



4545 East River Road
Suite 320
West Henrietta, NY 14586

January 24, 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#: 876345
33 Janoski Road, Ashford, CT 06278
Lat: 41° 57' 7.70" / Long: -72° 11' 43.90"**

Dear Ms. Bachman:

Verizon currently maintains six (6) total antennas at the 181-foot mount on the existing 192-foot self-support tower located at 33 Janoski Road in Ashford. The tower is owned by Crown Castle and the property is owned by the Martin Family Trust. Verizon now intends to add three (3) antennas at the 181-foot mount.

Tower modifications:

- Remove nine (9) existing remote radio units
- Add three (3) XXDWMM-12.5-65-8T antennas
- Add nine (9) new remote radio units
- Add three (3) diplexers
- Add two (2) raycaps
- Add two (2) hybrid cables

Ground modifications:

- None

Melanie A. Bachman

The facility was approved by the Town of Ashford Planning and Zoning Commission on November 12, 1996. The approval did not involve conditions that would be violated by this modification.

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 Ralph H. Fletcher, First Selectman for the Town of Ashford, Michael D'Amato, Zoning Enforcement Officer, and Martin Family Trust, the property owner.

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

For the foregoing reasons, 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.

Sincerely,



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

Melanie A. Bachman

cc:

Ralph H. Fletcher, First Selectman
Town of Ashford
5 Town Hall Road
Ashford, CT 06278
860-487-4400

Michael D'Amato, ZEO
Town of Ashford
Planning Department
5 Town Hall Road
Warrenville, CT 06278
860-487-4415

Martin Family Living Trust, Property Owner
33 Janoski Road
Ashford, CT 06278

ORIGIN ID: ONHA (585) 445-5896
RICHARD ZAJAC
CROWN CASTLE
4545 EAST RIVER ROAD
SUITE 320
WEST HENRIETTA, NY 14568
UNITED STATES US

SHIP DATE: 24JAN20
ACTWGT: 1.00 LB
CAD: 104924194/NINET4220

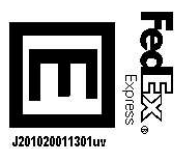
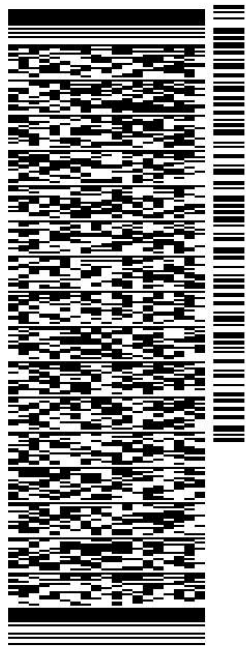
BILL SENDER

TO **MARTIN FAMILY LIVING TRUST**

33 JANOSKI ROAD

ASHFORD CT 06278

(585) 445-5896 REF: 1734 7890
INV/ PO: DEPT:



J201020011301ur

56B.J2/DF82/FE4A

TRK# 7775 9652 8095
0201

TUE - 28 JAN 4:30P

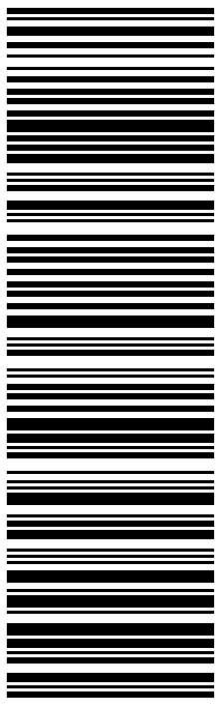
** 2DAY **

DSR

06278

CT-US BDL

SE GONA



After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID: ONHA (585) 445-5896
RICHARD ZAJAC
CROWN CASTLE
4545 EAST RIVER ROAD
SUITE 320
WEST HENRIETTA, NY 14568
UNITED STATES US

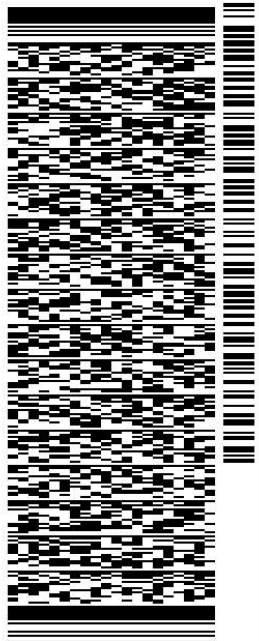
SHIP DATE: 24JAN20
ACTWGT: 1.00 LB
CAD: 104924194/IN/ET4220

BILL SENDER

TO MICHAEL D'AMATO - PLANNING DEPT
TOWN OF ASHFORD
5 TOWN HALL ROAD

WARRENVILLE CT 06278

(860) 487-4415 REF: 1734.7890
INV/ PO: DEPT:



J201020011301uv

56B.J2/DF82/FE4A

TRK# 7775 9650 7649
0201

TUE - 28 JAN 4:30P

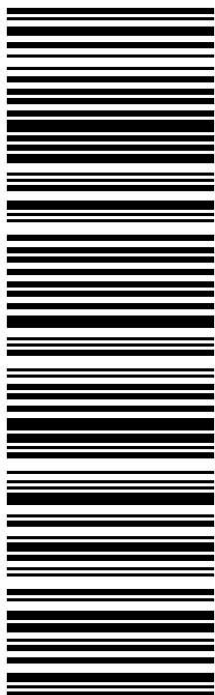
** 2DAY **

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4545 EAST RIVER ROAD
SUITE 320
WEST HENRIETTA, NY 14568
UNITED STATES US

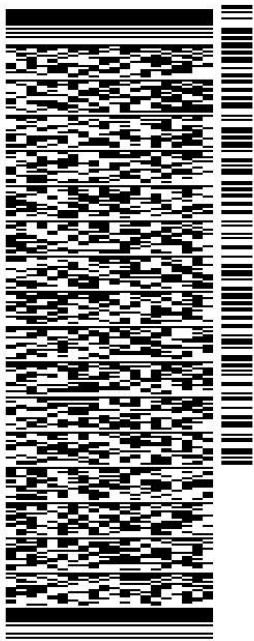
SHIP DATE: 24JAN20
ACTWGT: 1.00 LB
CAD: 104924194IN/ET4220

BILL SENDER

TO RALPH FLETCHER - FIRST SELECTMAN
TOWN OF ASHFORD
5 TOWN HALL ROAD

ASHFORD CT 06278

(860) 487-4400 REF: 1734 7890
INV/ DEPT:
PO:



56B.J2/DF82/FE4A

TRK# 7775 9649 0043
0201

TUE - 28 JAN 4:30P

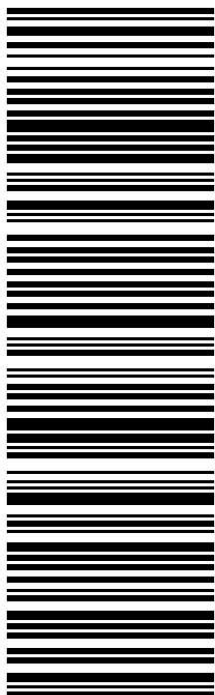
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Exhibit A

Original Facility Approval

FILE SITE # 204

SKY HILL

ZONING

RECEIVED

11-13-96 *ljf*

MINUTES - ASHFORD PLANNING AND ZONING COMMISSION

Annual Meeting - November 12, 1996

Members present: Organ, Lawrence, Nagy, Levaur, Rossman, McCarthy & White.

Alternates present: Bartok & Specyalski.

The meeting was called to order at 9:55 p.m. after the public hearing (Sprint Spectrum, tower & Moratorium, Lake Chaffee).

Specyalski is the voting alternate for this meeting.

At the Annual Town meeting, Alex Hastillo and Kevin McCarthy were elected to 4 year terms on the Commission ending in the year 2000 and Bartok was elected to a 3 year term as Alternate ending in 1999.

Moved and seconded to consider Old and New Business first. Passed without dissent.

The Commission considered the Sprint Spectrum application for a communications tower to be located on Sky Hill. There were no objections at tonight's public hearing. The tower will be able to hold three sets of antennas. Sprint Spectrum will operate a PCS digital system. It is regulated by the FCC. There will be no lights on the tower. Access will be off Frontage Road to Janowski Road to avoid the wetlands on the east end of Janowski Road. Moved and seconded to approve with conditions the application for a Special Exception under Section 5.2.3 by Sprint Spectrum L.P., Meriden, CT for a 200' communications tower to be located on land leased from David H. Martin off Janowski Road on Sky Hill.

The conditions are:

1. Utilities to the site which is approximately 2500' from Janowski Road will be located underground in the right of way.
2. Space and installation of fire, emergency and municipal communications equipment to meet present and future needs will be provided at no cost.
3. A copy of the liability insurance will be submitted to the Commission.
4. A site plan including driveway design and sedimentation and erosion control measures will be submitted to the Commission before the construction begins.
5. A copy of the lease will be part of the land records.

Motion passed without dissent.

The Commission considered the proposed Moratorium at Lake Chaffee. Tim Backus, Chairman of the Water Pollution Control Authority was the only person to speak at the public hearing. Moved and seconded to approve the following:

Moratorium at Lake Chaffee

WHEREAS, the Department of Environmental Protection has cited the Town of Ashford and the Lake Chaffee Improvement Association, Inc. to study and report upon potential pollution at Lake Chaffee resulting from construction around the lake; and

WHEREAS, the Department of Environmental Protection has found pollution in the tributaries leading to the lake, and

WHEREAS, there is a reasonable expectation that the recommendation of the study may be to limit new construction in that area, or as an alternative to require that homes in the area be connected to an alternative type of sewage disposal system, and

WHEREAS, this Commission does not want to allow any deterioration of the water in the lake or tributaries;

The Planning and Zoning Commission of the Town of Ashford, pursuant to the authority vested in it by Section 8-2 of Connecticut General Statutes, hereby amends the zoning regulations of the Town of Ashford by adoption of the following Moratorium:

"Until December 31, 1997, there shall be no new house construction allowed within the area of Lake Chaffee Improvement Association, Inc. nor any enclosed addition to any existing house in that area. The Zoning Enforcement Officer may not in that period certify that any new construction is in conformity with the zoning regulations of the town."

Motion passed without dissent.

The reasons for reinstating the moratorium include:

1. There is need for more testing of the water and septic systems in the area.
2. There have been minimal applications for construction since the last moratorium was lifted.
3. The WPCA is seeking on-site solutions.
4. There are several sets of vacant lots that may be valuable for sewage disposal systems.

Specyalski stepped down for the next item of business.

Brialee Campground - Brian Specyalski submitted a plan for a six additional campsites at the campground. It was noted that three of these butt onto adjoining property that is owned by the State of Connecticut. The others have a 100' setback that has been the minimum acceptable to the Commission. Moved and seconded to receive the plan and hold a public hearing on December 9th. Passed without dissent. A new map showing only the three sites that meet the setback requirements will be submitted. The Commission will walk the site at 7 a.m. on Saturday November 16th.

The Commission returned to the top of the agenda.

Moved and seconded to approve the minutes of the October 15th meeting. Passed without dissent.

Moved and seconded to send a letter of appreciation to George Quirk Sr., retiring member for his many years of service to the Commission. Passed without dissent.

There were no bills.

A copy of the revised Small Cities Housing Plan was received from the Office of the Selectmen. It will go to a public hearing in December. Copies will be distributed to the Commission members for review.

The revised fee schedule was approved by Town Meeting in October.

Moved and seconded to add to the agenda the election of officers and reappointment of employees. Passed without dissent.

Moved and seconded to reelect the following officers to serve until the next annual meeting of the Commission: Sidney E. Organ, Chairman, Alex Hastillo, Vice Chairman and John Bartok, Secretary. Passed without dissent. The Secretary will cast one ballot for each.

Moved and seconded to reappoint Rudolph Makray, Zoning Enforcement Officer and John Bartok, Recording Secretary for one year or until the next annual meeting. Passed without dissent.

The Commission agreed to hold a Special Meeting on Monday, December 16th at 7 p.m. to review the draft of the revised Plan of Development.

The meeting adjourned at 10:55 p.m.

Respectfully submitted.



John W. Bartok, Jr.
Recording Secretary

LEGAL NOTICE

Town of Ashford

The Ashford Planning and Zoning Commission at its meeting on November 12, 1996 took the following actions:

APPROVED with conditions the application of Sprint Spectrum, L.P., Meriden, CT for a 200' communications tower to be built on the David Matin property located off Route 89 on Sky Hill.

APPROVED a request by the Ashford Water Pollution Control Authority to reenstate the moratorium at Lake Chaffee until December 31, 1997 that prohibits construction of new houses or enclosed additions to any existing house.

Dated in Ashford, Connecticut this 14th day of November, 1996.

John W. Bartok, Jr., Sec.
Ashford Planning and
Zoning Commission

:

Exhibit B

Property Card

33 JANOSKI RD

Location 33 JANOSKI RD

Mblu 02/ F/ 1.1/ /

Acct# 00007410

Owner MARTIN FAMILY LIV TR DTD
6/20/05,

Taxable Status

Assessment \$252,200

Appraisal \$360,200

PID 65

Building Count 1

Legal Description

Lot Type

topoTopo

Location

Current Value

Appraisal					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2018	\$0	\$0	\$183,100	\$177,100	\$360,200
Assessment					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2018	\$0	\$0	\$128,200	\$124,000	\$252,200

Parcel Addresses

Additional Addresses		
Address	City, State Zip	Type
33 JANOSKI RD		Primary

Owner of Record

Owner	MARTIN FAMILY LIV TR DTD 6/20/05,	Sale Price	\$0
Co-Owner	MARTIN DAVID H + CAROLYN TRUSTEES	Certificate	
Care Of		Book & Page	194/ 885
Address	C/O SPRINT SPECTRUM CT-03XC04 PO BOX 8430 KANSAS CITY, MO 64114-8430	Sale Date	10/15/2018
		Instrument	04
		Qualified	U

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date

Building Information

Building 1 : Section 1

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

Building Attributes	
Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Bsmt. Garages	

Building Photo



(<http://images.vgsi.com/photos/AshfordCTPhotos//\00\00\25\30>)

Building Layout

Building Layout
 (http://images.vgsi.com/photos/AshfordCTPhotos//Sketches/65_)

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

Extra Features

Extra Features	Legend
----------------	--------

No Data for Extra Features

Parcel Information

Use Code 201
Description Commercial Vacant
Deeded Acres 0.7

Land

Land Use

Use Code 201
Description Commercial Vacant
Zone
Neighborhood C3
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 0.7
Frontage
Depth
Assessed Value \$124,000
Appraised Value \$177,100

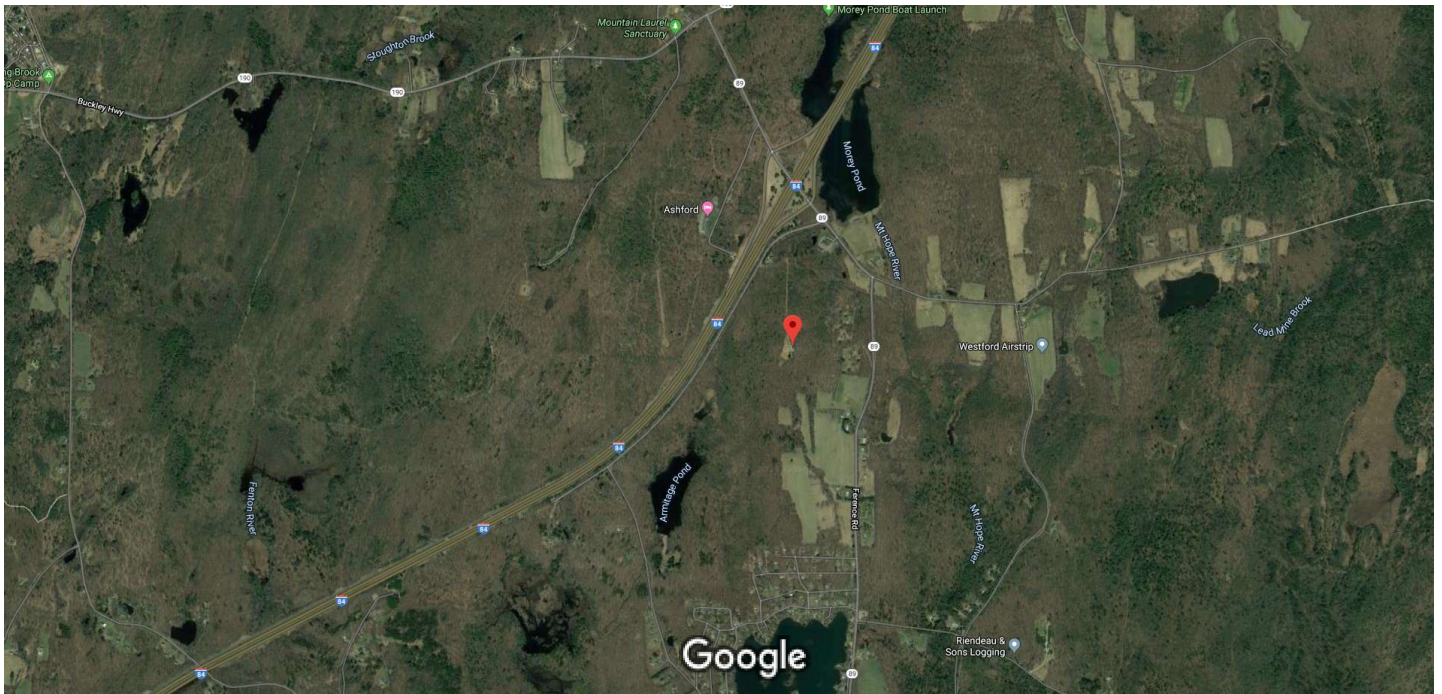
Outbuildings


Outbuildings								<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Assessed Value	Bldg #	Comment
TWR1	Cell Tower			192 HEIGHT	\$73,400	\$51,400	1	
SHD2	Pre Cast Cell			240 S.F.	\$34,400	\$24,100	1	
FN3	Fence 6'			260 L.F.	\$3,600	\$2,500	1	
SHD2	Pre Cast Cell			360 S.F.	\$34,400	\$24,100	1	
SHD2	Pre Cast Cell			260 S.F.	\$37,300	\$26,100	1	

