3/8	93.50 - 93.25	1.0000	1.0000
L19	27	PL1.25x4.375	93.50 - 93.25	1.0000	1.0000
L19	28	PL1.25x4.375	93.50 - 93.25	1.0000	1.0000
L19	29	PL1.25x4.375	93.50 - 93.25	1.0000	1.0000
L19	36	CCI-SFP-060100	93.50 - 93.25	1.0000	1.0000
L19	37	CCI-SFP-060100	93.50 - 93.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L19	39	CCI-SFP-060100	93.25 - 93.50	1.0000	1.0000
L19	40	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L19	41	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L19	42	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L20	1	Safety Line 3/8	89.25 - 93.25	1.0000	1.0000
L20	27	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	28	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	29	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	36	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	37	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	39	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	40	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L20	41	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L20	42	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L21	1	Safety Line 3/8	89.00 - 89.25	1.0000	1.0000
L21	24	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000
L21	25	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000
L21	26	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000
L21	36	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	37	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	39	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	40	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L21	41	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L21	42	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L22	1	Safety Line 3/8	86.50 - 89.00	1.0000	1.0000
L22	24	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	25	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	26	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	36	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	37	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	39	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	40	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L22	41	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L22	42	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L23	1	Safety Line 3/8	86.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	24	PL1.25x5.375	86.50 - 86.50	1.0000	1.0000
L23	25	PL1.25x5.375	86.25 - 86.50	1.0000	1.0000
L23	26	PL1.25x5.375	86.25 - 86.50	1.0000	1.0000
L23	36	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	37	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	39	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	40	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L23	41	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L23	42	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L24	1	Safety Line 3/8	81.25 - 86.25	1.0000	1.0000
L24	24	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	25	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	26	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	36	CCI-SFP-060100	81.25 - 86.25	1.0000	1.0000
L24	37	CCI-SFP-060100	81.25 - 86.25	1.0000	1.0000
L24	39	CCI-SFP-060100	81.25 - 86.25	1.0000	1.0000
L24	40	CCI-SFP-045100	85.00 - 86.25	1.0000	1.0000
L24	41	CCI-SFP-045100	85.00 - 86.25	1.0000	1.0000
L24	42	CCI-SFP-045100	85.00 - 86.25	1.0000	1.0000
L25	1	Safety Line 3/8	76.25 - 81.25	1.0000	1.0000
L25	18	Aero Channel MP303	76.25 - 76.58	1.0000	1.0000
L25	19	Aero Channel MP303	76.25 - 76.58	1.0000	1.0000
L25	20	Aero Channel MP303	76.25 - 76.58	1.0000	1.0000
L25	24	PL1.25x5.375	76.25 - 81.25	1.0000	1.0000
L25	25	PL1.25x5.375	76.25 - 81.25	1.0000	1.0000
L25	26	PL1.25x5.375	76.25 - 81.25	1.0000	1.0000
L25	36	CCI-SFP-060100	76.25 - 81.25	1.0000	1.0000
L25	37	CCI-SFP-060100	76.25 - 81.25	1.0000	1.0000
L25	39	CCI-SFP-060100	76.25 - 81.25	1.0000	1.0000
L26	1	Safety Line 3/8	75.42 - 76.25	1.0000	1.0000
L26	18	Aero Channel MP303	75.42 - 76.25	1.0000	1.0000
L26	19	Aero Channel MP303	75.42 - 76.25	1.0000	1.0000
L26	20	Aero Channel MP303	75.42 - 76.25	1.0000	1.0000
L26	24	PL1.25x5.375	75.42 - 76.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L26	25	PL1.25x5.375	75.42 - 76.25	1.0000	1.0000
L26	26	PL1.25x5.375	75.42 - 76.25	1.0000	1.0000
L26	36	CCI-SFP-060100	75.42 - 76.25	1.0000	1.0000
L26	37	CCI-SFP-060100	75.42 - 76.25	1.0000	1.0000
L26	39	CCI-SFP-060100	75.42 - 76.25	1.0000	1.0000
L27	1	Safety Line 3/8	75.17 - 75.42	1.0000	1.0000
L27	18	Aero Channel MP303	75.17 - 75.42	1.0000	1.0000
L27	19	Aero Channel MP303	75.17 - 75.42	1.0000	1.0000
L27	20	Aero Channel MP303	75.17 - 75.42	1.0000	1.0000
L27	24	PL1.25x5.375	75.17 - 75.42	1.0000	1.0000
L27	25	PL1.25x5.375	75.17 - 75.42	1.0000	1.0000
L27	26	PL1.25x5.375	75.17 - 75.42	1.0000	1.0000
L27	36	CCI-SFP-060100	75.17 - 75.42	1.0000	1.0000
L27	37	CCI-SFP-060100	75.17 - 75.42	1.0000	1.0000
L27	39	CCI-SFP-060100	75.17 - 75.42	1.0000	1.0000
L28	1	Safety Line 3/8	70.17 - 75.17	1.0000	1.0000
L28	18	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	19	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	20	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	24	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	25	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	26	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	36	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L28	37	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L28	39	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L29	1	Safety Line 3/8	65.17 - 70.17	1.0000	1.0000
L29	18	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	19	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	20	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	24	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	25	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	26	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	36	CCI-SFP-060100	65.17 - 70.17	1.0000	1.0000
L29	37	CCI-SFP-060100	65.17 - 70.17	1.0000	1.0000
L29	39	CCI-SFP-060100	65.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	1	Safety Line 3/8	70.17 - 60.17	1.0000	1.0000
L30	18	Aero Channel MP303	65.17 - 60.17	1.0000	1.0000
L30	19	Aero Channel MP303	65.17 - 60.17	1.0000	1.0000
L30	20	Aero Channel MP303	65.17 - 60.17	1.0000	1.0000
L30	24	PL1.25x5.375	65.17 - 60.17	1.0000	1.0000
L30	25	PL1.25x5.375	65.17 - 60.17	1.0000	1.0000
L30	26	PL1.25x5.375	65.17 - 60.17	1.0000	1.0000
L30	36	CCI-SFP-060100	65.17 - 60.17	1.0000	1.0000
L30	37	CCI-SFP-060100	65.17 - 60.17	1.0000	1.0000
L30	39	CCI-SFP-060100	65.17 - 60.17	1.0000	1.0000
L31	1	Safety Line 3/8	60.17 - 59.50	1.0000	1.0000
L31	18	Aero Channel MP303	60.17 - 59.50	1.0000	1.0000
L31	19	Aero Channel MP303	60.17 - 59.50	1.0000	1.0000
L31	20	Aero Channel MP303	60.17 - 59.50	1.0000	1.0000
L31	24	PL1.25x5.375	60.17 - 59.50	1.0000	1.0000
L31	25	PL1.25x5.375	60.17 - 59.50	1.0000	1.0000
L31	26	PL1.25x5.375	60.17 - 59.50	1.0000	1.0000
L31	36	CCI-SFP-060100	60.17 - 59.50	1.0000	1.0000
L31	37	CCI-SFP-060100	60.17 - 59.50	1.0000	1.0000
L31	39	CCI-SFP-060100	60.17 - 59.50	1.0000	1.0000
L32	1	Safety Line 3/8	59.50 - 59.25	1.0000	1.0000
L32	18	Aero Channel MP303	59.50 - 59.25	1.0000	1.0000
L32	19	Aero Channel MP303	59.50 - 59.25	1.0000	1.0000
L32	20	Aero Channel MP303	59.50 - 59.25	1.0000	1.0000
L32	24	PL1.25x5.375	59.50 - 59.25	1.0000	1.0000
L32	25	PL1.25x5.375	59.50 - 59.25	1.0000	1.0000
L32	26	PL1.25x5.375	59.50 - 59.25	1.0000	1.0000
L32	36	CCI-SFP-060100	59.50 - 59.25	1.0000	1.0000
L32	37	CCI-SFP-060100	59.50 - 59.25	1.0000	1.0000
L32	39	CCI-SFP-060100	59.50 - 59.25	1.0000	1.0000
L33	1	Safety Line 3/8	54.25 - 59.25	1.0000	1.0000
L33	18	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000
L33	19	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000
L33	20	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L33	24	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	25	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	26	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	36	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L33	37	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L33	38	CCI-SFP-060100	54.25 - 55.00	1.0000	1.0000
L33	39	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L34	1	Safety Line 3/8	53.00 - 54.25	1.0000	1.0000
L34	18	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	19	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	20	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	24	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	25	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	26	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	36	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L34	37	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L34	38	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L34	39	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L35	1	Safety Line 3/8	52.75 - 53.00	1.0000	1.0000
L35	18	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	19	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	20	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	24	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	25	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	26	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	36	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	37	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	38	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	39	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L36	1	Safety Line 3/8	47.06 - 52.75	1.0000	1.0000
L36	18	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	19	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	20	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	24	PL1.25x5.375	47.06 - 52.75	1.0000	1.0000
L36	25	PL1.25x5.375	47.06 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L36	26	PL1.25x5.375	52.75 47.06 - 52.75	1.0000	1.0000
L36	36	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	37	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	38	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	39	CCI-SFP-060100	47.20 - 52.75	1.0000	1.0000
L38	1	Safety Line 3/8	41.06 - 46.06	1.0000	1.0000
L38	18	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	19	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	20	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	24	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	25	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	26	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	36	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L38	37	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L38	38	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L39	1	Safety Line 3/8	39.33 - 41.06	1.0000	1.0000
L39	18	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	19	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	20	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	21	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	22	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	23	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	24	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	25	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	26	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	36	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L39	37	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L39	38	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L40	1	Safety Line 3/8	39.08 - 39.33	1.0000	1.0000
L40	18	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	19	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	20	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	21	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	22	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	23	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	24	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	25	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	26	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	36	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000
L40	37	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000
L40	38	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000
L41	1	Safety Line 3/8	37.75 - 39.08	1.0000	1.0000
L41	18	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	19	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	20	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	21	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	22	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	23	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	24	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	25	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	26	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	36	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L41	37	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L41	38	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L42	1	Safety Line 3/8	37.50 - 37.75	1.0000	1.0000
L42	18	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	19	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	20	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	21	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	22	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	23	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	24	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	25	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	26	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	36	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L42	37	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L42	38	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L43	1	Safety Line 3/8	32.50 - 37.50	1.0000	1.0000
L43	18	Aero Channel MP303	36.58 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			37.50		
L43	19	Aero Channel MP303	36.58 - 37.50	1.0000	1.0000
L43	20	Aero Channel MP303	36.58 - 37.50	1.0000	1.0000
L43	21	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	22	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	23	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	24	PL1.25x5.375	32.50 - 37.50	1.0000	1.0000
L43	25	PL1.25x5.375	32.50 - 37.50	1.0000	1.0000
L43	26	PL1.25x5.375	32.50 - 37.50	1.0000	1.0000
L43	36	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L43	37	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L43	38	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L44	1	Safety Line 3/8	29.75 - 32.50	1.0000	1.0000
L44	21	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	22	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	23	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	24	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	25	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	26	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	36	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L44	37	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L44	38	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L45	1	Safety Line 3/8	29.50 - 29.75	1.0000	1.0000
L45	21	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	22	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	23	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	24	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	25	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	26	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	36	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L45	37	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L45	38	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L46	1	Safety Line 3/8	24.50 - 29.50	1.0000	1.0000
L46	21	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000
L46	22	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L46	23	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000
L46	24	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	25	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	26	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	33	CCI-SFP-085125	24.50 - 25.00	1.0000	1.0000
L46	36	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000
L46	37	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000
L46	38	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000
L47	1	Safety Line 3/8	21.25 - 24.50	1.0000	1.0000
L47	21	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	22	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	23	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	24	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	25	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	26	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	33	CCI-SFP-085125	21.25 - 24.50	1.0000	1.0000
L47	36	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L47	37	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L47	38	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L48	1	Safety Line 3/8	21.00 - 21.25	1.0000	1.0000
L48	21	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	22	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	23	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	24	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	25	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	26	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	33	CCI-SFP-085125	21.00 - 21.25	1.0000	1.0000
L48	36	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L48	37	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L48	38	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L49	1	Safety Line 3/8	20.00 - 21.00	1.0000	1.0000
L49	21	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	22	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	23	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	24	PL1.25x5.375	20.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L49	25	PL1.25x5.375	21.00 20.00 - 21.00	1.0000	1.0000
L49	26	PL1.25x5.375	20.00 - 21.00	1.0000	1.0000
L49	33	CCI-SFP-085125	20.00 - 21.00	1.0000	1.0000
L49	36	CCI-SFP-060100	20.00 - 21.00	1.0000	1.0000
L49	37	CCI-SFP-060100	20.00 - 21.00	1.0000	1.0000
L49	38	CCI-SFP-060100	20.00 - 21.00	1.0000	1.0000
L50	1	Safety Line 3/8	19.75 - 20.00	1.0000	1.0000
L50	21	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	22	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	23	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	24	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	25	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	26	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	33	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	34	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	35	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	36	CCI-SFP-060100	19.75 - 20.00	1.0000	1.0000
L51	1	Safety Line 3/8	17.00 - 19.75	1.0000	1.0000
L51	21	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	22	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	23	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	24	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	25	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	26	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	33	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	34	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	35	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	36	CCI-SFP-060100	17.00 - 19.75	1.0000	1.0000
L52	1	Safety Line 3/8	16.75 - 17.00	1.0000	1.0000
L52	21	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	22	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	23	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	24	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000
L52	25	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L52	26	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000
L52	33	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	34	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	35	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	36	CCI-SFP-060100	16.75 - 17.00	1.0000	1.0000
L53	1	Safety Line 3/8	11.75 - 16.75	1.0000	1.0000
L53	21	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	22	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	23	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	24	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	25	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	26	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	33	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	34	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	35	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	36	CCI-SFP-060100	15.00 - 16.75	1.0000	1.0000
L54	1	Safety Line 3/8	9.00 - 11.75	1.0000	1.0000
L54	21	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	22	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	23	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	24	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	25	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	26	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	33	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L54	34	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L54	35	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L55	21	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	22	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	23	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	24	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	25	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	26	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	33	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L55	34	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L55	35	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L56	21	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	22	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	23	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	24	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	25	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	26	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	33	CCI-SFP-085125	0.00 - 1.75	1.0000	1.0000
L56	34	CCI-SFP-085125	0.00 - 1.75	1.0000	1.0000
L56	35	CCI-SFP-085125	0.00 - 1.75	1.0000	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
***									
Platform Mount [LP 714-1]	C	None		0.0000	159.00	No Ice	37.51	37.51	1.60
						1/2" Ice	41.70	41.70	2.50
						1" Ice	45.89	45.89	3.46
						2" Ice	54.29	54.29	5.58
(2) 6'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
(2) 6'x2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
(2) 6'x2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice	4.09	2.86	0.08
						1/2" Ice	4.48	3.23	0.13
						1" Ice	4.88	3.61	0.19
						2" Ice	5.71	4.40	0.33
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice	4.09	2.86	0.08
						1/2" Ice	4.48	3.23	0.13
						1" Ice	4.88	3.61	0.19
						2" Ice	5.71	4.40	0.33
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice	4.09	2.86	0.08
						1/2" Ice	4.48	3.23	0.13
						1" Ice	4.88	3.61	0.19
						2" Ice	5.71	4.40	0.33
TD-RRH8x20-25	A	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	4.05	1.53	0.07
						1/2" Ice	4.30	1.71	0.10
						1" Ice	4.56	1.90	0.13
						2" Ice	5.10	2.30	0.20
TD-RRH8x20-25	B	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	4.05	1.53	0.07
						1/2" Ice	4.30	1.71	0.10
						1" Ice	4.56	1.90	0.13
						2" Ice	5.10	2.30	0.20
TD-RRH8x20-25	C	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	4.05	1.53	0.07
						1/2" Ice	4.30	1.71	0.10
						1" Ice	4.56	1.90	0.13
						2" Ice	5.10	2.30	0.20

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
***									
Side Arm Mount [SO 102-3]	C	None		0.0000	157.00	No Ice	3.60	3.60	0.07
						1/2" Ice	4.18	4.18	0.11
						1" Ice	4.75	4.75	0.14
						2" Ice	5.90	5.90	0.20
Pipe Mount [PM 601-3]	C	None		0.0000	157.00	No Ice	3.17	3.17	0.20
						1/2" Ice	3.79	3.79	0.23
						1" Ice	4.42	4.42	0.28
						2" Ice	5.76	5.76	0.40
PCS 1900MHz 4x45W-65MHz	A	From Leg	2.00 0.00 0.00	0.0000	157.00	No Ice	2.32	2.24	0.06
						1/2" Ice	2.53	2.44	0.08
						1" Ice	2.74	2.65	0.11
						2" Ice	3.19	3.09	0.17
PCS 1900MHz 4x45W-65MHz	B	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice	2.32	2.24	0.06
						1/2" Ice	2.53	2.44	0.08
						1" Ice	2.74	2.65	0.11
						2" Ice	3.19	3.09	0.17
PCS 1900MHz 4x45W-65MHz	C	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice	2.32	2.24	0.06
						1/2" Ice	2.53	2.44	0.08
						1" Ice	2.74	2.65	0.11
						2" Ice	3.19	3.09	0.17
800MHz 2X50W RRH W/FILTER	A	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice	2.06	1.93	0.06
						1/2" Ice	2.24	2.11	0.09
						1" Ice	2.43	2.29	0.11
						2" Ice	2.83	2.68	0.17
800MHz 2X50W RRH W/FILTER	B	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice	2.06	1.93	0.06
						1/2" Ice	2.24	2.11	0.09
						1" Ice	2.43	2.29	0.11
						2" Ice	2.83	2.68	0.17
800MHz 2X50W RRH W/FILTER	C	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice	2.06	1.93	0.06
						1/2" Ice	2.24	2.11	0.09
						1" Ice	2.43	2.29	0.11
						2" Ice	2.83	2.68	0.17
***									
Side Arm Mount [SO 102-3]	C	None		0.0000	152.00	No Ice	3.60	3.60	0.07
						1/2" Ice	4.18	4.18	0.11
						1" Ice	4.75	4.75	0.14
						2" Ice	5.90	5.90	0.20
Pipe Mount [PM 601-3]	C	None		0.0000	152.00	No Ice	3.17	3.17	0.20
						1/2" Ice	3.79	3.79	0.23
						1" Ice	4.42	4.42	0.28
						2" Ice	5.76	5.76	0.40
RRUS-11	A	From Leg	2.00 0.00 0.00	0.0000	152.00	No Ice	2.78	1.19	0.05
						1/2" Ice	2.99	1.33	0.07
						1" Ice	3.21	1.49	0.09
						2" Ice	3.66	1.83	0.15
RRUS-11	B	From Leg	2.00 0.00 0.00	0.0000	152.00	No Ice	2.78	1.19	0.05
						1/2" Ice	2.99	1.33	0.07
						1" Ice	3.21	1.49	0.09
						2" Ice	3.66	1.83	0.15
RRUS-11	C	From Leg	2.00 0.00	0.0000	152.00	No Ice	2.78	1.19	0.05
						1/2" Ice	2.99	1.33	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	3.21	1.49	0.09
						1" Ice	3.66	1.83	0.15
						2" Ice			
***									
Platform Mount [LP 303-1]	C	None		0.0000	150.00	No Ice	14.69	14.69	1.25
						1/2"	18.01	18.01	1.57
						Ice	21.34	21.34	1.94
						1" Ice	28.08	28.08	2.85
						2" Ice			
7770.00 w/ Mount Pipe	A	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			-6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	A	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	B	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			-2.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	B	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	C	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			-6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
7770.00 w/ Mount Pipe	C	From Face	4.00	0.0000	150.00	No Ice	5.75	4.25	0.06
			6.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice	7.49	7.16	0.29
						2" Ice			
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Face	4.00	0.0000	150.00	No Ice	12.25	8.33	0.10
			2.00			1/2"	13.19	9.23	0.19
			0.00			Ice	14.16	10.15	0.30
						1" Ice	16.14	12.05	0.54
						2" Ice			
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Face	4.00	0.0000	150.00	No Ice	12.25	8.33	0.10
			-6.00			1/2"	13.19	9.23	0.19
			0.00			Ice	14.16	10.15	0.30
						1" Ice	16.14	12.05	0.54
						2" Ice			
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Face	4.00	0.0000	150.00	No Ice	12.25	8.33	0.10
			2.00			1/2"	13.19	9.23	0.19
			0.00			Ice	14.16	10.15	0.30
						1" Ice	16.14	12.05	0.54
						2" Ice			
RRUS 32 B2	A	From Face	4.00	0.0000	150.00	No Ice	2.73	1.67	0.05
			0.00			1/2"	2.95	1.86	0.07
			0.00			Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
RRUS 32 B2	B	From Face	4.00	0.0000	150.00	No Ice	2.73	1.67	0.05
			0.00			1/2"	2.95	1.86	0.07
			0.00			Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
RRUS 32 B2	C	From Face	4.00	0.0000	150.00	No Ice	2.73	1.67	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2"	2.95	1.86	0.07
			0.00			Ice	3.18	2.05	0.10
						1" Ice	3.66	2.46	0.16
						2" Ice			
DC6-48-60-18-8F	B	From Face	1.00	0.0000	150.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			0.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
(4) 7020.00	A	From Face	4.00	0.0000	150.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			0.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(4) 7020.00	B	From Face	4.00	0.0000	150.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			0.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(4) 7020.00	C	From Face	4.00	0.0000	150.00	No Ice	0.10	0.17	0.00
			0.00			1/2"	0.15	0.24	0.01
			0.00			Ice	0.20	0.31	0.01
						1" Ice	0.33	0.48	0.02
						2" Ice			
(2) LGP21401	A	From Face	4.00	0.0000	150.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	B	From Face	4.00	0.0000	150.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21401	C	From Face	4.00	0.0000	150.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			0.00			Ice	1.38	0.54	0.03
						1" Ice	1.69	0.77	0.05
						2" Ice			
(2) LGP21901	A	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	B	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	C	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
1001983	A	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00
			0.00			1/2"	0.23	0.13	0.00
			0.00			Ice	0.30	0.18	0.01
						1" Ice	0.44	0.30	0.01
						2" Ice			
1001983	B	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00
			0.00			1/2"	0.23	0.13	0.00
			0.00			Ice	0.30	0.18	0.01
						1" Ice	0.44	0.30	0.01
						2" Ice			
1001983	C	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00 0.00			1/2" Ice 1" Ice 2" Ice	0.23 0.30 0.44	0.13 0.18 0.30	0.00 0.01 0.01
***									
T-Arm Mount [TA 602-3]	C	None		0.0000	139.00	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
Site Pro 1 SFS-H	A	From Face	0.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.68 3.13 3.65 4.69	1.97 2.33 2.74 3.56	0.07 0.08 0.11 0.17
Site Pro 1 SFS-H	B	From Face	0.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.68 3.13 3.65 4.69	1.97 2.33 2.74 3.56	0.07 0.08 0.11 0.17
Site Pro 1 SFS-H	C	From Face	0.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.68 3.13 3.65 4.69	1.97 2.33 2.74 3.56	0.07 0.08 0.11 0.17
Perfect Vision# PV-PKBK [NA 509-1]	A	From Face	0.00 0.00 -4.50	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 7.79 9.36 12.81	4.85 6.36 7.94 11.32	0.09 0.14 0.20 0.36
Perfect Vision# PV-PKBK [NA 509-1]	B	From Face	0.00 0.00 -4.50	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 7.79 9.36 12.81	4.85 6.36 7.94 11.32	0.09 0.14 0.20 0.36
Perfect Vision# PV-PKBK [NA 509-1]	C	From Face	0.00 0.00 -4.50	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.32 7.79 9.36 12.81	4.85 6.36 7.94 11.32	0.09 0.14 0.20 0.36
12'6"x2" Horizontal pipe	A	From Face	3.00 0.00 -1.75	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.97 4.25 5.54 8.05	0.01 0.05 0.08 0.16	0.05 0.07 0.10 0.18
12'6"x2" Horizontal pipe	B	From Face	3.00 0.00 -1.75	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.97 4.25 5.54 8.05	0.01 0.05 0.08 0.16	0.05 0.07 0.10 0.18
12'6"x2" Horizontal pipe	C	From Face	3.00 0.00 -1.75	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.97 4.25 5.54 8.05	0.01 0.05 0.08 0.16	0.05 0.07 0.10 0.18
6'x2" Mount Pipe	A	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
6'x2" Mount Pipe	B	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09

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
6'x2" Mount Pipe	C	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
APXV18-203219-C-A20 w/ Mount Pipe	A	From Face	3.00 -6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.76 6.19 6.62 7.49	4.00 4.74 5.43 6.85	0.06 0.11 0.16 0.29
APXV18-203219-C-A20 w/ Mount Pipe	B	From Face	3.00 -6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.76 6.19 6.62 7.49	4.00 4.74 5.43 6.85	0.06 0.11 0.16 0.29
APXV18-203219-C-A20 w/ Mount Pipe	C	From Face	3.00 -6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.76 6.19 6.62 7.49	4.00 4.74 5.43 6.85	0.06 0.11 0.16 0.29
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Face	3.00 6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Face	3.00 6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Face	3.00 6.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
KRY 112 489/2	A	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
KRY 112 489/2	B	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
KRY 112 489/2	C	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
RADIO 4449 B12/B71	A	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
RADIO 4449 B12/B71	B	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16
RADIO 4449 B12/B71	C	From Face	3.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.30 1.44 1.60 1.92	0.08 0.09 0.11 0.16

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
***									
Platform Mount [LP 303-1]	C	None		0.0000	125.00	No Ice	14.69	14.69	1.25
						1/2" Ice	18.01	18.01	1.57
						1" Ice	21.34	21.34	1.94
						2" Ice	28.08	28.08	2.85
(4) 6'x2" Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6'x2" Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6'x2" Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
BSAMNT-SBS-2-2 Side By Side Bracket	A	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-2-2 Side By Side Bracket	B	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-2-2 Side By Side Bracket	C	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
JAHH-65B-R3B	A	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	B	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	C	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	A	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	B	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	C	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
(2) DB-T1-6Z-8AB-0Z	B	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.04 0.08 0.12 0.21
RFV01U-D2A	A	From Face	4.00 0.00 2.00	0.0000	125.00	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 0.00 2.00	0.0000	125.00	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 0.00 2.00	0.0000	125.00	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
CBC78T-DS-43-2X	A	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
CBC78T-DS-43-2X	B	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
CBC78T-DS-43-2X	C	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
RFV01U-D1A	A	From Face	4.00 0.00 2.00	0.0000	125.00	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 0.00 2.00	0.0000	125.00	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 0.00 2.00	0.0000	125.00	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
***									
Side Arm Mount [SO 701-1]	C	None		0.0000	109.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.85 1.14 1.43 2.01	1.67 2.34 3.01 4.35	0.07 0.08 0.09 0.12
Side Arm Mount [SO 201-1]	C	None		0.0000	109.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.78 2.24 2.75 3.89	2.61 3.15 3.73 4.99	0.10 0.12 0.14 0.22
DB589	C	From Face	4.00 0.00 5.00	0.0000	109.00	No Ice 1/2" Ice	2.13 3.00 3.76	2.13 3.00 3.76	0.01 0.03 0.05

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
***						1" Ice 2" Ice	4.82	4.82	0.11

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	159.857 - 154.857	Pole	Max Tension	27	0.00	-0.00	-0.00
			Max. Compression	26	-9.53	-0.01	0.03
			Max. Mx	8	-3.33	-20.79	0.02
			Max. My	14	-3.32	0.01	-20.81
			Max. Vy	8	5.39	-20.79	0.02
			Max. Vx	14	5.40	0.01	-20.81
			Max. Torque	8			-0.00
L2	154.857 - 149.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.35	1.14	2.37
			Max. Mx	20	-6.21	50.77	0.38
			Max. My	2	-6.21	0.17	51.09
			Max. Vy	8	10.46	-50.14	0.40
			Max. Vx	14	10.47	0.18	-49.88
			Max. Torque	18			-3.06
L3	149.857 - 144.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.87	1.14	2.43
			Max. Mx	20	-6.53	103.83	0.41
			Max. My	2	-6.53	0.17	104.16
			Max. Vy	8	10.77	-103.21	0.45
			Max. Vx	14	10.79	0.21	-103.02
			Max. Torque	18			-3.06
L4	144.857 - 139.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.43	1.14	2.49
			Max. Mx	20	-6.89	158.46	0.44
			Max. My	2	-6.89	0.18	158.80
			Max. Vy	8	11.09	-157.86	0.49
			Max. Vx	14	11.11	0.23	-157.73
			Max. Torque	18			-3.06
L5	139.857 - 134.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.08	1.13	2.55
			Max. Mx	20	-9.93	225.68	0.45
			Max. My	2	-9.92	0.17	226.03
			Max. Vy	8	15.64	-225.09	0.53
			Max. Vx	14	15.66	0.25	-225.07
			Max. Torque	18			-3.06
L6	134.857 - 129.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.75	1.11	2.60
			Max. Mx	20	-10.44	304.57	0.47
			Max. My	2	-10.44	0.17	304.93
			Max. Vy	8	15.94	-304.01	0.57
			Max. Vx	14	15.97	0.27	-304.09
			Max. Torque	18			-3.06
L7	129.857 - 125.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.34	1.10	2.64
			Max. Mx	20	-10.89	370.51	0.47
			Max. My	2	-10.89	0.16	370.88
			Max. Vy	8	16.19	-369.97	0.60
			Max. Vx	14	16.22	0.28	-370.14
			Max. Torque	18			-3.05
L8	125.75 - 125.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.38	1.10	2.64
			Max. Mx	20	-10.93	374.56	0.47
			Max. My	2	-10.93	0.16	374.93
			Max. Vy	8	16.20	-374.01	0.60
			Max. Vx	14	16.24	0.28	-374.20
			Max. Torque	18			-3.05
L9	125.5 -	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	118.978						
			Max. Compression	26	-34.73	-0.40	3.52
			Max. Mx	8	-14.18	-430.46	1.24
			Max. My	2	-14.20	-0.62	430.72
			Max. Vy	8	19.68	-430.46	1.24
			Max. Vx	14	19.75	0.33	-429.82
			Max. Torque	20			-3.06
L10	118.978 - 117.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.36	-0.42	3.57
			Max. Mx	8	-15.31	-524.80	1.72
			Max. My	14	-15.25	0.80	-525.06
			Max. Vy	8	20.06	-524.80	1.72
			Max. Vx	14	20.37	0.80	-525.06
			Max. Torque	20			-3.06
L11	117.978 - 112.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.68	-0.44	3.61
			Max. Mx	8	-16.29	-626.01	2.23
			Max. My	14	-16.21	1.29	-628.50
			Max. Vy	8	20.44	-626.01	2.23
			Max. Vx	14	21.02	1.29	-628.50
			Max. Torque	20			-3.06
L12	112.978 - 107.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.42	-0.46	3.24
			Max. Mx	8	-17.49	-729.78	2.70
			Max. My	14	-17.39	1.79	-735.94
			Max. Vy	8	21.10	-729.78	2.70
			Max. Vx	14	21.96	1.79	-735.94
			Max. Torque	20			-3.06
L13	107.978 - 103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.83	-0.46	3.26
			Max. Mx	8	-18.50	-836.35	3.20
			Max. My	14	-18.40	2.28	-846.86
			Max. Vy	8	21.74	-836.35	3.20
			Max. Vx	14	22.63	2.28	-846.86
			Max. Torque	18			-2.69
L14	103 - 102.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.92	-0.46	3.26
			Max. Mx	8	-18.57	-841.79	3.22
			Max. My	14	-18.47	2.30	-852.52
			Max. Vy	8	21.76	-841.79	3.22
			Max. Vx	14	22.66	2.30	-852.52
			Max. Torque	18			-2.69
L15	102.75 - 100.21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.83	-0.46	3.28
			Max. Mx	8	-19.21	-897.51	3.48
			Max. My	14	-19.11	2.55	-910.56
			Max. Vy	8	22.13	-897.51	3.48
			Max. Vx	14	23.05	2.55	-910.56
			Max. Torque	18			-2.69
L16	100.21 - 95.6875	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.90	-0.46	3.28
			Max. Mx	8	-19.27	-901.70	3.49
			Max. My	14	-19.17	2.57	-914.92
			Max. Vy	8	22.14	-901.70	3.49
			Max. Vx	14	23.08	2.57	-914.92
			Max. Torque	18			-2.69
L17	95.6875 - 94.6875	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.36	-0.48	3.29
			Max. Mx	8	-21.85	-1022.13	4.03
			Max. My	14	-21.75	3.09	-1040.53
			Max. Vy	8	23.01	-1022.13	4.03
			Max. Vx	14	24.03	3.09	-1040.53

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	18			-2.68
L18	94.6875 - 93.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.89	-0.49	3.29
			Max. Mx	8	-22.21	-1049.55	4.15
			Max. My	14	-22.11	3.21	-1069.17
			Max. Vy	8	23.19	-1049.55	4.15
			Max. Vx	14	24.23	3.21	-1069.17
			Max. Torque	18			-2.68
L19	93.5 - 93.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.01	-0.49	3.29
			Max. Mx	8	-22.31	-1055.35	4.18
			Max. My	14	-22.21	3.24	-1075.24
			Max. Vy	8	23.22	-1055.35	4.18
			Max. Vx	14	24.27	3.24	-1075.24
			Max. Torque	18			-2.68
L20	93.25 - 89.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.00	-0.50	3.30
			Max. Mx	8	-23.73	-1149.47	4.58
			Max. My	14	-23.63	3.63	-1173.70
			Max. Vy	8	23.85	-1149.47	4.58
			Max. Vx	14	24.98	3.63	-1173.70
			Max. Torque	18			-2.68
L21	89.25 - 89	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.13	-0.50	3.30
			Max. Mx	8	-23.83	-1155.43	4.60
			Max. My	14	-23.72	3.65	-1179.95
			Max. Vy	8	23.88	-1155.43	4.60
			Max. Vx	14	25.02	3.65	-1179.95
			Max. Torque	18			-2.68
L22	89 - 86.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.43	-0.51	3.31
			Max. Mx	8	-24.76	-1215.63	4.86
			Max. My	14	-24.66	3.90	-1243.05
			Max. Vy	8	24.28	-1215.63	4.86
			Max. Vx	14	25.48	3.90	-1243.05
			Max. Torque	18			-2.68
L23	86.5 - 86.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.55	-0.52	3.31
			Max. Mx	8	-24.85	-1221.70	4.88
			Max. My	14	-24.74	3.93	-1249.42
			Max. Vy	8	24.32	-1221.70	4.88
			Max. Vx	14	25.51	3.93	-1249.42
			Max. Torque	18			-2.68
L24	86.25 - 81.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.79	-0.53	3.32
			Max. Mx	8	-26.48	-1345.12	5.38
			Max. My	14	-26.38	4.42	-1379.03
			Max. Vy	8	25.06	-1345.12	5.38
			Max. Vx	14	26.35	4.42	-1379.03
			Max. Torque	18			-2.68
L25	81.25 - 76.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.04	-0.55	3.33
			Max. Mx	8	-28.15	-1472.22	5.88
			Max. My	14	-28.05	4.91	-1512.73
			Max. Vy	8	25.80	-1472.22	5.88
			Max. Vx	14	27.16	4.91	-1512.73
			Max. Torque	18			-2.68
L26	76.25 - 75.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.44	-0.56	3.33
			Max. Mx	8	-28.43	-1493.68	5.97
			Max. My	14	-28.33	4.99	-1535.32
			Max. Vy	8	25.92	-1493.68	5.97
			Max. Vx	14	27.30	4.99	-1535.32
			Max. Torque	18			-2.68

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L27	75.42 - 75.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.57	-0.56	3.33
			Max. Mx	8	-28.53	-1500.16	5.99
			Max. My	14	-28.43	5.02	-1542.15
			Max. Vy	8	25.96	-1500.16	5.99
			Max. Vx	14	27.34	5.02	-1542.15
			Max. Torque	18			-2.68
L28	75.17 - 70.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.15	-0.58	3.35
			Max. Mx	8	-30.39	-1631.85	6.49
			Max. My	14	-30.29	5.51	-1681.00
			Max. Vy	8	26.74	-1631.85	6.49
			Max. Vx	14	28.22	5.51	-1681.00
			Max. Torque	18			-2.68
L29	70.17 - 65.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.76	-0.60	3.36
			Max. Mx	8	-32.29	-1767.40	6.99
			Max. My	14	-32.18	6.00	-1824.19
			Max. Vy	8	27.50	-1767.40	6.99
			Max. Vx	14	29.08	6.00	-1824.19
			Max. Torque	18			-2.68
L30	65.17 - 60.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.39	-0.62	3.37
			Max. Mx	8	-34.21	-1906.76	7.49
			Max. My	14	-34.11	6.49	-1971.69
			Max. Vy	8	28.26	-1906.76	7.49
			Max. Vx	14	29.94	6.49	-1971.69
			Max. Torque	18			-2.68
L31	60.17 - 59.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.75	-0.62	3.37
			Max. Mx	8	-34.47	-1925.72	7.56
			Max. My	14	-34.38	6.56	-1991.78
			Max. Vy	8	28.36	-1925.72	7.56
			Max. Vx	14	30.05	6.56	-1991.78
			Max. Torque	18			-2.68
L32	59.5 - 59.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.88	-0.63	3.37
			Max. Mx	8	-34.57	-1932.81	7.58
			Max. My	14	-34.48	6.58	-1999.30
			Max. Vy	8	28.39	-1932.81	7.58
			Max. Vx	14	30.09	6.58	-1999.30
			Max. Torque	18			-2.68
L33	59.25 - 54.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.55	-0.66	3.39
			Max. Mx	8	-36.52	-2076.64	8.08
			Max. My	14	-36.43	7.07	-2151.83
			Max. Vy	8	29.15	-2076.64	8.08
			Max. Vx	14	30.94	7.07	-2151.83
			Max. Torque	18			-2.68
L34	54.25 - 53	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.23	-0.68	3.40
			Max. Mx	8	-37.02	-2113.19	8.20
			Max. My	14	-36.92	7.19	-2190.63
			Max. Vy	8	29.34	-2113.19	8.20
			Max. Vx	14	31.16	7.19	-2190.63
			Max. Torque	18			-2.68
L35	53 - 52.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.37	-0.69	3.41
			Max. Mx	8	-37.13	-2120.52	8.23
			Max. My	14	-37.03	7.22	-2198.42
			Max. Vy	8	29.37	-2120.52	8.23
			Max. Vx	14	31.20	7.22	-2198.42
			Max. Torque	18			-2.68
L36	52.75 -	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	47.0608						
			Max. Compression	26	-66.43	-0.69	3.41
			Max. Mx	8	-37.17	-2123.63	8.24
			Max. My	14	-37.08	7.23	-2201.73
			Max. Vy	8	29.38	-2123.63	8.24
			Max. Vx	14	31.22	7.23	-2201.73
			Max. Torque	18			-2.68
L37	47.0608 - 46.0608	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.58	-0.80	3.47
			Max. Mx	8	-41.91	-2320.69	8.89
			Max. My	14	-41.82	7.87	-2411.37
			Max. Vy	8	30.48	-2320.69	8.89
			Max. Vx	14	32.47	7.87	-2411.37
			Max. Torque	18			-2.68
L38	46.0608 - 41.0608	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.44	-0.82	3.48
			Max. Mx	8	-44.08	-2474.75	9.38
			Max. My	14	-44.00	8.36	-2575.59
			Max. Vy	8	31.18	-2474.75	9.38
			Max. Vx	14	33.25	8.36	-2575.59
			Max. Torque	18			-2.68
L39	41.0608 - 39.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.47	-0.83	3.49
			Max. Mx	8	-44.84	-2528.90	9.55
			Max. My	14	-44.76	8.53	-2633.35
			Max. Vy	8	31.43	-2528.90	9.55
			Max. Vx	14	33.54	8.53	-2633.35
			Max. Torque	18			-2.68
L40	39.33 - 39.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.63	-0.83	3.49
			Max. Mx	8	-44.98	-2536.76	9.58
			Max. My	14	-44.89	8.55	-2641.74
			Max. Vy	8	31.45	-2536.76	9.58
			Max. Vx	14	33.56	8.55	-2641.74
			Max. Torque	18			-2.68
L41	39.08 - 37.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.48	-0.83	3.49
			Max. Mx	8	-45.60	-2578.70	9.71
			Max. My	14	-45.52	8.68	-2686.51
			Max. Vy	8	31.65	-2578.70	9.71
			Max. Vx	14	33.79	8.68	-2686.51
			Max. Torque	18			-2.68
L42	37.75 - 37.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.64	-0.83	3.49
			Max. Mx	8	-45.72	-2586.62	9.73
			Max. My	14	-45.64	8.71	-2694.96
			Max. Vy	8	31.67	-2586.62	9.73
			Max. Vx	14	33.82	8.71	-2694.96
			Max. Torque	18			-2.68
L43	37.5 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.57	-0.86	3.51
			Max. Mx	8	-47.95	-2746.63	10.22
			Max. My	14	-47.87	9.19	-2865.89
			Max. Vy	8	32.35	-2746.63	10.22
			Max. Vx	14	34.58	9.19	-2865.89
			Max. Torque	18			-2.68
L44	32.5 - 29.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.18	-0.87	3.51
			Max. Mx	8	-49.19	-2836.05	10.49
			Max. My	14	-49.12	9.46	-2961.48
			Max. Vy	8	32.71	-2836.05	10.49
			Max. Vx	14	34.98	9.46	-2961.48
			Max. Torque	18			-2.68
L45	29.75 - 29.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-82.33	-0.87	3.51
			Max. Mx	8	-49.31	-2844.23	10.52
			Max. My	14	-49.25	9.48	-2970.23
			Max. Vy	8	32.73	-2844.23	10.52
			Max. Vx	14	35.00	9.48	-2970.23
			Max. Torque	18			-2.68
L46	29.5 - 24.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.27	-0.88	3.53
			Max. Mx	8	-51.59	-3009.44	11.00
			Max. My	14	-51.53	9.96	-3146.97
			Max. Vy	8	33.38	-3009.44	11.00
			Max. Vx	14	35.72	9.96	-3146.97
			Max. Torque	18			-2.68
L47	24.5 - 21.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.24	-0.83	3.58
			Max. Mx	8	-53.09	-3118.60	11.32
			Max. My	14	-53.04	10.27	-3263.81
			Max. Vy	8	33.83	-3118.60	11.32
			Max. Vx	14	36.22	10.27	-3263.81
			Max. Torque	18			-2.68
L48	21.25 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.40	-0.83	3.58
			Max. Mx	8	-53.22	-3127.06	11.34
			Max. My	14	-53.17	10.30	-3272.86
			Max. Vy	8	33.85	-3127.06	11.34
			Max. Vx	14	36.24	10.30	-3272.86
			Max. Torque	18			-2.68
L49	21 - 20	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.05	-0.82	3.59
			Max. Mx	8	-53.72	-3160.97	11.44
			Max. My	14	-53.68	10.39	-3309.18
			Max. Vy	8	34.00	-3160.97	11.44
			Max. Vx	14	36.41	10.39	-3309.18
			Max. Torque	18			-2.68
L50	20 - 19.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.22	-0.81	3.60
			Max. Mx	8	-53.87	-3169.47	11.46
			Max. My	14	-53.82	10.42	-3318.28
			Max. Vy	8	34.02	-3169.47	11.46
			Max. Vx	14	36.43	10.42	-3318.28
			Max. Torque	18			-2.68
L51	19.75 - 17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.13	-0.78	3.63
			Max. Mx	8	-55.36	-3263.57	11.73
			Max. My	14	-55.32	10.68	-3419.06
			Max. Vy	8	34.43	-3263.57	11.73
			Max. Vx	14	36.89	10.68	-3419.06
			Max. Torque	18			-2.68
L52	17 - 16.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.30	-0.78	3.63
			Max. Mx	8	-55.50	-3272.17	11.75
			Max. My	14	-55.46	10.70	-3428.29
			Max. Vy	8	34.45	-3272.17	11.75
			Max. Vx	14	36.91	10.70	-3428.29
			Max. Torque	18			-2.68
L53	16.75 - 11.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.61	-0.78	3.66
			Max. Mx	8	-58.12	-3446.13	12.23
			Max. My	14	-58.09	11.18	-3614.76
			Max. Vy	8	35.15	-3446.13	12.23
			Max. Vx	14	37.70	11.18	-3614.76
			Max. Torque	18			-2.68
L54	11.75 - 6.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.90	-0.79	3.66
			Max. Mx	8	-60.78	-3623.52	12.71
			Max. My	14	-60.77	11.65	-3805.08
			Max. Vy	8	35.84	-3623.52	12.71
			Max. Vx	14	38.47	11.65	-3805.08

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	18			-2.68
L55	6.75 - 1.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.16	-0.79	3.66
			Max. Mx	8	-63.48	-3804.33	13.18
			Max. My	14	-63.47	12.13	-3999.24
			Max. Vy	8	36.52	-3804.33	13.18
			Max. Vx	14	39.23	12.13	-3999.24
			Max. Torque	18			-2.68
L56	1.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.26	-0.79	3.66
			Max. Mx	8	-64.42	-3868.43	13.35
			Max. My	14	-64.42	12.29	-4068.10
			Max. Vy	8	36.78	-3868.43	13.35
			Max. Vx	14	39.51	12.29	-4068.10
			Max. Torque	18			-2.68

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	101.26	0.00	0.00
	Max. H_x	21	48.33	36.44	-0.09
	Max. H_z	2	64.44	-0.09	36.56
	Max. M_x	2	3853.36	-0.09	36.56
	Max. M_z	8	3868.43	-36.75	0.09
	Max. Torsion	6	2.68	-34.31	19.81
	Min. Vert	17	48.33	18.30	-31.51
	Min. H_x	9	48.33	-36.75	0.09
	Min. H_z	14	64.44	0.09	-39.48
	Min. M_x	14	-4068.10	0.09	-39.48
	Min. M_z	20	-3838.66	36.44	-0.09
	Min. Torsion	18	-2.68	31.61	-18.25

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	53.70	0.00	0.00	-0.72	-0.12	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	64.44	0.09	-36.56	-3853.36	-12.61	-0.81
0.9 Dead+1.0 Wind 0 deg - No Ice	48.33	0.09	-36.56	-3813.65	-12.44	-0.80
1.2 Dead+1.0 Wind 30 deg - No Ice	64.44	18.42	-31.71	-3343.42	-1944.35	-2.02
0.9 Dead+1.0 Wind 30 deg - No Ice	48.33	18.42	-31.71	-3308.94	-1924.39	-2.01
1.2 Dead+1.0 Wind 60 deg - No Ice	64.44	34.31	-19.81	-2046.04	-3542.46	-2.68
0.9 Dead+1.0 Wind 60 deg - No Ice	48.33	34.31	-19.81	-2025.14	-3506.64	-2.67
1.2 Dead+1.0 Wind 90 deg - No Ice	64.44	36.75	-0.09	-13.35	-3868.43	-2.62
0.9 Dead+1.0 Wind 90 deg - No Ice	48.33	36.75	-0.09	-12.98	-3828.79	-2.62
1.2 Dead+1.0 Wind 120 deg - No Ice	64.44	31.78	18.24	1915.28	-3343.97	-1.87
0.9 Dead+1.0 Wind 120 deg - No Ice	48.33	31.78	18.24	1895.89	-3309.70	-1.87
1.2 Dead+1.0 Wind 150 deg	64.44	18.29	31.68	3330.47	-1923.53	-0.62

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
- No Ice						
0.9 Dead+1.0 Wind 150 deg - No Ice	48.33	18.29	31.68	3296.60	-1903.79	-0.62
1.2 Dead+1.0 Wind 180 deg - No Ice	64.44	-0.09	39.48	4068.10	12.29	0.80
0.9 Dead+1.0 Wind 180 deg - No Ice	48.33	-0.09	39.48	4027.27	12.21	0.79
1.2 Dead+1.0 Wind 210 deg - No Ice	64.44	-18.30	31.51	3317.36	1930.02	2.00
0.9 Dead+1.0 Wind 210 deg - No Ice	48.33	-18.30	31.51	3283.58	1910.27	2.00
1.2 Dead+1.0 Wind 240 deg - No Ice	64.44	-31.61	18.25	1922.09	3330.56	2.68
0.9 Dead+1.0 Wind 240 deg - No Ice	48.33	-31.61	18.25	1902.61	3296.45	2.67
1.2 Dead+1.0 Wind 270 deg - No Ice	64.44	-36.44	0.09	11.56	3838.66	2.63
0.9 Dead+1.0 Wind 270 deg - No Ice	48.33	-36.44	0.09	11.67	3799.34	2.63
1.2 Dead+1.0 Wind 300 deg - No Ice	64.44	-34.18	-19.62	-2023.89	3528.69	1.88
0.9 Dead+1.0 Wind 300 deg - No Ice	48.33	-34.18	-19.62	-2003.22	3493.08	1.88
1.2 Dead+1.0 Wind 330 deg - No Ice	64.44	-18.26	-31.62	-3331.02	1922.50	0.62
0.9 Dead+1.0 Wind 330 deg - No Ice	48.33	-18.26	-31.62	-3296.66	1902.84	0.62
1.2 Dead+1.0 Ice	101.26	-0.00	-0.00	-3.66	-0.79	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice	101.26	0.01	-6.61	-785.06	-2.77	-0.14
1.2 Dead+1.0 Wind 30 deg+1.0 Ice	101.26	3.32	-5.73	-681.38	-394.20	-0.33
1.2 Dead+1.0 Wind 60 deg+1.0 Ice	101.26	6.00	-3.46	-404.63	-694.92	-0.43
1.2 Dead+1.0 Wind 90 deg+1.0 Ice	101.26	6.63	-0.01	-5.83	-784.43	-0.42
1.2 Dead+1.0 Wind 120 deg+1.0 Ice	101.26	5.74	3.30	385.12	-678.50	-0.29
1.2 Dead+1.0 Wind 150 deg+1.0 Ice	101.26	3.31	5.72	671.82	-390.98	-0.09
1.2 Dead+1.0 Wind 180 deg+1.0 Ice	101.26	-0.01	6.91	794.22	1.08	0.14
1.2 Dead+1.0 Wind 210 deg+1.0 Ice	101.26	-3.33	5.73	673.73	392.61	0.33
1.2 Dead+1.0 Wind 240 deg+1.0 Ice	101.26	-5.75	3.32	388.44	678.72	0.43
1.2 Dead+1.0 Wind 270 deg+1.0 Ice	101.26	-6.63	0.01	-1.98	782.73	0.42
1.2 Dead+1.0 Wind 300 deg+1.0 Ice	101.26	-5.98	-3.44	-401.20	691.15	0.29
1.2 Dead+1.0 Wind 330 deg+1.0 Ice	101.26	-3.30	-5.72	-679.46	389.19	0.09
Dead+Wind 0 deg - Service	53.70	0.02	-6.80	-713.35	-2.42	-0.15
Dead+Wind 30 deg - Service	53.70	3.43	-5.90	-619.03	-359.74	-0.38
Dead+Wind 60 deg - Service	53.70	6.38	-3.69	-379.11	-655.44	-0.51
Dead+Wind 90 deg - Service	53.70	6.84	-0.02	-3.07	-715.64	-0.50
Dead+Wind 120 deg - Service	53.70	5.91	3.39	353.67	-618.63	-0.35
Dead+Wind 150 deg - Service	53.70	3.40	5.89	615.44	-355.89	-0.12
Dead+Wind 180 deg - Service	53.70	-0.02	7.35	751.99	2.18	0.15
Dead+Wind 210 deg - Service	53.70	-3.41	5.86	613.01	356.90	0.38
Dead+Wind 240 deg - Service	53.70	-5.88	3.40	354.93	615.96	0.51
Dead+Wind 270 deg - Service	53.70	-6.78	0.02	1.54	709.94	0.50
Dead+Wind 300 deg -	53.70	-6.36	-3.65	-375.01	652.70	0.35

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Service Dead+Wind 330 deg - Service	53.70	-3.40	-5.88	-616.73	355.51	0.12

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-53.70	0.00	0.00	53.70	0.00	0.000%
2	0.09	-64.44	-36.56	-0.09	64.44	36.56	0.000%
3	0.09	-48.33	-36.56	-0.09	48.33	36.56	0.000%
4	18.42	-64.44	-31.71	-18.42	64.44	31.71	0.000%
5	18.42	-48.33	-31.71	-18.42	48.33	31.71	0.000%
6	34.31	-64.44	-19.81	-34.31	64.44	19.81	0.000%
7	34.31	-48.33	-19.81	-34.31	48.33	19.81	0.000%
8	36.75	-64.44	-0.09	-36.75	64.44	0.09	0.000%
9	36.75	-48.33	-0.09	-36.75	48.33	0.09	0.000%
10	31.78	-64.44	18.24	-31.78	64.44	-18.24	0.000%
11	31.78	-48.33	18.24	-31.78	48.33	-18.24	0.000%
12	18.29	-64.44	31.68	-18.29	64.44	-31.68	0.000%
13	18.29	-48.33	31.68	-18.29	48.33	-31.68	0.000%
14	-0.09	-64.44	39.48	0.09	64.44	-39.48	0.000%
15	-0.09	-48.33	39.48	0.09	48.33	-39.48	0.000%
16	-18.30	-64.44	31.51	18.30	64.44	-31.51	0.000%
17	-18.30	-48.33	31.51	18.30	48.33	-31.51	0.000%
18	-31.61	-64.44	18.25	31.61	64.44	-18.25	0.000%
19	-31.61	-48.33	18.25	31.61	48.33	-18.25	0.000%
20	-36.44	-64.44	0.09	36.44	64.44	-0.09	0.000%
21	-36.44	-48.33	0.09	36.44	48.33	-0.09	0.000%
22	-34.18	-64.44	-19.62	34.18	64.44	19.62	0.000%
23	-34.18	-48.33	-19.62	34.18	48.33	19.62	0.000%
24	-18.26	-64.44	-31.62	18.26	64.44	31.62	0.000%
25	-18.26	-48.33	-31.62	18.26	48.33	31.62	0.000%
26	0.00	-101.26	0.00	0.00	101.26	0.00	0.000%
27	0.01	-101.26	-6.61	-0.01	101.26	6.61	0.000%
28	3.32	-101.26	-5.73	-3.32	101.26	5.73	0.000%
29	6.00	-101.26	-3.46	-6.00	101.26	3.46	0.000%
30	6.63	-101.26	-0.01	-6.63	101.26	0.01	0.000%
31	5.74	-101.26	3.30	-5.74	101.26	-3.30	0.000%
32	3.31	-101.26	5.72	-3.31	101.26	-5.72	0.000%
33	-0.01	-101.26	6.91	0.01	101.26	-6.91	0.000%
34	-3.33	-101.26	5.73	3.33	101.26	-5.73	0.000%
35	-5.75	-101.26	3.32	5.75	101.26	-3.32	0.000%
36	-6.63	-101.26	0.01	6.63	101.26	-0.01	0.000%
37	-5.98	-101.26	-3.44	5.98	101.26	3.44	0.000%
38	-3.30	-101.26	-5.72	3.30	101.26	5.72	0.000%
39	0.02	-53.70	-6.80	-0.02	53.70	6.80	0.000%
40	3.43	-53.70	-5.90	-3.43	53.70	5.90	0.000%
41	6.38	-53.70	-3.69	-6.38	53.70	3.69	0.000%
42	6.84	-53.70	-0.02	-6.84	53.70	0.02	0.000%
43	5.91	-53.70	3.39	-5.91	53.70	-3.39	0.000%
44	3.40	-53.70	5.89	-3.40	53.70	-5.89	0.000%
45	-0.02	-53.70	7.35	0.02	53.70	-7.35	0.000%
46	-3.41	-53.70	5.86	3.41	53.70	-5.86	0.000%
47	-5.88	-53.70	3.40	5.88	53.70	-3.40	0.000%
48	-6.78	-53.70	0.02	6.78	53.70	-0.02	0.000%
49	-6.36	-53.70	-3.65	6.36	53.70	3.65	0.000%
50	-3.40	-53.70	-5.88	3.40	53.70	5.88	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00044094
3	Yes	5	0.00000001	0.00018061
4	Yes	6	0.00000001	0.00072283
5	Yes	6	0.00000001	0.00023666
6	Yes	6	0.00000001	0.00084825
7	Yes	6	0.00000001	0.00027635
8	Yes	6	0.00000001	0.00007305
9	Yes	5	0.00000001	0.00067422
10	Yes	6	0.00000001	0.00071269
11	Yes	6	0.00000001	0.00023392
12	Yes	6	0.00000001	0.00074406
13	Yes	6	0.00000001	0.00024550
14	Yes	5	0.00000001	0.00061672
15	Yes	5	0.00000001	0.00026939
16	Yes	6	0.00000001	0.00076480
17	Yes	6	0.00000001	0.00025317
18	Yes	6	0.00000001	0.00070479
19	Yes	6	0.00000001	0.00023100
20	Yes	6	0.00000001	0.00006149
21	Yes	5	0.00000001	0.00056718
22	Yes	6	0.00000001	0.00082440
23	Yes	6	0.00000001	0.00026867
24	Yes	6	0.00000001	0.00072850
25	Yes	6	0.00000001	0.00023962
26	Yes	4	0.00000001	0.00007302
27	Yes	5	0.00000001	0.00089843
28	Yes	6	0.00000001	0.00020692
29	Yes	6	0.00000001	0.00023215
30	Yes	5	0.00000001	0.00093730
31	Yes	6	0.00000001	0.00019817
32	Yes	6	0.00000001	0.00020673
33	Yes	5	0.00000001	0.00088222
34	Yes	6	0.00000001	0.00021539
35	Yes	6	0.00000001	0.00019815
36	Yes	5	0.00000001	0.00093364
37	Yes	6	0.00000001	0.00022468
38	Yes	6	0.00000001	0.00020871
39	Yes	5	0.00000001	0.00005636
40	Yes	5	0.00000001	0.00013489
41	Yes	5	0.00000001	0.00017886
42	Yes	5	0.00000001	0.00007109
43	Yes	5	0.00000001	0.00013173
44	Yes	5	0.00000001	0.00014329
45	Yes	5	0.00000001	0.00005825
46	Yes	5	0.00000001	0.00015425
47	Yes	5	0.00000001	0.00013094
48	Yes	5	0.00000001	0.00006979
49	Yes	5	0.00000001	0.00016866
50	Yes	5	0.00000001	0.00013723

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	159.857 - 154.857	18.660	41	1.2394	0.0101
L2	154.857 - 149.857	17.363	41	1.2338	0.0101
L3	149.857 - 144.857	16.081	41	1.2131	0.0101
L4	144.857 - 139.857	14.829	41	1.1748	0.0081
L5	139.857 - 134.857	13.627	41	1.1197	0.0064

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L6	134.857 - 129.857	12.489	41	1.0524	0.0050
L7	129.857 - 125.75	11.428	41	0.9709	0.0038
L8	125.75 - 125.5	10.625	41	0.8963	0.0029
L9	125.5 - 118.978	10.578	41	0.8915	0.0029
L10	122.728 - 117.978	10.076	41	0.8370	0.0023
L11	117.978 - 112.978	9.258	41	0.8051	0.0021
L12	112.978 - 107.978	8.439	41	0.7577	0.0017
L13	107.978 - 103	7.672	41	0.7077	0.0014
L14	103 - 102.75	6.961	41	0.6553	0.0012
L15	102.75 - 100.21	6.927	41	0.6530	0.0012
L16	100.21 - 95.6875	6.586	41	0.6295	0.0011
L17	100.021 - 94.6875	6.561	41	0.6281	0.0011
L18	94.6875 - 93.5	5.871	41	0.6047	0.0010
L19	93.5 - 93.25	5.721	41	0.5961	0.0010
L20	93.25 - 89.25	5.690	41	0.5946	0.0010
L21	89.25 - 89	5.202	41	0.5698	0.0009
L22	89 - 86.5	5.173	41	0.5683	0.0009
L23	86.5 - 86.25	4.879	41	0.5534	0.0009
L24	86.25 - 81.25	4.850	41	0.5517	0.0009
L25	81.25 - 76.25	4.291	41	0.5151	0.0008
L26	76.25 - 75.42	3.771	41	0.4782	0.0007
L27	75.42 - 75.17	3.689	41	0.4722	0.0007
L28	75.17 - 70.17	3.664	41	0.4705	0.0007
L29	70.17 - 65.17	3.189	41	0.4373	0.0006
L30	65.17 - 60.17	2.748	41	0.4039	0.0005
L31	60.17 - 59.5	2.343	41	0.3700	0.0005
L32	59.5 - 59.25	2.292	41	0.3655	0.0004
L33	59.25 - 54.25	2.272	41	0.3639	0.0004
L34	54.25 - 53	1.909	41	0.3300	0.0004
L35	53 - 52.75	1.824	41	0.3215	0.0004
L36	52.75 - 47.0608	1.807	41	0.3198	0.0004
L37	52.6442 - 46.0608	1.800	41	0.3191	0.0004
L38	46.0608 - 41.0608	1.376	41	0.2934	0.0003
L39	41.0608 - 39.33	1.086	41	0.2593	0.0003
L40	39.33 - 39.08	0.994	41	0.2478	0.0003
L41	39.08 - 37.75	0.982	41	0.2462	0.0003
L42	37.75 - 37.5	0.914	41	0.2382	0.0003
L43	37.5 - 32.5	0.902	41	0.2365	0.0003
L44	32.5 - 29.75	0.672	41	0.2029	0.0002
L45	29.75 - 29.5	0.560	41	0.1844	0.0002
L46	29.5 - 24.5	0.550	41	0.1827	0.0002
L47	24.5 - 21.25	0.377	41	0.1490	0.0001
L48	21.25 - 21	0.283	41	0.1274	0.0001
L49	21 - 20	0.276	41	0.1258	0.0001
L50	20 - 19.75	0.250	41	0.1193	0.0001
L51	19.75 - 17	0.244	41	0.1179	0.0001
L52	17 - 16.75	0.181	41	0.1020	0.0001
L53	16.75 - 11.75	0.176	41	0.1005	0.0001
L54	11.75 - 6.75	0.086	41	0.0704	0.0001
L55	6.75 - 1.75	0.028	41	0.0403	0.0000
L56	1.75 - 0	0.002	41	0.0103	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.00	Platform Mount [LP 714-1]	41	18.437	1.2390	0.0101	21494

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.00	Side Arm Mount [SO 102-3]	41	17.918	1.2374	0.0101	21494
152.00	Side Arm Mount [SO 102-3]	41	16.628	1.2241	0.0103	12922
150.00	Platform Mount [LP 303-1]	41	16.117	1.2139	0.0101	9816
139.00	T-Arm Mount [TA 602-3]	41	13.427	1.1090	0.0062	4448
125.00	Platform Mount [LP 303-1]	41	10.485	0.8816	0.0027	3401
109.00	Side Arm Mount [SO 701-1]	41	7.824	0.7182	0.0015	5602

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	159.857 - 154.857	100.726	6	6.7040	0.0541
L2	154.857 - 149.857	93.742	6	6.6732	0.0541
L3	149.857 - 144.857	86.833	6	6.5612	0.0538
L4	144.857 - 139.857	80.086	6	6.3541	0.0432
L5	139.857 - 134.857	73.604	6	6.0562	0.0342
L6	134.857 - 129.857	67.465	6	5.6914	0.0266
L7	129.857 - 125.75	61.745	6	5.2504	0.0201
L8	125.75 - 125.5	57.410	6	4.8460	0.0154
L9	125.5 - 118.978	57.157	6	4.8205	0.0151
L10	122.728 - 117.978	54.448	6	4.5260	0.0123
L11	117.978 - 112.978	50.031	6	4.3539	0.0109
L12	112.978 - 107.978	45.611	6	4.0981	0.0092
L13	107.978 - 103	41.466	6	3.8280	0.0077
L14	103 - 102.75	37.628	6	3.5443	0.0064
L15	102.75 - 100.21	37.443	6	3.5321	0.0064
L16	100.21 - 95.6875	35.599	6	3.4047	0.0059
L17	100.021 - 94.6875	35.465	6	3.3971	0.0059
L18	94.6875 - 93.5	31.734	6	3.2710	0.0054
L19	93.5 - 93.25	30.927	6	3.2244	0.0053
L20	93.25 - 89.25	30.759	6	3.2163	0.0053
L21	89.25 - 89	28.123	6	3.0821	0.0048
L22	89 - 86.5	27.962	6	3.0742	0.0048
L23	86.5 - 86.25	26.375	6	2.9936	0.0046
L24	86.25 - 81.25	26.218	6	2.9840	0.0046
L25	81.25 - 76.25	23.199	6	2.7862	0.0040
L26	76.25 - 75.42	20.388	6	2.5867	0.0036
L27	75.42 - 75.17	19.942	6	2.5540	0.0035
L28	75.17 - 70.17	19.808	6	2.5451	0.0035
L29	70.17 - 65.17	17.239	6	2.3652	0.0031
L30	65.17 - 60.17	14.858	6	2.1847	0.0027
L31	60.17 - 59.5	12.667	6	2.0012	0.0024
L32	59.5 - 59.25	12.388	6	1.9769	0.0024
L33	59.25 - 54.25	12.285	6	1.9678	0.0024
L34	54.25 - 53	10.321	6	1.7844	0.0020
L35	53 - 52.75	9.860	6	1.7388	0.0020
L36	52.75 - 47.0608	9.769	6	1.7296	0.0020
L37	52.6442 - 46.0608	9.731	6	1.7257	0.0020
L38	46.0608 - 41.0608	7.436	6	1.5863	0.0018
L39	41.0608 - 39.33	5.872	6	1.4019	0.0015
L40	39.33 - 39.08	5.375	6	1.3397	0.0014
L41	39.08 - 37.75	5.306	6	1.3314	0.0014

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L42	37.75 - 37.5	4.941	6	1.2878	0.0013
L43	37.5 - 32.5	4.874	6	1.2788	0.0013
L44	32.5 - 29.75	3.630	6	1.0970	0.0011
L45	29.75 - 29.5	3.027	6	0.9968	0.0010
L46	29.5 - 24.5	2.975	6	0.9878	0.0010
L47	24.5 - 21.25	2.037	6	0.8053	0.0008
L48	21.25 - 21	1.528	6	0.6885	0.0007
L49	21 - 20	1.492	6	0.6798	0.0006
L50	20 - 19.75	1.354	6	0.6450	0.0006
L51	19.75 - 17	1.320	6	0.6373	0.0006
L52	17 - 16.75	0.978	6	0.5515	0.0005
L53	16.75 - 11.75	0.949	6	0.5434	0.0005
L54	11.75 - 6.75	0.466	6	0.3803	0.0003
L55	6.75 - 1.75	0.153	6	0.2176	0.0002
L56	1.75 - 0	0.010	6	0.0554	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.00	Platform Mount [LP 714-1]	6	99.526	6.7015	0.0540	4073
157.00	Side Arm Mount [SO 102-3]	6	96.730	6.6928	0.0538	4073
152.00	Side Arm Mount [SO 102-3]	6	89.779	6.6209	0.0548	2484
150.00	Platform Mount [LP 303-1]	6	87.028	6.5657	0.0539	1900
139.00	T-Arm Mount [TA 602-3]	6	72.524	5.9984	0.0329	850
125.00	Platform Mount [LP 303-1]	6	56.657	4.7664	0.0146	640
109.00	Side Arm Mount [SO 701-1]	6	42.291	3.8845	0.0079	1048

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	5.00	0.00	0.0	10.3747	-3.31	606.92	0.005
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.1875	5.00	0.00	0.0	11.0415	-6.18	645.93	0.010
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.1875	5.00	0.00	0.0	11.7082	-6.50	684.93	0.009
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.1875	5.00	0.00	0.0	12.3750	-6.86	723.94	0.009
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.1875	5.00	0.00	0.0	13.0417	-9.89	762.94	0.013
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.1875	5.00	0.00	0.0	13.7085	-10.40	801.95	0.013
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.1875	4.11	0.00	0.0	14.2562	-10.85	833.99	0.013
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.1875	0.25	0.00	0.0	14.2895	-10.89	835.94	0.013
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	6.52	0.00	0.0	14.6593	-14.11	857.57	0.016
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.4938	4.75	0.00	0.0	39.1718	-15.23	2291.55	0.007
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.4813	5.00	0.00	0.0	39.8784	-16.19	2332.89	0.007