Valuation History

Appraisal					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2018	\$0	\$0	\$183,100	\$177,100	\$360,200
2017	\$0	\$0	\$183,100	\$177,100	\$360,200
2016	\$0	\$0	\$183,100	\$177,100	\$360,200

Assessment					
Valuation Year	Building	Extra Features	Outbuildings	Land	Total
2018	\$0	\$0	\$128,200	\$124,000	\$252,200
2017	\$0	\$0	\$128,200	\$124,000	\$252,200
2016	\$0	\$0	\$128,200	\$124,000	\$252,200



Imagery ©2020 CNES / Airbus, MassGIS, Commonwealth of Massachusetts EOE, Maxar Technologies, U.S. Geological Survey, USDA 1000 ft 
Farm Service Agency, Map data ©2020



41°57'07.7"N 72°11'43.9"W

41.952139, -72.195528



Directions



Save



Nearby



Send to your phone



Share



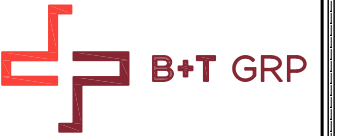
Ashford School District, Ashford, CT 06278



XR23+VQ Ashford, Connecticut

Exhibit C

Construction Drawings



verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

WESTFORD CT

33 JANOWSKI RD
ASHFORD, CT 06278

EXISTING SELF-SUPPORT TOWER

verizon

WESTFORD CT

33 JANOWSKI RD

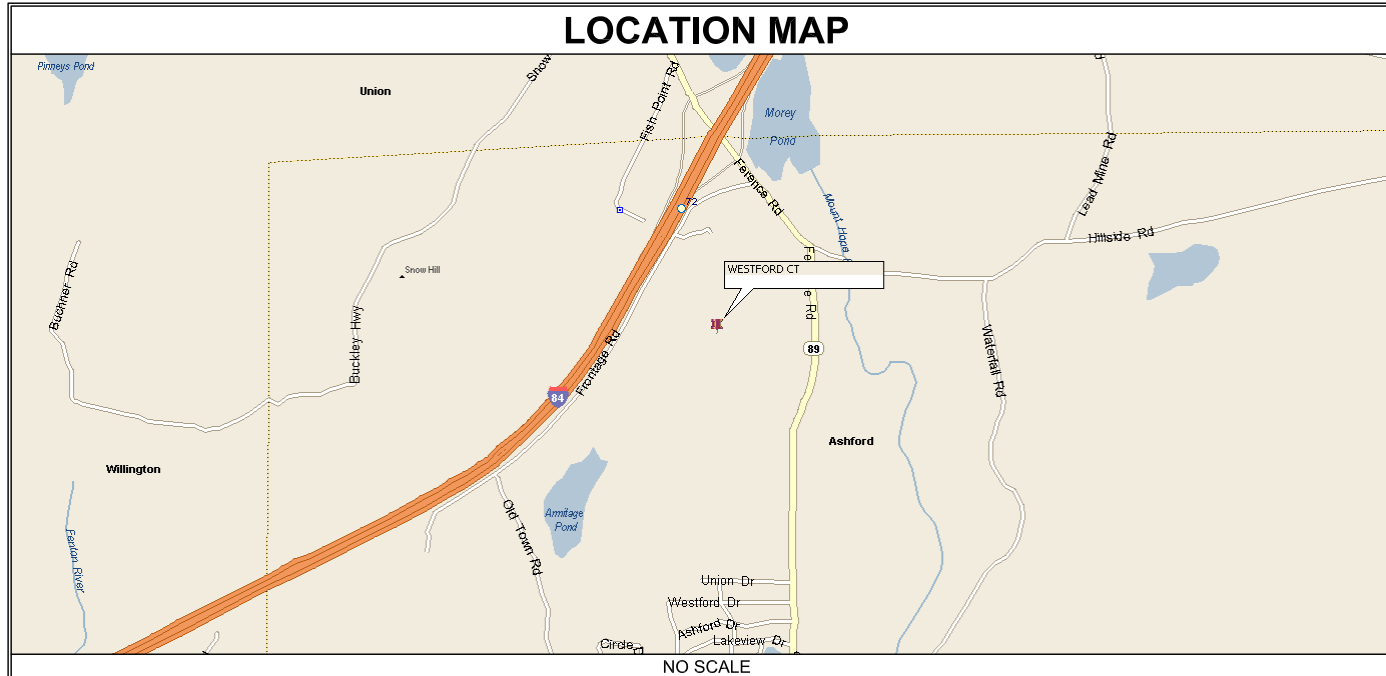
ASHFORD, CT 06278

LOCATION CODE: 467575

PROJECT SUMMARY

SITE NAME: WESTFORD CT
 SITE ADDRESS: 33 JANOWSKI RD
 ASHFORD, CT 06278
 WINDHAM COUNTY
 TOWER OWNER: CROWN CASTLE
 2000 CORPORATE DR
 CANONSBURG, PA 15317
 876345
 BU NUMBER:
 MAP NUMBER: N/A
 LOT NUMBER: N/A
 CUSTOMER/APPLICANT: VERIZON WIRELESS
 20 ALEXANDER DRIVE, 2ND FLOOR
 WALLINGFORD, CT 06492
 CONTACT: ANDREW LEONE
 (617) 620-4175
 NAD83
 LATITUDE: 41° 57' 7.70" N
 LONGITUDE: 72° 11' 43.90" W
 ELEVATION: 1076'
 CURRENT ZONING: C3
 A&E FIRM: B+T GROUP
 1717 S. BOULDER, SUITE 300
 TULSA, OK 74119
 MIKE OAKES
 (918) 587-4630
 OCCUPANCY TYPE: UNMANNED
 A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT
 FOR HUMAN HABITATION.

LOCATION MAP



DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	1
A-1	COMPOUND PLAN AND TOWER ELEVATION	1
A-2	EQUIPMENT DETAILS	1
A-3	ANTENNA AZIMUTH CHARTS & PLUMBING DIAGRAM	1

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
OWNER:		
R.F. ENGINEER:		
CONSTRUCTION MGR.:		
LEASING & ZONING:		
VERIZON WIRELESS:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!



CODE COMPLIANCE

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:

BUILDING	2018 CT SBC
STRUCTURAL	2018 CT SBC
MECHANICAL	2018 CT SBC
ELECTRICAL	NEC 2017

DRIVING DIRECTIONS

DEPART FROM BRADLEY INTERNATIONAL AIRPORT ON LOCAL ROAD. TAKE LOCAL ROAD ONTO TERMINAL RD. ROAD NAME CHANGES TO BRADLEY FIELD CONNECTOR. ROAD NAME CHANGES TO CT-20 [BRADLEY FIELD CONNECTOR]. TAKE RAMP ONTO I-91 [RICHARD P HORAN MEMORIAL HWY]. AT EXIT 35A, TAKE RAMP ONTO I-291. TAKE RAMP ONTO I-84. AT EXIT 72, TURN RIGHT ONTO RAMP. TURN RIGHT ONTO CT-89 [FERENCE RD], THEN IMMEDIATELY TURN RIGHT ONTO FRONTAGE RD. TURN LEFT ONTO JANOSKI RD. BEAR RIGHT ONTO LOCAL ROAD. ARRIVE AT WESTFORD CT.

PROJECT NO: 77921.11.01
CHECKED BY: RMC

ISSUED FOR:

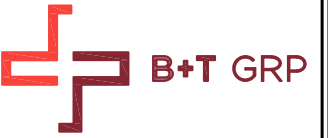
REV	DATE	DRWN	DESCRIPTION
0	11/8/19	STH	PERMITTING
1	1/10/20	STH	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20



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: **1**



verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

WESTFORD CT

33 JANOWSKI RD
ASHFORD, CT 06278

EXISTING SELF-SUPPORT TOWER

PROJECT NO: 77921.11.01
CHECKED BY: RMC

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	11/8/19	STH	PERMITTING
1	1/10/20	STH	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

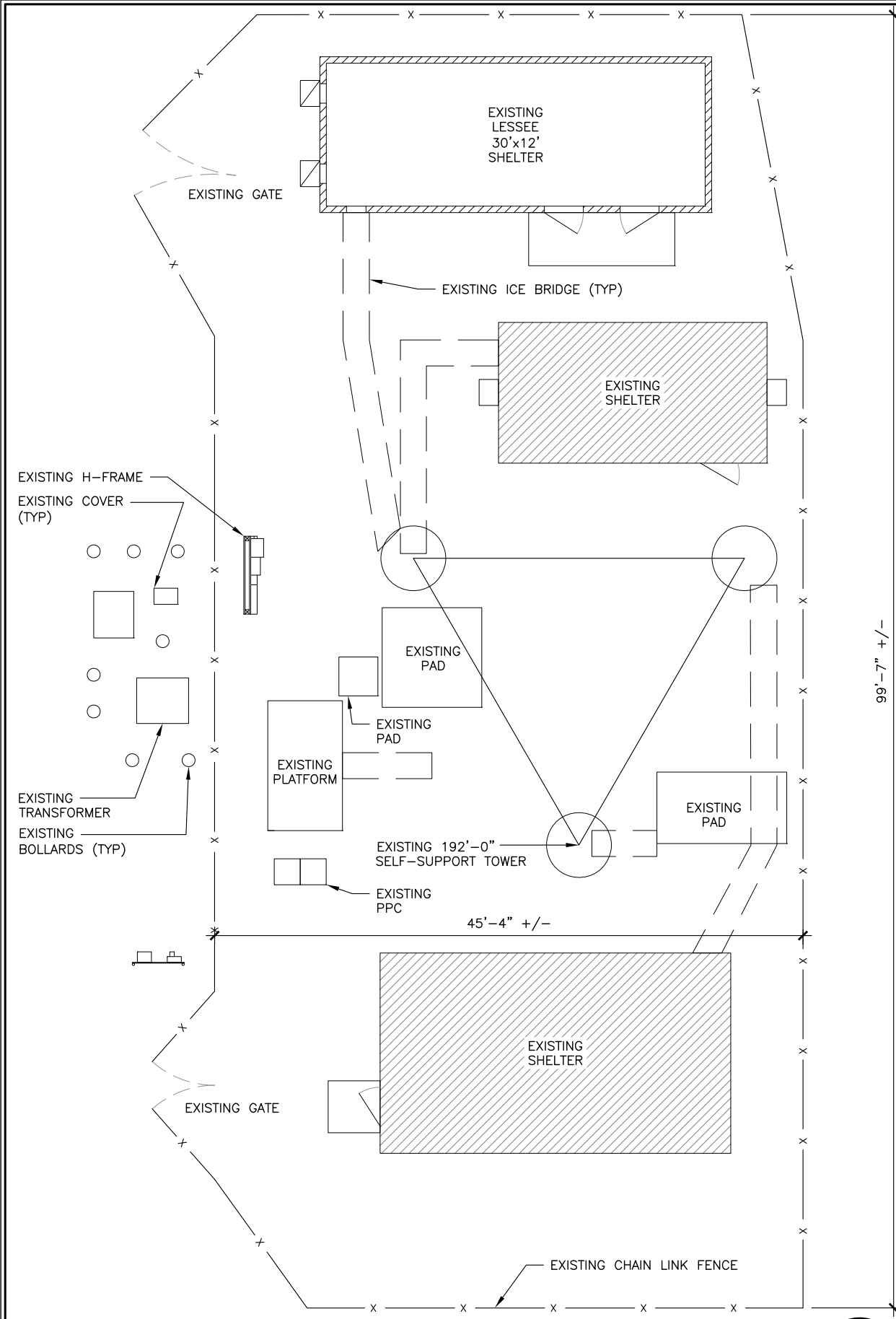
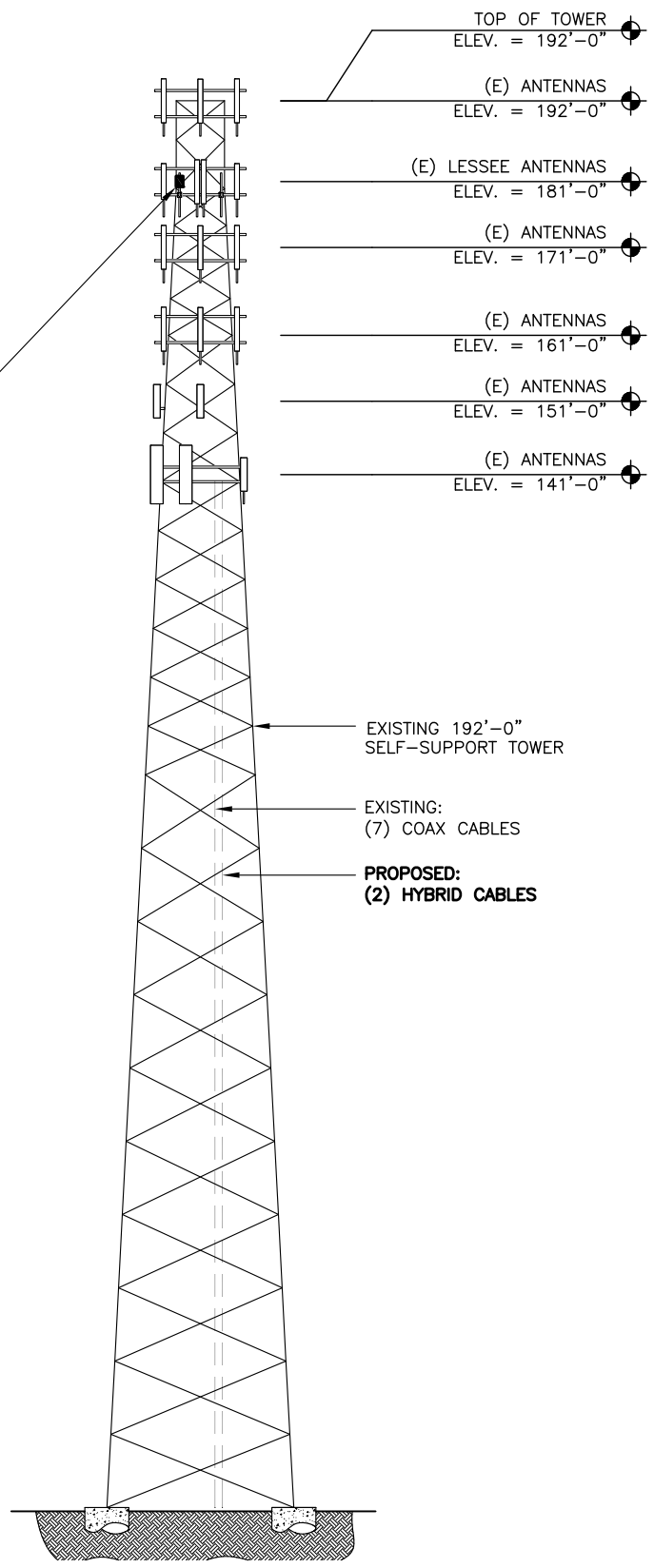


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SHEET NUMBER: **A-1** REVISION: **1**