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.475	5.00	0.00	0.0	41.0274	-17.37	2400.10	0.007
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.4625	4.98	0.00	0.0	41.5726	-18.38	2432.00	0.008
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	0.25	0.00	0.0	49.3809	-18.45	2888.78	0.006
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.5375	2.54	0.00	0.0	49.2327	-19.09	2880.11	0.007
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	4.52	0.00	0.0	62.7355	-19.15	3670.03	0.005
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.7375	5.33	0.00	0.0	68.7764	-21.73	4023.42	0.005
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.7375	1.19	0.00	0.0	69.3923	-22.09	4059.45	0.005
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.9125	0.25	0.00	0.0	85.5118	-22.19	5002.44	0.004
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	4.00	0.00	0.0	85.7357	-23.61	5015.54	0.005
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	0.25	0.00	0.0	90.5819	-23.71	5299.04	0.004
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	2.50	0.00	0.0	91.0369	-24.64	5325.66	0.005
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	0.25	0.00	0.0	75.5712	-24.73	4420.92	0.006
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	5.00	0.00	0.0	75.7449	-26.36	4431.08	0.006
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	5.00	0.00	0.0	77.0389	-28.03	4506.77	0.006
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	0.83	0.00	0.0	77.4620	-28.31	4531.53	0.006
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	0.25	0.00	0.0	86.7281	-28.41	5073.59	0.006
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	5.00	0.00	0.0	88.2382	-30.27	5161.93	0.006
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	5.00	0.00	0.0	89.6594	-32.17	5245.08	0.006
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	5.00	0.00	0.0	89.5544	-34.10	5238.94	0.007
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	0.67	0.00	0.0	89.9137	-34.36	5259.95	0.007
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	0.25	0.00	0.0	90.0477	-34.46	5267.79	0.007
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	5.00	0.00	0.0	91.2382	-36.42	5337.43	0.007
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	1.25	0.00	0.0	90.3950	-36.91	5288.11	0.007
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	0.25	0.00	0.0	90.5247	-37.02	5295.69	0.007
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	5.69	0.00	0.0	90.5796	-37.07	5298.90	0.007
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	6.58	0.00	0.0	95.6155	-41.81	5593.51	0.007
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	5.00	0.00	0.0	96.7213	-43.99	5658.19	0.008
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	1.73	0.00	0.0	97.6363	-44.75	5711.73	0.008
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	0.25	0.00	0.0	107.3490	-44.89	6279.92	0.007
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	1.33	0.00	0.0	108.1220	-45.51	6325.16	0.007
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	0.25	0.00	0.0	98.6039	-45.64	5768.33	0.008
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	5.00	0.00	0.0	99.5891	-47.87	5825.96	0.008
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	2.75	0.00	0.0	99.3354	-49.11	5811.12	0.008
L45	29.75 - 29.5 (45)	TP43.9482x43.8927x0.725	0.25	0.00	0.0	99.4632	-49.24	5818.59	0.008
L46	29.5 - 24.5	TP45.0587x43.9482x0.71	5.00	0.00	0.0	100.28	-51.53	5866.84	0.009

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(46)	25				80			
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.71 25	3.25	0.00	0.0	101.92 00	-53.03	5962.33	0.009
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	0.25	0.00	0.0	103.80 70	-53.17	6072.72	0.009
L49	21 - 20 (49)	TP46.0581x45.836x0.725	1.00	0.00	0.0	104.31 80	-53.67	6102.62	0.009
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.82 5	0.25	0.00	0.0	118.59 10	-53.82	6937.55	0.008
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.81 25	2.75	0.00	0.0	118.40 10	-55.31	6926.46	0.008
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.77 5	0.25	0.00	0.0	113.16 50	-55.46	6620.17	0.008
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.76 25	5.00	0.00	0.0	114.05 80	-58.09	6672.38	0.009
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	5.00	0.00	0.0	114.86 10	-60.77	6719.38	0.009
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.73 75	5.00	0.00	0.0	115.57 60	-63.47	6761.17	0.009
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	1.75	0.00	0.0	116.48 50	-64.42	6814.39	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	20.82	275.52	0.076	0.00	275.52	0.000
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.18 75	51.13	309.23	0.165	0.00	309.23	0.000
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.18 75	104.28	342.63	0.304	0.00	342.63	0.000
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.18 75	159.00	377.08	0.422	0.00	377.08	0.000
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.18 75	226.35	412.46	0.549	0.00	412.46	0.000
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.18 75	305.37	448.68	0.681	0.00	448.68	0.000
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.18 75	371.43	478.97	0.775	0.00	478.97	0.000
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.18 75	375.49	480.83	0.781	0.00	480.83	0.000
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	432.10	501.55	0.862	0.00	501.55	0.000
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.49 38	528.15	1478.39	0.357	0.00	1478.39	0.000
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.48 13	632.44	1574.05	0.402	0.00	1574.05	0.000
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.47 5	740.64	1689.60	0.438	0.00	1689.60	0.000
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.46 25	852.47	1783.67	0.478	0.00	1783.67	0.000
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	858.17	2109.78	0.407	0.00	2109.78	0.000
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.53 75	916.70	2147.63	0.427	0.00	2147.63	0.000
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	921.10	2712.29	0.340	0.00	2712.29	0.000
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.73 75	1047.75	3035.26	0.345	0.00	3035.26	0.000
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.73 75	1076.63	3090.53	0.348	0.00	3090.53	0.000
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.91 25	1082.73	3770.90	0.287	0.00	3770.90	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 $\frac{M_{uy}}{\phi M_{ny}}$
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	1181.98	3904.07	0.303	0.00	3904.07	0.000
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	1188.28	4118.92	0.288	0.00	4118.92	0.000
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	1251.88	4220.58	0.297	0.00	4220.58	0.000
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	1258.30	3546.83	0.355	0.00	3546.83	0.000
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	1388.88	3689.80	0.376	0.00	3689.80	0.000
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	1523.57	3887.07	0.392	0.00	3887.07	0.000
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	1546.33	3930.34	0.393	0.00	3930.34	0.000
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	1553.20	4385.03	0.354	0.00	4385.03	0.000
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	1693.03	4615.13	0.367	0.00	4615.13	0.000
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	1837.20	4845.68	0.379	0.00	4845.68	0.000
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	1985.68	4999.44	0.397	0.00	4999.44	0.000
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	2005.90	5040.03	0.398	0.00	5040.03	0.000
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	2013.47	5055.23	0.398	0.00	5055.23	0.000
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	2166.96	5281.06	0.410	0.00	5281.06	0.000
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	2205.99	5274.19	0.418	0.00	5274.19	0.000
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	2213.82	5289.48	0.419	0.00	5289.48	0.000
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	2217.15	5295.95	0.419	0.00	5295.95	0.000
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	2427.82	5706.37	0.425	0.00	5706.37	0.000
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	2592.74	5941.34	0.436	0.00	5941.34	0.000
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	2650.75	6055.32	0.438	0.00	6055.32	0.000
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	2659.17	6642.54	0.400	0.00	6642.54	0.000
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	2704.13	6739.56	0.401	0.00	6739.56	0.000
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	2712.61	6177.02	0.439	0.00	6177.02	0.000
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	2884.24	6412.73	0.450	0.00	6412.73	0.000
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	2980.21	6493.54	0.459	0.00	6493.54	0.000
L45	29.75 - 29.5 (45)	TP43.9482x43.8927x0.725	2988.99	6510.40	0.459	0.00	6510.40	0.000
L46	29.5 - 24.5 (46)	TP45.0587x43.9482x0.7125	3166.42	6739.61	0.470	0.00	6739.61	0.000
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.7125	3283.71	6962.55	0.472	0.00	6962.55	0.000
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	3292.80	7096.40	0.464	0.00	7096.40	0.000
L49	21 - 20 (49)	TP46.0581x45.836x0.725	3329.25	7167.01	0.465	0.00	7167.01	0.000
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.825	3338.38	8121.78	0.411	0.00	8121.78	0.000
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.8125	3439.55	8224.60	0.418	0.00	8224.60	0.000
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.775	3448.80	7883.42	0.437	0.00	7883.42	0.000
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.7625	3635.96	8144.88	0.446	0.00	8144.88	0.000
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	3826.95	8402.92	0.455	0.00	8402.92	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 $\frac{M_{uy}}{\phi M_{ny}}$
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.7375	4021.78	8657.17	0.465	0.00	8657.17	0.000
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	4090.88	8795.00	0.465	0.00	8795.00	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	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	5.40	182.08	0.030	0.00	277.97	0.000
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.1875	10.48	193.78	0.054	1.59	314.85	0.005
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.1875	10.79	205.48	0.053	1.59	354.02	0.004
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.1875	11.11	217.18	0.051	1.59	395.49	0.004
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.1875	15.66	228.88	0.068	1.59	439.26	0.004
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.1875	15.97	240.58	0.066	1.58	485.32	0.003
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.1875	16.22	250.20	0.065	1.58	524.88	0.003
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.1875	16.24	250.78	0.065	1.58	527.33	0.003
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	19.92	257.27	0.077	3.05	554.97	0.005
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.4938	20.54	687.47	0.030	3.05	1504.84	0.002
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.4813	21.19	699.87	0.030	3.05	1600.13	0.002
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.475	22.13	720.03	0.031	2.69	1715.95	0.002
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.4625	22.82	729.60	0.031	2.68	1809.47	0.001
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	22.85	866.63	0.026	2.68	2146.87	0.001
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.5375	23.25	864.03	0.027	2.68	2183.63	0.001
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	23.28	1101.01	0.021	2.68	2772.07	0.001
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.7375	24.22	1207.03	0.020	2.68	3105.76	0.001
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.7375	24.43	1217.83	0.020	2.68	3161.63	0.001
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.9125	24.47	1500.73	0.016	2.68	3880.33	0.001
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	25.17	1504.66	0.017	2.68	4010.56	0.001
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	25.22	1589.71	0.016	2.68	4238.01	0.001
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	25.67	1597.70	0.016	2.68	4338.53	0.001
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	25.71	1326.28	0.019	2.68	3626.80	0.001
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	26.54	1329.32	0.020	2.68	3767.00	0.001
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	27.35	1352.03	0.020	2.68	3963.98	0.001
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	27.49	1359.46	0.020	2.68	4007.65	0.001
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	27.54	1522.08	0.018	2.68	4482.77	0.001
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	28.41	1548.58	0.018	2.68	4712.74	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 $\frac{T_u}{\phi T_n}$
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	29.28	1573.52	0.019	2.68	4943.02	0.001
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	30.13	1571.68	0.019	2.68	5093.13	0.001
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	30.25	1577.99	0.019	2.68	5134.07	0.001
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	30.29	1580.34	0.019	2.68	5149.39	0.001
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	31.13	1601.23	0.019	2.68	5374.55	0.000
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	31.34	1586.43	0.020	2.68	5365.09	0.000
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	31.37	1588.71	0.020	2.68	5380.49	0.000
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	31.40	1589.67	0.020	2.68	5387.02	0.000
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	32.61	1678.05	0.019	2.68	5805.87	0.000
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	33.39	1697.46	0.020	2.68	6039.94	0.000
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	33.68	1713.52	0.020	2.68	6154.77	0.000
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	33.70	1883.97	0.018	2.68	6763.82	0.000
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	33.93	1897.55	0.018	2.68	6861.64	0.000
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	33.96	1730.50	0.020	2.68	6277.36	0.000
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	34.72	1747.79	0.020	2.68	6511.97	0.000
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	35.12	1743.34	0.020	2.68	6590.52	0.000
L45	29.75 - 29.5 (45)	TP43.9482x43.8927x0.725	35.13	1745.58	0.020	2.68	6607.49	0.000
L46	29.5 - 24.5 (46)	TP45.0587x43.9482x0.7125	35.86	1760.05	0.020	2.68	6835.37	0.000
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.7125	36.35	1788.70	0.020	2.68	7059.69	0.000
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	36.38	1821.82	0.020	2.68	7197.27	0.000
L49	21 - 20 (49)	TP46.0581x45.836x0.725	36.54	1830.79	0.020	2.68	7268.31	0.000
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.825	36.57	2081.27	0.018	2.68	8254.62	0.000
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.8125	37.03	2077.94	0.018	2.68	8354.83	0.000
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.775	37.05	1986.05	0.019	2.68	8001.56	0.000
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.7625	37.83	2001.71	0.019	2.68	8261.52	0.000
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	38.60	2015.81	0.019	2.68	8518.00	0.000
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.7375	39.37	2028.35	0.019	2.68	8770.42	0.000
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	39.65	2044.32	0.019	2.68	8909.00	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	159.857 - 154.857 (1)	0.005	0.076	0.000	0.030	0.000	0.082	1.050	4.8.2
L2	154.857 -	0.010	0.165	0.000	0.054	0.005	0.178	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	149.857 (2)								
L3	149.857 - 144.857 (3)	0.009	0.304	0.000	0.053	0.004	0.317	1.050	4.8.2
L4	144.857 - 139.857 (4)	0.009	0.422	0.000	0.051	0.004	0.434	1.050	4.8.2
L5	139.857 - 134.857 (5)	0.013	0.549	0.000	0.068	0.004	0.567	1.050	4.8.2
L6	134.857 - 129.857 (6)	0.013	0.681	0.000	0.066	0.003	0.698	1.050	4.8.2
L7	129.857 - 125.75 (7)	0.013	0.775	0.000	0.065	0.003	0.793	1.050	4.8.2
L8	125.75 - 125.5 (8)	0.013	0.781	0.000	0.065	0.003	0.799	1.050	4.8.2
L9	125.5 - 118.978 (9)	0.016	0.862	0.000	0.077	0.005	0.885	1.050	4.8.2
L10	118.978 - 117.978 (10)	0.007	0.357	0.000	0.030	0.002	0.365	1.050	4.8.2
L11	117.978 - 112.978 (11)	0.007	0.402	0.000	0.030	0.002	0.410	1.050	4.8.2
L12	112.978 - 107.978 (12)	0.007	0.438	0.000	0.031	0.002	0.447	1.050	4.8.2
L13	107.978 - 103 (13)	0.008	0.478	0.000	0.031	0.001	0.487	1.050	4.8.2
L14	103 - 102.75 (14)	0.006	0.407	0.000	0.026	0.001	0.414	1.050	4.8.2
L15	102.75 - 100.21 (15)	0.007	0.427	0.000	0.027	0.001	0.434	1.050	4.8.2
L16	100.21 - 95.6875 (16)	0.005	0.340	0.000	0.021	0.001	0.345	1.050	4.8.2
L17	95.6875 - 94.6875 (17)	0.005	0.345	0.000	0.020	0.001	0.351	1.050	4.8.2
L18	94.6875 - 93.5 (18)	0.005	0.348	0.000	0.020	0.001	0.354	1.050	4.8.2
L19	93.5 - 93.25 (19)	0.004	0.287	0.000	0.016	0.001	0.292	1.050	4.8.2
L20	93.25 - 89.25 (20)	0.005	0.303	0.000	0.017	0.001	0.308	1.050	4.8.2
L21	89.25 - 89 (21)	0.004	0.288	0.000	0.016	0.001	0.293	1.050	4.8.2
L22	89 - 86.5 (22)	0.005	0.297	0.000	0.016	0.001	0.302	1.050	4.8.2
L23	86.5 - 86.25 (23)	0.006	0.355	0.000	0.019	0.001	0.361	1.050	4.8.2
L24	86.25 - 81.25 (24)	0.006	0.376	0.000	0.020	0.001	0.383	1.050	4.8.2
L25	81.25 - 76.25 (25)	0.006	0.392	0.000	0.020	0.001	0.399	1.050	4.8.2
L26	76.25 - 75.42 (26)	0.006	0.393	0.000	0.020	0.001	0.400	1.050	4.8.2
L27	75.42 - 75.17 (27)	0.006	0.354	0.000	0.018	0.001	0.360	1.050	4.8.2
L28	75.17 - 70.17 (28)	0.006	0.367	0.000	0.018	0.001	0.373	1.050	4.8.2
L29	70.17 - 65.17 (29)	0.006	0.379	0.000	0.019	0.001	0.386	1.050	4.8.2
L30	65.17 - 60.17 (30)	0.007	0.397	0.000	0.019	0.001	0.404	1.050	4.8.2
L31	60.17 - 59.5 (31)	0.007	0.398	0.000	0.019	0.001	0.405	1.050	4.8.2
L32	59.5 - 59.25 (32)	0.007	0.398	0.000	0.019	0.001	0.405	1.050	4.8.2
L33	59.25 - 54.25 (33)	0.007	0.410	0.000	0.019	0.000	0.418	1.050	4.8.2
L34	54.25 - 53 (34)	0.007	0.418	0.000	0.020	0.000	0.426	1.050	4.8.2
L35	53 - 52.75 (35)	0.007	0.419	0.000	0.020	0.000	0.426	1.050	4.8.2
L36	52.75 - 47.0608 (36)	0.007	0.419	0.000	0.020	0.000	0.426	1.050	4.8.2
L37	47.0608 -	0.007	0.425	0.000	0.019	0.000	0.433	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	46.0608 (37)								
L38	46.0608 - 41.0608 (38)	0.008	0.436	0.000	0.020	0.000	0.445	1.050	4.8.2
L39	41.0608 - 39.33 (39)	0.008	0.438	0.000	0.020	0.000	0.446	1.050	4.8.2
L40	39.33 - 39.08 (40)	0.007	0.400	0.000	0.018	0.000	0.408	1.050	4.8.2
L41	39.08 - 37.75 (41)	0.007	0.401	0.000	0.018	0.000	0.409	1.050	4.8.2
L42	37.75 - 37.5 (42)	0.008	0.439	0.000	0.020	0.000	0.447	1.050	4.8.2
L43	37.5 - 32.5 (43)	0.008	0.450	0.000	0.020	0.000	0.458	1.050	4.8.2
L44	32.5 - 29.75 (44)	0.008	0.459	0.000	0.020	0.000	0.468	1.050	4.8.2
L45	29.75 - 29.5 (45)	0.008	0.459	0.000	0.020	0.000	0.468	1.050	4.8.2
L46	29.5 - 24.5 (46)	0.009	0.470	0.000	0.020	0.000	0.479	1.050	4.8.2
L47	24.5 - 21.25 (47)	0.009	0.472	0.000	0.020	0.000	0.481	1.050	4.8.2
L48	21.25 - 21 (48)	0.009	0.464	0.000	0.020	0.000	0.473	1.050	4.8.2
L49	21 - 20 (49)	0.009	0.465	0.000	0.020	0.000	0.474	1.050	4.8.2
L50	20 - 19.75 (50)	0.008	0.411	0.000	0.018	0.000	0.419	1.050	4.8.2
L51	19.75 - 17 (51)	0.008	0.418	0.000	0.018	0.000	0.427	1.050	4.8.2
L52	17 - 16.75 (52)	0.008	0.437	0.000	0.019	0.000	0.446	1.050	4.8.2
L53	16.75 - 11.75 (53)	0.009	0.446	0.000	0.019	0.000	0.455	1.050	4.8.2
L54	11.75 - 6.75 (54)	0.009	0.455	0.000	0.019	0.000	0.465	1.050	4.8.2
L55	6.75 - 1.75 (55)	0.009	0.465	0.000	0.019	0.000	0.474	1.050	4.8.2
L56	1.75 - 0 (56)	0.009	0.465	0.000	0.019	0.000	0.475	1.050	4.8.2

Section Capacity Table

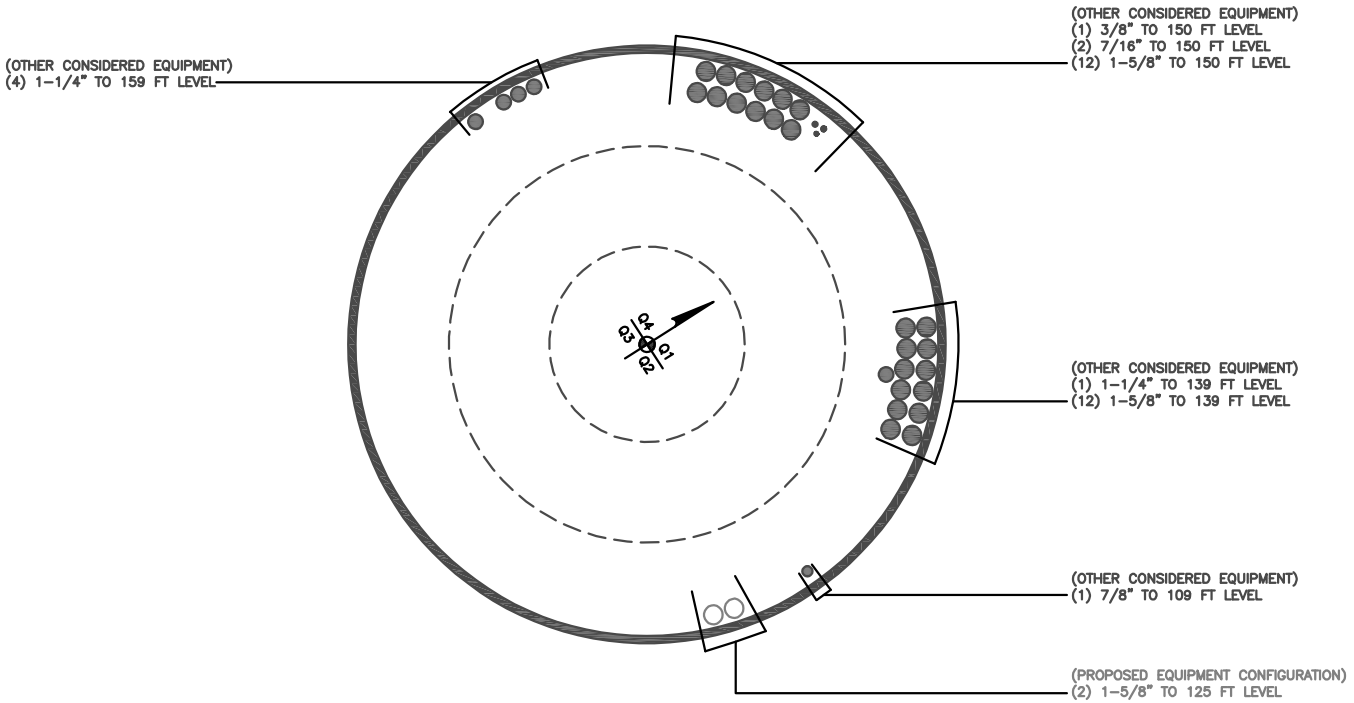
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	159.857 - 154.857	Pole	TP17.6204x16.5x0.1875	1	-3.31	637.27	7.8	Pass
L2	154.857 - 149.857	Pole	TP18.7407x17.6204x0.1875	2	-6.18	678.22	17.0	Pass
L3	149.857 - 144.857	Pole	TP19.8611x18.7407x0.1875	3	-6.50	719.18	30.2	Pass
L4	144.857 - 139.857	Pole	TP20.9814x19.8611x0.1875	4	-6.86	760.13	41.4	Pass
L5	139.857 - 134.857	Pole	TP22.1018x20.9814x0.1875	5	-9.89	801.09	54.0	Pass
L6	134.857 - 129.857	Pole	TP23.2221x22.1018x0.1875	6	-10.40	842.04	66.5	Pass
L7	129.857 - 125.75	Pole	TP24.1425x23.2221x0.1875	7	-10.85	875.69	75.5	Pass
L8	125.75 - 125.5	Pole	TP24.1985x24.1425x0.1875	8	-10.89	877.74	76.1	Pass
L9	125.5 - 118.978	Pole	TP25.66x24.1985x0.1875	9	-14.11	900.45	84.3	Pass
L10	118.978 - 117.978	Pole	TP25.4891x24.4447x0.4938	10	-15.23	2406.13	34.8	Pass
L11	117.978 - 112.978	Pole	TP26.5885x25.4891x0.4813	11	-16.19	2449.53	39.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L12	112.978 - 107.978	Pole	TP27.6878x26.5885x0.475	12	-17.37	2520.10	42.5	Pass
L13	107.978 - 103	Pole	TP28.7822x27.6878x0.4625	13	-18.38	2553.60	46.3	Pass
L14	103 - 102.75	Pole	TP28.8372x28.7822x0.55	14	-18.45	3033.22	39.4	Pass
L15	102.75 - 100.21	Pole	TP29.3956x28.8372x0.5375	15	-19.09	3024.12	41.4	Pass
L16	100.21 - 95.6875	Pole	TP30.39x29.3956x0.6875	16	-19.15	3853.53	32.9	Pass
L17	95.6875 - 94.6875	Pole	TP30.1188x28.9372x0.7375	17	-21.73	4224.59	33.4	Pass
L18	94.6875 - 93.5	Pole	TP30.3819x30.1188x0.7375	18	-22.09	4262.42	33.7	Pass
L19	93.5 - 93.25	Pole	TP30.4372x30.3819x0.9125	19	-22.19	5252.56	27.8	Pass
L20	93.25 - 89.25	Pole	TP31.3234x30.4372x0.8875	20	-23.61	5266.32	29.3	Pass
L21	89.25 - 89	Pole	TP31.3788x31.3234x0.9375	21	-23.71	5563.99	27.9	Pass
L22	89 - 86.5	Pole	TP31.9326x31.3788x0.925	22	-24.64	5591.94	28.7	Pass
L23	86.5 - 86.25	Pole	TP31.988x31.9326x0.7625	23	-24.73	4641.97	34.4	Pass
L24	86.25 - 81.25	Pole	TP33.0957x31.988x0.7375	24	-26.36	4652.63	36.5	Pass
L25	81.25 - 76.25	Pole	TP34.2034x33.0957x0.725	25	-28.03	4732.11	38.0	Pass
L26	76.25 - 75.42	Pole	TP34.3873x34.2034x0.725	26	-28.31	4758.11	38.1	Pass
L27	75.42 - 75.17	Pole	TP34.4427x34.3873x0.8125	27	-28.41	5327.27	34.3	Pass
L28	75.17 - 70.17	Pole	TP35.5504x34.4427x0.8	28	-30.27	5420.03	35.5	Pass
L29	70.17 - 65.17	Pole	TP36.6581x35.5504x0.7875	29	-32.17	5507.33	36.7	Pass
L30	65.17 - 60.17	Pole	TP37.7658x36.6581x0.7625	30	-34.10	5500.89	38.5	Pass
L31	60.17 - 59.5	Pole	TP37.9142x37.7658x0.7625	31	-34.36	5522.95	38.6	Pass
L32	59.5 - 59.25	Pole	TP37.9696x37.9142x0.7625	32	-34.46	5531.18	38.6	Pass
L33	59.25 - 54.25	Pole	TP39.0773x37.9696x0.75	33	-36.42	5604.30	39.8	Pass
L34	54.25 - 53	Pole	TP39.3542x39.0773x0.7375	34	-36.91	5552.52	40.5	Pass
L35	53 - 52.75	Pole	TP39.4096x39.3542x0.7375	35	-37.02	5560.47	40.6	Pass
L36	52.75 - 47.0608	Pole	TP40.67x39.4096x0.7375	36	-37.07	5563.84	40.6	Pass
L37	47.0608 - 46.0608	Pole	TP40.2702x38.8081x0.7625	37	-41.81	5873.19	41.3	Pass
L38	46.0608 - 41.0608	Pole	TP41.3807x40.2702x0.75	38	-43.99	5941.10	42.3	Pass
L39	41.0608 - 39.33	Pole	TP41.7651x41.3807x0.75	39	-44.75	5997.32	42.5	Pass
L40	39.33 - 39.08	Pole	TP41.8206x41.7651x0.825	40	-44.89	6593.92	38.8	Pass
L41	39.08 - 37.75	Pole	TP42.116x41.8206x0.825	41	-45.51	6641.42	38.9	Pass
L42	37.75 - 37.5	Pole	TP42.1715x42.116x0.75	42	-45.64	6056.75	42.6	Pass
L43	37.5 - 32.5	Pole	TP43.282x42.1715x0.7375	43	-47.87	6117.26	43.7	Pass
L44	32.5 - 29.75	Pole	TP43.8927x43.282x0.725	44	-49.11	6101.68	44.6	Pass
L45	29.75 - 29.5	Pole	TP43.9482x43.8927x0.725	45	-49.24	6109.52	44.6	Pass
L46	29.5 - 24.5	Pole	TP45.0587x43.9482x0.7125	46	-51.53	6160.18	45.6	Pass
L47	24.5 - 21.25	Pole	TP45.7805x45.0587x0.7125	47	-53.03	6260.45	45.8	Pass
L48	21.25 - 21	Pole	TP45.836x45.7805x0.725	48	-53.17	6376.36	45.1	Pass
L49	21 - 20	Pole	TP46.0581x45.836x0.725	49	-53.67	6407.75	45.1	Pass
L50	20 - 19.75	Pole	TP46.1137x46.0581x0.825	50	-53.82	7284.43	39.9	Pass
L51	19.75 - 17	Pole	TP46.7244x46.1137x0.8125	51	-55.31	7272.78	40.6	Pass
L52	17 - 16.75	Pole	TP46.7799x46.7244x0.775	52	-55.46	6951.18	42.5	Pass
L53	16.75 - 11.75	Pole	TP47.8904x46.7799x0.7625	53	-58.09	7006.00	43.4	Pass
L54	11.75 - 6.75	Pole	TP49.0009x47.8904x0.75	54	-60.77	7055.35	44.3	Pass
L55	6.75 - 1.75	Pole	TP50.1113x49.0009x0.7375	55	-63.47	7099.23	45.2	Pass
L56	1.75 - 0	Pole	TP50.5x50.1113x0.7375	56	-64.42	7155.11	45.2	Pass
							Summary	
						Pole (L9)	84.3	Pass
						RATING =	**84.3**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT)
(4) 1-1/4" TO 159 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 150 FT LEVEL
(2) 7/16" TO 150 FT LEVEL
(12) 1-5/8" TO 150 FT LEVEL
Q4
Q3
Q1
Q2
(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/4" TO 139 FT LEVEL
(12) 1-5/8" TO 139 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 7/8" TO 109 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(2) 1-5/8" TO 125 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876401

Work Order: 1826743

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	159.8575	40.88	3.75	18	16.5	25.66	0.1875	Auto	A572-65
2	122.7275	27.04	4.333333	18	24.44	30.39	0.25	Auto	A572-65
3	100.020833	52.96	5.583333	18	28.94	40.67	0.3125	Auto	A572-65
4	52.644166	52.644166	0	18	38.81	50.5	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	29.75	plate	PL 5.375x1.25" (#1)	3					E1						E1						E1	
2	29.75	59.5	plate	PL 5.375x1.25" (#2)	3					E1						E1						E1	
3	59.5	89.25	plate	PL 5.375x1.25" (#3)	3					E1						E1						E1	
4	89.25	119	plate	PL 4.375x1.25" (#4)	3					E1						E1						E1	
5	119	125.75	plate	PL 3.125x1.25" (#5)	3					E1						E1						E1	
6	0	39.33	channel	MP3-03 (1.1875in)	3						E2						E2						E2
7	37.75	75.42	channel	MP3-03 (1.1875in)	3	E2						E2						E2					
8	0	20	plate	CCI-WSFP-085125	2										E3					E3			
9	0	21.25	plate	CCI-WSFP-085125	1		E3																
10	17	103	plate	CCI-SFP-060100	1			E3															
11	20	53	plate	CCI-SFP-060100	1										E3								
12	20	103	plate	CCI-SFP-060100	1															E3			
13	49.21	100.21	plate	CCI-SFP-060100	1									E3									
14	86.5	93.5	plate	CCI-SFP-045100	3	E3						E3						E3					
15																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	5.375	1.25	6.71875	0.625	n/a	30.000	15.000	5.078	1.2500	A572-65
2	5.375	1.25	6.71875	0.625	n/a	30.000	15.000	5.078	1.2500	A572-65
3	5.375	1.25	6.71875	0.625	n/a	24.000	15.000	5.078	1.2500	A572-65
4	4.375	1.25	5.46875	0.625	n/a	15.000	21.000	3.828	1.2500	A572-65
5	3.124	1.25	3.905	0.625	n/a	15.000	24.000	2.264	1.2500	A572-65
6	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
7	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
8	8.5	1.25	10.625	0.625	n/a	45.000	17.000	9.063	1.1875	A572-65
9	8.5	1.25	10.625	0.625	n/a	45.000	17.000	9.063	1.1875	A572-65
10	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
11	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
12	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
13	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
14	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	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	159.8575 - 154.8575	5		18	16.500	17.620	0.1875	A572-65	1.000
2	154.8575 - 149.8575	5		18	17.620	18.741	0.1875	A572-65	1.000
3	149.8575 - 144.8575	5		18	18.741	19.861	0.1875	A572-65	1.000
4	144.8575 - 139.8575	5		18	19.861	20.981	0.1875	A572-65	1.000
5	139.8575 - 134.8575	5		18	20.981	22.102	0.1875	A572-65	1.000
6	134.8575 - 129.8575	5		18	22.102	23.222	0.1875	A572-65	1.000
7	129.8575 - 125.75	4.1075		18	23.222	24.142	0.1875	A572-65	1.000
8	125.75 - 125.5	0.25		18	24.142	24.199	0.1875	A572-65	1.000
9	125.5 - 122.7275	6.5225	3.75	18	24.199	25.660	0.1875	A572-65	1.000
10	122.7275 - 117.9775	4.75		18	24.445	25.489	0.49375	A572-65	0.930
11	117.9775 - 112.9775	5		18	25.489	26.588	0.48125	A572-65	0.936
12	112.9775 - 107.9775	5		18	26.588	27.688	0.475	A572-65	0.931
13	107.9775 - 103	4.9775		18	27.688	28.782	0.4625	A572-65	0.939
14	103 - 102.75	0.25		18	28.782	28.837	0.55	A572-65	1.035
15	102.75 - 100.21	2.54		18	28.837	29.396	0.5375	A572-65	1.047
16	100.21 - 100.0208	4.5225	4.333333	18	29.396	30.390	0.6875	A572-65	0.918
17	100.0208 - 94.6875	5.333333		18	28.937	30.119	0.7375	A572-65	0.930
18	94.6875 - 93.5	1.1875		18	30.119	30.382	0.7375	A572-65	0.926
19	93.5 - 93.25	0.25		18	30.382	30.437	0.9125	A572-65	0.910
20	93.25 - 89.25	4		18	30.437	31.323	0.8875	A572-65	0.918
21	89.25 - 89	0.25		18	31.323	31.379	0.9375	A572-65	0.910
22	89 - 86.5	2.5		18	31.379	31.933	0.925	A572-65	0.912
23	86.5 - 86.25	0.25		18	31.933	31.988	0.7625	A572-65	0.921
24	86.25 - 81.25	5		18	31.988	33.096	0.7375	A572-65	0.933
25	81.25 - 76.25	5		18	33.096	34.203	0.725	A572-65	0.932
26	76.25 - 75.42	0.83		18	34.203	34.387	0.725	A572-65	0.929
27	75.42 - 75.17	0.25		18	34.387	34.443	0.8125	A572-65	0.931
28	75.17 - 70.17	5		18	34.443	35.550	0.8	A572-65	0.928
29	70.17 - 65.17	5		18	35.550	36.658	0.7875	A572-65	0.925
30	65.17 - 60.17	5		18	36.658	37.766	0.7625	A572-65	0.939
31	60.17 - 59.5	0.67		18	37.766	37.914	0.7625	A572-65	0.937
32	59.5 - 59.25	0.25		18	37.914	37.970	0.7625	A572-65	0.936
33	59.25 - 54.25	5		18	37.970	39.077	0.75	A572-65	0.936
34	54.25 - 53	1.25		18	39.077	39.354	0.7375	A572-65	0.947
35	53 - 52.75	0.25		18	39.354	39.410	0.7375	A572-65	0.947
36	52.75 - 52.64417	5.689167	5.583333	18	39.410	40.670	0.7375	A572-65	0.946
37	52.64417 - 46.06083	6.583333		18	38.808	40.270	0.7625	A572-65	0.987
38	46.06083 - 41.06083	5		18	40.270	41.381	0.75	A572-65	0.990
39	41.06083 - 39.33	1.730833		18	41.381	41.765	0.75	A572-65	0.985
40	39.33 - 39.08	0.25		18	41.765	41.821	0.825	A572-65	0.978
41	39.08 - 37.75	1.33		18	41.821	42.116	0.825	A572-65	0.974
42	37.75 - 37.5	0.25		18	42.116	42.171	0.75	A572-65	0.980
43	37.5 - 32.5	5		18	42.171	43.282	0.7375	A572-65	0.984
44	32.5 - 29.75	2.75		18	43.282	43.893	0.725	A572-65	0.994
45	29.75 - 29.5	0.25		18	43.893	43.948	0.725	A572-65	0.993
46	29.5 - 24.5	5		18	43.948	45.059	0.7125	A572-65	0.998
47	24.5 - 21.25	3.25		18	45.059	45.781	0.7125	A572-65	0.991
48	21.25 - 21	0.25		18	45.781	45.836	0.725	A572-65	1.076
49	21 - 20	1		18	45.836	46.058	0.725	A572-65	1.073
50	20 - 19.75	0.25		18	46.058	46.114	0.825	A572-65	1.022
51	19.75 - 17	2.75		18	46.114	46.724	0.8125	A572-65	1.030
52	17 - 16.75	0.25		18	46.724	46.780	0.775	A572-65	1.025
53	16.75 - 11.75	5		18	46.780	47.890	0.7625	A572-65	1.029
54	11.75 - 6.75	5		18	47.890	49.001	0.75	A572-65	1.033
55	6.75 - 1.75	5		18	49.001	50.111	0.7375	A572-65	1.038
56	1.75 - 0	1.75		18	50.111	50.500	0.7375	A572-65	1.034

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	159.8575 - 154.8575	3.31	20.82	5.40
2	154.8575 - 149.8575	6.21	51.16	10.46
3	149.8575 - 144.8575	6.50	104.28	10.79
4	144.8575 - 139.8575	6.86	159.00	11.11
5	139.8575 - 134.8575	9.89	226.34	15.66
6	134.8575 - 129.8575	10.40	305.37	15.97
7	129.8575 - 125.75	10.85	371.43	16.22
8	125.75 - 125.5	10.89	375.49	16.24
9	125.5 - 122.7275	14.11	432.10	19.92
10	122.7275 - 117.9775	15.23	528.15	20.54
11	117.9775 - 112.9775	16.19	632.44	21.19
12	112.9775 - 107.9775	17.37	740.64	22.13
13	107.9775 - 103	18.38	852.47	22.82
14	103 - 102.75	18.45	858.17	22.85
15	102.75 - 100.21	19.09	916.70	23.25
16	100.21 - 100.0208	19.15	921.10	23.28
17	100.0208 - 94.6875	21.73	1047.75	24.22
18	94.6875 - 93.5	22.09	1076.63	24.43
19	93.5 - 93.25	22.19	1082.74	24.47
20	93.25 - 89.25	23.61	1181.99	25.17
21	89.25 - 89	23.71	1188.28	25.22
22	89 - 86.5	24.64	1251.87	25.67
23	86.5 - 86.25	24.73	1258.30	25.71
24	86.25 - 81.25	26.36	1388.88	26.54
25	81.25 - 76.25	28.03	1523.57	27.35
26	76.25 - 75.42	28.31	1546.32	27.49
27	75.42 - 75.17	28.41	1553.20	27.54
28	75.17 - 70.17	30.27	1693.03	28.41
29	70.17 - 65.17	32.17	1837.20	29.28
30	65.17 - 60.17	34.10	1985.68	30.13
31	60.17 - 59.5	34.36	2005.90	30.25
32	59.5 - 59.25	34.46	2013.46	30.29
33	59.25 - 54.25	36.42	2166.96	31.13
34	54.25 - 53	36.91	2205.99	31.34
35	53 - 52.75	37.02	2213.83	31.37
36	52.75 - 52.64417	37.07	2217.15	31.40
37	52.64417 - 46.06083	41.81	2427.83	32.61
38	46.06083 - 41.06083	43.99	2592.74	33.39
39	41.06083 - 39.33	44.75	2650.75	33.68
40	39.33 - 39.08	44.89	2659.17	33.70
41	39.08 - 37.75	45.51	2704.13	33.93
42	37.75 - 37.5	45.64	2712.61	33.96
43	37.5 - 32.5	47.87	2884.24	34.72
44	32.5 - 29.75	49.11	2980.21	35.12
45	29.75 - 29.5	49.24	2988.99	35.13
46	29.5 - 24.5	51.53	3166.42	35.86
47	24.5 - 21.25	53.03	3283.71	36.35
48	21.25 - 21	53.17	3292.80	36.38
49	21 - 20	53.67	3329.25	36.54
50	20 - 19.75	53.82	3338.39	36.57
51	19.75 - 17	55.31	3439.55	37.03
52	17 - 16.75	55.46	3448.80	37.05
53	16.75 - 11.75	58.09	3635.96	37.83
54	11.75 - 6.75	60.77	3826.95	38.60
55	6.75 - 1.75	63.47	4021.78	39.37
56	1.75 - 0	64.42	4090.88	39.65

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
159.86 - 154.86	Pole	TP17.62x16.5x0.1875	Pole	7.6%	Pass
154.86 - 149.86	Pole	TP18.741x17.62x0.1875	Pole	16.5%	Pass
149.86 - 144.86	Pole	TP19.861x18.741x0.1875	Pole	29.8%	Pass
144.86 - 139.86	Pole	TP20.981x19.861x0.1875	Pole	41.0%	Pass
139.86 - 134.86	Pole	TP22.102x20.981x0.1875	Pole	53.4%	Pass
134.86 - 129.86	Pole	TP23.222x22.102x0.1875	Pole	66.0%	Pass
129.86 - 125.75	Pole	TP24.142x23.222x0.1875	Pole	75.0%	Pass
125.75 - 125.5	Pole	TP24.199x24.142x0.1875	Pole	75.6%	Pass
125.5 - 122.73	Pole	TP25.66x24.199x0.1875	Pole	83.6%	Pass
122.73 - 117.98	Pole + Reinf.	TP25.489x24.445x0.4938	Reinf. 4 Tension Rupture	62.8%	Pass
117.98 - 112.98	Pole + Reinf.	TP26.588x25.489x0.4813	Reinf. 4 Tension Rupture	70.4%	Pass
112.98 - 107.98	Pole + Reinf.	TP27.688x26.588x0.475	Reinf. 4 Tension Rupture	77.4%	Pass
107.98 - 103	Pole + Reinf.	TP28.782x27.688x0.4625	Reinf. 4 Tension Rupture	83.9%	Pass
103 - 102.75	Pole + Reinf.	TP28.837x28.782x0.55	Reinf. 4 Tension Rupture	75.7%	Pass
102.75 - 100.21	Pole + Reinf.	TP29.396x28.837x0.5375	Reinf. 4 Tension Rupture	78.5%	Pass
100.21 - 100.02	Pole + Reinf.	TP30.39x29.396x0.6875	Reinf. 4 Tension Rupture	59.3%	Pass
100.02 - 94.69	Pole + Reinf.	TP30.119x28.937x0.7375	Reinf. 4 Tension Rupture	59.7%	Pass
94.69 - 93.5	Pole + Reinf.	TP30.382x30.119x0.7375	Reinf. 4 Tension Rupture	60.6%	Pass
93.5 - 93.25	Pole + Reinf.	TP30.437x30.382x0.9125	Reinf. 4 Tension Rupture	50.0%	Pass
93.25 - 89.25	Pole + Reinf.	TP31.323x30.437x0.8875	Reinf. 4 Tension Rupture	52.5%	Pass
89.25 - 89	Pole + Reinf.	TP31.379x31.323x0.9375	Reinf. 14 Tension Rupture	48.2%	Pass
89 - 86.5	Pole + Reinf.	TP31.933x31.379x0.925	Reinf. 14 Tension Rupture	49.6%	Pass
86.5 - 86.25	Pole + Reinf.	TP31.988x31.933x0.7625	Reinf. 3 Tension Rupture	57.4%	Pass
86.25 - 81.25	Pole + Reinf.	TP33.096x31.988x0.7375	Reinf. 3 Tension Rupture	60.4%	Pass
81.25 - 76.25	Pole + Reinf.	TP34.203x33.096x0.725	Reinf. 3 Tension Rupture	63.2%	Pass
76.25 - 75.42	Pole + Reinf.	TP34.387x34.203x0.725	Reinf. 3 Tension Rupture	63.6%	Pass
75.42 - 75.17	Pole + Reinf.	TP34.443x34.387x0.8125	Reinf. 3 Tension Rupture	56.6%	Pass
75.17 - 70.17	Pole + Reinf.	TP35.55x34.443x0.8	Reinf. 3 Tension Rupture	59.1%	Pass
70.17 - 65.17	Pole + Reinf.	TP36.658x35.55x0.7875	Reinf. 3 Tension Rupture	61.4%	Pass
65.17 - 60.17	Pole + Reinf.	TP37.766x36.658x0.7625	Reinf. 3 Tension Rupture	63.6%	Pass
60.17 - 59.5	Pole + Reinf.	TP37.914x37.766x0.7625	Reinf. 3 Tension Rupture	63.9%	Pass
59.5 - 59.25	Pole + Reinf.	TP37.97x37.914x0.7625	Reinf. 2 Tension Rupture	64.0%	Pass
59.25 - 54.25	Pole + Reinf.	TP39.077x37.97x0.75	Reinf. 2 Tension Rupture	66.1%	Pass
54.25 - 53	Pole + Reinf.	TP39.354x39.077x0.7375	Reinf. 2 Tension Rupture	66.6%	Pass
53 - 52.75	Pole + Reinf.	TP39.41x39.354x0.7375	Reinf. 2 Tension Rupture	66.7%	Pass
52.75 - 52.64	Pole + Reinf.	TP40.67x39.41x0.7375	Reinf. 2 Tension Rupture	66.8%	Pass
52.64 - 46.06	Pole + Reinf.	TP40.27x38.808x0.7625	Reinf. 2 Tension Rupture	67.2%	Pass
46.06 - 41.06	Pole + Reinf.	TP41.381x40.27x0.75	Reinf. 2 Tension Rupture	68.8%	Pass
41.06 - 39.33	Pole + Reinf.	TP41.765x41.381x0.75	Reinf. 2 Tension Rupture	69.4%	Pass
39.33 - 39.08	Pole + Reinf.	TP41.821x41.765x0.825	Reinf. 2 Tension Rupture	63.4%	Pass
39.08 - 37.75	Pole + Reinf.	TP42.116x41.821x0.825	Reinf. 2 Tension Rupture	63.8%	Pass
37.75 - 37.5	Pole + Reinf.	TP42.171x42.116x0.75	Reinf. 2 Tension Rupture	70.0%	Pass
37.5 - 32.5	Pole + Reinf.	TP43.282x42.171x0.7375	Reinf. 2 Tension Rupture	71.5%	Pass
32.5 - 29.75	Pole + Reinf.	TP43.893x43.282x0.725	Reinf. 2 Tension Rupture	72.3%	Pass
29.75 - 29.5	Pole + Reinf.	TP43.948x43.893x0.725	Reinf. 1 Tension Rupture	72.4%	Pass
29.5 - 24.5	Pole + Reinf.	TP45.059x43.948x0.7125	Reinf. 1 Tension Rupture	73.8%	Pass
24.5 - 21.25	Pole + Reinf.	TP45.781x45.059x0.7125	Reinf. 1 Tension Rupture	74.7%	Pass
21.25 - 21	Pole + Reinf.	TP45.836x45.781x0.725	Reinf. 12 Tension Rupture	70.3%	Pass
21 - 20	Pole + Reinf.	TP46.058x45.836x0.725	Reinf. 12 Tension Rupture	70.6%	Pass
20 - 19.75	Pole + Reinf.	TP46.114x46.058x0.825	Reinf. 1 Tension Rupture	66.8%	Pass
19.75 - 17	Pole + Reinf.	TP46.724x46.114x0.8125	Reinf. 1 Tension Rupture	67.5%	Pass
17 - 16.75	Pole + Reinf.	TP46.78x46.724x0.775	Reinf. 1 Tension Rupture	73.8%	Pass
16.75 - 11.75	Pole + Reinf.	TP47.89x46.78x0.7625	Reinf. 1 Tension Rupture	75.0%	Pass
11.75 - 6.75	Pole + Reinf.	TP49.001x47.89x0.75	Reinf. 1 Tension Rupture	76.3%	Pass
6.75 - 1.75	Pole + Reinf.	TP50.111x49.001x0.7375	Reinf. 1 Tension Rupture	77.4%	Pass
1.75 - 0	Pole + Reinf.	TP50.5x50.111x0.7375	Reinf. 1 Tension Rupture	77.8%	Pass
				Summary	
			Pole	83.6%	Pass
			Reinforcement	83.9%	Pass
			Overall	83.9%	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
159.86 - 154.86	398	n/a	398	10.37	n/a	10.37	7.6%														
154.86 - 149.86	480	n/a	480	11.04	n/a	11.04	16.5%														
149.86 - 144.86	572	n/a	572	11.71	n/a	11.71	29.8%														
144.86 - 139.86	676	n/a	676	12.37	n/a	12.37	41.0%														
139.86 - 134.86	791	n/a	791	13.04	n/a	13.04	53.4%														
134.86 - 129.86	919	n/a	919	13.71	n/a	13.71	66.0%														
129.86 - 125.75	1033	n/a	1033	14.26	n/a	14.26	75.0%														
125.75 - 125.5	1040	n/a	1040	14.29	n/a	14.29	75.6%														
125.5 - 122.73	1123	n/a	1123	14.66	n/a	14.66	83.6%														
122.73 - 117.98	1611	1480	3092	20.03	16.41	36.43	34.7%				62.8%										
117.98 - 112.98	1831	1603	3435	20.90	16.41	37.31	39.4%				70.4%										
112.98 - 107.98	2070	1731	3802	21.77	16.41	38.18	43.8%				77.4%										
107.98 - 103	2328	1864	4192	22.64	16.41	39.05	48.1%				83.9%										
103 - 102.75	2398	2615	5013	22.68	28.41	51.09	45.4%				75.7%						50.5%		50.5%		
102.75 - 100.21	2541	2713	5253	23.13	28.41	51.53	47.4%				78.5%						52.5%		52.5%		
100.21 - 100.02	2492	4058	6549	23.16	34.41	57.57	34.3%				59.3%						52.1%		52.1%	52.1%	
100.02 - 94.69	3317	4239	7556	29.56	34.41	63.97	32.7%				59.7%						52.5%		52.5%	52.5%	
94.69 - 93.5	3406	4310	7715	29.82	34.41	64.23	33.3%				60.6%						53.2%		53.2%	53.2%	
93.5 - 93.25	3425	6004	9429	29.88	47.91	77.79	27.5%				50.0%						43.9%		43.9%	43.9%	48.1%
93.25 - 89.25	3736	6344	10080	30.76	47.91	78.66	29.1%				52.5%						46.1%		46.1%	46.1%	50.5%
89.25 - 89	3756	6876	10632	30.81	51.66	82.47	27.8%			46.4%							44.0%		44.0%	44.0%	48.2%
89 - 86.5	3960	7110	11070	31.36	51.66	83.02	28.7%			47.8%							45.3%		45.3%	45.3%	49.6%
86.5 - 86.25	3981	5285	9266	31.42	38.16	69.57	34.5%			57.4%							54.5%		54.5%	54.5%	
86.25 - 81.25	4414	5641	10055	32.52	38.16	70.67	36.7%			60.4%							57.3%		57.3%	57.3%	
81.25 - 76.25	4876	6009	10885	33.61	38.16	71.77	38.7%			63.2%							59.9%		59.9%	59.9%	
76.25 - 75.42	4956	6071	11027	33.80	38.16	71.95	39.1%			63.6%							60.3%		60.3%	60.3%	
75.42 - 75.17	4980	7482	12462	33.85	46.92	80.77	34.8%			56.6%				51.6%			53.7%		53.7%	53.7%	
75.17 - 70.17	5481	7951	13432	34.95	46.92	81.87	36.7%			59.1%				53.8%			56.0%		56.0%	56.0%	
70.17 - 65.17	6014	8435	14450	36.05	46.92	82.97	38.5%			61.4%				55.9%			58.2%		58.2%	58.2%	
65.17 - 60.17	6581	8934	15515	37.15	46.92	84.06	40.3%			63.6%				58.0%			60.4%		60.4%	60.4%	
60.17 - 59.5	6660	9001	15661	37.29	46.92	84.21	40.6%			63.9%				58.2%			60.6%		60.6%	60.6%	
59.5 - 59.25	6689	9027	15716	37.35	46.92	84.27	40.7%		64.0%					58.3%			60.7%		60.7%	60.7%	
59.25 - 54.25	7297	9542	16839	38.45	46.92	85.36	42.4%		66.1%					60.2%			62.7%		62.7%	62.7%	
54.25 - 53	7455	9673	17128	38.72	46.92	85.64	42.9%		66.6%					60.7%			63.2%		63.2%	63.2%	
53 - 52.75	7486	9700	17186	38.78	46.92	85.69	43.0%		66.7%					60.8%			63.3%		63.3%	63.3%	
52.75 - 52.64	7500	9711	17211	38.80	46.92	85.72	43.0%		66.8%					60.8%			63.4%		63.4%	63.4%	
52.64 - 46.06	9548	9354	18902	47.48	46.92	94.40	42.1%		67.2%					63.3%			60.5%	61.2%	62.7%		
46.06 - 41.06	10367	9859	20226	48.81	46.92	95.72	43.5%		68.8%					64.8%			62.1%	62.8%	64.3%		
41.06 - 39.33	10661	10037	20699	49.26	46.92	96.18	44.0%		69.4%					65.4%			62.6%	63.3%	64.8%		
39.33 - 39.08	10704	12091	22795	49.33	55.68	105.01	40.1%		63.4%				58.9%	59.5%			57.4%	58.0%	59.3%		
39.08 - 37.75	10935	12257	23192	49.68	55.68	105.36	40.5%		63.8%				59.3%	59.9%			57.8%	58.4%	59.6%		
37.75 - 37.5	10979	10227	21206	49.75	46.92	96.66	44.5%		70.0%				65.2%				63.1%	63.8%	65.4%		
37.5 - 32.5	11877	10755	22632	51.07	46.92	97.98	45.9%		71.5%				66.6%				64.6%	65.3%	66.8%		
32.5 - 29.75	12391	11051	23442	51.80	46.92	98.71	46.6%		72.3%				67.4%				65.3%	66.1%	67.6%		
29.75 - 29.5	12439	11078	23517	51.86	46.92	98.78	46.7%	72.4%					67.5%				65.4%	66.1%	67.7%		
29.5 - 24.5	13414	11627	25042	53.18	46.92	100.10	48.0%	73.8%					68.8%				66.7%	67.5%	69.0%		
24.5 - 21.25	14075	11992	26066	54.04	46.92	100.96	48.8%	74.7%					69.6%				67.6%	68.3%	69.9%		
21.25 - 21	14123	12518	26642	54.11	57.54	111.65	47.5%	70.1%					68.7%			49.9%	53.7%	64.4%	70.3%		
21 - 20	14331	12636	26967	54.37	57.54	111.91	47.7%	70.4%					69.0%			48.2%	53.9%	64.6%	70.6%		
20 - 19.75	14402	16056	30458	54.44	66.79	121.23	44.1%	66.8%					64.2%		60.6%	47.0%	53.1%				
19.75 - 17	14987	16469	31456	55.17	66.79	121.96	44.8%	67.5%					64.8%		58.9%	47.5%	53.7%				
17 - 16.75	15128	15010	30138	55.23	60.79	116.02	48.3%	73.8%					68.5%		59.3%	54.4%					
16.75 - 11.75	16237	15708	31945	56.55	60.79	117.34	49.6%	75.0%					69.6%		60.4%	55.5%					
11.75 - 6.75	17399	16422	33821	57.87	60.79	118.67	50.8%	76.3%					70.7%		61.4%	56.5%					
6.75 - 1.75	18616	17152	35768	59.20	60.79	119.99	52.0%	77.4%					71.8%		62.4%	57.5%					
1.75 - 0	19055	17411	36466	59.66	60.79	120.45	52.5%	77.8%					72.2%		62.8%	57.8%					

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

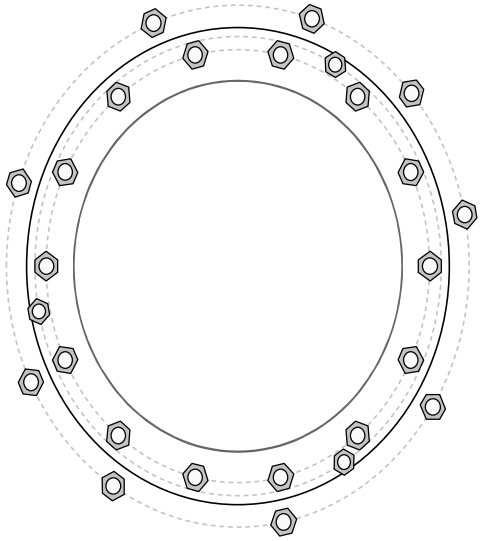
Monopole Base Plate Connection

Site Info	
BU #	876401
Site Name	VN OF PLAINFIELD/SS
Order #	512997 Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	2

Applied Loads	
Moment (kip-ft)	4090.88
Axial Force (kips)	64.42
Shear Force (kips)	39.65

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (14) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 59" BC
GROUP 2: (3) 2" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 62.5" BC
pos. (deg): 61.4, 191.4, 301.4

GROUP 3: (9) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 71.1" BC
pos. (deg): 11.4, 41.4, 71.4, 111.4, 161.4, 206.4, 237.4, 281.4, 327.

Base Plate Data

65" OD x 1.75" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

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

Analysis Results

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

GROUP 1:		
Pu_c = 124.95	ϕPn_c = 268.39	**Stress Rating**
Vu = 2.83	ϕVn = 120.77	**44.4%**
Mu = n/a	ϕMn = n/a	Pass
GROUP 2:		
Pu_c = 96.57	ϕPn_c = 296.88	**Stress Rating**
Vu = 0	ϕVn = 133.6	**31.0%**
Mu = n/a	ϕMn = n/a	Pass
GROUP 3:		
Pu_c = 143.02	ϕPn_c = 268.39	**Stress Rating**
Vu = 0	ϕVn = 120.77	**50.8%**
Mu = 0	ϕMn = 128.14	Pass

Base Plate Summary

Max Stress (ksi):	36.71	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**64.7%**	Pass

Anchor Rod Bracket Calculations:

Additional Anchor Rod Group:

$N_{new} := 3$ $D_{new} := 2 \cdot in$ $Fu_{rod} := 125 ksi$

$BC_{new} := 62.5 \cdot in$ $A_{net\_new} := 2.5 \cdot in^2$ $Fy_{rod} := 105 ksi$

$A_{n\_new} := N_{new} \cdot A_{net\_new} = 7.5 \cdot in^2$

Anchor Rod Bracket Calculations

Analysis
Design

Comment = "Analyze the anchor rod brackets to resist the controlling anchor rod demand force"

Anchor Rod Demand Force:

$P_{umax} := 96.57 kip$

Bracket Loading:

$P_u := \begin{cases} \phi P_n & \text{if AorD = "Design"} \\ P_{umax} & \text{if AorD = "Analysis"} \end{cases} = 96.57 \cdot kip$

Tube Design (Square HSS)

Member Size: HSS 4"x4"x1/2"

Apply TIA-222-H Section 15.5? No / Yes

Member Properties (AISC 15th Ed., Table 1-12):

Outside Diameter: $OD_{HSS} := 4 \cdot in$

Area: $A_{HSS} := 6.02 \cdot in^2$ $A_{e\_HSS} := 0.75 \cdot A_{HSS} = 4.51 \cdot in^2$

Thickness: $t_{HSS} := 0.5 \cdot in$

Yield Strength: $F_{y\_HSS} := 46 \cdot ksi$ $F_{u\_HSS} := 58 \cdot ksi$

Length: $L_{HSS} := 12 \cdot in$

Moment of Inertia: $I_{HSS} := 11.9 \cdot in^4$

Radius of Gyration: $r_{HSS} := 1.41 \cdot in$

Inside Dimension: $ID_{HSS} := OD_{HSS} - 2 \cdot t_{HSS} = 3 \cdot in$

Bearing Check
(AISC 15th Ed., Equation J7-1):

$$\phi_b := 0.75$$

$$Pu\_c = \phi_b \cdot R_n = \phi_b \cdot 1.8 \cdot F_{y\_HSS} \cdot A_{pb}$$

$$A_{pb} := \frac{P_u}{\phi_b \cdot 1.8 \cdot F_{y\_HSS}} = 1.56 \cdot in^2$$

$$Check_{bear} := \begin{cases} \text{"OK"} & \text{if } A_{HSS} \geq A_{pb} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$$Check_{bear} = \text{"OK"}$$

Compression Check
(AISC 15th Ed., Eqs. E3-1 to E3-4):

$$\phi_c := 0.9$$

$$K := 1$$

$$\phi P_{u\_comp} = \phi_c \cdot F_{cr} \cdot A_g$$

$$L_c := K \cdot L_{HSS} = 12 \cdot in$$

$$F_e := \frac{\pi^2 \cdot 29000ksi}{\left(\frac{L_c}{r_{HSS}}\right)^2} = 3951.6 \cdot ksi$$

$$\frac{L_c}{r_{HSS}} = 8.51 \quad < \quad 4.71 \cdot \sqrt{\frac{29000 \cdot ksi}{F_{y\_HSS}}} = 118.26$$

$$\therefore \quad F_{cr} := 0.658^{\frac{F_{y\_HSS}}{F_e}} \cdot F_{y\_HSS} = 45.78 \cdot ksi$$

(AISC 15th Ed., Equation J4-6):

$$\phi P_{u\_comp} := \begin{cases} \phi_c \cdot F_{y\_HSS} \cdot A_{HSS} & \text{if } \frac{L_c}{r_{HSS}} \le 25 \\ \phi_c \cdot F_{cr} \cdot A_{HSS} & \text{otherwise} \end{cases}$$

$$\phi P_{u\_comp} = 249.23 \cdot kip$$

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Rating_{comp} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} = \text{"OK"}$

Gusset Plate Design

Gusset Plate width: $w_{plate} := 4 \cdot in$

Gusset Plate thickness: $t_{plate} := 1.25in$

$L_{plate1} := 30in$

$L_{plate2} := 18in$

Gusset Plate Strength: $Fy_{plate} := 65ksi$

$Fu_{plate} := 80ksi$

Pole thickness: $t_{pole} := 0.375in$

Shear Check
(AISC 15th Ed., Eqs. J4-3 and J4-4):

$A_g := t_{plate} \cdot L_{plate2} = 22.5 \cdot in^2$

$A_{nv} := A_g = 22.5 \cdot in^2$

Shear Yielding

$\phi_v := 1$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_g \cdot Fy_{plate} = 877.5 \cdot kip$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{sheary} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Shear Rupture

$\phi_{vv} := 0.75$

$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_{nv} \cdot Fu_{plate} = 810 \cdot kip$

$$Check_{shearv} := \begin{cases} \text{"OK"} & \text{if } Rating_{shearr} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Gusset Plate to Tower and Base Plate Weld Design (Horizontal and

Vertical Weld):
(AISC 15th Ed., Part 8)

Gusset plate thickness: $t_{plate} = 1.25 \cdot in$

Tower Grade: $Fy_{pole} := 65ksi$ $Fu_{pole} := 80ksi$

Base Plate Grade: $Fy_{base} := 60ksi$ $Fu_{base} := 75ksi$

Gussett Plate Grade: $Fy_{plate} = 65 \cdot ksi$ $Fu_{plate} = 80 \cdot ksi$

Height of vertical weld from base plate: $H := L_{plate1} = 30 \cdot in$

$Notch_{horiz} := 0.75 \cdot in$

$Notch_{vert} := 0.75 \cdot in$

Gap between Base Plate and HSS: $Gap := 0in$

Vertical fillet weld size to pole:
(in sixteenths of an inch) $D_{vpole} := 6$

$$weldsize_{pole} := \frac{D_{vpole}}{16} = \frac{3}{8}$$

Electrode Strength: 70ksi / 80ksi

$$Check := \begin{cases} \text{"OK"} & \text{if } Rating_{weld2} < 100\% \\ \text{"INSUFFICIENT"} & \text{otherwise} \end{cases}$$

Check = "OK"

Gusset Plate to HSS Weld Design
(AISC 15th Ed., Table 8-4)

Interpolation per AISC SCM Table 8-4:

13th Edition
14th Edition
15th Edition

Electrode Strength: 70ksi / 80ksi

Fillet Weld Size (in sixteenths of an inch): D := 10

Groove Depth (inches): GD := 0.5in

Groove Weld: None / 45 PJP / 60 PJP / CJP

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.5 \cdot in$$

Load not in plane with weld group:

$k := 0$

$$a := \frac{ecc_2}{L_{plate2}} = 0.14$$

$C_1 = 1.03$

$Coeff_1 = 3.68$

$\phi_w := 0.75$

$$D_{min1} := ceil\left(\frac{P_u \cdot in}{\phi_w \cdot Coeff_1\, C_1 \cdot L_{plate2} \cdot kip}\right) = 2$$

$$minweldsize := \frac{D_{min1}}{16} = \frac{1}{8}$$

$$Check_{weld} := \begin{cases} \text{"OK"} & \text{if } D_1 \geq D_{min1} \wedge D_1 \geq Min_{weldsize} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld} = \text{"OK"}$

$$\phi Rn_{weld1} := \phi_w \cdot Coeff_1\, ksi \cdot in \cdot C_1 \cdot D_1 \cdot L_{plate2} = 946.18 \cdot kip$$

$$Check_{weld1} := \begin{cases} \text{"OK"} & \text{if } Rating_{weld1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld1} = \text{"OK"}$

Gusset Plate to Pole Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

What is the bracket welded to? Tower Only / Tower & Reinforcement / Reinforcement Only

Reinforcement Thickness: $t_{ref} := 0in$

Reinforcement Grade: $F_{y\_ref} := 0ksi$

$F_{u\_ref} := 0ksi$

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$\phi_{sy} := 1.0$

$\phi_{sr} := 0.75$

$ecc_1 := w_{plate} + OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 6.5 \cdot in$

$M_1 := P_u \cdot ecc_1 = 627.7 \cdot kip \cdot in$

$S_1 := \frac{t_{plate} \cdot L_{plate1}^2}{6} = 187.5 \cdot in^3$

$f_v := \frac{M_1}{S_1} \cdot t_{plate} \cdot 1in = 4.18 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot Fy_{pole} \cdot 2 \cdot t_{pole} \cdot 1in$

$\phi F_{sy\_ref} := \phi_{sy} \cdot 0.6 \cdot F_{y\_ref} \cdot 2 \cdot t_{ref} \cdot 1in$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot Fu_{pole} \cdot 2 \cdot t_{pole} \cdot 1in$

$\phi F_{sr\_ref} := \phi_{sr} \cdot 0.6 \cdot F_{u\_ref} \cdot 2 \cdot t_{ref} \cdot 1in$

$\phi F_v = 27 \cdot kip$

$$Check_{PS1} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS1} = \text{"OK"}$

Gusset Plate to HSS Punching Shear Check (max per unit length): (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 2.5 \cdot in$

$M_2 := P_u \cdot ecc_2 = 241.43 \cdot kip \cdot in$

$S_2 := \frac{t_{plate} \cdot L_{plate2}^2}{6} = 67.5 \cdot in^3$

$f_w := \frac{M_2}{S_2} \cdot t_{plate} \cdot 1in = 4.47 \cdot kip$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 27.6 \cdot kip$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 26.1 \cdot kip$

$\phi F_w := \min(\phi F_{sy}, \phi F_{sr}) = 26.1 \cdot kip$

$$Check_{PS2} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS2} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS2} = \text{"OK"}$

Embedment Depth Calculations

Projected Embedment Depth: $L_{em} := 17.5 \cdot ft$

Concrete Strength: $f'_c := 4000psi$

Are anchor rods installed in piers?: Yes / No

Yield Strength of Rebar: $f_y := 60ksi$

Transverse Reinforcement Index: $k_{tr} := 0$ Can be taken as 0 for design per ACI 318-14

Epoxy Factor: $\psi_e := 1$

Rebar Size Factor: $\psi_s := 1$

Casting Position Factor: $\psi_t := 1$

Concrete Weight Factor: $\lambda := 1 \cdot \sqrt{psi}$

Pier Diameter: $D_{pier} := 7ft$

Cover: $c_c := 4in$

Rebar Size: $d_s := 11$ $\quad d_b := \left| vlookup\left(d_s, d_{btable}, 2\right) \right| \cdot in = 1.41 \cdot in$

Tie Size: $Tie := 5$

Number of Vertical Rebar: $n := 18$

The embedment depth shall be analyzed based on the design tension capacity of the anchor rods.