- NOTES:
- CONTRACTOR TO VERIFY EXACT COAX AND ANTENNA INSTALLATION AND ANTENNA HEIGHT WITH LATEST RF DATA SHEETS PRIOR TO INSTALLATION.
 - STRUCTURAL ANALYSIS DONE BY OTHERS.
 - VERIZON SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED STATE STRUCTURAL ENGINEER CERTIFYING THAT THE EXISTING TOWER AND PROPOSED IMPROVEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL NEW WORK THAT WILL BE DONE IN COMPLIANCE WITH THE CURRENT EDITION OF BUILDING CODES AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY AND ALL IMPROVEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWING OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.CAP AND WEATHERPROFF UNUSED ANTENNA PORTS.
 - ESTIMATED HYBRIFLEX CABLE LENGTH: 231' (EACH RUN)

- EXISTING TO REMAIN:
(6) LTE ANTENNAS
EXISTING TO BE REMOVED:
(3) B13 UHBA RRHS
(3) B5 AHCA RRHS
(3) B66A UHIE RRHS
PROPOSED:
(3) CBRS RRH WITH CLIP ON XXDWMM-12.5-65-8T-CBRS ANTENNAS W/ RRH-RT4401-48A RRHS
(3) B5/B13 RRHS
(3) B2/B66A RRHS
(3) FDJ85020Q7-S1 DIPLEXERS
(2) RC3DC-3315-PF-48 OVP BOXES

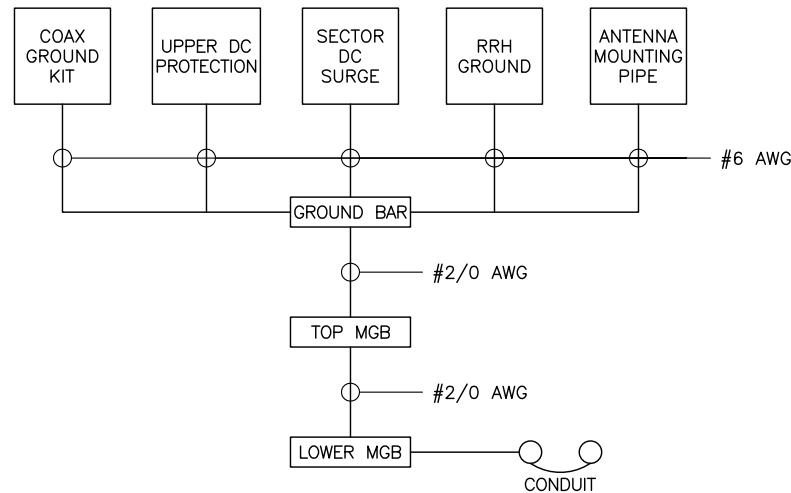


1 COMPOUND PLAN
SCALE: 0' 4' 8' 16' 32'

2 FINAL TOWER ELEVATION
SCALE: 0' 4' 8' 16' 32'

77921_876345_Sky Hill.dwg - SheetA-1 - User: fperkins - Jan 10, 2020 - 10:22am

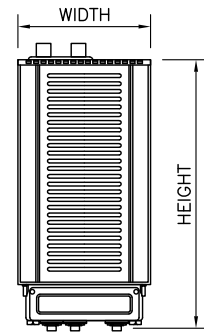
- NOTE:
1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS AND HARDWARE ACCORDING WITH MANUFACTURE'S RECOMMENDATIONS.
 2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES AND RRHs IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
 3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANT INSTALLED SAFETY DEVICES.
 4. EQUIPMENT TO BE INSTALLED AT VERIZON'S RAD. CENTER IN ACCORDANCE WITH TOWER STRUCTURAL ANALYSIS (ANALYSIS BY OTHERS).



- NOTE:
1. BOND ANTENNA GROUNDING KIT CABLES TO TOP CIBE.
 2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIBE.
 3. TYPICAL FOR ALL SECTORS.

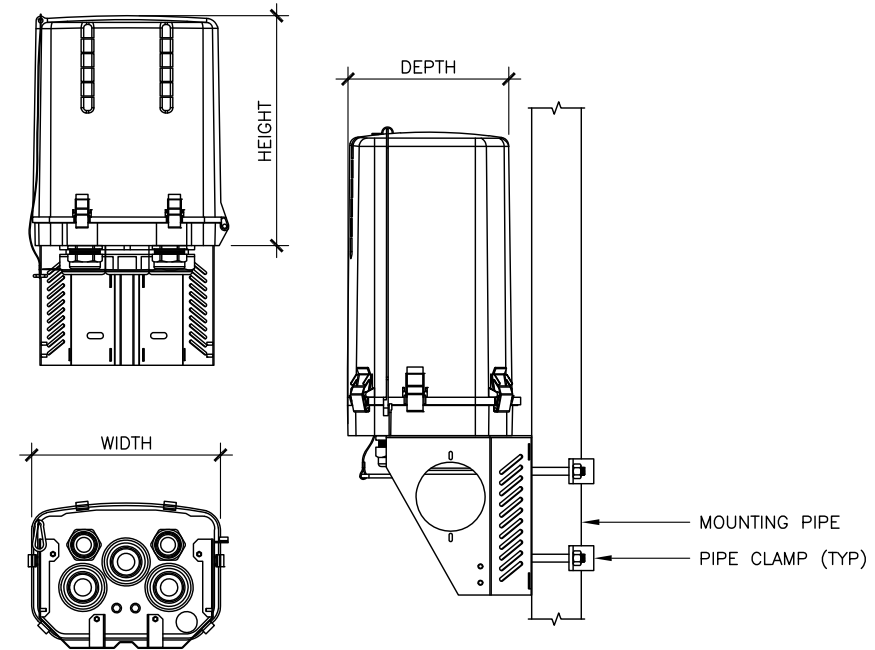
1 GROUNDING SCHEMATIC DIAGRAM
SCALE: N.T.S.

REMOTE RADIO HEAD DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
CBRS RRH-RT4401-48A	12.1"	8.5"	4.1"	18.64 LBS
RFV01U-D1A	15"	15"	10"	84.4 LBS
RFV01U-D2A	15"	15"	8.1"	70.3 LBS

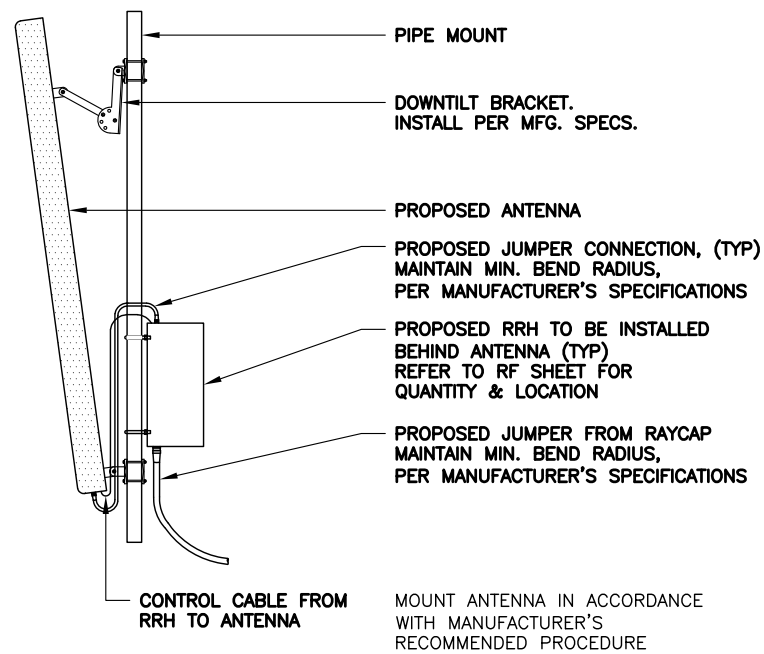


2 RRH SPECIFICATIONS
SCALE: N.T.S.

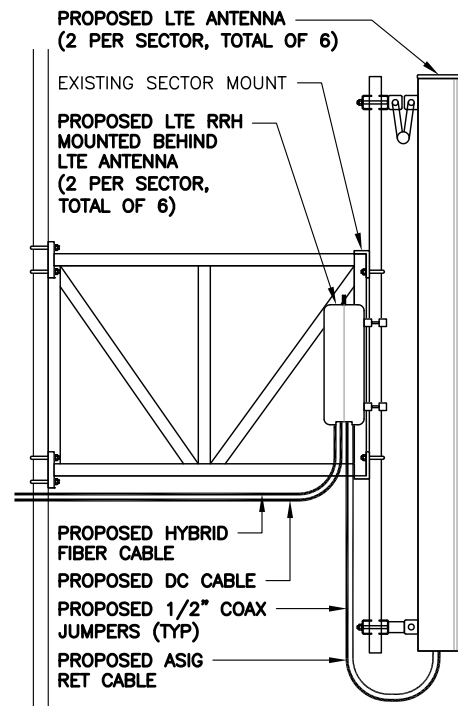
DC SURGE SUPPRESSION DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
RC3DC-3315-PF-48	28.93"	15.73"	10.30"	32 LBS



3 RAYCAP SPECIFICATIONS
SCALE: N.T.S.



4 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



5 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

WESTFORD CT

33 JANOWSKI RD
ASHFORD, CT 06278

EXISTING SELF-SUPPORT TOWER

PROJECT NO: 77921.11.01
CHECKED BY: RMC

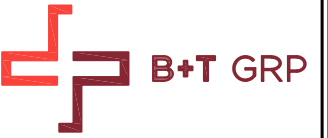
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	11/8/19	STH	PERMITTING
1	1/10/20	STH	PERMITTING

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20



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SHEET NUMBER: **A-2** REVISION: **1**



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400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

WESTFORD CT

33 JANOWSKI RD
ASHFORD, CT 06278

EXISTING SELF-SUPPORT TOWER

PROJECT NO: 77921.11.01
CHECKED BY: RMC

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	11/8/19	STH	PERMITTING
1	1/10/20	STH	PERMITTING

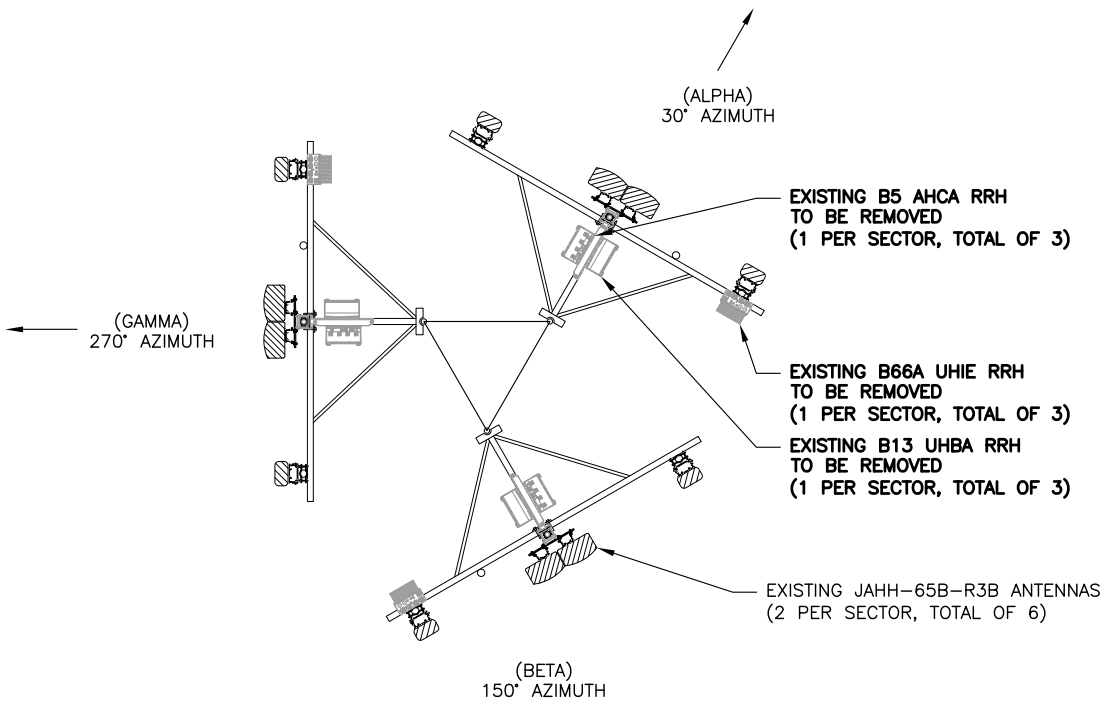
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20



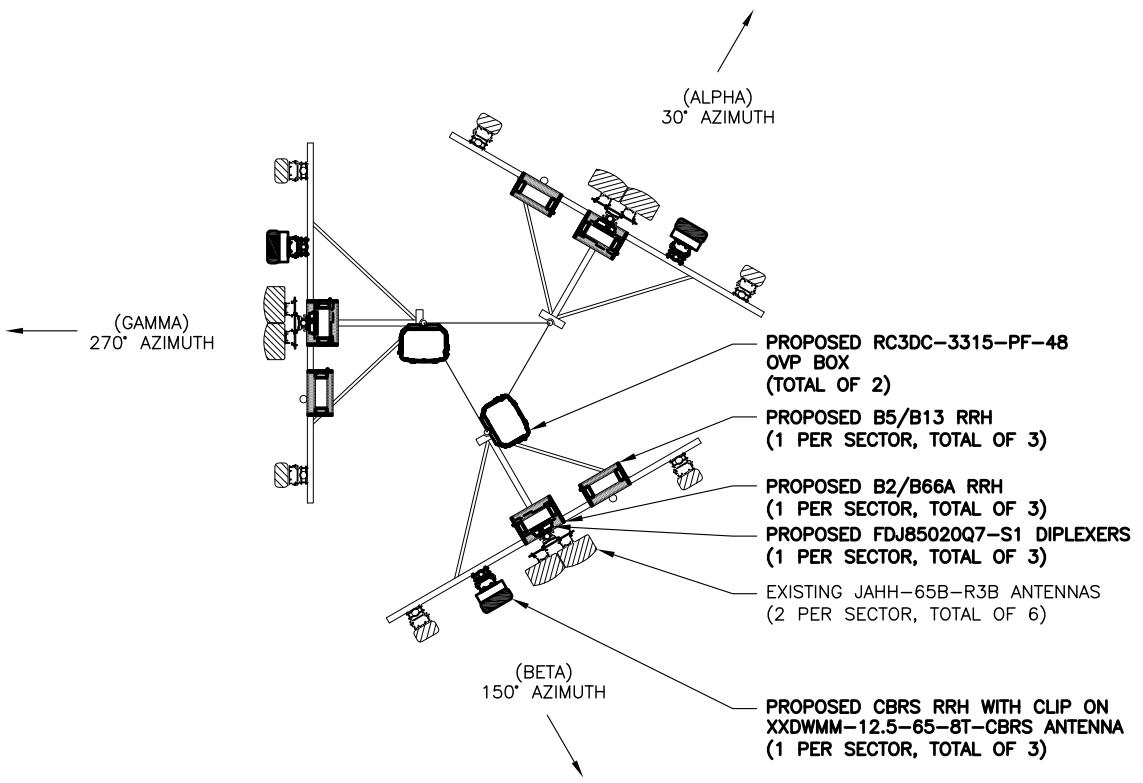
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SHEET NUMBER: **A-3** REVISION: **1**

NOT AVAILABLE AT TIME OF ISSUE



1 EXISTING ANTENNA ORIENTATION
SCALE: N.T.S.



2 PROPOSED ANTENNA ORIENTATION
SCALE: N.T.S.



3 ANTENNA SYSTEM LAYOUT
SCALE: N.T.S.

77921_876345_Sky Hill.dwg - Sheet: A-3 - User: fperkins - Jan 10, 2020 - 10:22am

Exhibit D

Structural Analysis Report



Date: **November 11, 2019**

Amanda D Brown
Crown Castle
3530 Toringdon Way
Charlotte, NC 28277

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

Subject: **Structural Analysis Report**

Carrier Designation: **Verizon Wireless Co-Locate**
Carrier Site Number: NG32249
Carrier Site Name: Westford CT

Crown Castle Designation: **Crown Castle BU Number:** 876345
Crown Castle Site Name: Sky Hill
Crown Castle JDE Job Number: 592730
Crown Castle Work Order Number: 1803011
Crown Castle Order Number: 506808 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 77921.010.01

Site Data: **33 Janowski Road, Ashford, Windham County, CT**
Latitude 41° 57' 7.7", Longitude -72° 11' 43.9"
192 Foot - Self Support Tower

Dear Amanda D Brown,

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower.