Design Load:

$$\phi P_{nt} := 0.75 \cdot Fu_{rod} \cdot A_{net\_new} = 234.38 \cdot kip$$

Development Length (ACI 318-14 Chapter 25):

$$BC_{rebar} := D_{pier} - 2 \cdot c_c - \frac{Tie \cdot in}{4} - d_b = 73.34 \cdot in$$

$$S_{rebar} := \frac{\pi \cdot BC_{rebar}}{n} = 12.8 \cdot in$$

$$c_b := \min\left(c_c + \frac{Tie}{8} in + \frac{d_b}{2}, S_{rebar} \cdot 0.5 \right) = 5.33 \cdot in$$

ACI 318-14, Equation 25.4.2.3a:

$$l_d := \left[\frac{3}{40} \cdot \frac{f_y}{\lambda \cdot \sqrt{f'_c}} \cdot \frac{\psi_t \cdot \psi_e \cdot \psi_s}{\min\left[\left(\frac{c_b + k_{tr}}{d_b} \right), 2.5 \right]} \right] \cdot d_b = 40.13 \cdot in$$

Calculate Max Distance Between Rebar and New Anchor Rods:

$$A := \frac{1}{2} \cdot S_{rebar} = 6.4 \cdot in$$

$$B := \frac{BC_{rebar}}{2} - \frac{BC_{new}}{2} = 5.42 \cdot in$$

$$G := \sqrt{A^2 + B^2} = 8.387 \cdot in$$

$$l'_d := l_d + \frac{G}{1.5} + 3in = 4.06\ ft$$

Epoxy Development Length: Bond Strength:

Epoxy := Hilti Hit Re 500

$$S_b := \begin{cases} S_{bh} & \text{if Epoxy} = 0 \\ S_{bA} & \text{if Epoxy} = 1 \wedge \left(f'_c = 4000\text{psi} \vee f'_c > 4000\cdot\text{psi}\right) \\ 0.94 S_{bA} & \text{if Epoxy} = 1 \wedge \left(f'_c = 3000\text{psi} \vee f'_c < 3000\cdot\text{psi}\right) \\ E_{bond} & \text{if Epoxy} = 1 \wedge f'_c > 3000\text{psi} \wedge f'_c < 4000\text{psi} \end{cases} = 7.4 \times 10^6$$

$$\phi_{bond} := 0.65$$

$$L_{be} := \frac{\phi P_{nt}}{\pi \cdot D_{new} \cdot S_b \cdot \phi_{bond}} = 53.48\cdot\text{in}$$

Required Embedment Length:

Length of Breaker Tape: $L_{BT} := 0\cdot\text{in}$

$$L_{min} := \begin{cases} \max\left(L_{be} + L_{BT}, l'_d + 0.25\cdot L_{be}\right) & \text{if Piers} = \text{"Yes"} \\ \left(L_{be} + L_{BT}\right) & \text{if Piers} = \text{"No"} \end{cases} = 1.58$$

$$\text{Check} := \begin{cases} \text{"OK"} & \text{if } L_{min} \le L_{em} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check = "OK"

Anchor Rod Bracket Summary

Bracket HSS Compression: $Rating_{comp} = 36.9 \cdot \%$

Bracket Plate Shear Yielding: $Rating_{sheary} = 10.48 \cdot \%$

Bracket Plate Shear Rupture: $Rating_{shearr} = 11.35 \cdot \%$

Bracket Plate to Pole Weld: $Rating_{weld2} = 19.31 \cdot \%$

Bracket Plate to HSS Weld: $Rating_{weld1} = 9.72 \cdot \%$

Bracket Plate to Pole Punching Shear: $Rating_{PS1} = 14.76 \cdot \%$

Bracket Plate to HSS Punching Shear: $Rating_{PS2} = 16.31 \cdot \%$

Anchor Rod Bracket Calculations:

Additional Anchor Rod Group:

$N_{new} := 9$ $D_{new} := 2.25 \cdot in$ $Fu_{rod} := 100 ksi$

$BC_{new} := 71.1 \cdot in$ $A_{net\_new} := 3.25 \cdot in^2$ $Fy_{rod} := 75 ksi$

$A_{n\_new} := N_{new} \cdot A_{net\_new} = 29.25 \cdot in^2$

Anchor Rod Bracket Calculations

Analysis
Design

Comment = "Analyze the anchor rod brackets to resist the controlling anchor rod demand force"

Anchor Rod Demand Force:

$P_{umax} := 143.02 kip$

Bracket Loading:

$$P_u := \begin{cases} \phi P_n & \text{if AorD = "Design"} \\ P_{umax} & \text{if AorD = "Analysis"} \end{cases} = 143.02 \cdot kip$$

Tube Design (Square HSS)

Member Size: HSS 5"x5"x1/2"

Apply TIA-222-H Section 15.5? No / Yes

Member Properties (AISC 15th Ed., Table 1-12):

Outside Length: $OD_{HSS} := 5 \cdot in$

Area: $A_{HSS} := 7.88 \cdot in^2$

Thickness: $t_{HSS} := 0.5 \cdot in$

Yield Strength: $F_{y\_HSS} := 46 \cdot ksi$ $F_{u\_HSS} := 58 \cdot ksi$

Length: $L_{HSS} := 45 \cdot in$

Moment of Inertia: $I_{HSS} := 26 \cdot in^4$

Radius of Gyration: $r_{HSS} := 1.82 \cdot in$

Inside Dimension: $ID_{HSS} := OD_{HSS} - 2 \cdot t_{HSS} = 4 \cdot in$

Bearing Check
(AISC 15th Ed., Equation J7-1):

$$\phi_b := .75$$

$$\phi P_n = \phi_b \cdot R_n = \phi_b \cdot 1.8 \cdot F_{ypipe} \cdot A_{pb}$$

$$A_{pb} := \frac{P_u}{\phi_b \cdot 1.8 \cdot F_{y\_HSS}} = 2.3 \cdot in^2$$

$$Check_{bear} := \begin{cases} \text{"OK"} & \text{if } A_{HSS} \geq A_{pb} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{bear} = \text{"OK"}$

Compression Check
(AISC 15th Ed., Eqs. E3-1 to E3-4):

$$\phi_c := 0.9$$

$$K := 1 \qquad E := 29000ksi$$

$$L_{c\_r} := \frac{K \cdot L_{HSS}}{r_{HSS}} = 24.73$$

$$\phi P_{n\_comp} = \phi_c \cdot F_{cr} \cdot A_g$$

$$F_e := \frac{\pi^2 \cdot E}{\left(L_{c\_r}\right)^2} = 468.18 \cdot ksi$$

$$F_{cr} := \begin{cases} \left[\left(0.658^{\frac{F_{y\_HSS}}{F_e}}\right) \cdot F_{y\_HSS}\right] & \text{if } L_{c\_r} \leq 4.71 \cdot \sqrt{\frac{E}{F_{y\_HSS}}} \\ \left(0.877 \cdot F_e\right) & \text{otherwise} \end{cases} = 44.15 \cdot ksi$$

AISC 15th Ed., Equation J4-6:

$$\phi P_{n\_comp} := \begin{cases} \phi_c \cdot F_{y\_HSS} \cdot A_{HSS} & \text{if } L_{c\_r} \leq 25 \\ \phi_c \cdot F_{cr} \cdot A_{HSS} & \text{otherwise} \end{cases}$$

$$\phi P_{n\_comp} = 326.23 \cdot kip$$

$$Check_{comp} := \begin{cases} \text{"OK"} & \text{if } Rating_{comp} \le 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{comp} =$

Gusset Plate Design

Plate Size and Properties:

Plate width: $w_{plate} := 8.25in$

Plate thickness: $t_{plate} := 1.25in$

$L_{plate1} := 44in$

$L_{plate2} := 36in$

Plate Strength: $Fy_{plate} := 65ksi$

$Fu_{plate} := 80ksi$

Flexure Check (AISC 15th Ed., Chapter F):

(Assume max eccentrictiy with rod against HSS due to missalignment)

$$ecc_1 := w_{plate} + OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 11.63 \cdot in$$

$$M_1 := P_u \cdot ecc_1 = 1662.61 \cdot kip \cdot in$$

$$S_{plate1} := \frac{t_{plate} \cdot L_{plate1}^2}{6} = 403.33 \cdot in^3$$

$$\phi_y := 0.9$$

$$\phi M_{plate1} := \phi_y \cdot Fy_{plate} \cdot S_{plate1} = 23595 \cdot kip \cdot in$$

$$Check_{flexure1} := \begin{cases} \text{"OK"} & \text{if } Rating_{flexure2} \le 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{flexure1} =$

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 3.38 \cdot in$$

$$M_2 := P_u \cdot ecc_2 = 482.69 \cdot kip \cdot in$$

$$S_{plate2} := \frac{t_{plate} \cdot L_{plate2}^2}{6} = 270 \cdot in^3$$

$$\phi_y := 0.9$$

$$\phi M_{plate2} := \phi_y \cdot Fy_{plate} \cdot S_{plate2} = 15795 \cdot kip \cdot in$$

$$Check_{flexure2} := \begin{cases} \text{"OK"} & \text{if } Rating_{flexure1} \le 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{flexure2} = \text{"OK"}$

Shear Check (AISC 15th Ed., Equation J4-3 and J4-4):

$$A_g := t_{plate} \cdot L_{plate2} = 45 \cdot in^2$$

$$A_{nv} := A_g = 45 \cdot in^2$$

Shear Yielding

$$\phi_v := 1$$

$$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_g \cdot Fy_{plate} = 1755 \cdot kip$$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear1} \le 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = \text{"OK"}$

Shear Rupture

$$\phi_{rup} := 0.75$$

$$\phi V_{plate} := \phi_v \cdot 0.6 \cdot A_{nv} \cdot Fu_{plate} = 1620 \cdot kip$$

$$Check_{shear} := \begin{cases} \text{"OK"} & \text{if } Rating_{shear2} \le 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{shear} = "OK"$

Punching Shear Check HSS (max per unit length): (AISC 15th Ed., Section J4.2)

$$f_v := \frac{M_2}{S_{plate2}} \cdot t_{plate} \cdot 1in = 2.23 \cdot kip$$

$$\phi_{sy} := 1.00$$

$$\phi_{sr} := 0.75$$

AISC 15th Ed., Equation J4-3:

$$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 27.6 \cdot kip$$

AISC 15th Ed., Equation J4-4:

$$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u\_HSS} \cdot 2 \cdot t_{HSS} \cdot 1in = 26.1 \cdot kip$$

$$\phi F_v := \min(\phi F_{sy}, \phi F_{sr}) = 26.1 \cdot kip$$

$$Check_{PS} := \begin{cases} "OK" & \text{if } Rating_{PS1} \le 1.0 \\ "N/G" & \text{otherwise} \end{cases}$$

$Check_{PS} = "OK"$

Gusset Plate to HSS Weld Check (AISC 15th Ed., Table 8-4)

Electrode Strength: $F_{EXX} := 80ksi$ *Interpolation per AISC SCM Table 8-4:*

Fillet Weld Size (in sixteenths of an inch): $D := 5$

Groove Depth (inches): $GD := 0in$ Groove Weld:

Load not in plane with weld group: $k := 0$

$$\phi_w := 0.75$$

$$a := \frac{ecc_2}{L_{plate2}} = 0.09$$

$$C_1 = 1.03$$

$Coeff_1 =$

$$D_{min1} := ceil\left(\frac{P_u \cdot in}{\phi_w \cdot Coeff_1\, C_1 \cdot L_{plate2} \cdot kip}\right) = 2$$

$$minweldsize := \frac{D_{min1}}{16} = \frac{1}{8}$$

$$Check_{weld} := \begin{cases} \text{"OK"} & \text{if } D_1 \geq D_{min1} \wedge D_1 \geq Min_{weldsize} \wedge D_1 \leq Max_{weldsize} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld} = \text{"OK"}$

$$\phi Rn_{weld1} := \phi_w \cdot Coeff_1\ ksi \cdot in \cdot C_1 \cdot D_1 \cdot L_{plate2} = 517.18 \cdot kip$$

$$Check_{weld1} := \begin{cases} \text{"OK"} & \text{if } Rating_{weld1} \leq 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld1} =$

Gusset Plate to Tower Weld Check (AISC 15th Ed., Table 8-4):

Electrode Strength: $F_{EXX} := 80ksi$

Weld Size (in sixteenths of an inch): $D_2 := 5$

Tower Thickness: $t_{leg} := 0.375 \cdot in$

What is the bracket welded to?

Tower Only
Tower & Reinforcement
Reinforcement Only

Reinforcement thickness: $t_{ref} := 0in$

Tower Grade: $F_{y\_leg} := 65 \cdot ksi$ $F_{u\_leg} := 80 \cdot ksi$

Reinforcement Grade: $F_{y\_ref} := 0 ksi$ $F_{u\_ref} := 0 ksi$

Load not in plane with weld group: $k := 0$

$$a := \frac{ecc_1}{L_{plate1}} = 0.26$$

$C_1 = 1.03$

$\phi_w = 0.75$

$Coeff_2 = 3.25$

$$D_{min2} := ceil\left(\frac{P_u \cdot in}{\phi_w \cdot Coeff_2\, C_1 \cdot L_{plate1} \cdot kip}\right) = 2$$

$$minweldsize := \frac{D_{min2}}{16} = \frac{1}{8}$$

$$Check_{weld2} := \begin{cases} \text{"OK"} & \text{if } D_2 \geq D_{min2} \wedge D_2 \geq Min_{weldsize1} \wedge D_2 \leq Max_{weldsize1} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld2} = \text{"OK"}$

$\phi Rn_{weld2} := \phi_w \cdot Coeff_2\, ksi \cdot in \cdot C_1 \cdot D_2 \cdot L_{plate1} = 551.91 \cdot kip$

$$Check_{weld3} := \begin{cases} \text{"OK"} & \text{if } Rating_{weld2} \leq 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{weld3} = \text{"OK"}$

Punching Shear Check Tower (max per unit length):

$$f_{v1} := \frac{M_1}{S_{plate1}} \cdot t_{plate} \cdot 1in = 5.15 \cdot kip$$

AISC 15th Ed., Equation J4-3:

$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y\_leg} \cdot 2 \cdot t_{leg} \cdot 1in$ $\phi F_{sy\_ref} := \phi_{sy} \cdot 0.6 \cdot F_{y\_ref} \cdot 2 \cdot t_{ref} \cdot 1in$

AISC 15th Ed., Equation J4-4:

$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u\_leg} \cdot 2 \cdot t_{leg} \cdot 1in$ $\phi F_{sr\_ref} := \phi_{sr} \cdot 0.6 \cdot F_{u\_ref} \cdot 2 \cdot t_{ref} \cdot 1in$

$\phi F_{v1} = 27 \cdot kip$

$$Check_{PS1} := \begin{cases} \text{"OK"} & \text{if } Rating_{PS2} \leq 1.0 \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$Check_{PS1} =$

Anchor Rod Embedment Depth Check:

Development Length (ACI 318-14 Chapter 25):

Projected Embedment Depth: $L_{em} := 18 \cdot ft$

Concrete Strength: $f'_c := 4000 psi$

Length of Breaker Tape: $L_{bt} := 0 \cdot in$

Are anchor rods installed in piers?: Yes / No

Yield Strength of Rebar: $f_y := 60 ksi$

Transverse Reinforcement Index: $k_{rt} := 0$ — k_{rt} can be taken as 0 for design per ACI 318-14

Rebar Location Factor: $\psi_t := 1$

Rebar Coating Factor: $\psi_e := 1$ — 1.0 non coated rebar

Rebar Size Factor: $\psi_s := 1$ — 0.8 for No. 6 and smaller bars, 1.0 for No. 7 and larger bars

Concrete Weight Factor: $\lambda := 1 \cdot \sqrt{psi}$ — 1.0 for normal weight concrete

Pier Diameter: $D_{pier} := 7 ft$

Cover: $c_c := 4 in$

Rebar Size: $d_s := 11$

Rebar Diameter: $d_b = 1.41 \cdot in$

Tie Size: $Tie := 5$

Number of Vertical Rebar: $n := 18$

Bracket Design Load:

$$P_u = 143.02 \cdot kip$$

Development Length of Rebar (ACI 318-14 Chapter 25):

$$BC_{rebar} := D_{pier} - 2 \cdot c_c - \frac{Tie \cdot in}{4} - d_b = 73.34 \cdot in$$

$$S_{rebar} := \frac{\pi \cdot BC_{rebar}}{n} = 12.8 \cdot in$$

$$c_b := \min\left(c_c + \frac{Tie}{8} in + \frac{d_b}{2}, S_{rebar} \cdot 0.5\right) = 5.33 \cdot in$$

ACI 318-14, Equation 25.4.2.3a:

$$l_d := \left[\frac{3}{40} \cdot \frac{f_y}{\lambda \cdot \sqrt{f'_c}} \cdot \frac{\psi_t \cdot \psi_e \cdot \psi_s}{\min\left[\left(\frac{c_b + k_{rt}}{d_b}\right), 2.5\right]}\right] \cdot d_b = 40.13 \cdot in$$

Calculate Max Distance Between Rebar and New Anchor Rods:

$$A := \frac{1}{2} \cdot S_{rebar} = 6.4 \cdot in$$

$$B := \frac{BC_{rebar}}{2} - \frac{BC_{new}}{2} = 1.12 \cdot in$$

$$G := \sqrt{A^2 + B^2} = 6.497 \cdot in$$

$$l'_d := l_d + \frac{G}{1.5} + 3 in = 3.96 ft$$

Required Epoxy Development Length:

Epoxy := Hilti Hit Re 500

Bond Strength: $S_b := \begin{cases} S_{bh} & \text{if Epoxy} = 0 \\ S_{bA} & \text{if Epoxy} = 1 \wedge \left(f'_c = 4000\text{psi} \vee f'_c > 4000\cdot\text{psi}\right) \\ 0.94 S_{bA} & \text{if Epoxy} = 1 \wedge \left(f'_c = 3000\text{psi} \vee f'_c < 3000\cdot\text{psi}\right) \\ E_{bond} & \text{if Epoxy} = 1 \wedge f'_c > 3000\text{psi} \wedge f'_c < 4000\text{psi} \end{cases} = 7.15 \times 10^6$

$\phi_{bond} := 0.65$

$L_{be} := \dfrac{P_u}{\pi \cdot D_{new} \cdot S_b \cdot \phi_{bond}} = 30.02\cdot\text{in}$

Required Embedment Length:

$L_{min} := \begin{cases} \max\left(L_{be} + L_{bt}, l'_d + 0.25\cdot L_{be}\right) & \text{if Piers} = \text{"Yes"} \\ \left(L_{be} + L_{bt}\right) & \text{if Piers} = \text{"No"} \end{cases} = 0.76$

$\text{Check} := \begin{cases} \text{"OK"} & \text{if } L_{min} \le L_{em} \\ \text{"N/G"} & \text{otherwise} \end{cases}$

Check = "OK"

Anchor Rod Pullout Test:

$\phi_p := 0.75$

Is this a CA DSA site?: ○ Yes ◉ No

$\text{Pullout} := \begin{cases} \dfrac{\phi_p \cdot Fu_{rod} \cdot A_{net\_new}}{1.6} & \text{if CA} = 0 \\ \left(0.8 \cdot Fy_{rod} \cdot A_{net\_new}\right) & \text{otherwise} \end{cases} = 152\cdot\text{kip}$

Results Summary:

HSS Compression Rating:	$Rating_{comp} = 41.75 \cdot \%$
Gusset Plate to Tower Flexure Rating:	$Rating_{flexure2} = 6.71 \cdot \%$
Gusset Plate to HSS Flexure Rating:	$Rating_{flexure1} = 2.91 \cdot \%$
Gusset Plate Shear Yield Rating:	$Rating_{shear1} = 7.76 \cdot \%$
Gusset Plate Shear Rupture Rating:	$Rating_{shear2} = 8.41 \cdot \%$
Gusset Plate to Tower Weld Rating:	$Rating_{weld2} = 24.68 \cdot \%$
Gusset Plate to HSS Weld Rating:	$Rating_{weld1} = 26.34 \cdot \%$
HSS Punching Shear Rating:	$Rating_{PS1} = 8.15 \cdot \%$
Tower Punching Shear Rating:	$Rating_{PS2} = \blacksquare \cdot \%$

Drilled Pier Foundation

BU # :	876401
Site Name:	TOWN OF PLAINFIEL
Order Number:	512997 Rev.0

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4091	
Axial Force (kips)	64	
Shear Force (kips)	40	

Material Properties		
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	26	ft
Ext. Above Grade	1	ft
Pier Section 1		
From 1' above grade to 15.68' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Rebar Quantity	9	
Rebar Size	18	
Rebar Cage Diameter	71.1	in
Pier Section 2		
From 15.68' below grade to 26' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	

Analysis Results		
Soil Lateral Capacity	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.97	-
Soil Safety Factor	3.93	-
Max Moment (kip-ft)	4452.09	-
Rating*	*32.2%*	-
Soil Vertical Capacity	*Compression*	*Uplift*
Skin Friction (kips)	18.84	-
End Bearing (kips)	461.81	-
Weight of Concrete (kips)	187.03	-
Total Capacity (kips)	480.66	-
Axial (kips)	251.03	-
Rating*	*49.7%*	-
Reinforced Concrete Capacity	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.69	-
Critical Moment (kip-ft)	3332.68	-
Critical Moment Capacity	4846.90	-
Rating*	*65.5%*	-

Soil Interaction Rating*	**49.7%**
Structural Foundation Rating*	**65.5%**

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐

*Rating per TIA-222-H Section 15.5

Soil Profile				
Groundwater Depth	N/A	ft	# of Layers	4

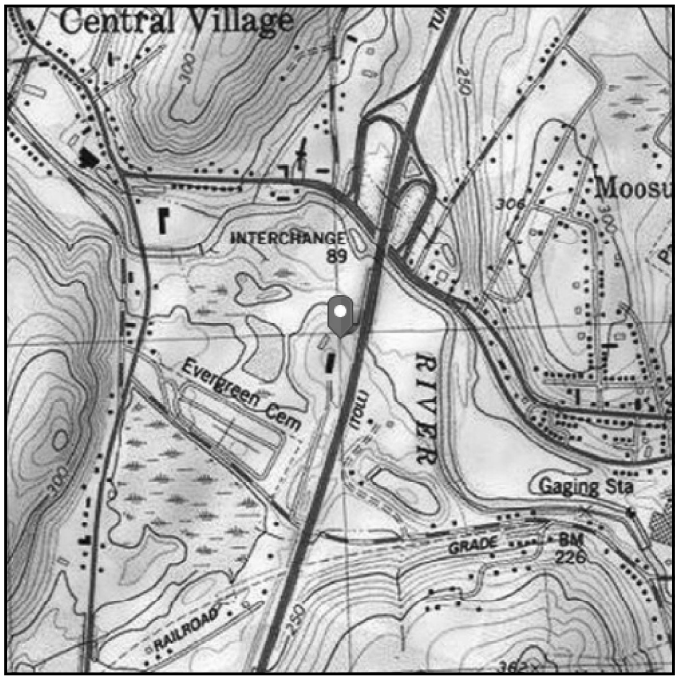
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	115	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	6	2.5	115	150	0	32	0.000	0.000	0.02	0.02			Cohesionless
3	6	10	4	120	150	0	38	0.000	0.000	0.02	0.02			Cohesionless
4	10	26	16	125	150	0	43	0.000	0.000	0.06	0.06	16		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 219.35 ft (NAVD 88)
Latitude: 41.715136
Longitude: -71.896314



Wind

Results:

Wind Speed:	135 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	106 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Tue Feb 11 2020

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

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

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

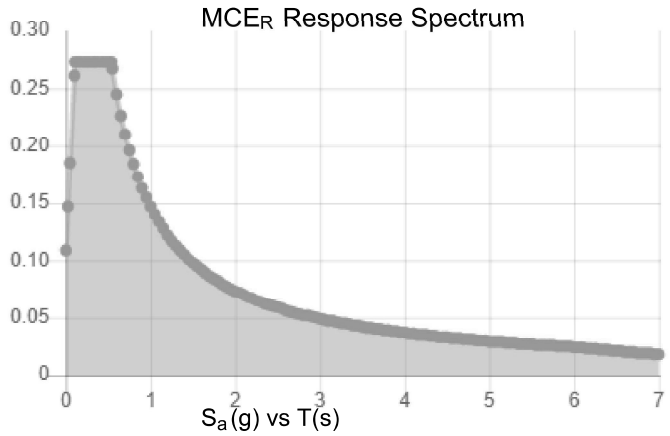
Seismic

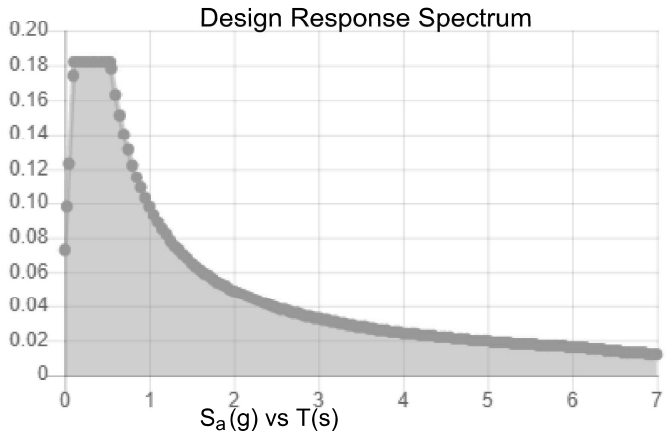
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.17	S_{DS} :	0.182
S_1 :	0.061	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.273	PGA_M :	0.137
S_{M1} :	0.147	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Feb 11 2020

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:	Tue Feb 11 2020

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

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

Exhibit E

Mount Analysis

Date: **February 7, 2020**

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

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Albany, NY 12205
518-690-0790
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Subject:	**Mount Analysis Report**	
Carrier Designation:	**Verizon Wireless Equipment Change-Out**	
	Carrier Site Number:	71936
	Carrier Site Name:	Plainfield N 2 CT
Crown Castle Designation:	**Crown Castle BU Number:**	876401
	Crown Castle Site Name:	TOWN OF PLAINFIELD/ SSUSA
	Crown Castle JDE Job Number:	600729
	Crown Castle Order Number:	512997 Rev. 0
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:** 1039-D0002-B	
Site Data:	**47-51 Unity Street, Plainfield, Windham County, CT, 06374** **Latitude 41°42'54.49" Longitude -71°53'46.73"**	
Structure Information:	**Tower Height & Type:**	**160.0 ft Monopole**
	Mount Elevation:	**125.0 ft**
	Mount Type:	**12.5 ft Platform**

Dear Darcy Tarr,

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

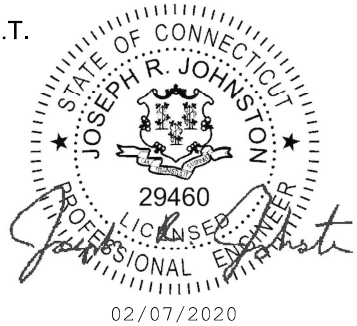
The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Jordan Everson, E.I.T.

Respectfully Submitted by:
Joe Johnston, P.E.
518-690-0790
jjohnston@infinigy.com
CT PE License No. PEN.0029460



02/07/2020

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1) INTRODUCTION

This is a 12.5 ft Platform.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC / 2018 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	135 mph
Exposure Category:	B
Topographic Factor at Base:	1.000
Topographic Factor at Mount:	1.000
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.170
Seismic S_1:	0.061
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
125.0	127.0	6	COMMSCOPE	JAHH-65B-R3B	12.5 ft. Platform
		3	COMMSCOPE	BSAMNT-SBS-2-2	
		3	COMMSCOPE	CBC78T-DS-43-2X	
		2	RFS/CELWAVE	DB-T1-6Z-8AB-0Z	
		3	SAMSUNG TELECOMMUNICATIONS	RFV01U-D1A	
		3	SAMSUNG TELECOMMUNICATIONS	RFV01U-D2A	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	Verizon Wireless Application	512997 Rev. 0	CCI Sites
Loading Configuration	Verizon Wireless	RFDS	TSA

3.1) Analysis Method

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

Infinigy Mount Analysis Tool 2.1.3, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

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

3.2) Assumptions

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

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Mount Pipe(s)	MP3	125.0	77.9	Pass
	Horizontal(s)	M40		16.3	Pass
	Bracing(s)	M22		18.0	Pass
	Standoff(s)	M3		36.5	Pass
	Mount Connection(s)	--		29.3	Pass

Structure Rating (max from all components) =	77.9%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.

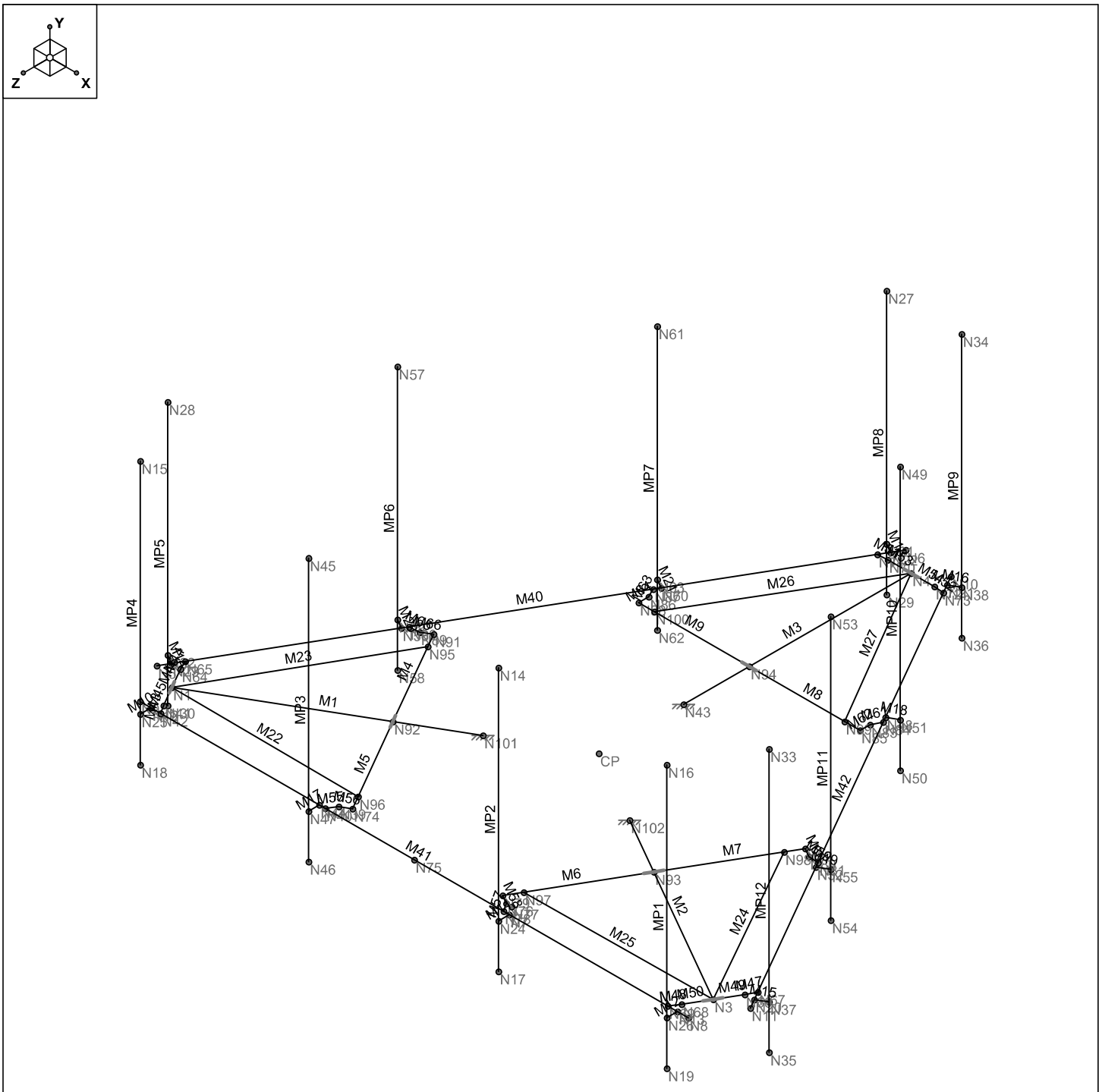
4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

- Verizon Wireless Mount Classification: M1000R(1000) -4(6)

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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jeverson		Feb 5, 2020 at 5:19 PM
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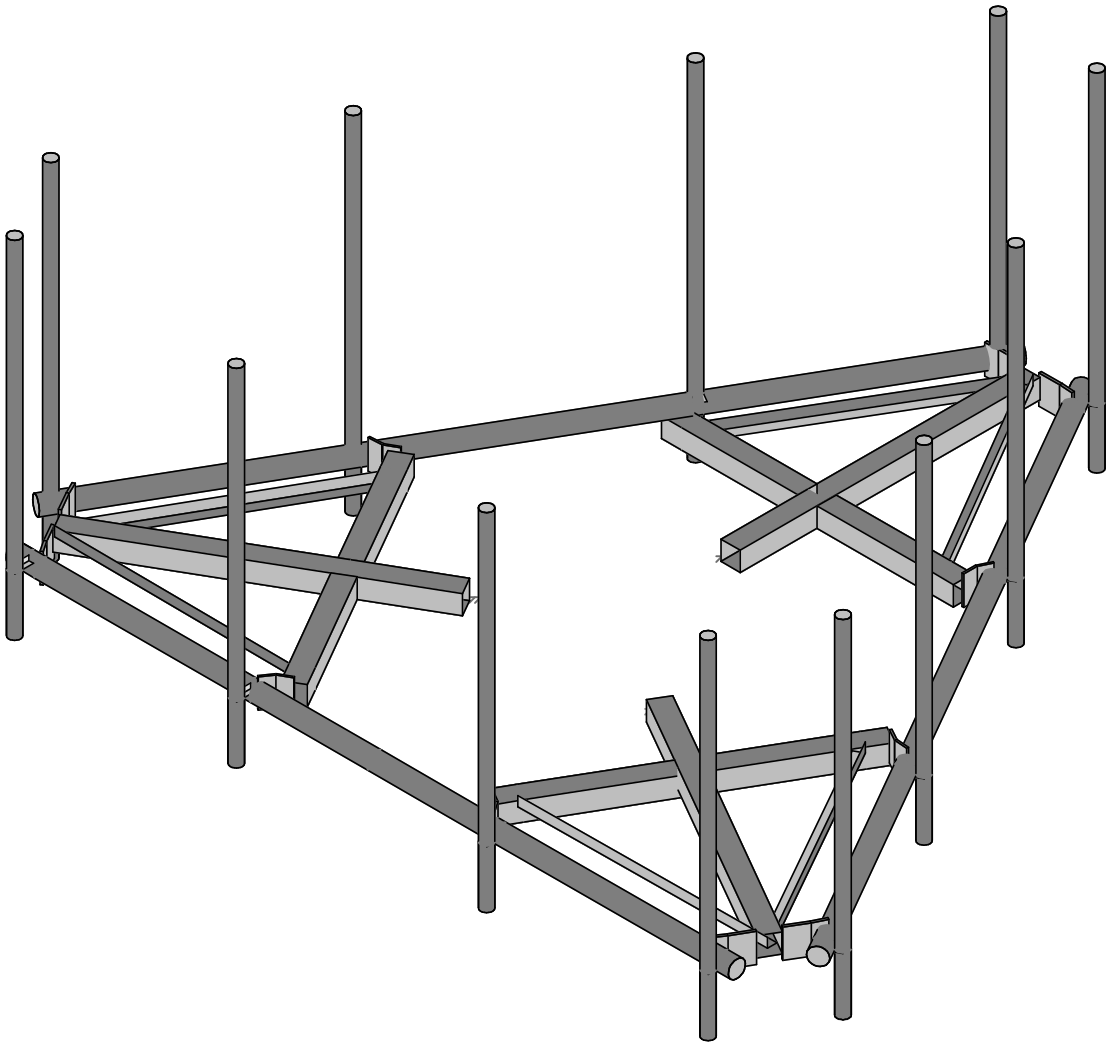