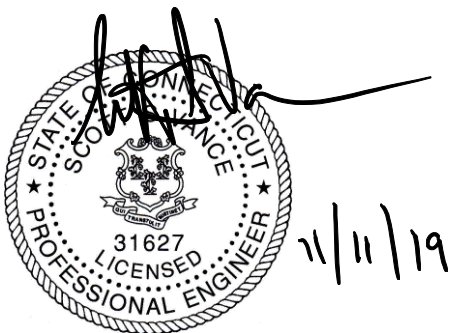
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 78.7%**

This analysis utilizes an ultimate 3-second gust wind speed of 130 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: Angela Ashwood

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564; Expires: 02/10/2020



Scott S. Vance, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity - LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 192 ft. Self-Support tower designed by Rohn in December of 1996. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft.)	Center Line Elevation (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
180.0	184.0	1	Symmetricom	58532A	8 1	1-5/8 1/2
	181.0	6	Commscope	JAAH-65B-R3B		
		2	Commscope	RC3DC-3315-PF-48		
		3	RFS Celwave	FDJ85020Q7-S1		
		3	Samsung Telecomm.	20W CBRS		
		3	Samsung Telecomm.	CBRS		
		3	Samsung Telecomm.	RFV01U-D1A		
	3	Samsung Telecomm.	RFV01U-D2A			
180.0	1	--	Sector Mount [SM 303-3]			

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)
190.0	192.0	3	Alcatel Lucent	PCS 1900MHz 4x45W-65MHz	4	1-1/4
		6	Alcatel Lucent	RRH2X50-800		
		3	Alcatel Lucent	TD-RRH8x20-25		
		3	Commscope	NNVV-65B-R4		
	3	RFS Celwave	APXVTM14-ALU-I20			
190.0	1	--	Sector Mount [SM 504-3]			
170.0	172.0	9	Allgon	7130.16.33.00	9	1-5/8
	170.0	1	--	Sector Mount [SM 504-3]		
160.0	162.0	3	Andrew	HBX-6516DS-VTM	6	1-5/8
	160.0	1	--	Sector Mount [SM 104-3]		
153.0	153.0	3	Ericsson	RADIO 4415 B66A	3 12	1-5/8 7/8
		3	Ericsson	RADIO 4449 B12/B71		
		3	Ericsson	RRUS 4415 B25		
		3	RFS Celwave	APX16DWV-16DWV-S-E-A20		

Mounting Level (ft.)	Center Line Elevation (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	RFS Celwave	APXVAARR24_43-U-NA20		
		3	Site Pro	VFA12-HD Sector Mount		
140.0	141.0	4	CCI Antennas	DMP65R-BU4D	14 2 2	7/8 3/4 3/8
		2	CCI Antennas	DMP65R-BU6D		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Powerwave Tech.	7770.00		
		1	Raycap	DC6-48-60-0-8C-EV		
	140.0	3	Powerwave Tech.	TT19-08BP111-001		
		1	Raycap	DC6-48-60-18-8F		
		3	Commscope	BC-35-14D Pipe to Pipe Clamp		
		1	--	Sector Mount [SM 502-3]		
98.0	102.0	1	Symmetrcom	58532A	1	1/2
	98.0	1	--	Side Arm Mount [SO 306-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Online Order Information	Verizon Wireless Co-Locate, Rev# 0	506808	CCI Sites
Tower Manufacturer Drawing	Rohn, File No. 34589PH	1631630	CCI Sites
Mount Analysis Report	ETS, Date: 10/30/2019	8736083	CCI Sites
Foundation Drawing	Rohn, File No. 34589PH	1631622	CCI Sites
Geotech Report	FDH, Project No. 07-11436G	2189896	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 10/22/2019	CCI Sites

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.

3.2) Assumptions

- 1) The tower and structures were built and have been maintained in accordance with the manufacturer's specification.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 3) Mount areas and weights are assumed based on photographs provided.
- 4) The existing base plate grout was considered in this analysis. Grout must be maintained and inspected periodically, and must be replaced if damaged or cracked. Refer to crown document ENG-STD-10323, Tower Base Plate Grout Inspection and Classification.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft.)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	192 - 180	Leg	ROHN 2.5 STD	1	-6.957	66.738	10.4	Pass
T2	180 - 160	Leg	ROHN 2.5 STD	25	-32.541	59.996	54.2	Pass
T3	160 - 140	Leg	ROHN 3 EH	55	-64.539	99.054	65.2	Pass
T4	140 - 120	Leg	ROHN 4 EH	76	-104.521	167.894	62.3	Pass
T5	120 - 100	Leg	ROHN 5 EH	97	-142.673	251.347	56.8	Pass
T6	100 - 80	Leg	ROHN 6 EHS	118	-176.367	256.249	68.8	Pass
T7	80 - 60	Leg	ROHN 6 EH	133	-213.339	318.945	66.9	Pass
T8	60 - 40	Leg	ROHN 8 EHS	148	-248.495	405.672	61.3	Pass
T9	40 - 20	Leg	ROHN 8 EHS	163	-283.852	405.729	70.0	Pass
T10	20 - 0	Leg	ROHN 8 EHS	178	-319.266	405.717	78.7	Pass
T1	192 - 180	Diagonal	L1 3/4x1 3/4x3/16	7	-1.508	11.895	12.7 19.7 (b)	Pass
T2	180 - 160	Diagonal	L2x2x3/16	36	-3.671	10.392	35.3 43.9 (b)	Pass
T3	160 - 140	Diagonal	L2 1/2x2 1/2x1/4	63	-5.970	16.480	36.2 53.7 (b)	Pass
T4	140 - 120	Diagonal	L2 1/2x2 1/2x1/4	84	-7.397	12.587	58.8 66.7 (b)	Pass
T5	120 - 100	Diagonal	L3x3x1/4	105	-7.933	17.432	45.5 53.7 (b)	Pass
T6	100 - 80	Diagonal	L3 1/2x3 1/2x1/4	126	-9.334	19.016	49.1 62.6 (b)	Pass
T7	80 - 60	Diagonal	L4x4x1/4	141	-10.282	24.136	42.6 68.3 (b)	Pass
T8	60 - 40	Diagonal	L4x4x5/16	156	-9.924	24.922	39.8 53.5 (b)	Pass
T9	40 - 20	Diagonal	L4x4x5/16	168	-11.771	21.484	54.8 61.9 (b)	Pass
T10	20 - 0	Diagonal	L4x4x3/8	183	-12.423	21.926	56.7 60.1 (b)	Pass
T1	192 - 180	Top Girt	L1 3/4x1 3/4x3/16	5	-0.086	4.122	2.1	Pass
T2	180 - 160	Top Girt	L2x2x3/16	29	-0.676	6.245	10.8	Pass
							Summary	
						Leg (T10)	78.7	Pass
						Diagonal	68.3	Pass

Section No.	Elevation (ft.)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
						(T7)		
						Top Girt (T2)	10.8	Pass
						Bolt Checks	68.3	Pass
						Rating =	78.7	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation	% Capacity	Pass / Fail
1	Anchor Rods	Base	22.8	Pass
1	Base Foundation (Structure)	Base	11.1	Pass
1	Base Foundation (Soil Interaction)	Base	44.8	Pass

Structure Rating (max from all components) =	78.7%
---	--------------

Notes:

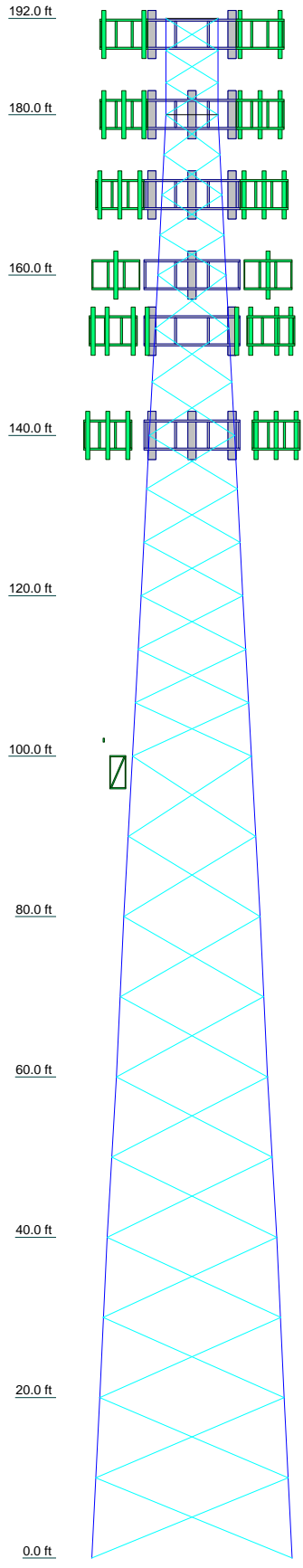
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
Legs	ROHN 2.5 STD	ROHN 3 EH	ROHN 4 EH	ROHN 5 EH	ROHN 6 EHS	ROHN 6 EH	ROHN 8 EHS			
Leg Grade					A572-50					
Diagonals					L3 1/2x3 1/2x1/4	L4x4x1/4	L4x4x5/16	L4x4x3/8		
Diagonal Grade					A36					
Top Girts						N.A.				
Face Width (ft)	6.58	8.54	10.61	12.74	14.83	16.92	18.98	21.13	23.05	25.05
# Panels @ (ft)	3 @ 4	4 @ 5	9 @ 6.66667				10 @ 10			
Weight (K)	0.6	1.0	1.5	2.0	2.7	2.8	3.5	4.4	4.6	5.3



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

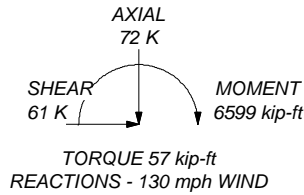
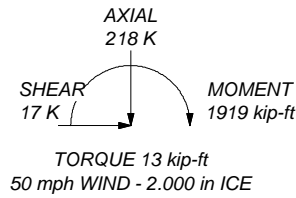
1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 78.7%

ALL REACTIONS
ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 328 K
SHEAR: 38 K

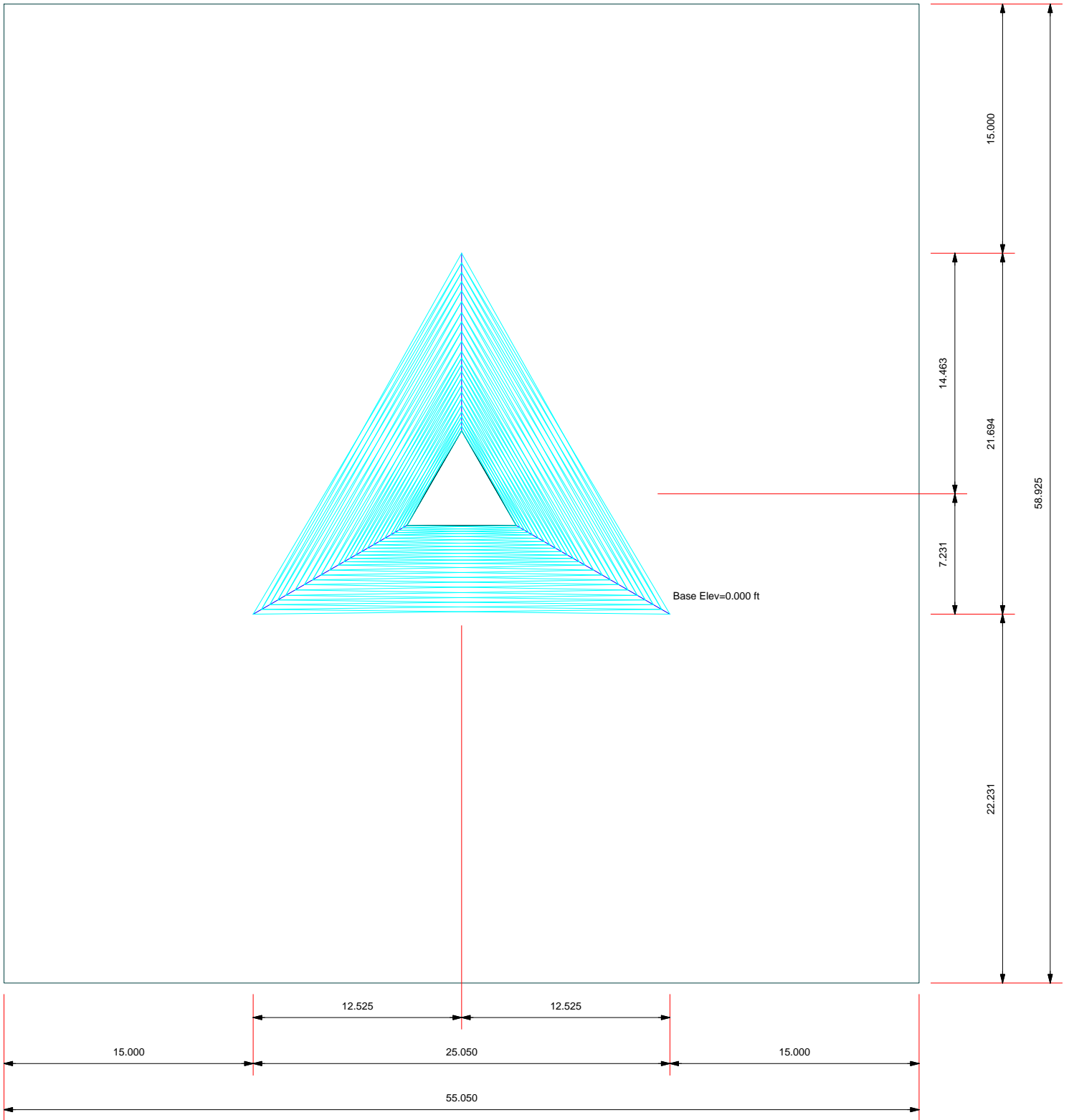
UPLIFT: -273 K
SHEAR: 33 K




B+T Group
1717 S Boulder Ave, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 77921.010.01 - SKY HILL, CT (BU# 876345)		
Project:	Client: Crown Castle	Drawn by: Sampath
Code: TIA-222-H	Date: 11/09/19	App'd:
Path:		Scale: NTS
		Dwg No: E-1

Plot Plan
Total Area - 0.07 Acres



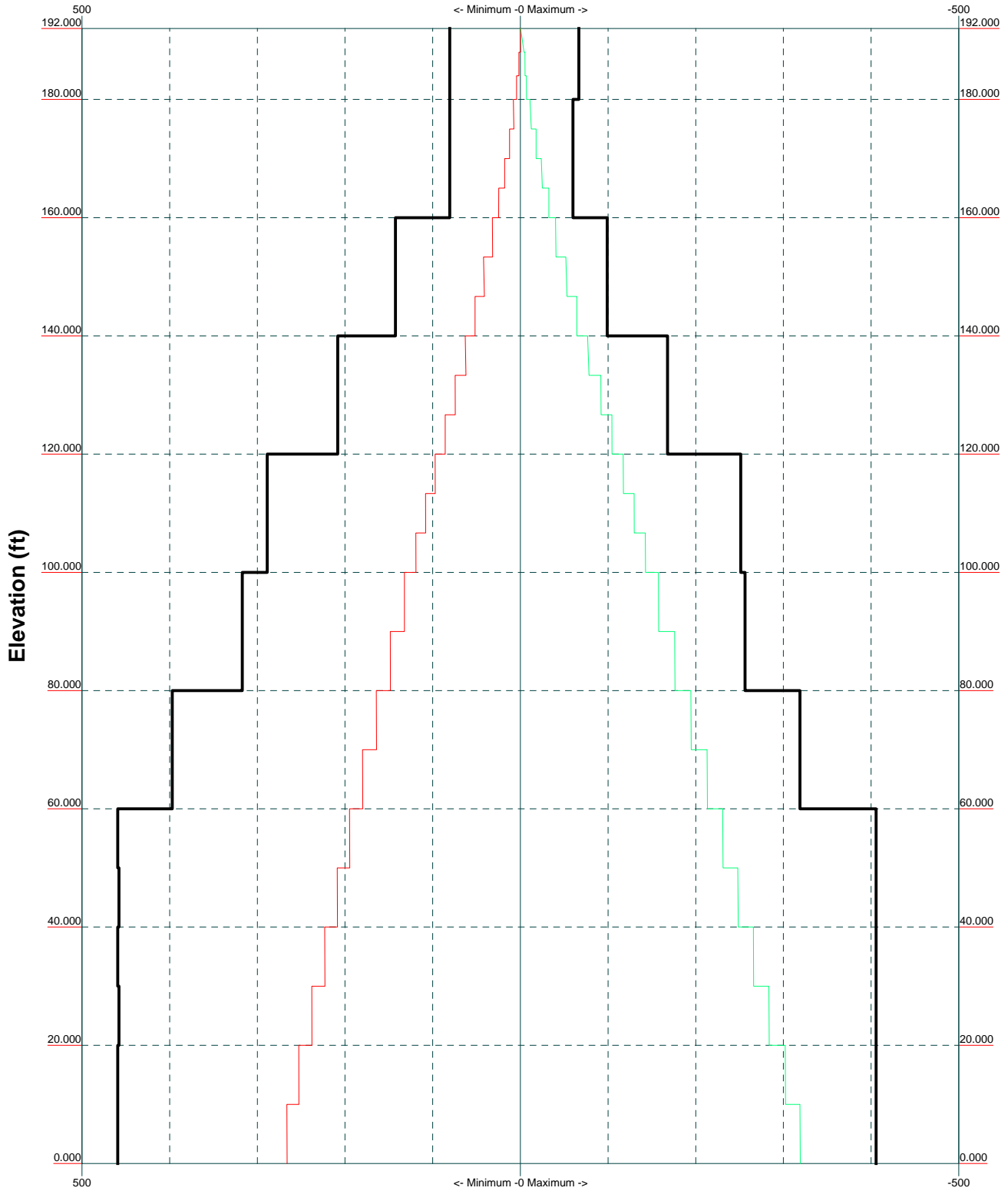
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 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
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 FAX: (918) 295-0265


Job: 77921.010.01 - SKY HILL, CT (BU# 87634)		
Project:		
Client: Crown Castle	Drawn by: Sampath	App'd:
Code: TIA-222-H	Date: 11/09/19	Scale: NTS
Path:		Dwg No: E-2

TIA-222-H - 130 mph/50 mph 2.000 in Ice Exposure B

Leg Capacity ———

Leg Compression (K)

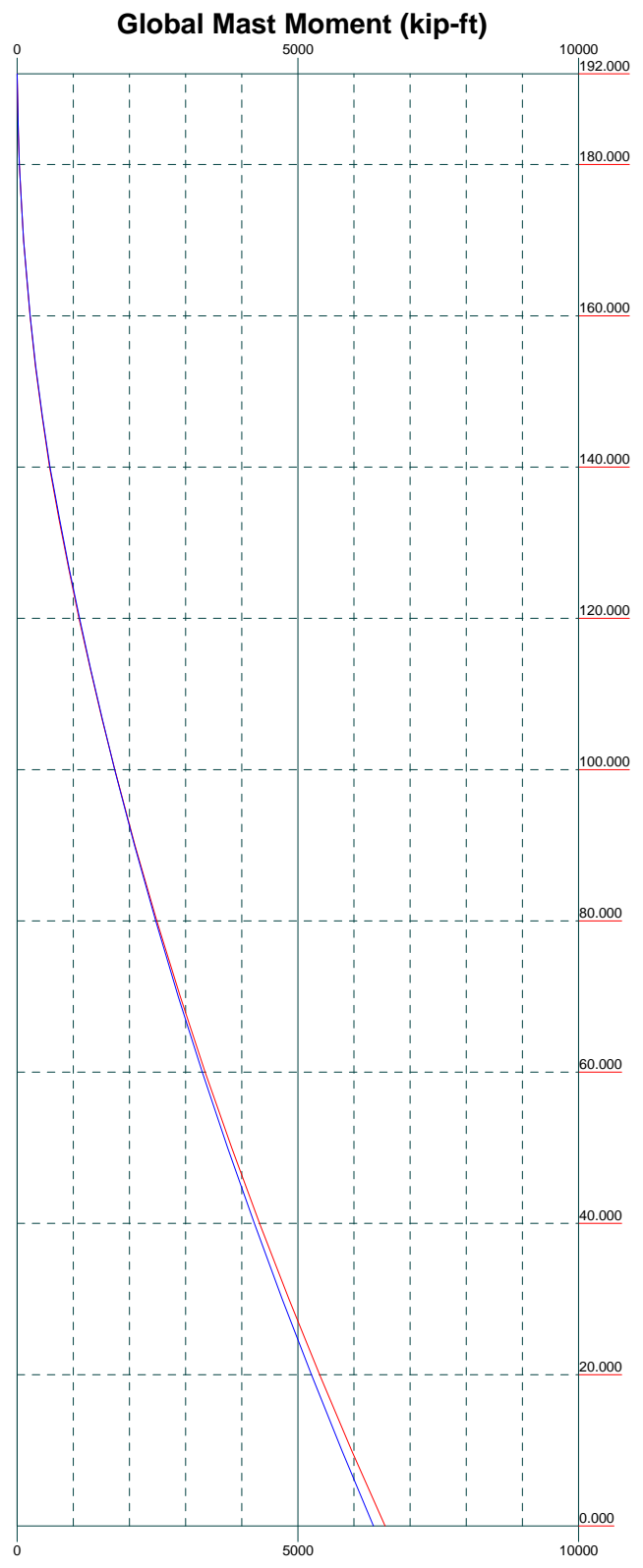
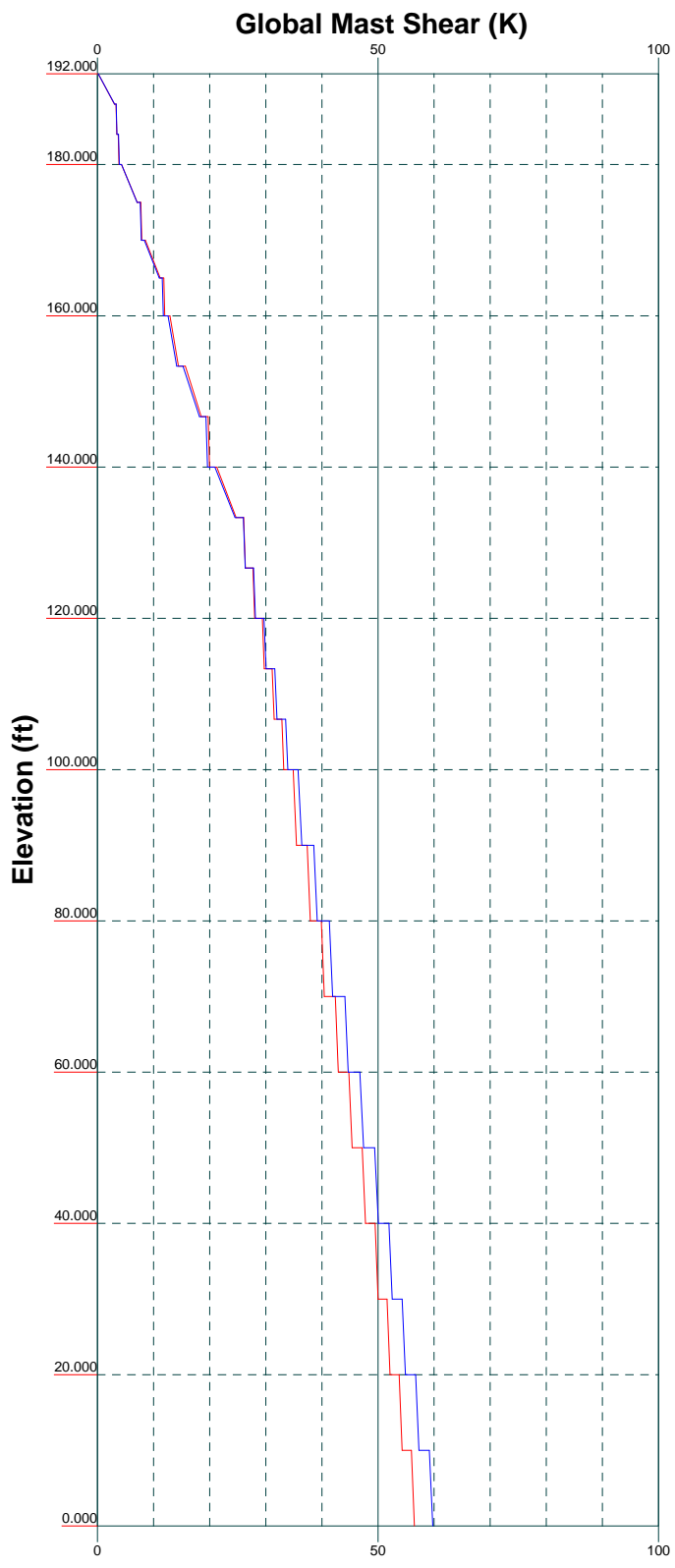



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 1717 S Boulder Ave, Suite 300
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 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 77921.010.01 - SKY HILL, CT (BU# 87634)		
Project:		
Client: Crown Castle	Drawn by: Sampath	App'd:
Code: TIA-222-H	Date: 11/09/19	Scale: NTS
Path:		Dwg No: E-3

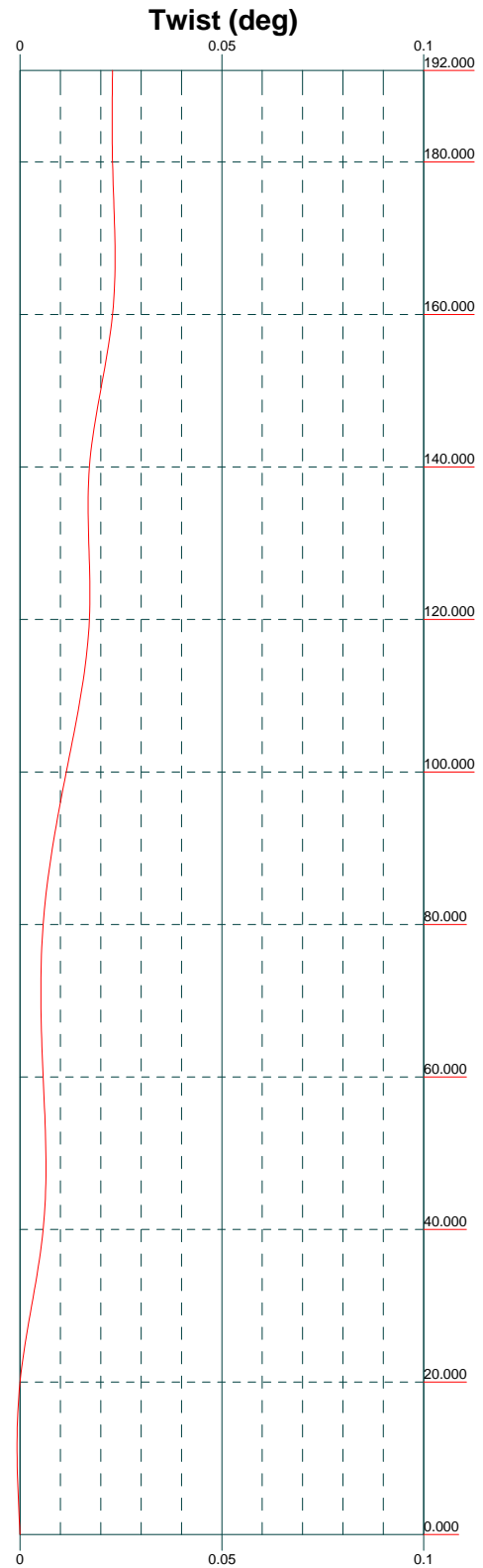
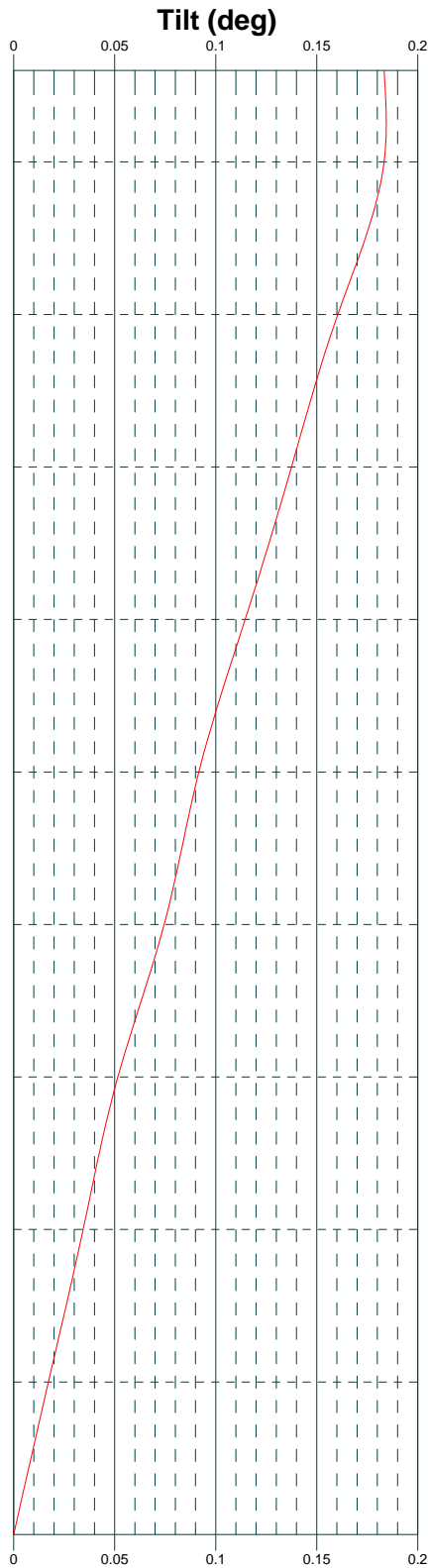
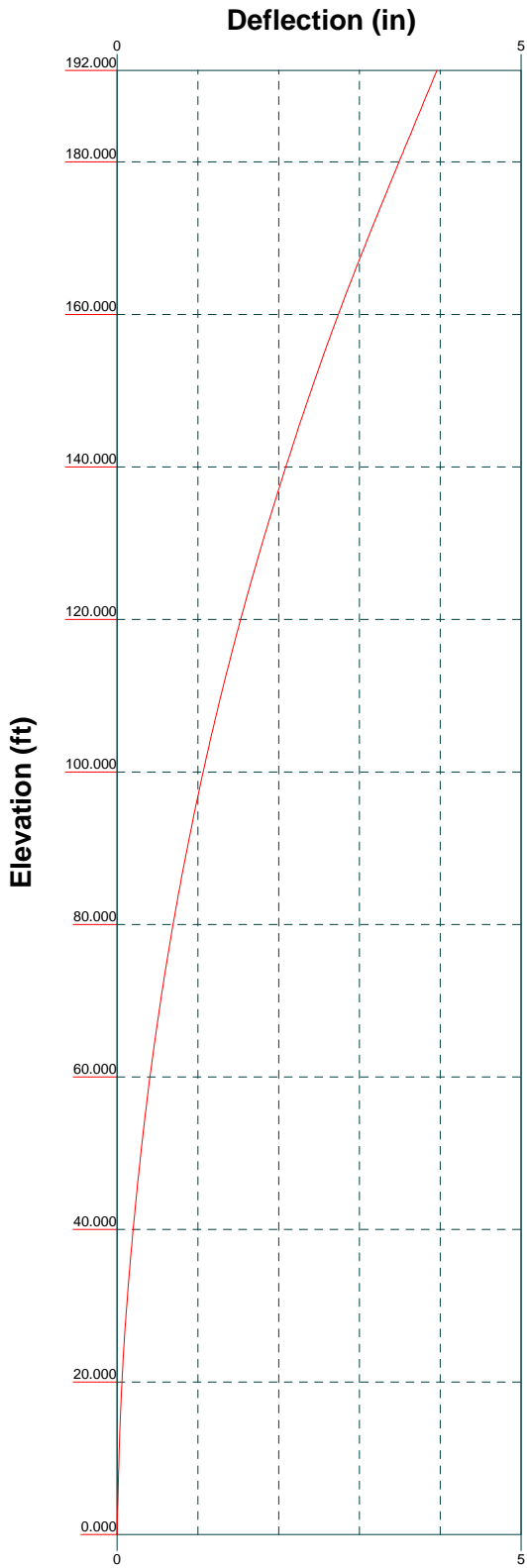
Vx Vz

Mx Mz



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 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 77921.010.01 - SKY HILL, CT (BU# 87634)		
Project:		
Client: Crown Castle	Drawn by: Sampath	App'd:
Code: TIA-222-H	Date: 11/09/19	Scale: NTS
Path:		Dwg No: E-4