Envelope Only Solution

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APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	CCI
Carrier:	Verizon
Engineer:	Jordan Everson

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Category:	1	
Site Class:	D - Stiff Soil	
Ground Elevation:	219	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	125.0	ft
Tower Height AGL:	160.0	ft

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

FACTORS		
Directionality Fact. (K_d):	0.95	
Ground Ele. Factor (K_e):	0.99	*Rev H Only
Rooftop Speed-Up (K_s):	1.00	*Rev H Only
Topographic Factor (K_{zt}):	1.00	
Gust Effect Factor (G_h):	1.0	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	135	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	92.63	psf
Round Pressure:	55.58	psf
Ice Wind Pressure:	7.62	psf

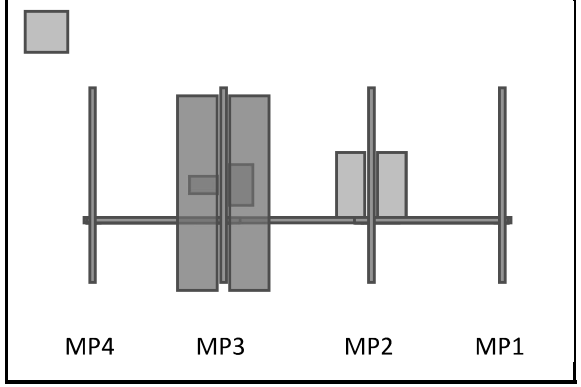
SEISMIC DATA		
Short-Period Accel. (S_s):	0.17	g
1-Second Accel. (S_1):	0.06	g
Short-Period Design (S_{DS}):	0.18	
1-Second Design (S_{D1}):	0.10	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

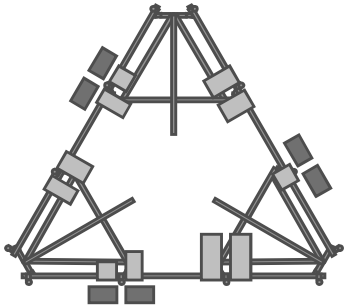
Infinigy Load Calculator V2.1.3

Program Inputs

ELEVATION VIEW



PLAN VIEW



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the solutions are endless

Infinigy Load Calculator V2.1.3

APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
COMMSCOPE JAHH-65B-R3B	127.0	3	0.90	46.53	5.50	4.38	230.48	183.59	63.30	5.74	MP3
COMMSCOPE JAHH-65B-R3B	127.0	3	0.90	46.53	5.50	4.38	230.48	183.59	63.30	5.74	MP3
COMMSCOPE CBC78T-DS-43-2X	127.0	3	0.90	46.53	0.51	0.51	21.44	21.44	20.70	1.88	MP3
RFS/CELWAVE TMA-DB-T1-6Z-8AB-0Z	127.0	1	0.90	46.53	4.80	2.00	201.00	83.75	44.00	3.99	MP2
RFS/CELWAVE TMA-DB-T1-6Z-8AB-0Z	127.0	1	0.90	46.53	4.80	2.00	201.00	83.75	44.00	3.99	MP2
SUNG TELECOMMUNICATIONS RFV01U	127.0	3	0.90	46.53	1.88	1.25	58.89	71.97	84.40	7.65	MP6
SUNG TELECOMMUNICATIONS RFV01U	127.0	3	0.90	46.53	1.88	1.01	78.51	42.40	70.30	6.37	MP3

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N101	N1			Standoffs	Beam	None	A500 Gr.B...	Typical
2	M2	N102	N3			Standoffs	Beam	None	A500 Gr.B...	Typical
3	M3	N43	N4			Standoffs	Beam	None	A500 Gr.B...	Typical
4	M4	N91	N92			Standoffs	Beam	None	A500 Gr.B...	Typical
5	M5	N92	N74			Standoffs	Beam	None	A500 Gr.B...	Typical
6	M6	N79	N93			Standoffs	Beam	None	A500 Gr.B...	Typical
7	M7	N93	N82			Standoffs	Beam	None	A500 Gr.B...	Typical
8	M8	N85	N94			Standoffs	Beam	None	A500 Gr.B...	Typical
9	M9	N94	N88			Standoffs	Beam	None	A500 Gr.B...	Typical
10	M10	N12	N25			RIGID	None	None	RIGID	Typical
11	M11	N7	N24			RIGID	None	None	RIGID	Typical
12	M12	N13	N26			RIGID	None	None	RIGID	Typical
13	M13	N22	N31			RIGID	None	None	RIGID	Typical
14	M14	N23	N32			RIGID	None	None	RIGID	Typical
15	M15	N20	N37			RIGID	None	None	RIGID	Typical
16	M16	N21	N38			RIGID	None	None	RIGID	Typical
17	M17	N44	N47			RIGID	None	None	RIGID	Typical
18	M18	N48	N51			RIGID	None	None	RIGID	Typical
19	M19	N52	N55			RIGID	None	None	RIGID	Typical
20	M20	N56	N59			RIGID	None	None	RIGID	Typical
21	M21	N60	N63			RIGID	None	None	RIGID	Typical
22	M22	N1	N96		270	Platform Angle	Beam	None	A36 Gr.36	Typical
23	M23	N1	N95			Platform Angle	Beam	None	A36 Gr.36	Typical
24	M24	N3	N98		270	Platform Angle	Beam	None	A36 Gr.36	Typical
25	M25	N3	N97			Platform Angle	Beam	None	A36 Gr.36	Typical
26	M26	N4	N100		270	Platform Angle	Beam	None	A36 Gr.36	Typical
27	M27	N4	N99			Platform Angle	Beam	None	A36 Gr.36	Typical
28	MP1	N16	N19			Mount Pipe	Column	None	A53 Gr.B	Typical
29	MP2	N14	N17			Mount Pipe	Column	None	A53 Gr.B	Typical
30	MP4	N15	N18			Mount Pipe	Column	None	A53 Gr.B	Typical
31	MP5	N28	N30			Mount Pipe	Column	None	A53 Gr.B	Typical
32	MP8	N27	N29			Mount Pipe	Column	None	A53 Gr.B	Typical
33	MP9	N34	N36			Mount Pipe	Column	None	A53 Gr.B	Typical
34	MP12	N33	N35			Mount Pipe	Column	None	A53 Gr.B	Typical
35	MP3	N45	N46			Mount Pipe	Column	None	A53 Gr.B	Typical
36	MP10	N49	N50			Mount Pipe	Column	None	A53 Gr.B	Typical
37	MP11	N53	N54			Mount Pipe	Column	None	A53 Gr.B	Typical
38	MP6	N57	N58			Mount Pipe	Column	None	A53 Gr.B	Typical
39	MP7	N61	N62			Mount Pipe	Column	None	A53 Gr.B	Typical
40	M40	N6	N5			Horizontals	Beam	None	A53 Gr.B	Typical
41	M41	N9	N8			Horizontals	Beam	None	A53 Gr.B	Typical
42	M42	N11	N10			Horizontals	Beam	None	A53 Gr.B	Typical
43	M43	N41	N42			Corner Plate	Beam	None	A36 Gr.36	Typical
44	M44	N64	N65			Corner Plate	Beam	None	A36 Gr.36	Typical
45	M45	N41	N1			Corner Plate	Beam	None	A36 Gr.36	Typical
46	M46	N1	N64			Corner Plate	Beam	None	A36 Gr.36	Typical
47	M47	N66	N67			Corner Plate	Beam	None	A36 Gr.36	Typical
48	M48	N68	N69			Corner Plate	Beam	None	A36 Gr.36	Typical
49	M49	N66	N3			Corner Plate	Beam	None	A36 Gr.36	Typical
50	M50	N3	N68			Corner Plate	Beam	None	A36 Gr.36	Typical
51	M51	N70	N71			Corner Plate	Beam	None	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
52	M52	N72	N73			Corner Plate	Beam	None	A36 Gr.36	Typical
53	M53	N70	N4			Corner Plate	Beam	None	A36 Gr.36	Typical
54	M54	N4	N72			Corner Plate	Beam	None	A36 Gr.36	Typical
55	M55	N39	N40			Connection Pla...	Beam	None	A572 Gr.50	Typical
56	M56	N39	N74			Connection Pla...	Beam	None	A572 Gr.50	Typical
57	M57	N76	N78			Connection Pla...	Beam	None	A572 Gr.50	Typical
58	M58	N76	N79			Connection Pla...	Beam	None	A572 Gr.50	Typical
59	M59	N80	N81			Connection Pla...	Beam	None	A572 Gr.50	Typical
60	M60	N80	N82			Connection Pla...	Beam	None	A572 Gr.50	Typical
61	M61	N83	N84			Connection Pla...	Beam	None	A572 Gr.50	Typical
62	M62	N83	N85			Connection Pla...	Beam	None	A572 Gr.50	Typical
63	M63	N86	N87			Connection Pla...	Beam	None	A572 Gr.50	Typical
64	M64	N86	N88			Connection Pla...	Beam	None	A572 Gr.50	Typical
65	M65	N89	N90			Connection Pla...	Beam	None	A572 Gr.50	Typical
66	M66	N89	N91			Connection Pla...	Beam	None	A572 Gr.50	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		12	35.3	0
3	Total General		12	35.3	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	6"x1/2" Plate	12	42.3	.036
7	A36 Gr.36	L2x2x3	6	308.1	.063
8	A500 Gr.B Rect	HSS4X4X4	9	356.6	.366
9	A53 Gr.B	PIPE_2.0	12	864	.25
10	A53 Gr.B	PIPE_3.0	3	450	.264
11	A572 Gr.50	PL6x.375	12	32.7	.021
12	Total HR Steel		54	2053.7	1

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL		-1			23		3	
2	Wind Load AZI 0	WLZ					46			
3	Wind Load AZI 30	None					46			
4	Wind Load AZI 60	None					46			
5	Wind Load AZI 90	WLX					46			
6	Wind Load AZI 120	None					46			
7	Wind Load AZI 150	None					46			
8	Wind Load AZI 180	None					46			
9	Wind Load AZI 210	None					46			
10	Wind Load AZI 240	None					46			
11	Wind Load AZI 270	None					46			
12	Wind Load AZI 300	None					46			
13	Wind Load AZI 330	None					46			
14	Distr. Wind Load Z	WLZ						66		
15	Distr. Wind Load X	WLX						66		
16	Ice Weight	OL1					23	66	3	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
17	Ice Wind Load AZI 0	OL2					46			
18	Ice Wind Load AZI 30	None					46			
19	Ice Wind Load AZI 60	None					46			
20	Ice Wind Load AZI 90	OL3					46			
21	Ice Wind Load AZI 120	None					46			
22	Ice Wind Load AZI 150	None					46			
23	Ice Wind Load AZI 180	None					46			
24	Ice Wind Load AZI 210	None					46			
25	Ice Wind Load AZI 240	None					46			
26	Ice Wind Load AZI 270	None					46			
27	Ice Wind Load AZI 300	None					46			
28	Ice Wind Load AZI 330	None					46			
29	Distr. Ice Wind Load Z	OL2						66		
30	Distr. Ice Wind Load X	OL3						66		
31	Seismic Load Z	ELZ			-.091		23			
32	Seismic Load X	ELX	-.091				23			
33	Service Live Loads	LL				1				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	Maintenance Load 10	LL				1				
44	Maintenance Load 11	LL				1				
45	Maintenance Load 12	LL				1				
46	BLC 1 Transient Area...	None						21		
47	BLC 16 Transient Are...	None						14		

Load Combinations

	Description	Sol...	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.4DL	Yes	Y		1	1.4																				
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15															
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5														
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866														
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1														
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866														
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.866	15	.5														
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15															
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.866	15	-.5														
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.866														
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1														
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.866														
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5														
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15															
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5														
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866														

Load Combinations (Continued)

	Description	Sol...	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1														
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866														
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.866	15	.5														
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15															
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.866	15	-.5														
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.866														
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1														
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.866														
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5														
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																		
27	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	17	1	29	1	30													
28	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5												
29	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866												
30	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	20	1	29		30	1												
31	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866												
32	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5												
33	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	23	1	29	-1	30													
34	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5												
35	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866												
36	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	26	1	29		30	-1												
37	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866												
38	1.2D + 1.0Di +1.0Wi AZ...	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5												
39	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	1	32																	
40	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	.866	32	.5																
41	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	.5	32	.866																
42	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31		32	1																
43	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	-.5	32	.866																
44	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	-.866	32	.5																
45	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	-1	32																	
46	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	-.866	32	-.5																
47	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	-.5	32	-.866																
48	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31		32	-1																
49	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	.5	32	-.866																
50	(1.2 + 0.2Sds)DL + 1.0E...	Yes	Y		1	1.2...	31	.866	32	-.5																
51	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	1	32																	
52	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	.866	32	.5																
53	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	.5	32	.866																
54	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31		32	1																
55	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	-.5	32	.866																
56	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	-.866	32	.5																
57	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	-1	32																	
58	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	-.866	32	-.5																
59	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	-.5	32	-.866																
60	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31		32	-1																
61	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	.5	32	-.866																
62	(0.9 - 0.2Sds)DL + 1.0E...	Yes	Y		1	.864	31	.866	32	-.5																
63	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	2	.198	14	.198	15		33	1.5												
64	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	3	.198	14	.171	15	.099	33	1.5												
65	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	4	.198	14	.099	15	.171	33	1.5												
66	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	5	.198	14		15	.198	33	1.5												
67	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	6	.198	14	-.099	15	.171	33	1.5												
68	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	7	.198	14	-.171	15	.099	33	1.5												

Load Combinations (Continued)

	Description	Sol...	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
69	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	8	.198	14	-.198	15		33	1.5											
70	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	9	.198	14	-.171	15	-.099	33	1.5											
71	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	10	.198	14	-.099	15	-.171	33	1.5											
72	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	11	.198	14		15	-.198	33	1.5											
73	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	12	.198	14	.099	15	-.171	33	1.5											
74	1.0DL + 1.5LL + 1.0SW...	Yes	Y		1	1	13	.198	14	.171	15	-.099	33	1.5											
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																	
76	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	2	.049	14	.049	15												
77	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	3	.049	14	.043	15	.025											
78	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	4	.049	14	.025	15	.043											
79	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	5	.049	14		15	.049											
80	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	6	.049	14	-.025	15	.043											
81	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	7	.049	14	-.043	15	.025											
82	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	8	.049	14	-.049	15												
83	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	9	.049	14	-.043	15	-.025											
84	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	10	.049	14	-.025	15	-.043											
85	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	11	.049	14		15	-.049											
86	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	12	.049	14	.025	15	-.043											
87	1.2DL + 1.5LM-MP1 +1...	Yes	Y		1	1.2	34	1.5	13	.049	14	.043	15	-.025											
88	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	2	.049	14	.049	15												
89	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	3	.049	14	.043	15	.025											
90	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	4	.049	14	.025	15	.043											
91	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	5	.049	14		15	.049											
92	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	6	.049	14	-.025	15	.043											
93	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	7	.049	14	-.043	15	.025											
94	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	8	.049	14	-.049	15												
95	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	9	.049	14	-.043	15	-.025											
96	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	10	.049	14	-.025	15	-.043											
97	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	11	.049	14		15	-.049											
98	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	12	.049	14	.025	15	-.043											
99	1.2DL + 1.5LM-MP2 +1...	Yes	Y		1	1.2	35	1.5	13	.049	14	.043	15	-.025											
100	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	2	.049	14	.049	15												
101	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	3	.049	14	.043	15	.025											
102	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	4	.049	14	.025	15	.043											
103	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	5	.049	14		15	.049											
104	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	6	.049	14	-.025	15	.043											
105	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	7	.049	14	-.043	15	.025											
106	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	8	.049	14	-.049	15												
107	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	9	.049	14	-.043	15	-.025											
108	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	10	.049	14	-.025	15	-.043											
109	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	11	.049	14		15	-.049											
110	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	12	.049	14	.025	15	-.043											
111	1.2DL + 1.5LM-MP3 +1...	Yes	Y		1	1.2	36	1.5	13	.049	14	.043	15	-.025											
112	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	2	.049	14	.049	15												
113	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	3	.049	14	.043	15	.025											
114	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	4	.049	14	.025	15	.043											
115	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	5	.049	14		15	.049											
116	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	6	.049	14	-.025	15	.043											
117	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	7	.049	14	-.043	15	.025											
118	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	8	.049	14	-.049	15												
119	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	9	.049	14	-.043	15	-.025											
120	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	10	.049	14	-.025	15	-.043											

Load Combinations (Continued)

	Description	Sol...	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
121	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	11	.049	14		15	-.049										
122	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	12	.049	14	.025	15	-.043										
123	1.2DL + 1.5LM-MP4 +1...	Yes	Y		1	1.2	37	1.5	13	.049	14	.043	15	-.025										
124	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	2	.049	14	.049	15											
125	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	3	.049	14	.043	15	.025										
126	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	4	.049	14	.025	15	.043										
127	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	5	.049	14		15	.049										
128	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	6	.049	14	-.025	15	.043										
129	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	7	.049	14	-.043	15	.025										
130	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	8	.049	14	-.049	15											
131	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	9	.049	14	-.043	15	-.025										
132	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	10	.049	14	-.025	15	-.043										
133	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	11	.049	14		15	-.049										
134	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	12	.049	14	.025	15	-.043										
135	1.2DL + 1.5LM-MP5 +1...	Yes	Y		1	1.2	38	1.5	13	.049	14	.043	15	-.025										
136	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	2	.049	14	.049	15											
137	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	3	.049	14	.043	15	.025										
138	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	4	.049	14	.025	15	.043										
139	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	5	.049	14		15	.049										
140	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	6	.049	14	-.025	15	.043										
141	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	7	.049	14	-.043	15	.025										
142	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	8	.049	14	-.049	15											
143	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	9	.049	14	-.043	15	-.025										
144	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	10	.049	14	-.025	15	-.043										
145	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	11	.049	14		15	-.049										
146	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	12	.049	14	.025	15	-.043										
147	1.2DL + 1.5LM-MP6 +1...	Yes	Y		1	1.2	39	1.5	13	.049	14	.043	15	-.025										
148	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	2	.049	14	.049	15											
149	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	3	.049	14	.043	15	.025										
150	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	4	.049	14	.025	15	.043										
151	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	5	.049	14		15	.049										
152	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	6	.049	14	-.025	15	.043										
153	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	7	.049	14	-.043	15	.025										
154	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	8	.049	14	-.049	15											
155	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	9	.049	14	-.043	15	-.025										
156	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	10	.049	14	-.025	15	-.043										
157	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	11	.049	14		15	-.049										
158	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	12	.049	14	.025	15	-.043										
159	1.2DL + 1.5LM-MP7 +1...	Yes	Y		1	1.2	40	1.5	13	.049	14	.043	15	-.025										
160	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	2	.049	14	.049	15											
161	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	3	.049	14	.043	15	.025										
162	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	4	.049	14	.025	15	.043										
163	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	5	.049	14		15	.049										
164	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	6	.049	14	-.025	15	.043										
165	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	7	.049	14	-.043	15	.025										
166	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	8	.049	14	-.049	15											
167	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	9	.049	14	-.043	15	-.025										
168	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	10	.049	14	-.025	15	-.043										
169	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	11	.049	14		15	-.049										
170	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	12	.049	14	.025	15	-.043										
171	1.2DL + 1.5LM-MP8 +1...	Yes	Y		1	1.2	41	1.5	13	.049	14	.043	15	-.025										
172	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	2	.049	14	.049	15											

Load Combinations (Continued)

	Description	Sol...	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
173	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	3	.049	14	.043	15	.025										
174	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	4	.049	14	.025	15	.043										
175	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	5	.049	14		15	.049										
176	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	6	.049	14	-.025	15	.043										
177	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	7	.049	14	-.043	15	.025										
178	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	8	.049	14	-.049	15											
179	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	9	.049	14	-.043	15	-.025										
180	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	10	.049	14	-.025	15	-.043										
181	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	11	.049	14		15	-.049										
182	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	12	.049	14	.025	15	-.043										
183	1.2DL + 1.5LM-MP9 +1...	Yes	Y		1	1.2	42	1.5	13	.049	14	.043	15	-.025										
184	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	2	.049	14	.049	15											
185	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	3	.049	14	.043	15	.025										
186	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	4	.049	14	.025	15	.043										
187	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	5	.049	14		15	.049										
188	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	6	.049	14	-.025	15	.043										
189	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	7	.049	14	-.043	15	.025										
190	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	8	.049	14	-.049	15											
191	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	9	.049	14	-.043	15	-.025										
192	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	10	.049	14	-.025	15	-.043										
193	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	11	.049	14		15	-.049										
194	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	12	.049	14	.025	15	-.043										
195	1.2DL + 1.5LM-MP10 + ...	Yes	Y		1	1.2	43	1.5	13	.049	14	.043	15	-.025										
196	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	2	.049	14	.049	15											
197	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	3	.049	14	.043	15	.025										
198	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	4	.049	14	.025	15	.043										
199	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	5	.049	14		15	.049										
200	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	6	.049	14	-.025	15	.043										
201	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	7	.049	14	-.043	15	.025										
202	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	8	.049	14	-.049	15											
203	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	9	.049	14	-.043	15	-.025										
204	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	10	.049	14	-.025	15	-.043										
205	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	11	.049	14		15	-.049										
206	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	12	.049	14	.025	15	-.043										
207	1.2DL + 1.5LM-MP11 + ...	Yes	Y		1	1.2	44	1.5	13	.049	14	.043	15	-.025										
208	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	2	.049	14	.049	15											
209	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	3	.049	14	.043	15	.025										
210	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	4	.049	14	.025	15	.043										
211	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	5	.049	14		15	.049										
212	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	6	.049	14	-.025	15	.043										
213	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	7	.049	14	-.043	15	.025										
214	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	8	.049	14	-.049	15											
215	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	9	.049	14	-.043	15	-.025										
216	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	10	.049	14	-.025	15	-.043										
217	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	11	.049	14		15	-.049										
218	1.2DL + 1.5LM-MP12 + ...	Yes	Y		1	1.2	45	1.5	12	.049	14	.025	15	-.043										

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N43	max	1053.99	5	2556.563	27	1581.176	14	5842.466	27	1040.728	23	940.195	181
2		min	-1053.789	23	139.162	20	-1584.963	8	-381.185	20	-1040.718	5	-1040.908	211
3	N101	max	1410.557	18	2342.673	31	1416.57	2	413.995	25	1030.056	3	422.795	24
4		min	-1413.844	12	119.74	24	-1414.742	20	-2988.907	32	-1029.865	21	-4847.232	116
5	N102	max	1582.081	5	2353.563	35	1286.73	2	799.502	15	1047.704	7	4644.101	35
6		min	-1578.792	23	11.898	16	-1284.765	20	-2761.012	83	-1047.696	13	-530.341	16
7	Totals:	max	3992.257	17	6962.333	28	4283.959	14						
8		min	-3992.257	11	1847.116	58	-4283.959	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear...	Loc[in]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	MP3	PIPE_2.0	.779	60	8	.040	60		8	20866....	32130	1871.6...	1871.6...	1...	H1-1b
2	MP7	PIPE_2.0	.779	60	4	.040	60		4	20866....	32130	1871.6...	1871.6...	1...	H1-1b
3	MP11	PIPE_2.0	.689	60	12	.032	60		12	20866....	32130	1871.6...	1871.6...	1...	H1-1b
4	MP2	PIPE_2.0	.509	60	8	.048	60		8	20866....	32130	1871.6...	1871.6...	1...	H1-1b
5	M3	HSS4X4X4	.365	0	28	.120	0	y	211	124655...	139518	16180.5	16180.5	2...	H1-1b
6	M1	HSS4X4X4	.340	0	105	.118	0	y	166	124655...	139518	16180.5	16180.5	2...	H1-1b
7	M2	HSS4X4X4	.334	0	34	.115	0	y	195	124655...	139518	16180.5	16180.5	2...	H1-1b
8	MP10	PIPE_2.0	.250	60	12	.022	60		12	20866....	32130	1871.6...	1871.6...	2...	H1-1b
9	MP6	PIPE_2.0	.250	60	4	.022	60		4	20866....	32130	1871.6...	1871.6...	2...	H1-1b
10	M22	L2x2x3	.180	51.353	8	.010	51.353	y	2	9346.0...	23392.8	557.717	1216.9...	2...	H2-1
11	M40	PIPE_3.0	.163	50	2	.198	50		10	28250....	65205	5748.75	5748.75	2...	H1-1b
12	M26	L2x2x3	.162	51.353	4	.013	51.353	z	35	9346.1...	23392.8	557.717	1198.64	2...	H2-1
13	M25	L2x2x3	.162	51.353	8	.010	51.353	y	38	9346.2...	23392.8	557.717	1222.9...	2...	H2-1
14	M41	PIPE_3.0	.157	50	6	.183	50		2	28250....	65205	5748.75	5748.75	2...	H1-1b
15	M42	PIPE_3.0	.156	51.563	9	.175	50		6	28250....	65205	5748.75	5748.75	3...	H1-1b
16	M24	L2x2x3	.155	51.353	12	.010	51.353	z	32	9346.0...	23392.8	557.717	1192.9...	1...	H2-1
17	M56	PL6x.375	.151	2.75	8	.523	2.75	y	8	96583....	101250	791.017	12656....	1...	H1-1b
18	M9	HSS4X4X4	.146	0	28	.077	24.174	z	4	136307...	139518	16180.5	16180.5	1...	H1-1b
19	M5	HSS4X4X4	.145	0	32	.083	24.174	z	8	136307...	139518	16180.5	16180.5	1...	H1-1b
20	M64	PL6x.375	.143	2.75	4	.476	2.75	y	4	96584....	101250	791.017	12656....	1...	H1-1b
21	M27	L2x2x3	.143	51.353	38	.014	51.353	y	30	9346.27	23392.8	557.717	1239.29	2...	H2-1
22	M7	HSS4X4X4	.131	0	36	.070	24.174	z	12	136307...	139518	16180.5	16180.5	1...	H1-1b
23	M23	L2x2x3	.130	51.353	5	.008	51.353	z	10	9346.21	23392.8	557.717	1194.1...	1...	H2-1
24	M6	HSS4X4X4	.130	28.301	34	.072	4.127	z	8	136307...	139518	16180.5	16180.5	1...	H1-1b
25	M8	HSS4X4X4	.128	28.3	38	.052	4.127	z	12	136307...	139518	16180.5	16180.5	1...	H1-1b
26	M4	HSS4X4X4	.126	28.301	30	.054	4.127	z	4	136307...	139518	16180.5	16180.5	1...	H1-1b
27	M50	6"x1/2" Pl...	.123	0	9	.097	0	y	13	92686....	97200	1012.5	12150	1...	H1-1b
28	M46	6"x1/2" Pl...	.123	0	5	.086	0	y	9	92686....	97200	1012.5	12125....	1...	H1-1b
29	M45	6"x1/2" Pl...	.123	4.338	7	.116	4.338	y	3	92686....	97200	1012.5	12150	1...	H1-1b
30	M60	PL6x.375	.118	2.75	12	.432	2.75	y	12	96583....	101250	791.017	12656....	1...	H1-1b
31	M54	6"x1/2" Pl...	.118	0	13	.084	0	y	5	92687....	97200	1012.5	12143....	1...	H1-1b
32	M44	6"x1/2" Pl...	.117	2.704	5	.110	2.704	y	4	95420....	97200	1012.5	12150	1...	H1-1b
33	M48	6"x1/2" Pl...	.116	2.704	9	.145	2.704	y	8	95420....	97200	1012.5	12150	1...	H1-1b
34	M58	PL6x.375	.115	2.75	8	.470	2.75	y	8	96583....	101250	791.017	12656....	1...	H1-1b
35	M53	6"x1/2" Pl...	.115	4.338	3	.106	4.338	y	11	92685....	97200	1012.5	12150	1...	H1-1b
36	M52	6"x1/2" Pl...	.113	2.704	13	.102	2.704	y	12	95420....	97200	1012.5	12150	1...	H1-1b
37	M49	6"x1/2" Pl...	.113	4.338	11	.104	4.338	y	7	92686....	97200	1012.5	12150	1...	H1-1b
38	M43	6"x1/2" Pl...	.111	2.704	7	.157	0	y	2	95420....	97200	1012.5	12150	1...	H1-1b
39	M51	6"x1/2" Pl...	.103	2.704	3	.143	0	y	4	95420....	97200	1012.5	12150	1...	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear...	Loc[in]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
40	M47	6"x1/2" Pl...	.102	2.704	11	.134	2.704	y	13	95420....	97200	1012.5	12150	1...	H1-1b
41	M55	PL6x.375	.100	2.704	3	.124	0	y	2	96734....	101250	791.017	12656....	1...	H1-1b
42	M63	PL6x.375	.094	2.704	11	.118	0	y	10	96734....	101250	791.017	12656....	1...	H1-1b
43	M65	PL6x.375	.088	2.704	11	.110	0	y	9	96734....	101250	791.017	12656....	1...	H1-1b
44	M57	PL6x.375	.086	2.704	3	.130	0	y	2	96734....	101250	791.017	12491....	1...	H1-1b
45	M61	PL6x.375	.079	2.704	7	.101	0	y	5	96734....	101250	791.017	12656....	1...	H1-1b
46	M59	PL6x.375	.078	0	12	.109	0	y	6	96734....	101250	791.017	12656....	1...	H1-1b
47	M62	PL6x.375	.075	2.75	11	.317	2.75	y	12	96583....	101250	791.017	12656....	1...	H1-1b
48	MP4	PIPE_2.0	.074	60	7	.006	60		7	20866....	32130	1871.6...	1871.6...	1...	H1-1b
49	MP1	PIPE_2.0	.074	60	9	.006	60		9	20866....	32130	1871.6...	1871.6...	1...	H1-1b
50	MP8	PIPE_2.0	.074	60	3	.006	60		3	20866....	32130	1871.6...	1871.6...	1...	H1-1b
51	MP12	PIPE_2.0	.074	60	11	.006	60		11	20866....	32130	1871.6...	1871.6...	1...	H1-1b
52	MP5	PIPE_2.0	.074	60	5	.006	60		5	20866....	32130	1871.6...	1871.6...	1...	H1-1b
53	MP9	PIPE_2.0	.074	60	13	.006	60		13	20866....	32130	1871.6...	1871.6...	1...	H1-1b
54	M66	PL6x.375	.072	2.75	3	.340	2.75	y	4	96583....	101250	791.017	12656....	1...	H1-1b

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoffs	HSS4X4X4	Beam	None	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
2	Horizontals	PIPE_3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
3	Platform Angle	L2x2x3	Beam	None	A36 Gr.36	Typical	.722	.271	.271	.009
4	Mount Pipe	PIPE_2.0	Column	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Corner Plate	6"x1/2" Plate	Beam	None	A36 Gr.36	Typical	3	.063	9	.237
6	Platform Braces	HSS4X4X4	Beam	None	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
7	Connection Plates	PL6x.375	Beam	None	A572 Gr.50	Typical	2.25	.026	6.75	.101