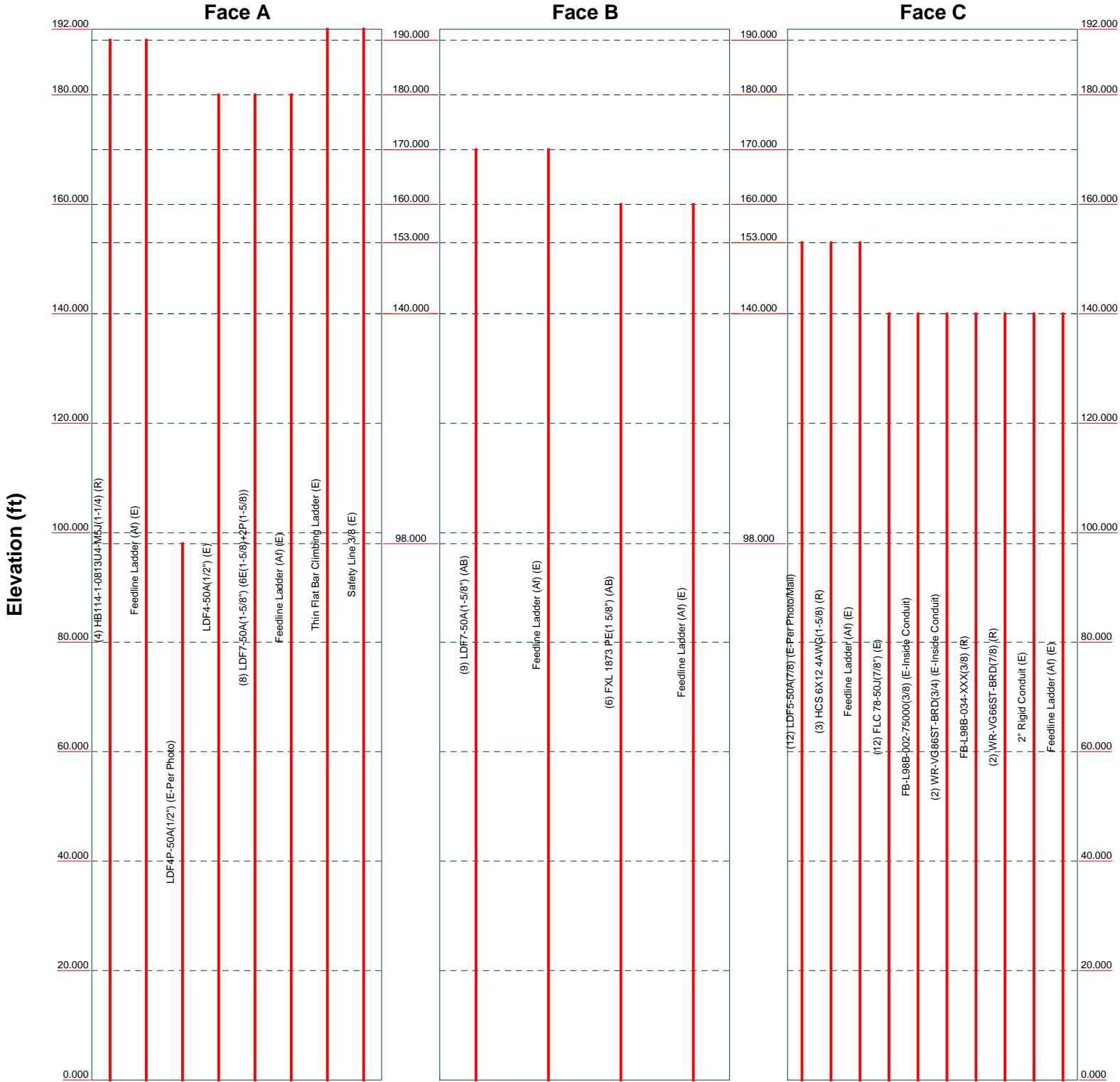
B+T Group
 1717 S Boulder Ave, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
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Job: 77921.010.01 - SKY HILL, CT (BU# 87634)		
Project:		
Client: Crown Castle	Drawn by: Sampath	App'd:
Code: TIA-222-H	Date: 11/09/19	Scale: NTS
Path:		Dwg No: E-5

Feed Line Distribution Chart

0' - 192'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



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Job: 77921.010.01 - SKY HILL, CT (BU# 87634)		
Project:		
Client: Crown Castle	Drawn by: Sampath	App'd:
Code: TIA-222-H	Date: 11/09/19	Scale: NTS
Path:		Dwg No: E-7

<p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 1 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 192.000 ft above the ground line.

The base of the tower is set at an elevation of 0.000 ft above the ground line.

The face width of the tower is 6.580 ft at the top and 25.050 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Windham County, Connecticut.

Tower base elevation above sea level: 1068.000 ft.

Basic wind speed of 130 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 2.000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

TIA-222-H Annex S.

Pressures are calculated at each section.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.

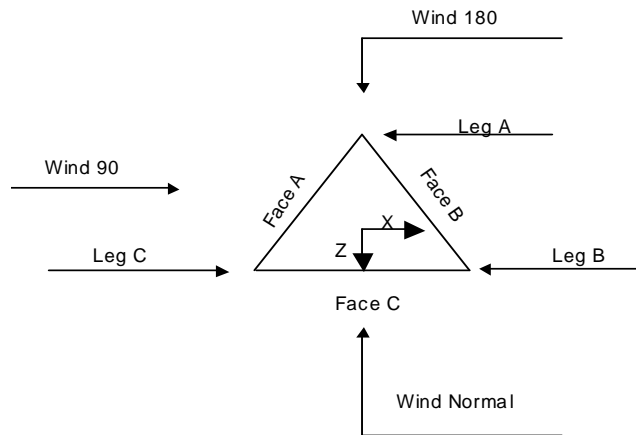
Stress ratio used in tower member design is 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs 	<ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque √ Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	192.000-180.000			6.580	1	12.000
T2	180.000-160.000			6.580	1	20.000
T3	160.000-140.000			8.540	1	20.000
T4	140.000-120.000			10.610	1	20.000
T5	120.000-100.000			12.740	1	20.000
T6	100.000-80.000			14.830	1	20.000
T7	80.000-60.000			16.920	1	20.000
T8	60.000-40.000			18.880	1	20.000
T9	40.000-20.000			21.130	1	20.000
T10	20.000-0.000			23.050	1	20.000

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	192.000-180.000	4.000	X Brace	No	No	0.000	0.000
T2	180.000-160.000	5.000	X Brace	No	No	0.000	0.000
T3	160.000-140.000	6.667	X Brace	No	No	0.000	0.000
T4	140.000-120.000	6.667	X Brace	No	No	0.000	0.000
T5	120.000-100.000	6.667	X Brace	No	No	0.000	0.000

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	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T6	100.000-80.000	10.000	X Brace	No	No	0.000	0.000
T7	80.000-60.000	10.000	X Brace	No	No	0.000	0.000
T8	60.000-40.000	10.000	X Brace	No	No	0.000	0.000
T9	40.000-20.000	10.000	X Brace	No	No	0.000	0.000
T10	20.000-0.000	10.000	X Brace	No	No	0.000	0.000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 192.000-180.000	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 180.000-160.000	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A36 (36 ksi)
T3 160.000-140.000	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T4 140.000-120.000	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)
T5 120.000-100.000	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Equal Angle	L3x3x1/4	A572-50 (50 ksi)
T6 100.000-80.000	Pipe	ROHN 6 EHS	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T7 80.000-60.000	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A572-50 (50 ksi)
T8 60.000-40.000	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A572-50 (50 ksi)
T9 40.000-20.000	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L4x4x5/16	A572-50 (50 ksi)
T10 20.000-0.000	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 192.000-180.000	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T2 180.000-160.000	Equal Angle	L2x2x3/16	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry (cont'd)

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	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹									
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace		
				X Y	X Y	X Y	X Y	X Y	X Y	X Y		
T8 60.000-40.000	Yes	No	1	1	1	1	1	1	1	1	1	1
T9 40.000-20.000	Yes	No	1	1	1	1	1	1	1	1	1	1
T10 20.000-0.000	Yes	No	1	1	1	1	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 192.000-180.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 180.000-160.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 160.000-140.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 140.000-120.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 120.000-100.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 100.000-80.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 80.000-60.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 60.000-40.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 40.000-20.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 20.000-0.000	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry (cont'd)

Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	6 of 33
Project		Date	14:08:59 11/09/19
Client	Crown Castle	Designed by	Sampath

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 192.000-180.000	Flange	0.625 A325N	4	0.625 A325N	1	0.625 A325N	1	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T2 180.000-160.000	Flange	0.625 A325N	4	0.625 A325N	1	0.625 A325N	1	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T3 160.000-140.000	Flange	0.875 A325N	4	0.625 A325N	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T4 140.000-120.000	Flange	1.000 A325N	4	0.625 A325N	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T5 120.000-100.000	Flange	1.000 A325N	6	0.750 A325N	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T6 100.000-80.000	Flange	1.000 A325N	6	0.750 A325N	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T7 80.000-60.000	Flange	1.000 A325N	8	0.750 A325N	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T8 60.000-40.000	Flange	1.000 A325N	8	0.750 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T9 40.000-20.000	Flange	1.000 A325N	8	0.750 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0
T10 20.000-0.000	Flange	0.000 A354-BC	0	0.750 A325X	1	0.000 A325N	0	0.000 A325N	0	0.625 A325X	0	0.000 A325N	0	0.625 A325X	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
HB114-1-081 3U4-M5J(1-1/4) (R)	A	No	No	Ar (CaAa)	190.000 - 0.000	0.000	-0.45	4	4	0.850 0.750	1.540		0.001
Feedline Ladder (Af) (E)	A	No	No	Af (CaAa)	190.000 - 0.000	0.000	-0.45	1	1	3.000	3.000		0.008
***** LDF4P-50A(1/2") (E-Per Photo)	A	No	No	Ar (CaAa)	98.000 - 0.000	0.000	-0.43	1	1	0.500	0.630		0.000
***** LDF4-50A(1/2") (E)	A	No	No	Ar (CaAa)	180.000 - 0.000	0.000	0.47	1	1	0.500	0.630		0.000
LDF7-50A(1-5/8") (6E(1-5/8)+2P(1-5/8))	A	No	No	Ar (CaAa)	180.000 - 0.000	0.000	0.43	8	8	0.850 0.750	1.980		0.001
Feedline Ladder (Af)	A	No	No	Af (CaAa)	180.000 - 0.000	0.000	0.43	1	1	3.000	3.000		0.008

tnxTower

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Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	7 of 33
Project		Date	14:08:59 11/09/19
Client	Crown Castle	Designed by	Sampath

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
(E) *****													
LDF7-50A(1-5/8") (AB) Feedline Ladder (Af) (E) *****	B	No	No	Ar (CaAa)	170.000 - 0.000	0.000	-0.42	9	9	0.850 0.750	1.980		0.001
Feedline Ladder (Af) (E) *****	B	No	No	Af (CaAa)	170.000 - 0.000	0.000	-0.42	1	1	3.000	3.000		0.008
FXL 1873 PE(1 5/8") (AB) Feedline Ladder (Af) (E) *****	B	No	No	Ar (CaAa)	160.000 - 0.000	-3.000	0.45	6	3	0.850 0.750	1.980		0.000
Feedline Ladder (Af) (E) *****	B	No	No	Af (CaAa)	160.000 - 0.000	-1.000	0.45	1	1	3.000	3.000		0.008
LDF5-50A(7/8) (E-Per Photo/Mail) HCS 6X12 4AWG(1-5/8) (R) Feedline Ladder (Af) (E) *****	C	No	No	Ar (CaAa)	153.000 - 0.000	0.000	0.45	12	12	0.850 0.750	1.090		0.000
Feedline Ladder (Af) (E) *****	C	No	No	Ar (CaAa)	153.000 - 0.000	0.000	0.4	3	3	0.850 0.750	1.660		0.002
Feedline Ladder (Af) (E) *****	C	No	No	Af (CaAa)	153.000 - 0.000	0.000	0.44	1	1	3.000	3.000		0.008
FLC 78-50J(7/8") (E) FB-L98B-002-75000(3/8) (E-Inside Conduit)	C	No	No	Ar (CaAa)	140.000 - 0.000	0.000	-0.45	12	12	1.000 0.750	1.112		0.000
WR-VG86ST-BRD(3/4) (E-Inside Conduit)	C	No	No	Ar (CaAa)	140.000 - 0.000	0.000	-0.405	1	1	0.300	0.394		0.000
WR-VG66ST-BRD(7/8) (R) 2" Rigid Conduit (E) Feedline Ladder (Af) (E) *****	C	No	No	Ar (CaAa)	140.000 - 0.000	1.500	-0.475	1	1	0.500	0.394		0.000
WR-VG66ST-BRD(7/8) (R) 2" Rigid Conduit (E) Feedline Ladder (Af) (E) *****	C	No	No	Ar (CaAa)	140.000 - 0.000	1.500	-0.485	2	2	0.850 0.750	0.957		0.001
2" Rigid Conduit (E) Feedline Ladder (Af) (E) *****	C	No	No	Ar (CaAa)	140.000 - 0.000	0.000	-0.405	1	1	2.000	2.000		0.003
Feedline Ladder (Af) (E) *****	C	No	No	Af (CaAa)	140.000 - 0.000	0.000	-0.45	1	1	3.000	3.000		0.008
Thin Flat Bar Climbing Ladder (E) Safety Line 3/8 (E) *****	A	No	No	Af (CaAa)	192.000 - 0.000	-6.000	0.45	1	1	2.000	2.000		0.004
Safety Line 3/8 (E) *****	A	No	No	Ar (CaAa)	192.000 - 0.000	-6.000	0.45	1	1	0.375	0.375		0.000

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	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight klf

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	192.000-180.000	A	0.000	0.000	15.610	0.000	0.183
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
T2	180.000-160.000	A	0.000	0.000	72.677	0.000	0.651
		B	0.000	0.000	22.820	0.000	0.158
		C	0.000	0.000	0.000	0.000	0.000
T3	160.000-140.000	A	0.000	0.000	72.677	0.000	0.651
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	29.978	0.000	0.254
T4	140.000-120.000	A	0.000	0.000	72.677	0.000	0.651
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T5	120.000-100.000	A	0.000	0.000	72.677	0.000	0.651
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T6	100.000-80.000	A	0.000	0.000	73.811	0.000	0.653
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T7	80.000-60.000	A	0.000	0.000	73.937	0.000	0.654
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T8	60.000-40.000	A	0.000	0.000	73.937	0.000	0.654
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T9	40.000-20.000	A	0.000	0.000	73.937	0.000	0.654
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773
T10	20.000-0.000	A	0.000	0.000	73.937	0.000	0.654
		B	0.000	0.000	79.400	0.000	0.484
		C	0.000	0.000	95.391	0.000	0.773

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 _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	192.000-180.000	A	2.021	0.000	0.000	40.592	0.000	0.777

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	9 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
T2	180.000-160.000	A	2.003	0.000	0.000	169.616	0.000	3.137
		B		0.000	0.000	45.562	0.000	0.839
		C		0.000	0.000	0.000	0.000	0.000
T3	160.000-140.000	A	1.978	0.000	0.000	168.805	0.000	3.099
		B		0.000	0.000	144.978	0.000	2.708
		C		0.000	0.000	74.841	0.000	1.273
T4	140.000-120.000	A	1.950	0.000	0.000	167.890	0.000	3.057
		B		0.000	0.000	144.391	0.000	2.675
		C		0.000	0.000	272.406	0.000	4.358
T5	120.000-100.000	A	1.918	0.000	0.000	166.838	0.000	3.009
		B		0.000	0.000	143.716	0.000	2.636
		C		0.000	0.000	270.713	0.000	4.287
T6	100.000-80.000	A	1.879	0.000	0.000	173.498	0.000	3.058
		B		0.000	0.000	142.920	0.000	2.592
		C		0.000	0.000	268.718	0.000	4.204
T7	80.000-60.000	A	1.833	0.000	0.000	172.673	0.000	2.997
		B		0.000	0.000	141.946	0.000	2.537
		C		0.000	0.000	266.276	0.000	4.104
T8	60.000-40.000	A	1.772	0.000	0.000	170.459	0.000	2.903
		B		0.000	0.000	140.680	0.000	2.467
		C		0.000	0.000	263.105	0.000	3.975
T9	40.000-20.000	A	1.684	0.000	0.000	167.241	0.000	2.768
		B		0.000	0.000	138.840	0.000	2.367
		C		0.000	0.000	258.494	0.000	3.790
T10	20.000-0.000	A	1.509	0.000	0.000	160.864	0.000	2.511
		B		0.000	0.000	135.193	0.000	2.172
		C		0.000	0.000	249.359	0.000	3.436

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
T1	192.000-180.000	-4.733	0.916	-4.787	-0.936
T2	180.000-160.000	-4.835	-17.023	-5.462	-17.229
T3	160.000-140.000	-5.388	-15.774	-7.961	-15.383
T4	140.000-120.000	1.180	-13.172	2.433	-9.509
T5	120.000-100.000	1.272	-14.116	2.683	-10.649
T6	100.000-80.000	1.164	-15.963	1.960	-11.616
T7	80.000-60.000	1.190	-16.698	1.981	-12.619
T8	60.000-40.000	1.274	-17.763	2.102	-13.658
T9	40.000-20.000	1.363	-18.946	2.232	-14.983
T10	20.000-0.000	1.442	-20.000	2.309	-16.516

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	2	HB114-1-0813U4-M5J(1-1/4)	180.00 -	0.6000	0.5487

tnxTower

B+T Group
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Job
77921.010.01 - SKY HILL, CT (BU# 876345)

Page
10 of 33

Project
Date
14:08:59 11/09/19

Client
Crown Castle
Designed by
Sampath

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	3	Feedline Ladder (Af)	180.00 - 190.00	0.6000	0.5487
T1	32	Thin Flat Bar Climbing Ladder	180.00 - 192.00	0.6000	0.5487
T1	33	Safety Line 3/8	180.00 - 192.00	0.6000	0.5487
T2	2	HB114-1-0813U4-M5J(1-1/4)	160.00 - 180.00	0.6000	0.6000
T2	3	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T2	9	LDF4-50A(1/2")	160.00 - 180.00	0.6000	0.6000
T2	10	LDF7-50A(1-5/8")	160.00 - 180.00	0.6000	0.6000
T2	12	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T2	14	LDF7-50A(1-5/8")	160.00 - 180.00	0.6000	0.6000
T2	15	Feedline Ladder (Af)	160.00 - 170.00	0.6000	0.6000
T2	32	Thin Flat Bar Climbing Ladder	160.00 - 180.00	0.6000	0.6000
T2	33	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T3	2	HB114-1-0813U4-M5J(1-1/4)	140.00 - 160.00	0.6000	0.6000
T3	3	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	9	LDF4-50A(1/2")	140.00 - 160.00	0.6000	0.6000
T3	10	LDF7-50A(1-5/8")	140.00 - 160.00	0.6000	0.6000
T3	12	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	14	LDF7-50A(1-5/8")	140.00 - 160.00	0.6000	0.6000
T3	15	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	17	FXL 1873 PE(1 5/8")	140.00 - 160.00	0.6000	0.6000
T3	18	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	20	LDF5-50A(7/8)	140.00 - 153.00	0.6000	0.6000
T3	21	HCS 6X12 4AWG(1-5/8)	140.00 - 153.00	0.6000	0.6000
T3	22	Feedline Ladder (Af)	140.00 - 153.00	0.6000	0.6000
T3	32	Thin Flat Bar Climbing Ladder	140.00 - 160.00	0.6000	0.6000
T3	33	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
T4	2	HB114-1-0813U4-M5J(1-1/4)	120.00 - 140.00	0.6000	0.6000
T4	3	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	9	LDF4-50A(1/2")	120.00 - 140.00	0.6000	0.6000
T4	10	LDF7-50A(1-5/8")	120.00 - 140.00	0.6000	0.6000
T4	12	Feedline Ladder (Af)	120.00 -	0.6000	0.6000

tnxTower

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Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	11 of 33
Project		Date	14:08:59 11/09/19
Client	Crown Castle	Designed by	Sampath

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			140.00		
T4	14	LDF7-50A(1-5/8")	120.00 - 140.00	0.6000	0.6000
T4	15	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	17	FXL 1873 PE(1 5/8")	120.00 - 140.00	0.6000	0.6000
T4	18	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	20	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T4	21	HCS 6X12 4AWG(1-5/8)	120.00 - 140.00	0.6000	0.6000
T4	22	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	24	FLC 78-50J(7/8")	120.00 - 140.00	0.6000	0.6000
T4	25	FB-L98B-002-75000(3/8)	120.00 - 140.00	0.0000	0.0000
T4	26	WR-VG86ST-BRD(3/4)	120.00 - 140.00	0.0000	0.0000
T4	27	FB-L98B-034-XXX(3/8)	120.00 - 140.00	0.6000	0.6000
T4	28	WR-VG66ST-BRD(7/8)	120.00 - 140.00	0.6000	0.6000
T4	29	2" Rigid Conduit	120.00 - 140.00	0.6000	0.6000
T4	30	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	32	Thin Flat Bar Climbing Ladder	120.00 - 140.00	0.6000	0.6000
T4	33	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T5	2	HB114-1-0813U4-M5J(1-1/4)	100.00 - 120.00	0.6000	0.6000
T5	3	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	9	LDF4-50A(1/2")	100.00 - 120.00	0.6000	0.6000
T5	10	LDF7-50A(1-5/8")	100.00 - 120.00	0.6000	0.6000
T5	12	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	14	LDF7-50A(1-5/8")	100.00 - 120.00	0.6000	0.6000
T5	15	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	17	FXL 1873 PE(1 5/8")	100.00 - 120.00	0.6000	0.6000
T5	18	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	20	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T5	21	HCS 6X12 4AWG(1-5/8)	100.00 - 120.00	0.6000	0.6000
T5	22	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	24	FLC 78-50J(7/8")	100.00 - 120.00	0.6000	0.6000
T5	25	FB-L98B-002-75000(3/8)	100.00 - 120.00	0.0000	0.0000
T5	26	WR-VG86ST-BRD(3/4)	100.00 -	0.0000	0.0000

Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	12 of 33
Project		Date	14:08:59 11/09/19
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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T5	27	FB-L98B-034-XXX(3/8)	120.00 - 100.00	0.6000	0.6000
T5	28	WR-VG66ST-BRD(7/8)	120.00 - 100.00	0.6000	0.6000
T5	29	2" Rigid Conduit	120.00 - 100.00	0.6000	0.6000
T5	30	Feedline Ladder (Af)	120.00 - 100.00	0.6000	0.6000
T5	32	Thin Flat Bar Climbing Ladder	120.00 - 100.00	0.6000	0.6000
T5	33	Safety Line 3/8	120.00 - 100.00	0.6000	0.6000
T6	2	HB114-1-0813U4-M5J(1-1/4)	80.00 - 100.00	0.6000	0.6000
T6	3	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	5	LDF4P-50A(1/2")	80.00 - 98.00	0.6000	0.6000
T6	9	LDF4-50A(1/2")	80.00 - 100.00	0.6000	0.6000
T6	10	LDF7-50A(1-5/8")	80.00 - 100.00	0.6000	0.6000
T6	12	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	14	LDF7-50A(1-5/8")	80.00 - 100.00	0.6000	0.6000
T6	15	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	17	FXL 1873 PE(1 5/8")	80.00 - 100.00	0.6000	0.6000
T6	18	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	20	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T6	21	HCS 6X12 4AWG(1-5/8)	80.00 - 100.00	0.6000	0.6000
T6	22	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	24	FLC 78-50J(7/8")	80.00 - 100.00	0.6000	0.6000
T6	25	FB-L98B-002-75000(3/8)	80.00 - 100.00	0.0000	0.0000
T6	26	WR-VG86ST-BRD(3/4)	80.00 - 100.00	0.0000	0.0000
T6	27	FB-L98B-034-XXX(3/8)	80.00 - 100.00	0.6000	0.6000
T6	28	WR-VG66ST-BRD(7/8)	80.00 - 100.00	0.6000	0.6000
T6	29	2" Rigid Conduit	80.00 - 100.00	0.6000	0.6000
T6	30	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	32	Thin Flat Bar Climbing Ladder	80.00 - 100.00	0.6000	0.6000
T6	33	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T7	2	HB114-1-0813U4-M5J(1-1/4)	60.00 - 80.00	0.6000	0.6000
T7	3	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	5	LDF4P-50A(1/2")	60.00 - 80.00	0.6000	0.6000
T7	9	LDF4-50A(1/2")	60.00 - 80.00	0.6000	0.6000
T7	10	LDF7-50A(1-5/8")	60.00 - 80.00	0.6000	0.6000
T7	12	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	14	LDF7-50A(1-5/8")	60.00 - 80.00	0.6000	0.6000
T7	15	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	17	FXL 1873 PE(1 5/8")	60.00 - 80.00	0.6000	0.6000
T7	18	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	20	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T7	21	HCS 6X12 4AWG(1-5/8)	60.00 - 80.00	0.6000	0.6000
T7	22	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	24	FLC 78-50J(7/8")	60.00 - 80.00	0.6000	0.6000
T7	25	FB-L98B-002-75000(3/8)	60.00 - 80.00	0.0000	0.0000
T7	26	WR-VG86ST-BRD(3/4)	60.00 - 80.00	0.0000	0.0000
T7	27	FB-L98B-034-XXX(3/8)	60.00 - 80.00	0.6000	0.6000
T7	28	WR-VG66ST-BRD(7/8)	60.00 - 80.00	0.6000	0.6000
T7	29	2" Rigid Conduit	60.00 - 80.00	0.6000	0.6000
T7	30	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	32	Thin Flat Bar Climbing Ladder	60.00 - 80.00	0.6000	0.6000
T7	33	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T8	2	HB114-1-0813U4-M5J(1-1/4)	40.00 - 60.00	0.6000	0.6000

tnxTower

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Job
77921.010.01 - SKY HILL, CT (BU# 876345)

Page
13 of 33

Project
Date
14:08:59 11/09/19

Client
Crown Castle
Designed by
Sampath

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T8	3	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	5	LDF4P-50A(1/2")	40.00 - 60.00	0.6000	0.6000
T8	9	LDF4-50A(1/2")	40.00 - 60.00	0.6000	0.6000
T8	10	LDF7-50A(1-5/8")	40.00 - 60.00	0.6000	0.6000
T8	12	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	14	LDF7-50A(1-5/8")	40.00 - 60.00	0.6000	0.6000
T8	15	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	17	FXL 1873 PE(1 5/8")	40.00 - 60.00	0.6000	0.6000
T8	18	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	20	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T8	21	HCS 6X12 4AWG(1-5/8)	40.00 - 60.00	0.6000	0.6000
T8	22	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	24	FLC 78-50J(7/8")	40.00 - 60.00	0.6000	0.6000
T8	25	FB-L98B-002-75000(3/8)	40.00 - 60.00	0.0000	0.0000
T8	26	WR-VG86ST-BRD(3/4)	40.00 - 60.00	0.0000	0.0000
T8	27	FB-L98B-034-XXX(3/8)	40.00 - 60.00	0.6000	0.6000
T8	28	WR-VG66ST-BRD(7/8)	40.00 - 60.00	0.6000	0.6000
T8	29	2" Rigid Conduit	40.00 - 60.00	0.6000	0.6000
T8	30	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	32	Thin Flat Bar Climbing Ladder	40.00 - 60.00	0.6000	0.6000
T8	33	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T9	2	HB114-1-0813U4-M5J(1-1/4)	20.00 - 40.00	0.6000	0.6000
T9	3	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	5	LDF4P-50A(1/2")	20.00 - 40.00	0.6000	0.6000
T9	9	LDF4-50A(1/2")	20.00 - 40.00	0.6000	0.6000
T9	10	LDF7-50A(1-5/8")	20.00 - 40.00	0.6000	0.6000
T9	12	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	14	LDF7-50A(1-5/8")	20.00 - 40.00	0.6000	0.6000
T9	15	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	17	FXL 1873 PE(1 5/8")	20.00 - 40.00	0.6000	0.6000
T9	18	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	20	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T9	21	HCS 6X12 4AWG(1-5/8)	20.00 - 40.00	0.6000	0.6000
T9	22	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	24	FLC 78-50J(7/8")	20.00 - 40.00	0.6000	0.6000
T9	25	FB-L98B-002-75000(3/8)	20.00 - 40.00	0.0000	0.0000
T9	26	WR-VG86ST-BRD(3/4)	20.00 - 40.00	0.0000	0.0000
T9	27	FB-L98B-034-XXX(3/8)	20.00 - 40.00	0.6000	0.6000
T9	28	WR-VG66ST-BRD(7/8)	20.00 - 40.00	0.6000	0.6000
T9	29	2" Rigid Conduit	20.00 - 40.00	0.6000	0.6000
T9	30	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	32	Thin Flat Bar Climbing Ladder	20.00 - 40.00	0.6000	0.6000
T9	33	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T10	2	HB114-1-0813U4-M5J(1-1/4)	0.00 - 20.00	0.6000	0.6000
T10	3	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	5	LDF4P-50A(1/2")	0.00 - 20.00	0.6000	0.6000
T10	9	LDF4-50A(1/2")	0.00 - 20.00	0.6000	0.6000
T10	10	LDF7-50A(1-5/8")	0.00 - 20.00	0.6000	0.6000
T10	12	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	14	LDF7-50A(1-5/8")	0.00 - 20.00	0.6000	0.6000
T10	15	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	17	FXL 1873 PE(1 5/8")	0.00 - 20.00	0.6000	0.6000
T10	18	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	20	LDF5-50A(7/8)	0.00 - 20.00	0.6000	0.6000
T10	21	HCS 6X12 4AWG(1-5/8)	0.00 - 20.00	0.6000	0.6000
T10	22	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	24	FLC 78-50J(7/8")	0.00 - 20.00	0.6000	0.6000

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	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T10	25	FB-L98B-002-75000(3/8)	0.00 - 20.00	0.0000	0.0000
T10	26	WR-VG86ST-BRD(3/4)	0.00 - 20.00	0.0000	0.0000
T10	27	FB-L98B-034-XXX(3/8)	0.00 - 20.00	0.6000	0.6000
T10	28	WR-VG66ST-BRD(7/8)	0.00 - 20.00	0.6000	0.6000
T10	29	2" Rigid Conduit	0.00 - 20.00	0.6000	0.6000
T10	30	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	32	Thin Flat Bar Climbing Ladder	0.00 - 20.00	0.6000	0.6000
T10	33	Safety Line 3/8	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
NNVV-65B-R4 w/ Mount Pipe (R)	A	From Leg	4.000	0.000	190.000	No Ice	7.550	4.230	0.110
			0.000			1/2" Ice	8.040	4.670	0.197
			2.000			1" Ice	8.530	5.120	0.296
						2" Ice	9.560	6.050	0.529
NNVV-65B-R4 w/ Mount Pipe (R)	B	From Leg	4.000	0.000	190.000	No Ice	7.550	4.230	0.110
			0.000			1/2" Ice	8.040	4.670	0.197
			2.000			1" Ice	8.530	5.120	0.296
						2" Ice	9.560	6.050	0.529
NNVV-65B-R4 w/ Mount Pipe (R)	C	From Leg	4.000	0.000	190.000	No Ice	7.550	4.230	0.110
			0.000			1/2" Ice	8.040	4.670	0.197
			2.000			1" Ice	8.530	5.120	0.296
						2" Ice	9.560	6.050	0.529
APXVTM14-ALU-I20 w/ Mount Pipe (R)	A	From Leg	4.000	0.000	190.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
APXVTM14-ALU-I20 w/ Mount Pipe (R)	B	From Leg	4.000	0.000	190.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
APXVTM14-ALU-I20 w/ Mount Pipe (R)	C	From Leg	4.000	0.000	190.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
TD-RRH8x20-25 (R)	A	From Leg	4.000	0.000	190.000	No Ice	4.045	1.535	0.070
			0.000			1/2" Ice	4.298	1.714	0.097
			2.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
TD-RRH8x20-25 (R)	B	From Leg	4.000	0.000	190.000	No Ice	4.045	1.535	0.070
			0.000			1/2" Ice	4.298	1.714	0.097
			2.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
TD-RRH8x20-25 (R)	C	From Leg	4.000	0.000	190.000	No Ice	4.045	1.535	0.070
			0.000			1/2" Ice	4.298	1.714	0.097
			2.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	15 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
(2) RRH2X50-800 (R)	A	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 1.701 1/2" Ice 1.864 1" Ice 2.035 2" Ice 2.398	1.282 1.428 1.580 1.908	0.053 0.070 0.090 0.138
(2) RRH2X50-800 (R)	B	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 1.701 1/2" Ice 1.864 1" Ice 2.035 2" Ice 2.398	1.282 1.428 1.580 1.908	0.053 0.070 0.090 0.138
(2) RRH2X50-800 (R)	C	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 1.701 1/2" Ice 1.864 1" Ice 2.035 2" Ice 2.398	1.282 1.428 1.580 1.908	0.053 0.070 0.090 0.138
PCS 1900MHz 4x45W-65MHz (R)	A	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 2.322 1/2" Ice 2.527 1" Ice 2.739 2" Ice 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
PCS 1900MHz 4x45W-65MHz (R)	B	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 2.322 1/2" Ice 2.527 1" Ice 2.739 2" Ice 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
PCS 1900MHz 4x45W-65MHz (R)	C	From Leg	4.000 0.000 2.000		0.000	190.000	No Ice 2.322 1/2" Ice 2.527 1" Ice 2.739 2" Ice 3.185	2.238 2.441 2.651 3.093	0.060 0.083 0.110 0.173
6' x 2" Mount Pipe (E)	A	From Leg	4.000 0.000 0.000		0.000	190.000	No Ice 1.425 1/2" Ice 1.925 1" Ice 2.294 2" Ice 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe (E)	B	From Leg	4.000 0.000 0.000		0.000	190.000	No Ice 1.425 1/2" Ice 1.925 1" Ice 2.294 2" Ice 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe (E)	C	From Leg	4.000 0.000 0.000		0.000	190.000	No Ice 1.425 1/2" Ice 1.925 1" Ice 2.294 2" Ice 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
Sector Mount [SM 504-3] (E)	C	None			0.000	190.000	No Ice 31.050 1/2" Ice 43.830 1" Ice 56.440 2" Ice 81.280	31.050 43.830 56.440 81.280	1.708 2.326 3.143 5.358