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M2						Yes				None
3	M3						Yes				None
4	M4				2		Yes	Default			None
5	M5			2			Yes	Default			None
6	M6				2		Yes	Default			None
7	M7			2			Yes	Default			None
8	M8				2		Yes	Default			None
9	M9			2			Yes	Default			None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	** NA **			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic ...
22	M22						Yes				None
23	M23						Yes				None
24	M24						Yes				None
25	M25						Yes				None
26	M26						Yes				None
27	M27						Yes				None
28	MP1						Yes	** NA **			None
29	MP2						Yes	** NA **			None
30	MP4						Yes	** NA **			None
31	MP5						Yes	** NA **			None
32	MP8						Yes	** NA **			None
33	MP9						Yes	** NA **			None
34	MP12						Yes	** NA **			None
35	MP3						Yes	** NA **			None
36	MP10						Yes	** NA **			None
37	MP11						Yes	** NA **			None
38	MP6						Yes	** NA **			None
39	MP7						Yes	** NA **			None
40	M40						Yes				None
41	M41						Yes				None
42	M42						Yes				None
43	M43						Yes	Default			None
44	M44						Yes	Default			None
45	M45				2		Yes				None
46	M46			2			Yes	Default			None
47	M47						Yes	Default			None
48	M48						Yes	Default			None
49	M49				2		Yes				None
50	M50			2			Yes	Default			None
51	M51						Yes	Default			None
52	M52						Yes	Default			None
53	M53				2		Yes				None
54	M54			2			Yes	Default			None
55	M55						Yes	Default			None
56	M56						Yes				None
57	M57						Yes	Default			None
58	M58						Yes				None
59	M59						Yes	Default			None
60	M60						Yes				None
61	M61						Yes	Default			None
62	M62						Yes				None
63	M63						Yes	Default			None
64	M64						Yes				None
65	M65						Yes	Default			None
66	M66						Yes	Default			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoffs	62.255			Lbyy						Lateral
2	M2	Standoffs	62.255			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
3	M3	Standoffs	62.255			Lbyy						Lateral
4	M4	Standoffs	30.301			Lbyy						Lateral
5	M5	Standoffs	30.301			Lbyy						Lateral
6	M6	Standoffs	30.301			Lbyy						Lateral
7	M7	Standoffs	30.301			Lbyy						Lateral
8	M8	Standoffs	30.3			Lbyy						Lateral
9	M9	Standoffs	30.301			Lbyy						Lateral
10	M22	Platform An...	51.353			Lbyy						Lateral
11	M23	Platform An...	51.353			Lbyy						Lateral
12	M24	Platform An...	51.353			Lbyy						Lateral
13	M25	Platform An...	51.353			Lbyy						Lateral
14	M26	Platform An...	51.353			Lbyy						Lateral
15	M27	Platform An...	51.353			Lbyy						Lateral
16	MP1	Mount Pipe	72			Lbyy						Lateral
17	MP2	Mount Pipe	72			Lbyy						Lateral
18	MP4	Mount Pipe	72			Lbyy						Lateral
19	MP5	Mount Pipe	72			Lbyy						Lateral
20	MP8	Mount Pipe	72			Lbyy						Lateral
21	MP9	Mount Pipe	72			Lbyy						Lateral
22	MP12	Mount Pipe	72			Lbyy						Lateral
23	MP3	Mount Pipe	72			Lbyy						Lateral
24	MP10	Mount Pipe	72			Lbyy						Lateral
25	MP11	Mount Pipe	72			Lbyy						Lateral
26	MP6	Mount Pipe	72			Lbyy						Lateral
27	MP7	Mount Pipe	72			Lbyy						Lateral
28	M40	Horizontals	150			Lbyy						Lateral
29	M41	Horizontals	150			Lbyy						Lateral
30	M42	Horizontals	150			Lbyy						Lateral
31	M43	Corner Plate	2.704			Lbyy						Lateral
32	M44	Corner Plate	2.704			Lbyy						Lateral
33	M45	Corner Plate	6.338			Lbyy						Lateral
34	M46	Corner Plate	6.338			Lbyy						Lateral
35	M47	Corner Plate	2.704			Lbyy						Lateral
36	M48	Corner Plate	2.704			Lbyy						Lateral
37	M49	Corner Plate	6.338			Lbyy						Lateral
38	M50	Corner Plate	6.338			Lbyy						Lateral
39	M51	Corner Plate	2.704			Lbyy						Lateral
40	M52	Corner Plate	2.704			Lbyy						Lateral
41	M53	Corner Plate	6.338			Lbyy						Lateral
42	M54	Corner Plate	6.338			Lbyy						Lateral
43	M55	Connection ...	2.704			Lbyy						Lateral
44	M56	Connection ...	2.75			Lbyy						Lateral
45	M57	Connection ...	2.704			Lbyy						Lateral
46	M58	Connection ...	2.75			Lbyy						Lateral
47	M59	Connection ...	2.704			Lbyy						Lateral
48	M60	Connection ...	2.75			Lbyy						Lateral
49	M61	Connection ...	2.704			Lbyy						Lateral
50	M62	Connection ...	2.75			Lbyy						Lateral
51	M63	Connection ...	2.704			Lbyy						Lateral
52	M64	Connection ...	2.75			Lbyy						Lateral
53	M65	Connection ...	2.704			Lbyy						Lateral
54	M66	Connection ...	2.75			Lbyy						Lateral

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N9	L	Y	-250

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N13	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N7	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N12	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N23	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N22	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N21	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N20	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N44	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N48	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N52	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2...
1	N56	L	Y	-500

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

	Joint Label	L,D,M	Direction	Magnitude[lb,lb-ft), (in,rad), (lb*s^2...
1	N60	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Y	-31.65	3
2	MP3	Y	-31.65	69
3	MP3	Y	-31.65	3
4	MP3	Y	-31.65	69
5	MP3	Y	-20.7	%50
6	MP2	Y	-44	%50
7	MP2	Y	-44	%50
8	MP6	Y	-84.4	%50
9	MP3	Y	-70.3	%50
10	MP7	Y	-31.65	3
11	MP7	Y	-31.65	69
12	MP7	Y	-31.65	3
13	MP7	Y	-31.65	69
14	MP7	Y	-20.7	%50
15	MP10	Y	-84.4	%50
16	MP6	Y	-70.3	%50
17	MP11	Y	-31.65	3
18	MP11	Y	-31.65	69
19	MP11	Y	-31.65	3
20	MP11	Y	-31.65	69
21	MP11	Y	-20.7	%50
22	MP10	Y	-84.4	%50
23	MP7	Y	-70.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	3
2	MP3	Z	-115.24	3
3	MP3	X	0	69
4	MP3	Z	-115.24	69
5	MP3	X	0	3
6	MP3	Z	-115.24	3
7	MP3	X	0	69
8	MP3	Z	-115.24	69
9	MP3	X	0	%50
10	MP3	Z	-21.44	%50
11	MP2	X	0	%50
12	MP2	Z	-201	%50
13	MP2	X	0	%50
14	MP2	Z	-201	%50
15	MP6	X	0	%50
16	MP6	Z	-58.89	%50
17	MP3	X	0	%50
18	MP3	Z	-78.51	%50
19	MP7	X	0	3
20	MP7	Z	-97.66	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP7	X	0	69
22	MP7	Z	-97.66	69
23	MP7	X	0	3
24	MP7	Z	-97.66	3
25	MP7	X	0	69
26	MP7	Z	-97.66	69
27	MP7	X	0	%50
28	MP7	Z	-21.44	%50
29	MP10	X	0	%50
30	MP10	Z	-58.89	%50
31	MP6	X	0	%50
32	MP6	Z	-51.43	%50
33	MP11	X	0	3
34	MP11	Z	-97.66	3
35	MP11	X	0	69
36	MP11	Z	-97.66	69
37	MP11	X	0	3
38	MP11	Z	-97.66	3
39	MP11	X	0	69
40	MP11	Z	-97.66	69
41	MP11	X	0	%50
42	MP11	Z	-21.44	%50
43	MP10	X	0	%50
44	MP10	Z	-58.89	%50
45	MP7	X	0	%50
46	MP7	Z	-51.43	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-54.69	3
2	MP3	Z	-94.72	3
3	MP3	X	-54.69	69
4	MP3	Z	-94.72	69
5	MP3	X	-54.69	3
6	MP3	Z	-94.72	3
7	MP3	X	-54.69	69
8	MP3	Z	-94.72	69
9	MP3	X	-10.72	%50
10	MP3	Z	-18.57	%50
11	MP2	X	-85.84	%50
12	MP2	Z	-148.68	%50
13	MP2	X	-85.84	%50
14	MP2	Z	-148.68	%50
15	MP6	X	-35.99	%50
16	MP6	Z	-62.33	%50
17	MP3	X	-34.74	%50
18	MP3	Z	-60.18	%50
19	MP7	X	-54.69	3
20	MP7	Z	-94.72	3
21	MP7	X	-54.69	69
22	MP7	Z	-94.72	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP7	X	-54.69	3
24	MP7	Z	-94.72	3
25	MP7	X	-54.69	69
26	MP7	Z	-94.72	69
27	MP7	X	-10.72	%50
28	MP7	Z	-18.57	%50
29	MP10	X	-26.17	%50
30	MP10	Z	-45.33	%50
31	MP6	X	-34.74	%50
32	MP6	Z	-60.18	%50
33	MP11	X	-45.9	3
34	MP11	Z	-79.5	3
35	MP11	X	-45.9	69
36	MP11	Z	-79.5	69
37	MP11	X	-45.9	3
38	MP11	Z	-79.5	3
39	MP11	X	-45.9	69
40	MP11	Z	-79.5	69
41	MP11	X	-10.72	%50
42	MP11	Z	-18.57	%50
43	MP10	X	-26.17	%50
44	MP10	Z	-45.33	%50
45	MP7	X	-34.74	%50
46	MP7	Z	-60.18	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-84.57	3
2	MP3	Z	-48.83	3
3	MP3	X	-84.57	69
4	MP3	Z	-48.83	69
5	MP3	X	-84.57	3
6	MP3	Z	-48.83	3
7	MP3	X	-84.57	69
8	MP3	Z	-48.83	69
9	MP3	X	-18.57	%50
10	MP3	Z	-10.72	%50
11	MP2	X	-97.91	%50
12	MP2	Z	-56.53	%50
13	MP2	X	-97.91	%50
14	MP2	Z	-56.53	%50
15	MP6	X	-68	%50
16	MP6	Z	-39.26	%50
17	MP3	X	-44.54	%50
18	MP3	Z	-25.71	%50
19	MP7	X	-99.8	3
20	MP7	Z	-57.62	3
21	MP7	X	-99.8	69
22	MP7	Z	-57.62	69
23	MP7	X	-99.8	3
24	MP7	Z	-57.62	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-99.8	69
26	MP7	Z	-57.62	69
27	MP7	X	-18.57	%50
28	MP7	Z	-10.72	%50
29	MP10	X	-51	%50
30	MP10	Z	-29.44	%50
31	MP6	X	-68	%50
32	MP6	Z	-39.26	%50
33	MP11	X	-84.57	3
34	MP11	Z	-48.83	3
35	MP11	X	-84.57	69
36	MP11	Z	-48.83	69
37	MP11	X	-84.57	3
38	MP11	Z	-48.83	3
39	MP11	X	-84.57	69
40	MP11	Z	-48.83	69
41	MP11	X	-18.57	%50
42	MP11	Z	-10.72	%50
43	MP10	X	-51	%50
44	MP10	Z	-29.44	%50
45	MP7	X	-68	%50
46	MP7	Z	-39.26	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-91.8	3
2	MP3	Z	0	3
3	MP3	X	-91.8	69
4	MP3	Z	0	69
5	MP3	X	-91.8	3
6	MP3	Z	0	3
7	MP3	X	-91.8	69
8	MP3	Z	0	69
9	MP3	X	-21.44	%50
10	MP3	Z	0	%50
11	MP2	X	-83.75	%50
12	MP2	Z	0	%50
13	MP2	X	-83.75	%50
14	MP2	Z	0	%50
15	MP6	X	-71.97	%50
16	MP6	Z	0	%50
17	MP3	X	-42.4	%50
18	MP3	Z	0	%50
19	MP7	X	-109.38	3
20	MP7	Z	0	3
21	MP7	X	-109.38	69
22	MP7	Z	0	69
23	MP7	X	-109.38	3
24	MP7	Z	0	3
25	MP7	X	-109.38	69
26	MP7	Z	0	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
27	MP7	X	-21.44	%50
28	MP7	Z	0	%50
29	MP10	X	-71.97	%50
30	MP10	Z	0	%50
31	MP6	X	-69.49	%50
32	MP6	Z	0	%50
33	MP11	X	-109.38	3
34	MP11	Z	0	3
35	MP11	X	-109.38	69
36	MP11	Z	0	69
37	MP11	X	-109.38	3
38	MP11	Z	0	3
39	MP11	X	-109.38	69
40	MP11	Z	0	69
41	MP11	X	-21.44	%50
42	MP11	Z	0	%50
43	MP10	X	-71.97	%50
44	MP10	Z	0	%50
45	MP7	X	-69.49	%50
46	MP7	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-84.57	3
2	MP3	Z	48.83	3
3	MP3	X	-84.57	69
4	MP3	Z	48.83	69
5	MP3	X	-84.57	3
6	MP3	Z	48.83	3
7	MP3	X	-84.57	69
8	MP3	Z	48.83	69
9	MP3	X	-18.57	%50
10	MP3	Z	10.72	%50
11	MP2	X	-97.91	%50
12	MP2	Z	56.53	%50
13	MP2	X	-97.91	%50
14	MP2	Z	56.53	%50
15	MP6	X	-51	%50
16	MP6	Z	29.44	%50
17	MP3	X	-44.54	%50
18	MP3	Z	25.71	%50
19	MP7	X	-84.57	3
20	MP7	Z	48.83	3
21	MP7	X	-84.57	69
22	MP7	Z	48.83	69
23	MP7	X	-84.57	3
24	MP7	Z	48.83	3
25	MP7	X	-84.57	69
26	MP7	Z	48.83	69
27	MP7	X	-18.57	%50
28	MP7	Z	10.72	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
29	MP10	X	-68	%50
30	MP10	Z	39.26	%50
31	MP6	X	-44.54	%50
32	MP6	Z	25.71	%50
33	MP11	X	-99.8	3
34	MP11	Z	57.62	3
35	MP11	X	-99.8	69
36	MP11	Z	57.62	69
37	MP11	X	-99.8	3
38	MP11	Z	57.62	3
39	MP11	X	-99.8	69
40	MP11	Z	57.62	69
41	MP11	X	-18.57	%50
42	MP11	Z	10.72	%50
43	MP10	X	-68	%50
44	MP10	Z	39.26	%50
45	MP7	X	-44.54	%50
46	MP7	Z	25.71	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-54.69	3
2	MP3	Z	94.72	3
3	MP3	X	-54.69	69
4	MP3	Z	94.72	69
5	MP3	X	-54.69	3
6	MP3	Z	94.72	3
7	MP3	X	-54.69	69
8	MP3	Z	94.72	69
9	MP3	X	-10.72	%50
10	MP3	Z	18.57	%50
11	MP2	X	-85.84	%50
12	MP2	Z	148.68	%50
13	MP2	X	-85.84	%50
14	MP2	Z	148.68	%50
15	MP6	X	-26.17	%50
16	MP6	Z	45.33	%50
17	MP3	X	-34.74	%50
18	MP3	Z	60.18	%50
19	MP7	X	-45.9	3
20	MP7	Z	79.5	3
21	MP7	X	-45.9	69
22	MP7	Z	79.5	69
23	MP7	X	-45.9	3
24	MP7	Z	79.5	3
25	MP7	X	-45.9	69
26	MP7	Z	79.5	69
27	MP7	X	-10.72	%50
28	MP7	Z	18.57	%50
29	MP10	X	-35.99	%50
30	MP10	Z	62.33	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP6	X	-21.2	%50
32	MP6	Z	36.72	%50
33	MP11	X	-54.69	3
34	MP11	Z	94.72	3
35	MP11	X	-54.69	69
36	MP11	Z	94.72	69
37	MP11	X	-54.69	3
38	MP11	Z	94.72	3
39	MP11	X	-54.69	69
40	MP11	Z	94.72	69
41	MP11	X	-10.72	%50
42	MP11	Z	18.57	%50
43	MP10	X	-35.99	%50
44	MP10	Z	62.33	%50
45	MP7	X	-21.2	%50
46	MP7	Z	36.72	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	3
2	MP3	Z	115.24	3
3	MP3	X	0	69
4	MP3	Z	115.24	69
5	MP3	X	0	3
6	MP3	Z	115.24	3
7	MP3	X	0	69
8	MP3	Z	115.24	69
9	MP3	X	0	%50
10	MP3	Z	21.44	%50
11	MP2	X	0	%50
12	MP2	Z	201	%50
13	MP2	X	0	%50
14	MP2	Z	201	%50
15	MP6	X	0	%50
16	MP6	Z	58.89	%50
17	MP3	X	0	%50
18	MP3	Z	78.51	%50
19	MP7	X	0	3
20	MP7	Z	97.66	3
21	MP7	X	0	69
22	MP7	Z	97.66	69
23	MP7	X	0	3
24	MP7	Z	97.66	3
25	MP7	X	0	69
26	MP7	Z	97.66	69
27	MP7	X	0	%50
28	MP7	Z	21.44	%50
29	MP10	X	0	%50
30	MP10	Z	58.89	%50
31	MP6	X	0	%50
32	MP6	Z	51.43	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
33	MP11	X	0	3
34	MP11	Z	97.66	3
35	MP11	X	0	69
36	MP11	Z	97.66	69
37	MP11	X	0	3
38	MP11	Z	97.66	3
39	MP11	X	0	69
40	MP11	Z	97.66	69
41	MP11	X	0	%50
42	MP11	Z	21.44	%50
43	MP10	X	0	%50
44	MP10	Z	58.89	%50
45	MP7	X	0	%50
46	MP7	Z	51.43	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	54.69	3
2	MP3	Z	94.72	3
3	MP3	X	54.69	69
4	MP3	Z	94.72	69
5	MP3	X	54.69	3
6	MP3	Z	94.72	3
7	MP3	X	54.69	69
8	MP3	Z	94.72	69
9	MP3	X	10.72	%50
10	MP3	Z	18.57	%50
11	MP2	X	85.84	%50
12	MP2	Z	148.68	%50
13	MP2	X	85.84	%50
14	MP2	Z	148.68	%50
15	MP6	X	35.99	%50
16	MP6	Z	62.33	%50
17	MP3	X	34.74	%50
18	MP3	Z	60.18	%50
19	MP7	X	54.69	3
20	MP7	Z	94.72	3
21	MP7	X	54.69	69
22	MP7	Z	94.72	69
23	MP7	X	54.69	3
24	MP7	Z	94.72	3
25	MP7	X	54.69	69
26	MP7	Z	94.72	69
27	MP7	X	10.72	%50
28	MP7	Z	18.57	%50
29	MP10	X	26.17	%50
30	MP10	Z	45.33	%50
31	MP6	X	34.74	%50
32	MP6	Z	60.18	%50
33	MP11	X	45.9	3
34	MP11	Z	79.5	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
35	MP11	X	45.9	69
36	MP11	Z	79.5	69
37	MP11	X	45.9	3
38	MP11	Z	79.5	3
39	MP11	X	45.9	69
40	MP11	Z	79.5	69
41	MP11	X	10.72	%50
42	MP11	Z	18.57	%50
43	MP10	X	26.17	%50
44	MP10	Z	45.33	%50
45	MP7	X	34.74	%50
46	MP7	Z	60.18	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	84.57	3
2	MP3	Z	48.83	3
3	MP3	X	84.57	69
4	MP3	Z	48.83	69
5	MP3	X	84.57	3
6	MP3	Z	48.83	3
7	MP3	X	84.57	69
8	MP3	Z	48.83	69
9	MP3	X	18.57	%50
10	MP3	Z	10.72	%50
11	MP2	X	97.91	%50
12	MP2	Z	56.53	%50
13	MP2	X	97.91	%50
14	MP2	Z	56.53	%50
15	MP6	X	68	%50
16	MP6	Z	39.26	%50
17	MP3	X	44.54	%50
18	MP3	Z	25.71	%50
19	MP7	X	99.8	3
20	MP7	Z	57.62	3
21	MP7	X	99.8	69
22	MP7	Z	57.62	69
23	MP7	X	99.8	3
24	MP7	Z	57.62	3
25	MP7	X	99.8	69
26	MP7	Z	57.62	69
27	MP7	X	18.57	%50
28	MP7	Z	10.72	%50
29	MP10	X	51	%50
30	MP10	Z	29.44	%50
31	MP6	X	68	%50
32	MP6	Z	39.26	%50
33	MP11	X	84.57	3
34	MP11	Z	48.83	3
35	MP11	X	84.57	69
36	MP11	Z	48.83	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
37	MP11	X	84.57	3
38	MP11	Z	48.83	3
39	MP11	X	84.57	69
40	MP11	Z	48.83	69
41	MP11	X	18.57	%50
42	MP11	Z	10.72	%50
43	MP10	X	51	%50
44	MP10	Z	29.44	%50
45	MP7	X	68	%50
46	MP7	Z	39.26	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	91.8	3
2	MP3	Z	0	3
3	MP3	X	91.8	69
4	MP3	Z	0	69
5	MP3	X	91.8	3
6	MP3	Z	0	3
7	MP3	X	91.8	69
8	MP3	Z	0	69
9	MP3	X	21.44	%50
10	MP3	Z	0	%50
11	MP2	X	83.75	%50
12	MP2	Z	0	%50
13	MP2	X	83.75	%50
14	MP2	Z	0	%50
15	MP6	X	71.97	%50
16	MP6	Z	0	%50
17	MP3	X	42.4	%50
18	MP3	Z	0	%50
19	MP7	X	109.38	3
20	MP7	Z	0	3
21	MP7	X	109.38	69
22	MP7	Z	0	69
23	MP7	X	109.38	3
24	MP7	Z	0	3
25	MP7	X	109.38	69
26	MP7	Z	0	69
27	MP7	X	21.44	%50
28	MP7	Z	0	%50
29	MP10	X	71.97	%50
30	MP10	Z	0	%50
31	MP6	X	69.49	%50
32	MP6	Z	0	%50
33	MP11	X	109.38	3
34	MP11	Z	0	3
35	MP11	X	109.38	69
36	MP11	Z	0	69
37	MP11	X	109.38	3
38	MP11	Z	0	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
39	MP11	X	109.38	69
40	MP11	Z	0	69
41	MP11	X	21.44	%50
42	MP11	Z	0	%50
43	MP10	X	71.97	%50
44	MP10	Z	0	%50
45	MP7	X	69.49	%50
46	MP7	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	84.57	3
2	MP3	Z	-48.83	3
3	MP3	X	84.57	69
4	MP3	Z	-48.83	69
5	MP3	X	84.57	3
6	MP3	Z	-48.83	3
7	MP3	X	84.57	69
8	MP3	Z	-48.83	69
9	MP3	X	18.57	%50
10	MP3	Z	-10.72	%50
11	MP2	X	97.91	%50
12	MP2	Z	-56.53	%50
13	MP2	X	97.91	%50
14	MP2	Z	-56.53	%50
15	MP6	X	51	%50
16	MP6	Z	-29.44	%50
17	MP3	X	44.54	%50
18	MP3	Z	-25.71	%50
19	MP7	X	84.57	3
20	MP7	Z	-48.83	3
21	MP7	X	84.57	69
22	MP7	Z	-48.83	69
23	MP7	X	84.57	3
24	MP7	Z	-48.83	3
25	MP7	X	84.57	69
26	MP7	Z	-48.83	69
27	MP7	X	18.57	%50
28	MP7	Z	-10.72	%50
29	MP10	X	68	%50
30	MP10	Z	-39.26	%50
31	MP6	X	44.54	%50
32	MP6	Z	-25.71	%50
33	MP11	X	99.8	3
34	MP11	Z	-57.62	3
35	MP11	X	99.8	69
36	MP11	Z	-57.62	69
37	MP11	X	99.8	3
38	MP11	Z	-57.62	3
39	MP11	X	99.8	69
40	MP11	Z	-57.62	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
41	MP11	X	18.57	%50
42	MP11	Z	-10.72	%50
43	MP10	X	68	%50
44	MP10	Z	-39.26	%50
45	MP7	X	44.54	%50
46	MP7	Z	-25.71	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	54.69	3
2	MP3	Z	-94.72	3
3	MP3	X	54.69	69
4	MP3	Z	-94.72	69
5	MP3	X	54.69	3
6	MP3	Z	-94.72	3
7	MP3	X	54.69	69
8	MP3	Z	-94.72	69
9	MP3	X	10.72	%50
10	MP3	Z	-18.57	%50
11	MP2	X	85.84	%50
12	MP2	Z	-148.68	%50
13	MP2	X	85.84	%50
14	MP2	Z	-148.68	%50
15	MP6	X	26.17	%50
16	MP6	Z	-45.33	%50
17	MP3	X	34.74	%50
18	MP3	Z	-60.18	%50
19	MP7	X	45.9	3
20	MP7	Z	-79.5	3
21	MP7	X	45.9	69
22	MP7	Z	-79.5	69
23	MP7	X	45.9	3
24	MP7	Z	-79.5	3
25	MP7	X	45.9	69
26	MP7	Z	-79.5	69
27	MP7	X	10.72	%50
28	MP7	Z	-18.57	%50
29	MP10	X	35.99	%50
30	MP10	Z	-62.33	%50
31	MP6	X	21.2	%50
32	MP6	Z	-36.72	%50
33	MP11	X	54.69	3
34	MP11	Z	-94.72	3
35	MP11	X	54.69	69
36	MP11	Z	-94.72	69
37	MP11	X	54.69	3
38	MP11	Z	-94.72	3
39	MP11	X	54.69	69
40	MP11	Z	-94.72	69
41	MP11	X	10.72	%50
42	MP11	Z	-18.57	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
43	MP10	X	35.99	%50
44	MP10	Z	-62.33	%50
45	MP7	X	21.2	%50
46	MP7	Z	-36.72	%50

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Y	-113.008	3
2	MP3	Y	-113.008	69
3	MP3	Y	-113.008	3
4	MP3	Y	-113.008	69
5	MP3	Y	-35.01	%50
6	MP2	Y	-140.939	%50
7	MP2	Y	-140.939	%50
8	MP6	Y	-74.992	%50
9	MP3	Y	-67.926	%50
10	MP7	Y	-113.008	3
11	MP7	Y	-113.008	69
12	MP7	Y	-113.008	3
13	MP7	Y	-113.008	69
14	MP7	Y	-35.01	%50
15	MP10	Y	-74.992	%50
16	MP6	Y	-67.926	%50
17	MP11	Y	-113.008	3
18	MP11	Y	-113.008	69
19	MP11	Y	-113.008	3
20	MP11	Y	-113.008	69
21	MP11	Y	-35.01	%50
22	MP10	Y	-74.992	%50
23	MP7	Y	-67.926	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	3
2	MP3	Z	-14.43	3
3	MP3	X	0	69
4	MP3	Z	-14.43	69
5	MP3	X	0	3
6	MP3	Z	-14.43	3
7	MP3	X	0	69
8	MP3	Z	-14.43	69
9	MP3	X	0	%50
10	MP3	Z	-3.01	%50
11	MP2	X	0	%50
12	MP2	Z	-15.01	%50
13	MP2	X	0	%50
14	MP2	Z	-15.01	%50
15	MP6	X	0	%50
16	MP6	Z	-6	%50
17	MP3	X	0	%50
18	MP3	Z	-6.78	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
19	MP7	X	0	3
20	MP7	Z	-12.96	3
21	MP7	X	0	69
22	MP7	Z	-12.96	69
23	MP7	X	0	3
24	MP7	Z	-12.96	3
25	MP7	X	0	69
26	MP7	Z	-12.96	69
27	MP7	X	0	%50
28	MP7	Z	-3.01	%50
29	MP10	X	0	%50
30	MP10	Z	-6	%50
31	MP6	X	0	%50
32	MP6	Z	-5.67	%50
33	MP11	X	0	3
34	MP11	Z	-12.96	3
35	MP11	X	0	69
36	MP11	Z	-12.96	69
37	MP11	X	0	3
38	MP11	Z	-12.96	3
39	MP11	X	0	69
40	MP11	Z	-12.96	69
41	MP11	X	0	%50
42	MP11	Z	-3.01	%50
43	MP10	X	0	%50
44	MP10	Z	-6	%50
45	MP7	X	0	%50
46	MP7	Z	-5.67	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-6.97	3
2	MP3	Z	-12.07	3
3	MP3	X	-6.97	69
4	MP3	Z	-12.07	69
5	MP3	X	-6.97	3
6	MP3	Z	-12.07	3
7	MP3	X	-6.97	69
8	MP3	Z	-12.07	69
9	MP3	X	-1.51	%50
10	MP3	Z	-2.61	%50
11	MP2	X	-6.7	%50
12	MP2	Z	-11.6	%50
13	MP2	X	-6.7	%50
14	MP2	Z	-11.6	%50
15	MP6	X	-3.26	%50
16	MP6	Z	-5.64	%50
17	MP3	X	-3.2	%50
18	MP3	Z	-5.55	%50
19	MP7	X	-6.97	3
20	MP7	Z	-12.07	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP7	X	-6.97	69
22	MP7	Z	-12.07	69
23	MP7	X	-6.97	3
24	MP7	Z	-12.07	3
25	MP7	X	-6.97	69
26	MP7	Z	-12.07	69
27	MP7	X	-1.51	%50
28	MP7	Z	-2.61	%50
29	MP10	X	-2.87	%50
30	MP10	Z	-4.97	%50
31	MP6	X	-3.2	%50
32	MP6	Z	-5.55	%50
33	MP11	X	-6.23	3
34	MP11	Z	-10.8	3
35	MP11	X	-6.23	69
36	MP11	Z	-10.8	69
37	MP11	X	-6.23	3
38	MP11	Z	-10.8	3
39	MP11	X	-6.23	69
40	MP11	Z	-10.8	69
41	MP11	X	-1.51	%50
42	MP11	Z	-2.61	%50
43	MP10	X	-2.87	%50
44	MP10	Z	-4.97	%50
45	MP7	X	-3.2	%50
46	MP7	Z	-5.55	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-11.22	3
2	MP3	Z	-6.48	3
3	MP3	X	-11.22	69
4	MP3	Z	-6.48	69
5	MP3	X	-11.22	3
6	MP3	Z	-6.48	3
7	MP3	X	-11.22	69
8	MP3	Z	-6.48	69
9	MP3	X	-2.61	%50
10	MP3	Z	-1.51	%50
11	MP2	X	-8.8	%50
12	MP2	Z	-5.08	%50
13	MP2	X	-8.8	%50
14	MP2	Z	-5.08	%50
15	MP6	X	-5.87	%50
16	MP6	Z	-3.39	%50
17	MP3	X	-4.91	%50
18	MP3	Z	-2.84	%50
19	MP7	X	-12.5	3
20	MP7	Z	-7.22	3
21	MP7	X	-12.5	69
22	MP7	Z	-7.22	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP7	X	-12.5	3
24	MP7	Z	-7.22	3
25	MP7	X	-12.5	69
26	MP7	Z	-7.22	69
27	MP7	X	-2.61	%50
28	MP7	Z	-1.51	%50
29	MP10	X	-5.19	%50
30	MP10	Z	-3	%50
31	MP6	X	-5.87	%50
32	MP6	Z	-3.39	%50
33	MP11	X	-11.22	3
34	MP11	Z	-6.48	3
35	MP11	X	-11.22	69
36	MP11	Z	-6.48	69
37	MP11	X	-11.22	3
38	MP11	Z	-6.48	3
39	MP11	X	-11.22	69
40	MP11	Z	-6.48	69
41	MP11	X	-2.61	%50
42	MP11	Z	-1.51	%50
43	MP10	X	-5.19	%50
44	MP10	Z	-3	%50
45	MP7	X	-5.87	%50
46	MP7	Z	-3.39	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-12.47	3
2	MP3	Z	0	3
3	MP3	X	-12.47	69
4	MP3	Z	0	69
5	MP3	X	-12.47	3
6	MP3	Z	0	3
7	MP3	X	-12.47	69
8	MP3	Z	0	69
9	MP3	X	-3.01	%50
10	MP3	Z	0	%50
11	MP2	X	-8.54	%50
12	MP2	Z	0	%50
13	MP2	X	-8.54	%50
14	MP2	Z	0	%50
15	MP6	X	-6.52	%50
16	MP6	Z	0	%50
17	MP3	X	-5.3	%50
18	MP3	Z	0	%50
19	MP7	X	-13.94	3
20	MP7	Z	0	3
21	MP7	X	-13.94	69
22	MP7	Z	0	69
23	MP7	X	-13.94	3
24	MP7	Z	0	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-13.94	69
26	MP7	Z	0	69
27	MP7	X	-3.01	%50
28	MP7	Z	0	%50
29	MP10	X	-6.52	%50
30	MP10	Z	0	%50
31	MP6	X	-6.41	%50
32	MP6	Z	0	%50
33	MP11	X	-13.94	3
34	MP11	Z	0	3
35	MP11	X	-13.94	69
36	MP11	Z	0	69
37	MP11	X	-13.94	3
38	MP11	Z	0	3
39	MP11	X	-13.94	69
40	MP11	Z	0	69
41	MP11	X	-3.01	%50
42	MP11	Z	0	%50
43	MP10	X	-6.52	%50
44	MP10	Z	0	%50
45	MP7	X	-6.41	%50
46	MP7	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-11.22	3
2	MP3	Z	6.48	3
3	MP3	X	-11.22	69
4	MP3	Z	6.48	69
5	MP3	X	-11.22	3
6	MP3	Z	6.48	3
7	MP3	X	-11.22	69
8	MP3	Z	6.48	69
9	MP3	X	-2.61	%50
10	MP3	Z	1.51	%50
11	MP2	X	-8.8	%50
12	MP2	Z	5.08	%50
13	MP2	X	-8.8	%50
14	MP2	Z	5.08	%50
15	MP6	X	-5.19	%50
16	MP6	Z	3	%50
17	MP3	X	-4.91	%50
18	MP3	Z	2.84	%50
19	MP7	X	-11.22	3
20	MP7	Z	6.48	3
21	MP7	X	-11.22	69
22	MP7	Z	6.48	69
23	MP7	X	-11.22	3
24	MP7	Z	6.48	3
25	MP7	X	-11.22	69
26	MP7	Z	6.48	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
27	MP7	X	-2.61	%50
28	MP7	Z	1.51	%50
29	MP10	X	-5.87	%50
30	MP10	Z	3.39	%50
31	MP6	X	-4.91	%50
32	MP6	Z	2.84	%50
33	MP11	X	-12.5	3
34	MP11	Z	7.22	3
35	MP11	X	-12.5	69
36	MP11	Z	7.22	69
37	MP11	X	-12.5	3
38	MP11	Z	7.22	3
39	MP11	X	-12.5	69
40	MP11	Z	7.22	69
41	MP11	X	-2.61	%50
42	MP11	Z	1.51	%50
43	MP10	X	-5.87	%50
44	MP10	Z	3.39	%50
45	MP7	X	-4.91	%50
46	MP7	Z	2.84	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-6.97	3
2	MP3	Z	12.07	3
3	MP3	X	-6.97	69
4	MP3	Z	12.07	69
5	MP3	X	-6.97	3
6	MP3	Z	12.07	3
7	MP3	X	-6.97	69
8	MP3	Z	12.07	69
9	MP3	X	-1.51	%50
10	MP3	Z	2.61	%50
11	MP2	X	-6.7	%50
12	MP2	Z	11.6	%50
13	MP2	X	-6.7	%50
14	MP2	Z	11.6	%50
15	MP6	X	-2.87	%50
16	MP6	Z	4.97	%50
17	MP3	X	-3.2	%50
18	MP3	Z	5.55	%50
19	MP7	X	-6.23	3
20	MP7	Z	10.8	3
21	MP7	X	-6.23	69
22	MP7	Z	10.8	69
23	MP7	X	-6.23	3
24	MP7	Z	10.8	3
25	MP7	X	-6.23	69
26	MP7	Z	10.8	69
27	MP7	X	-1.51	%50
28	MP7	Z	2.61	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
29	MP10	X	-3.26	%50
30	MP10	Z	5.64	%50
31	MP6	X	-2.65	%50
32	MP6	Z	4.59	%50
33	MP11	X	-6.97	3
34	MP11	Z	12.07	3
35	MP11	X	-6.97	69
36	MP11	Z	12.07	69
37	MP11	X	-6.97	3
38	MP11	Z	12.07	3
39	MP11	X	-6.97	69
40	MP11	Z	12.07	69
41	MP11	X	-1.51	%50
42	MP11	Z	2.61	%50
43	MP10	X	-3.26	%50
44	MP10	Z	5.64	%50
45	MP7	X	-2.65	%50
46	MP7	Z	4.59	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	0	3
2	MP3	Z	14.43	3
3	MP3	X	0	69
4	MP3	Z	14.43	69
5	MP3	X	0	3
6	MP3	Z	14.43	3
7	MP3	X	0	69
8	MP3	Z	14.43	69
9	MP3	X	0	%50
10	MP3	Z	3.01	%50
11	MP2	X	0	%50
12	MP2	Z	15.01	%50
13	MP2	X	0	%50
14	MP2	Z	15.01	%50
15	MP6	X	0	%50
16	MP6	Z	6	%50
17	MP3	X	0	%50
18	MP3	Z	6.78	%50
19	MP7	X	0	3
20	MP7	Z	12.96	3
21	MP7	X	0	69
22	MP7	Z	12.96	69
23	MP7	X	0	3
24	MP7	Z	12.96	3
25	MP7	X	0	69
26	MP7	Z	12.96	69
27	MP7	X	0	%50
28	MP7	Z	3.01	%50
29	MP10	X	0	%50
30	MP10	Z	6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP6	X	0	%50
32	MP6	Z	5.67	%50
33	MP11	X	0	3
34	MP11	Z	12.96	3
35	MP11	X	0	69
36	MP11	Z	12.96	69
37	MP11	X	0	3
38	MP11	Z	12.96	3
39	MP11	X	0	69
40	MP11	Z	12.96	69
41	MP11	X	0	%50
42	MP11	Z	3.01	%50
43	MP10	X	0	%50
44	MP10	Z	6	%50
45	MP7	X	0	%50
46	MP7	Z	5.67	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	6.97	3
2	MP3	Z	12.07	3
3	MP3	X	6.97	69
4	MP3	Z	12.07	69
5	MP3	X	6.97	3
6	MP3	Z	12.07	3
7	MP3	X	6.97	69
8	MP3	Z	12.07	69
9	MP3	X	1.51	%50
10	MP3	Z	2.61	%50
11	MP2	X	6.7	%50
12	MP2	Z	11.6	%50
13	MP2	X	6.7	%50
14	MP2	Z	11.6	%50
15	MP6	X	3.26	%50
16	MP6	Z	5.64	%50
17	MP3	X	3.2	%50
18	MP3	Z	5.55	%50
19	MP7	X	6.97	3
20	MP7	Z	12.07	3
21	MP7	X	6.97	69
22	MP7	Z	12.07	69
23	MP7	X	6.97	3
24	MP7	Z	12.07	3
25	MP7	X	6.97	69
26	MP7	Z	12.07	69
27	MP7	X	1.51	%50
28	MP7	Z	2.61	%50
29	MP10	X	2.87	%50
30	MP10	Z	4.97	%50
31	MP6	X	3.2	%50
32	MP6	Z	5.55	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
33	MP11	X	6.23	3
34	MP11	Z	10.8	3
35	MP11	X	6.23	69
36	MP11	Z	10.8	69
37	MP11	X	6.23	3
38	MP11	Z	10.8	3
39	MP11	X	6.23	69
40	MP11	Z	10.8	69
41	MP11	X	1.51	%50
42	MP11	Z	2.61	%50
43	MP10	X	2.87	%50
44	MP10	Z	4.97	%50
45	MP7	X	3.2	%50
46	MP7	Z	5.55	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	11.22	3
2	MP3	Z	6.48	3
3	MP3	X	11.22	69
4	MP3	Z	6.48	69
5	MP3	X	11.22	3
6	MP3	Z	6.48	3
7	MP3	X	11.22	69
8	MP3	Z	6.48	69
9	MP3	X	2.61	%50
10	MP3	Z	1.51	%50
11	MP2	X	8.8	%50
12	MP2	Z	5.08	%50
13	MP2	X	8.8	%50
14	MP2	Z	5.08	%50
15	MP6	X	5.87	%50
16	MP6	Z	3.39	%50
17	MP3	X	4.91	%50
18	MP3	Z	2.84	%50
19	MP7	X	12.5	3
20	MP7	Z	7.22	3
21	MP7	X	12.5	69
22	MP7	Z	7.22	69
23	MP7	X	12.5	3
24	MP7	Z	7.22	3
25	MP7	X	12.5	69
26	MP7	Z	7.22	69
27	MP7	X	2.61	%50
28	MP7	Z	1.51	%50
29	MP10	X	5.19	%50
30	MP10	Z	3	%50
31	MP6	X	5.87	%50
32	MP6	Z	3.39	%50
33	MP11	X	11.22	3
34	MP11	Z	6.48	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
35	MP11	X	11.22	69
36	MP11	Z	6.48	69
37	MP11	X	11.22	3
38	MP11	Z	6.48	3
39	MP11	X	11.22	69
40	MP11	Z	6.48	69
41	MP11	X	2.61	%50
42	MP11	Z	1.51	%50
43	MP10	X	5.19	%50
44	MP10	Z	3	%50
45	MP7	X	5.87	%50
46	MP7	Z	3.39	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	12.47	3
2	MP3	Z	0	3
3	MP3	X	12.47	69
4	MP3	Z	0	69
5	MP3	X	12.47	3
6	MP3	Z	0	3
7	MP3	X	12.47	69
8	MP3	Z	0	69
9	MP3	X	3.01	%50
10	MP3	Z	0	%50
11	MP2	X	8.54	%50
12	MP2	Z	0	%50
13	MP2	X	8.54	%50
14	MP2	Z	0	%50
15	MP6	X	6.52	%50
16	MP6	Z	0	%50
17	MP3	X	5.3	%50
18	MP3	Z	0	%50
19	MP7	X	13.94	3
20	MP7	Z	0	3
21	MP7	X	13.94	69
22	MP7	Z	0	69
23	MP7	X	13.94	3
24	MP7	Z	0	3
25	MP7	X	13.94	69
26	MP7	Z	0	69
27	MP7	X	3.01	%50
28	MP7	Z	0	%50
29	MP10	X	6.52	%50
30	MP10	Z	0	%50
31	MP6	X	6.41	%50
32	MP6	Z	0	%50
33	MP11	X	13.94	3
34	MP11	Z	0	3
35	MP11	X	13.94	69
36	MP11	Z	0	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
37	MP11	X	13.94	3
38	MP11	Z	0	3
39	MP11	X	13.94	69
40	MP11	Z	0	69
41	MP11	X	3.01	%50
42	MP11	Z	0	%50
43	MP10	X	6.52	%50
44	MP10	Z	0	%50
45	MP7	X	6.41	%50
46	MP7	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	11.22	3
2	MP3	Z	-6.48	3
3	MP3	X	11.22	69
4	MP3	Z	-6.48	69
5	MP3	X	11.22	3
6	MP3	Z	-6.48	3
7	MP3	X	11.22	69
8	MP3	Z	-6.48	69
9	MP3	X	2.61	%50
10	MP3	Z	-1.51	%50
11	MP2	X	8.8	%50
12	MP2	Z	-5.08	%50
13	MP2	X	8.8	%50
14	MP2	Z	-5.08	%50
15	MP6	X	5.19	%50
16	MP6	Z	-3	%50
17	MP3	X	4.91	%50
18	MP3	Z	-2.84	%50
19	MP7	X	11.22	3
20	MP7	Z	-6.48	3
21	MP7	X	11.22	69
22	MP7	Z	-6.48	69
23	MP7	X	11.22	3
24	MP7	Z	-6.48	3
25	MP7	X	11.22	69
26	MP7	Z	-6.48	69
27	MP7	X	2.61	%50
28	MP7	Z	-1.51	%50
29	MP10	X	5.87	%50
30	MP10	Z	-3.39	%50
31	MP6	X	4.91	%50
32	MP6	Z	-2.84	%50
33	MP11	X	12.5	3
34	MP11	Z	-7.22	3
35	MP11	X	12.5	69
36	MP11	Z	-7.22	69
37	MP11	X	12.5	3
38	MP11	Z	-7.22	3

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
39	MP11	X	12.5	69
40	MP11	Z	-7.22	69
41	MP11	X	2.61	%50
42	MP11	Z	-1.51	%50
43	MP10	X	5.87	%50
44	MP10	Z	-3.39	%50
45	MP7	X	4.91	%50
46	MP7	Z	-2.84	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	6.97	3
2	MP3	Z	-12.07	3
3	MP3	X	6.97	69
4	MP3	Z	-12.07	69
5	MP3	X	6.97	3
6	MP3	Z	-12.07	3
7	MP3	X	6.97	69
8	MP3	Z	-12.07	69
9	MP3	X	1.51	%50
10	MP3	Z	-2.61	%50
11	MP2	X	6.7	%50
12	MP2	Z	-11.6	%50
13	MP2	X	6.7	%50
14	MP2	Z	-11.6	%50
15	MP6	X	2.87	%50
16	MP6	Z	-4.97	%50
17	MP3	X	3.2	%50
18	MP3	Z	-5.55	%50
19	MP7	X	6.23	3
20	MP7	Z	-10.8	3
21	MP7	X	6.23	69
22	MP7	Z	-10.8	69
23	MP7	X	6.23	3
24	MP7	Z	-10.8	3
25	MP7	X	6.23	69
26	MP7	Z	-10.8	69
27	MP7	X	1.51	%50
28	MP7	Z	-2.61	%50
29	MP10	X	3.26	%50
30	MP10	Z	-5.64	%50
31	MP6	X	2.65	%50
32	MP6	Z	-4.59	%50
33	MP11	X	6.97	3
34	MP11	Z	-12.07	3
35	MP11	X	6.97	69
36	MP11	Z	-12.07	69
37	MP11	X	6.97	3
38	MP11	Z	-12.07	3
39	MP11	X	6.97	69
40	MP11	Z	-12.07	69

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
41	MP11	X	1.51	%50
42	MP11	Z	-2.61	%50
43	MP10	X	3.26	%50
44	MP10	Z	-5.64	%50
45	MP7	X	2.65	%50
46	MP7	Z	-4.59	%50

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Z	-2.87	3
2	MP3	Z	-2.87	69
3	MP3	Z	-2.87	3
4	MP3	Z	-2.87	69
5	MP3	Z	-1.877	%50
6	MP2	Z	-3.989	%50
7	MP2	Z	-3.989	%50
8	MP6	Z	-7.652	%50
9	MP3	Z	-6.374	%50
10	MP7	Z	-2.87	3
11	MP7	Z	-2.87	69
12	MP7	Z	-2.87	3
13	MP7	Z	-2.87	69
14	MP7	Z	-1.877	%50
15	MP10	Z	-7.652	%50
16	MP6	Z	-6.374	%50
17	MP11	Z	-2.87	3
18	MP11	Z	-2.87	69
19	MP11	Z	-2.87	3
20	MP11	Z	-2.87	69
21	MP11	Z	-1.877	%50
22	MP10	Z	-7.652	%50
23	MP7	Z	-6.374	%50

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-2.87	3
2	MP3	X	-2.87	69
3	MP3	X	-2.87	3
4	MP3	X	-2.87	69
5	MP3	X	-1.877	%50
6	MP2	X	-3.989	%50
7	MP2	X	-3.989	%50
8	MP6	X	-7.652	%50
9	MP3	X	-6.374	%50
10	MP7	X	-2.87	3
11	MP7	X	-2.87	69
12	MP7	X	-2.87	3
13	MP7	X	-2.87	69
14	MP7	X	-1.877	%50
15	MP10	X	-7.652	%50
16	MP6	X	-6.374	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
17	MP11	X	-2.87	3
18	MP11	X	-2.87	69
19	MP11	X	-2.87	3
20	MP11	X	-2.87	69
21	MP11	X	-1.877	%50
22	MP10	X	-7.652	%50
23	MP7	X	-6.374	%50

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	SZ	-92.633	-92.633	0	%100
2	M2	SZ	-92.633	-92.633	0	%100
3	M3	SZ	-92.633	-92.633	0	%100
4	M4	SZ	-92.633	-92.633	0	%100
5	M5	SZ	-92.633	-92.633	0	%100
6	M6	SZ	-92.633	-92.633	0	%100
7	M7	SZ	-92.633	-92.633	0	%100
8	M8	SZ	-92.633	-92.633	0	%100
9	M9	SZ	-92.633	-92.633	0	%100
10	M10	SZ	0	0	0	%100
11	M11	SZ	0	0	0	%100
12	M12	SZ	0	0	0	%100
13	M13	SZ	0	0	0	%100
14	M14	SZ	0	0	0	%100
15	M15	SZ	0	0	0	%100
16	M16	SZ	0	0	0	%100
17	M17	SZ	0	0	0	%100
18	M18	SZ	0	0	0	%100
19	M19	SZ	0	0	0	%100
20	M20	SZ	0	0	0	%100
21	M21	SZ	0	0	0	%100
22	M22	SZ	-92.633	-92.633	0	%100
23	M23	SZ	-92.633	-92.633	0	%100
24	M24	SZ	-92.633	-92.633	0	%100
25	M25	SZ	-92.633	-92.633	0	%100
26	M26	SZ	-92.633	-92.633	0	%100
27	M27	SZ	-92.633	-92.633	0	%100
28	MP1	SZ	-55.58	-55.58	0	%100
29	MP2	SZ	-55.58	-55.58	0	%100
30	MP4	SZ	-55.58	-55.58	0	%100
31	MP5	SZ	-55.58	-55.58	0	%100
32	MP8	SZ	-55.58	-55.58	0	%100
33	MP9	SZ	-55.58	-55.58	0	%100
34	MP12	SZ	-55.58	-55.58	0	%100
35	MP3	SZ	-55.58	-55.58	0	%100
36	MP10	SZ	-55.58	-55.58	0	%100
37	MP11	SZ	-55.58	-55.58	0	%100
38	MP6	SZ	-55.58	-55.58	0	%100
39	MP7	SZ	-55.58	-55.58	0	%100
40	M40	SZ	-55.58	-55.58	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
41	M41	SZ	-55.58	-55.58	0	%100
42	M42	SZ	-55.58	-55.58	0	%100
43	M43	SZ	-92.633	-92.633	0	%100
44	M44	SZ	-92.633	-92.633	0	%100
45	M45	SZ	-92.633	-92.633	0	%100
46	M46	SZ	-92.633	-92.633	0	%100
47	M47	SZ	-92.633	-92.633	0	%100
48	M48	SZ	-92.633	-92.633	0	%100
49	M49	SZ	-92.633	-92.633	0	%100
50	M50	SZ	-92.633	-92.633	0	%100
51	M51	SZ	-92.633	-92.633	0	%100
52	M52	SZ	-92.633	-92.633	0	%100
53	M53	SZ	-92.633	-92.633	0	%100
54	M54	SZ	-92.633	-92.633	0	%100
55	M55	SZ	-92.633	-92.633	0	%100
56	M56	SZ	-92.633	-92.633	0	%100
57	M57	SZ	-92.633	-92.633	0	%100
58	M58	SZ	-92.633	-92.633	0	%100
59	M59	SZ	-92.633	-92.633	0	%100
60	M60	SZ	-92.633	-92.633	0	%100
61	M61	SZ	-92.633	-92.633	0	%100
62	M62	SZ	-92.633	-92.633	0	%100
63	M63	SZ	-92.633	-92.633	0	%100
64	M64	SZ	-92.633	-92.633	0	%100
65	M65	SZ	-92.633	-92.633	0	%100
66	M66	SZ	-92.633	-92.633	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-92.633	-92.633	0	%100
2	M2	SX	-92.633	-92.633	0	%100
3	M3	SX	-92.633	-92.633	0	%100
4	M4	SX	-92.633	-92.633	0	%100
5	M5	SX	-92.633	-92.633	0	%100
6	M6	SX	-92.633	-92.633	0	%100
7	M7	SX	-92.633	-92.633	0	%100
8	M8	SX	-92.633	-92.633	0	%100
9	M9	SX	-92.633	-92.633	0	%100
10	M10	SX	0	0	0	%100
11	M11	SX	0	0	0	%100
12	M12	SX	0	0	0	%100
13	M13	SX	0	0	0	%100
14	M14	SX	0	0	0	%100
15	M15	SX	0	0	0	%100
16	M16	SX	0	0	0	%100
17	M17	SX	0	0	0	%100
18	M18	SX	0	0	0	%100
19	M19	SX	0	0	0	%100
20	M20	SX	0	0	0	%100
21	M21	SX	0	0	0	%100
22	M22	SX	-92.633	-92.633	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
23	M23	SX	-92.633	-92.633	0	%100
24	M24	SX	-92.633	-92.633	0	%100
25	M25	SX	-92.633	-92.633	0	%100
26	M26	SX	-92.633	-92.633	0	%100
27	M27	SX	-92.633	-92.633	0	%100
28	MP1	SX	-55.58	-55.58	0	%100
29	MP2	SX	-55.58	-55.58	0	%100
30	MP4	SX	-55.58	-55.58	0	%100
31	MP5	SX	-55.58	-55.58	0	%100
32	MP8	SX	-55.58	-55.58	0	%100
33	MP9	SX	-55.58	-55.58	0	%100
34	MP12	SX	-55.58	-55.58	0	%100
35	MP3	SX	-55.58	-55.58	0	%100
36	MP10	SX	-55.58	-55.58	0	%100
37	MP11	SX	-55.58	-55.58	0	%100
38	MP6	SX	-55.58	-55.58	0	%100
39	MP7	SX	-55.58	-55.58	0	%100
40	M40	SX	-55.58	-55.58	0	%100
41	M41	SX	-55.58	-55.58	0	%100
42	M42	SX	-55.58	-55.58	0	%100
43	M43	SX	-92.633	-92.633	0	%100
44	M44	SX	-92.633	-92.633	0	%100
45	M45	SX	-92.633	-92.633	0	%100
46	M46	SX	-92.633	-92.633	0	%100
47	M47	SX	-92.633	-92.633	0	%100
48	M48	SX	-92.633	-92.633	0	%100
49	M49	SX	-92.633	-92.633	0	%100
50	M50	SX	-92.633	-92.633	0	%100
51	M51	SX	-92.633	-92.633	0	%100
52	M52	SX	-92.633	-92.633	0	%100
53	M53	SX	-92.633	-92.633	0	%100
54	M54	SX	-92.633	-92.633	0	%100
55	M55	SX	-92.633	-92.633	0	%100
56	M56	SX	-92.633	-92.633	0	%100
57	M57	SX	-92.633	-92.633	0	%100
58	M58	SX	-92.633	-92.633	0	%100
59	M59	SX	-92.633	-92.633	0	%100
60	M60	SX	-92.633	-92.633	0	%100
61	M61	SX	-92.633	-92.633	0	%100
62	M62	SX	-92.633	-92.633	0	%100
63	M63	SX	-92.633	-92.633	0	%100
64	M64	SX	-92.633	-92.633	0	%100
65	M65	SX	-92.633	-92.633	0	%100
66	M66	SX	-92.633	-92.633	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-15.431	-15.431	0	%100
2	M2	Y	-15.431	-15.431	0	%100
3	M3	Y	-15.431	-15.431	0	%100
4	M4	Y	-15.431	-15.431	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
5	M5	Y	-15.431	-15.431	0	%100
6	M6	Y	-15.431	-15.431	0	%100
7	M7	Y	-15.431	-15.431	0	%100
8	M8	Y	-15.431	-15.431	0	%100
9	M9	Y	-15.431	-15.431	0	%100
10	M10	Y	-3.588	-3.588	0	%100
11	M11	Y	-3.588	-3.588	0	%100
12	M12	Y	-3.588	-3.588	0	%100
13	M13	Y	-3.588	-3.588	0	%100
14	M14	Y	-3.588	-3.588	0	%100
15	M15	Y	-3.588	-3.588	0	%100
16	M16	Y	-3.588	-3.588	0	%100
17	M17	Y	-3.588	-3.588	0	%100
18	M18	Y	-3.588	-3.588	0	%100
19	M19	Y	-3.588	-3.588	0	%100
20	M20	Y	-3.588	-3.588	0	%100
21	M21	Y	-3.588	-3.588	0	%100
22	M22	Y	-9.51	-9.51	0	%100
23	M23	Y	-9.51	-9.51	0	%100
24	M24	Y	-9.51	-9.51	0	%100
25	M25	Y	-9.51	-9.51	0	%100
26	M26	Y	-9.51	-9.51	0	%100
27	M27	Y	-9.51	-9.51	0	%100
28	MP1	Y	-8.56	-8.56	0	%100
29	MP2	Y	-8.56	-8.56	0	%100
30	MP4	Y	-8.56	-8.56	0	%100
31	MP5	Y	-8.56	-8.56	0	%100
32	MP8	Y	-8.56	-8.56	0	%100
33	MP9	Y	-8.56	-8.56	0	%100
34	MP12	Y	-8.56	-8.56	0	%100
35	MP3	Y	-8.56	-8.56	0	%100
36	MP10	Y	-8.56	-8.56	0	%100
37	MP11	Y	-8.56	-8.56	0	%100
38	MP6	Y	-8.56	-8.56	0	%100
39	MP7	Y	-8.56	-8.56	0	%100
40	M40	Y	-10.916	-10.916	0	%100
41	M41	Y	-10.916	-10.916	0	%100
42	M42	Y	-10.916	-10.916	0	%100
43	M43	Y	-16.193	-16.193	0	%100
44	M44	Y	-16.193	-16.193	0	%100
45	M45	Y	-16.193	-16.193	0	%100
46	M46	Y	-16.193	-16.193	0	%100
47	M47	Y	-16.193	-16.193	0	%100
48	M48	Y	-16.193	-16.193	0	%100
49	M49	Y	-16.193	-16.193	0	%100
50	M50	Y	-16.193	-16.193	0	%100
51	M51	Y	-16.193	-16.193	0	%100
52	M52	Y	-16.193	-16.193	0	%100
53	M53	Y	-16.193	-16.193	0	%100
54	M54	Y	-16.193	-16.193	0	%100
55	M55	Y	-16.174	-16.174	0	%100
56	M56	Y	-16.174	-16.174	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
57	M57	Y	-16.174	-16.174	0	%100
58	M58	Y	-16.174	-16.174	0	%100
59	M59	Y	-16.174	-16.174	0	%100
60	M60	Y	-16.174	-16.174	0	%100
61	M61	Y	-16.174	-16.174	0	%100
62	M62	Y	-16.174	-16.174	0	%100
63	M63	Y	-16.174	-16.174	0	%100
64	M64	Y	-16.174	-16.174	0	%100
65	M65	Y	-16.174	-16.174	0	%100
66	M66	Y	-16.174	-16.174	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	SZ	-12.243	-12.243	0	%100
2	M2	SZ	-12.243	-12.243	0	%100
3	M3	SZ	-12.243	-12.243	0	%100
4	M4	SZ	-12.243	-12.243	0	%100
5	M5	SZ	-12.243	-12.243	0	%100
6	M6	SZ	-12.243	-12.243	0	%100
7	M7	SZ	-12.243	-12.243	0	%100
8	M8	SZ	-12.243	-12.243	0	%100
9	M9	SZ	-12.243	-12.243	0	%100
10	M10	SZ	0	0	0	%100
11	M11	SZ	0	0	0	%100
12	M12	SZ	0	0	0	%100
13	M13	SZ	0	0	0	%100
14	M14	SZ	0	0	0	%100
15	M15	SZ	0	0	0	%100
16	M16	SZ	0	0	0	%100
17	M17	SZ	0	0	0	%100
18	M18	SZ	0	0	0	%100
19	M19	SZ	0	0	0	%100
20	M20	SZ	0	0	0	%100
21	M21	SZ	0	0	0	%100
22	M22	SZ	-16.863	-16.863	0	%100
23	M23	SZ	-16.863	-16.863	0	%100
24	M24	SZ	-16.863	-16.863	0	%100
25	M25	SZ	-16.863	-16.863	0	%100
26	M26	SZ	-16.863	-16.863	0	%100
27	M27	SZ	-16.863	-16.863	0	%100
28	MP1	SZ	-18.626	-18.626	0	%100
29	MP2	SZ	-18.626	-18.626	0	%100
30	MP4	SZ	-18.626	-18.626	0	%100
31	MP5	SZ	-18.626	-18.626	0	%100
32	MP8	SZ	-18.626	-18.626	0	%100
33	MP9	SZ	-18.626	-18.626	0	%100
34	MP12	SZ	-18.626	-18.626	0	%100
35	MP3	SZ	-18.626	-18.626	0	%100
36	MP10	SZ	-18.626	-18.626	0	%100
37	MP11	SZ	-18.626	-18.626	0	%100
38	MP6	SZ	-18.626	-18.626	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
39	MP7	SZ	-18.626	-18.626	0	%100
40	M40	SZ	-15.09	-15.09	0	%100
41	M41	SZ	-15.09	-15.09	0	%100
42	M42	SZ	-15.09	-15.09	0	%100
43	M43	SZ	-11.964	-11.964	0	%100
44	M44	SZ	-11.964	-11.964	0	%100
45	M45	SZ	-11.964	-11.964	0	%100
46	M46	SZ	-11.964	-11.964	0	%100
47	M47	SZ	-11.964	-11.964	0	%100
48	M48	SZ	-11.964	-11.964	0	%100
49	M49	SZ	-11.964	-11.964	0	%100
50	M50	SZ	-11.964	-11.964	0	%100
51	M51	SZ	-11.964	-11.964	0	%100
52	M52	SZ	-11.964	-11.964	0	%100
53	M53	SZ	-11.964	-11.964	0	%100
54	M54	SZ	-11.964	-11.964	0	%100
55	M55	SZ	-11.971	-11.971	0	%100
56	M56	SZ	-11.971	-11.971	0	%100
57	M57	SZ	-11.971	-11.971	0	%100
58	M58	SZ	-11.971	-11.971	0	%100
59	M59	SZ	-11.971	-11.971	0	%100
60	M60	SZ	-11.971	-11.971	0	%100
61	M61	SZ	-11.971	-11.971	0	%100
62	M62	SZ	-11.971	-11.971	0	%100
63	M63	SZ	-11.971	-11.971	0	%100
64	M64	SZ	-11.971	-11.971	0	%100
65	M65	SZ	-11.971	-11.971	0	%100
66	M66	SZ	-11.971	-11.971	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-12.243	-12.243	0	%100
2	M2	SX	-12.243	-12.243	0	%100
3	M3	SX	-12.243	-12.243	0	%100
4	M4	SX	-12.243	-12.243	0	%100
5	M5	SX	-12.243	-12.243	0	%100
6	M6	SX	-12.243	-12.243	0	%100
7	M7	SX	-12.243	-12.243	0	%100
8	M8	SX	-12.243	-12.243	0	%100
9	M9	SX	-12.243	-12.243	0	%100
10	M10	SX	0	0	0	%100
11	M11	SX	0	0	0	%100
12	M12	SX	0	0	0	%100
13	M13	SX	0	0	0	%100
14	M14	SX	0	0	0	%100
15	M15	SX	0	0	0	%100
16	M16	SX	0	0	0	%100
17	M17	SX	0	0	0	%100
18	M18	SX	0	0	0	%100
19	M19	SX	0	0	0	%100
20	M20	SX	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
21	M21	SX	0	0	0	%100
22	M22	SX	-16.863	-16.863	0	%100
23	M23	SX	-16.863	-16.863	0	%100
24	M24	SX	-16.863	-16.863	0	%100
25	M25	SX	-16.863	-16.863	0	%100
26	M26	SX	-16.863	-16.863	0	%100
27	M27	SX	-16.863	-16.863	0	%100
28	MP1	SX	-18.626	-18.626	0	%100
29	MP2	SX	-18.626	-18.626	0	%100
30	MP4	SX	-18.626	-18.626	0	%100
31	MP5	SX	-18.626	-18.626	0	%100
32	MP8	SX	-18.626	-18.626	0	%100
33	MP9	SX	-18.626	-18.626	0	%100
34	MP12	SX	-18.626	-18.626	0	%100
35	MP3	SX	-18.626	-18.626	0	%100
36	MP10	SX	-18.626	-18.626	0	%100
37	MP11	SX	-18.626	-18.626	0	%100
38	MP6	SX	-18.626	-18.626	0	%100
39	MP7	SX	-18.626	-18.626	0	%100
40	M40	SX	-15.09	-15.09	0	%100
41	M41	SX	-15.09	-15.09	0	%100
42	M42	SX	-15.09	-15.09	0	%100
43	M43	SX	-11.964	-11.964	0	%100
44	M44	SX	-11.964	-11.964	0	%100
45	M45	SX	-11.964	-11.964	0	%100
46	M46	SX	-11.964	-11.964	0	%100
47	M47	SX	-11.964	-11.964	0	%100
48	M48	SX	-11.964	-11.964	0	%100
49	M49	SX	-11.964	-11.964	0	%100
50	M50	SX	-11.964	-11.964	0	%100
51	M51	SX	-11.964	-11.964	0	%100
52	M52	SX	-11.964	-11.964	0	%100
53	M53	SX	-11.964	-11.964	0	%100
54	M54	SX	-11.964	-11.964	0	%100
55	M55	SX	-11.971	-11.971	0	%100
56	M56	SX	-11.971	-11.971	0	%100
57	M57	SX	-11.971	-11.971	0	%100
58	M58	SX	-11.971	-11.971	0	%100
59	M59	SX	-11.971	-11.971	0	%100
60	M60	SX	-11.971	-11.971	0	%100
61	M61	SX	-11.971	-11.971	0	%100
62	M62	SX	-11.971	-11.971	0	%100
63	M63	SX	-11.971	-11.971	0	%100
64	M64	SX	-11.971	-11.971	0	%100
65	M65	SX	-11.971	-11.971	0	%100
66	M66	SX	-11.971	-11.971	0	%100

Member Distributed Loads (BLC 46 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-6.784	-6.784	29.433	49.703
2	M4	Y	-6.491	-6.491	18.63	28.301

Member Distributed Loads (BLC 46 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
3	M5	Y	-6.491	-6.491	2	11.671
4	M22	Y	-.725	-3.051	0	25.677
5	M22	Y	-3.051	-5.378	25.677	51.353
6	M23	Y	-.725	-3.051	0	25.677
7	M23	Y	-3.051	-5.378	25.677	51.353
8	M3	Y	-6.784	-6.784	29.433	49.703
9	M8	Y	-6.491	-6.491	18.63	28.3
10	M9	Y	-6.491	-6.491	2	11.671
11	M26	Y	-.725	-3.051	0	25.677
12	M26	Y	-3.051	-5.378	25.677	51.353
13	M27	Y	-.725	-3.051	0	25.676
14	M27	Y	-3.051	-5.378	25.676	51.353
15	M2	Y	-6.784	-6.784	29.433	49.703
16	M6	Y	-6.491	-6.491	18.63	28.301
17	M7	Y	-6.491	-6.491	2	11.671
18	M24	Y	-.725	-3.051	0	25.677
19	M24	Y	-3.051	-5.378	25.677	51.353
20	M25	Y	-.725	-3.051	0	25.677
21	M25	Y	-3.051	-5.378	25.677	51.353

Member Distributed Loads (BLC 47 : BLC 16 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M3	Y	-36.182	-36.182	29.433	49.703
2	M8	Y	-34.619	-34.619	18.63	28.3
3	M9	Y	-34.619	-34.619	2	11.671
4	M26	Y	-3.865	-16.273	0	25.677
5	M26	Y	-16.273	-28.682	25.677	51.353
6	M27	Y	-3.865	-16.273	0	25.676
7	M27	Y	-16.273	-28.681	25.676	51.353
8	M2	Y	-18.091	-18.091	29.433	49.703
9	M6	Y	-17.309	-17.309	18.63	28.301
10	M7	Y	-17.31	-17.31	2	11.671
11	M24	Y	-1.932	-8.137	0	25.677
12	M24	Y	-8.137	-14.341	25.677	51.353
13	M25	Y	-1.932	-8.137	0	25.677
14	M25	Y	-8.137	-14.341	25.677	51.353

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N95	N1	N96		Y	Two Way	-6
2	N100	N4	N99		Y	Two Way	-6
3	N97	N98	N3		Y	Two Way	-6

Member Area Loads (BLC 16 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N100	N4	N99		Y	Two Way	-16
2	N100	N4	N99		Y	Two Way	-16
3	N97	N98	N3		Y	Two Way	-16

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.3

PROJECT DATA	
Site Name:	TOWN OF PLAINFIELD/SSUSA
Site Number:	876401
Job Code:	1039-D0002-B
Connection Description:	Standoff to tower

APPLIED LOADS		
Bolt Tension:	5962.50	lbs
Bolt Shear:	882.04	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	29.3%	
Shear Usage	6.4%	
Interaction Check	0.09	***<1.05***
Result	Pass	

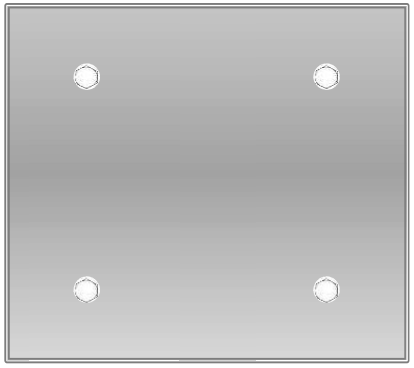

Exhibit F

Power Density/RF Emissions Report

Site Name: Plainfield North 2 CT

Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW CBRS	3600			0	127	0.0000	2.4	0.00%
VZW PCS	1970	4	1480	5919.12	127	0.1320	1.0	13.20%
VZW Cellular	869			0	127	0.0000	0.579333333	0.00%
VZW Cellular	880	4	302	1209.64	127	0.0270	0.586666667	4.60%
VZW AWS	2145	4	1450	5801.76	127	0.1294	1.0	12.94%
VZW 700	746	4	628	2511.04	127	0.0560	0.497333333	11.26%
Total Percentage of Maximum Permissible Exposure								41.99%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.