(2) JAHH-65B-R3B (E-Installed)	A	From Leg	4.000 0.000 1.000		0.000	180.000	No Ice 5.290 1/2" Ice 5.750 1" Ice 6.220 2" Ice 7.200	3.050 3.480 3.930 4.840	0.063 0.121 0.186 0.334
(2) JAHH-65B-R3B (E-Installed)	B	From Leg	4.000 0.000 1.000		0.000	180.000	No Ice 5.290 1/2" Ice 5.750 1" Ice 6.220 2" Ice 7.200	3.050 3.480 3.930 4.840	0.063 0.121 0.186 0.334
(2) JAHH-65B-R3B (E-Installed)	C	From Leg	4.000 0.000 1.000		0.000	180.000	No Ice 5.290 1/2" Ice 5.750 1" Ice 6.220 2" Ice 7.200	3.050 3.480 3.930 4.840	0.063 0.121 0.186 0.334
58532A (E-Installed)	C	From Leg	4.000 0.000 4.000		0.000	180.000	No Ice 0.189 1/2" Ice 0.248 1" Ice 0.315 2" Ice 0.470	0.189 0.248 0.315 0.470	0.000 0.003 0.006 0.017

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	17 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			Horz Lateral ft	Vert ft						
(P)			0.000			1/2" Ice	2.045	1.393	0.103	
			1.000			1" Ice	2.223	1.543	0.124	
						2" Ice	2.601	1.865	0.175	
(2) RC3DC-3315-PF-48 (P)	C	From Leg	4.000		0.000	180.000	No Ice	3.792	2.512	0.032
			0.000				1/2" Ice	4.044	2.725	0.063
			1.000				1" Ice	4.303	2.945	0.099
							2" Ice	4.844	3.414	0.181
Sector Mount [SM 303-3] (E-4 M.P./Sector)	C	None			0.000	180.000	No Ice	39.830	39.830	1.879
							1/2" Ice	56.050	56.050	2.648
							1" Ice	71.960	71.960	3.658
							2" Ice	103.040	103.040	6.382

(3) 7130.16.33.00 w/ Mount Pipe (AB)	A	From Leg	4.000		0.000	170.000	No Ice	5.555	6.584	0.037
			0.000				1/2" Ice	5.968	7.295	0.096
			2.000				1" Ice	6.382	7.978	0.162
							2" Ice	7.235	9.391	0.316
(3) 7130.16.33.00 w/ Mount Pipe (AB)	B	From Leg	4.000		0.000	170.000	No Ice	5.555	6.584	0.037
			0.000				1/2" Ice	5.968	7.295	0.096
			2.000				1" Ice	6.382	7.978	0.162
							2" Ice	7.235	9.391	0.316
(3) 7130.16.33.00 w/ Mount Pipe (AB)	C	From Leg	4.000		0.000	170.000	No Ice	5.555	6.584	0.037
			0.000				1/2" Ice	5.968	7.295	0.096
			2.000				1" Ice	6.382	7.978	0.162
							2" Ice	7.235	9.391	0.316
Sector Mount [SM 504-3] (AB)	C	None			0.000	170.000	No Ice	31.050	31.050	1.708
							1/2" Ice	43.830	43.830	2.326
							1" Ice	56.440	56.440	3.143
							2" Ice	81.280	81.280	5.358

HBX-6516DS-VTM w/ Mount Pipe (AB-CL/Photo)	A	From Leg	4.000		0.000	160.000	No Ice	2.220	1.940	0.029
			0.000				1/2" Ice	2.580	2.290	0.058
			2.000				1" Ice	2.960	2.660	0.094
							2" Ice	3.740	3.430	0.191
HBX-6516DS-VTM w/ Mount Pipe (AB-CL/Photo)	B	From Leg	4.000		0.000	160.000	No Ice	2.220	1.940	0.029
			0.000				1/2" Ice	2.580	2.290	0.058
			2.000				1" Ice	2.960	2.660	0.094
							2" Ice	3.740	3.430	0.191
HBX-6516DS-VTM w/ Mount Pipe (AB-CL/Photo)	C	From Leg	4.000		0.000	160.000	No Ice	2.220	1.940	0.029
			0.000				1/2" Ice	2.580	2.290	0.058
			2.000				1" Ice	2.960	2.660	0.094
							2" Ice	3.740	3.430	0.191
6' x 2" Mount Pipe (AB)	A	From Leg	4.000		0.000	160.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			2.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe (AB)	B	From Leg	4.000		0.000	160.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			2.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
6' x 2" Mount Pipe (AB)	C	From Leg	4.000		0.000	160.000	No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
			2.000				1" Ice	2.294	2.294	0.048
							2" Ice	3.060	3.060	0.090
Sector Mount [SM 104-3] (AB)	C	None			0.000	160.000	No Ice	30.210	30.210	0.953
							1/2" Ice	38.120	38.120	1.432
							1" Ice	46.010	46.010	2.031
							2" Ice	62.030	62.030	3.577

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	18 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral ft	Vert ft					

APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe (R)	A	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 6.290 1/2" Ice 6.860 1" Ice 7.450 2" Ice 8.680	2.760 3.270 3.790 4.900	0.061 0.105 0.157 0.290
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe (R)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 6.290 1/2" Ice 6.860 1" Ice 7.450 2" Ice 8.680	2.760 3.270 3.790 4.900	0.061 0.105 0.157 0.290
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe (R)	C	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 6.290 1/2" Ice 6.860 1" Ice 7.450 2" Ice 8.680	2.760 3.270 3.790 4.900	0.061 0.105 0.157 0.290
APXVAARR24_43-U-NA20 w/ Mount Pipe (R)	A	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230 2" Ice 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe (R)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230 2" Ice 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe (R)	C	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 14.690 1/2" Ice 15.460 1" Ice 16.230 2" Ice 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
(2) RRUS 4415 B25 (R)	A	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.644 1/2" Ice 1.804 1" Ice 1.972 2" Ice 2.329	0.679 0.791 0.913 1.183	0.044 0.056 0.071 0.109
RRUS 4415 B25 (R)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.644 1/2" Ice 1.804 1" Ice 1.972 2" Ice 2.329	0.679 0.791 0.913 1.183	0.044 0.056 0.071 0.109
(2) RADIO 4415 B66A (R)	A	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.856 1/2" Ice 2.027 1" Ice 2.204 2" Ice 2.582	0.870 0.997 1.134 1.432	0.050 0.064 0.081 0.124
RADIO 4415 B66A (R)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.856 1/2" Ice 2.027 1" Ice 2.204 2" Ice 2.582	0.870 0.997 1.134 1.432	0.050 0.064 0.081 0.124
RADIO 4449 B12/B71 (R)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.650 1/2" Ice 1.810 1" Ice 1.978 2" Ice 2.336	1.300 1.445 1.597 1.924	0.075 0.092 0.112 0.161
(2) RADIO 4449 B12/B71 (R)	C	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 1.650 1/2" Ice 1.810 1" Ice 1.978 2" Ice 2.336	1.300 1.445 1.597 1.924	0.075 0.092 0.112 0.161
10.5' x 2.375" horizontal mount pipe (R- Tieback)	A	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 2.494 1/2" Ice 3.572 1" Ice 4.667 2" Ice 6.317	2.494 3.572 4.667 6.317	0.035 0.054 0.079 0.151
10.5' x 2.375" horizontal mount pipe (R- Tieback)	B	From Leg	4.000 0.000 0.000		0.000	153.000	No Ice 2.494 1/2" Ice 3.572 1" Ice 4.667 2" Ice 6.317	2.494 3.572 4.667 6.317	0.035 0.054 0.079 0.151

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front ft ²	CAAA Side ft ²	Weight K
10.5' x 2.375" horizontal mount pipe (R- Tieback)	C	From Leg	4.000 0.000 0.000	0.000	153.000	No Ice 2.494 1/2" Ice 3.572 1" Ice 4.667 2" Ice 6.317	2.494 3.572 4.667 6.317	0.035 0.054 0.079 0.151
Sector Mount [SM 502-3] (R-VFA12-HD (Per Mail))	C	None		0.000	153.000	No Ice 29.820 1/2" Ice 42.210 1" Ice 54.430 2" Ice 78.490	29.820 42.210 54.430 78.490	1.673 2.266 3.052 5.180

7770.00 w/ Mount Pipe (E)	A	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 5.746 1/2" Ice 6.179 1" Ice 6.607 2" Ice 7.488	4.254 5.014 5.711 7.155	0.055 0.103 0.157 0.287
7770.00 w/ Mount Pipe (E)	B	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 5.746 1/2" Ice 6.179 1" Ice 6.607 2" Ice 7.488	4.254 5.014 5.711 7.155	0.055 0.103 0.157 0.287
7770.00 w/ Mount Pipe (E)	C	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 5.746 1/2" Ice 6.179 1" Ice 6.607 2" Ice 7.488	4.254 5.014 5.711 7.155	0.055 0.103 0.157 0.287
DC6-48-60-18-8F (E)	A	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 1.212 1/2" Ice 1.892 1" Ice 2.105 2" Ice 2.570	1.212 1.892 2.105 2.570	0.033 0.055 0.080 0.138
TT19-08BP111-001 (E)	A	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 0.545 1/2" Ice 0.641 1" Ice 0.743 2" Ice 0.971	0.442 0.530 0.626 0.840	0.016 0.022 0.029 0.049
TT19-08BP111-001 (E)	B	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 0.545 1/2" Ice 0.641 1" Ice 0.743 2" Ice 0.971	0.442 0.530 0.626 0.840	0.016 0.022 0.029 0.049
TT19-08BP111-001 (E)	C	From Leg	4.000 0.000 0.000	0.000	140.000	No Ice 0.545 1/2" Ice 0.641 1" Ice 0.743 2" Ice 0.971	0.442 0.530 0.626 0.840	0.016 0.022 0.029 0.049
(2) DMP65R-BU6D w/ Mount Pipe (R)	A	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 12.947 1/2" Ice 13.547 1" Ice 14.111 2" Ice 15.264	7.262 8.433 9.315 11.128	0.105 0.197 0.298 0.529
(2) DMP65R-BU4D w/ Mount Pipe (R)	B	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 8.518 1/2" Ice 8.964 1" Ice 9.420 2" Ice 10.358	4.693 5.306 5.928 7.222	0.086 0.151 0.223 0.389
(2) DMP65R-BU4D w/ Mount Pipe (R)	C	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 8.518 1/2" Ice 8.964 1" Ice 9.420 2" Ice 10.358	4.693 5.306 5.928 7.222	0.086 0.151 0.223 0.389
RRUS 8843 B2/B66A (R)	A	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 1.639 1/2" Ice 1.799 1" Ice 1.966 2" Ice 2.323	1.353 1.500 1.655 1.986	0.072 0.090 0.110 0.159
RRUS 8843 B2/B66A (R)	B	From Leg	4.000 0.000 1.000	0.000	140.000	No Ice 1.639 1/2" Ice 1.799 1" Ice 1.966 2" Ice 2.323	1.353 1.500 1.655 1.986	0.072 0.090 0.110 0.159

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	20 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
RRUS 8843 B2/B66A (R)	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.639	1.353	0.072
			0.000				1/2" Ice	1.799	1.500	0.090
			1.000				1" Ice	1.966	1.655	0.110
							2" Ice	2.323	1.986	0.159
RRUS 4478 B14 (R)	A	From Leg	4.000	0.000	0.000	140.000	No Ice	1.843	1.059	0.060
			0.000				1/2" Ice	2.012	1.197	0.076
			1.000				1" Ice	2.190	1.342	0.094
							2" Ice	2.566	1.656	0.140
RRUS 4478 B14 (R)	B	From Leg	4.000	0.000	0.000	140.000	No Ice	1.843	1.059	0.060
			0.000				1/2" Ice	2.012	1.197	0.076
			1.000				1" Ice	2.190	1.342	0.094
							2" Ice	2.566	1.656	0.140
RRUS 4478 B14 (R)	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.843	1.059	0.060
			0.000				1/2" Ice	2.012	1.197	0.076
			1.000				1" Ice	2.190	1.342	0.094
							2" Ice	2.566	1.656	0.140
RRUS 4449 B5/B12 (R)	A	From Leg	4.000	0.000	0.000	140.000	No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			1.000				1" Ice	2.328	1.727	0.111
							2" Ice	2.718	2.075	0.163
RRUS 4449 B5/B12 (R)	B	From Leg	4.000	0.000	0.000	140.000	No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			1.000				1" Ice	2.328	1.727	0.111
							2" Ice	2.718	2.075	0.163
RRUS 4449 B5/B12 (R)	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			1.000				1" Ice	2.328	1.727	0.111
							2" Ice	2.718	2.075	0.163
DC6-48-60-0-8C-EV (R)	B	From Leg	4.000	0.000	0.000	140.000	No Ice	2.736	4.783	0.026
			0.000				1/2" Ice	2.962	5.063	0.063
			1.000				1" Ice	3.195	5.350	0.104
							2" Ice	3.683	5.947	0.200
BC-35-14D (R-Antenna Connection)	A	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
BC-35-14D (R-Antenna Connection)	A	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			-2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
BC-35-14D (R-Antenna Connection)	B	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
BC-35-14D (R-Antenna Connection)	B	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			-2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
BC-35-14D (R-Antenna Connection)	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
BC-35-14D (R-Antenna Connection)	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.500	1.500	0.050
			0.000				1/2" Ice	1.740	1.740	0.074
			-2.000				1" Ice	1.980	1.980	0.099
							2" Ice	2.460	2.460	0.147
Sector Mount [SM 502-3]	C	None		0.000		140.000	No Ice	29.820	29.820	1.673

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 21 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(E)						1/2" Ice 42.210	42.210	2.266
						1" Ice 54.430	54.430	3.052
						2" Ice 78.490	78.490	5.180

58532A	C	From Leg	4.000	0.000	98.000	No Ice 0.189	0.189	0.000
(E)			0.000			1/2" Ice 0.248	0.248	0.003
			4.000			1" Ice 0.315	0.315	0.006
						2" Ice 0.470	0.470	0.017
Side Arm Mount [SO 306-1]	C	From Leg	2.000	0.000	98.000	No Ice 0.410	2.260	0.042
(E)			0.000			1/2" Ice 0.810	3.830	0.062
			0.000			1" Ice 1.230	5.480	0.094
						2" Ice 2.080	9.370	0.187

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp

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

Maximum Member Forces

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Axial K</i>	<i>Major Axis Moment kip-ft</i>	<i>Minor Axis Moment kip-ft</i>
T1	192 - 180	Leg	Max Tension	23	4.311	-0.077	-0.054
			Max. Compression	18	-6.957	0.061	-0.061
			Max. Mx	20	-1.273	-0.784	0.002
			Max. My	2	-0.897	-0.025	-0.783
			Max. Vy	20	-0.581	0.380	-0.032
		Diagonal	Max. Vx	2	-0.588	-0.006	0.400
			Max Tension	20	1.475	0.000	0.000
			Max. Compression	20	-1.508	0.000	0.000
			Max. Mx	36	0.162	0.026	0.000
			Max. My	16	1.469	0.005	-0.002
		Top Girt	Max. Vy	36	-0.029	0.026	0.000
			Max. Vx	16	-0.000	0.004	-0.002
			Max Tension	22	0.097	0.000	0.000
			Max. Compression	19	-0.086	0.000	0.000
			Max. Mx	26	0.002	-0.074	0.000
T2	180 - 160	Leg	Max. Vy	26	0.045	0.000	0.000
			Max Tension	23	24.773	-0.054	-0.025
			Max. Compression	18	-32.541	0.074	-0.037
			Max. Mx	10	-10.830	0.083	0.015
			Max. My	20	-2.770	-0.016	-0.140
		Diagonal	Max. Vy	6	-0.973	-0.056	0.022
			Max. Vx	12	-0.955	0.012	0.017
			Max Tension	4	3.751	0.000	0.000
			Max. Compression	4	-3.755	0.000	0.000
			Max. Mx	27	1.196	0.047	-0.005
		Top Girt	Max. My	34	-1.267	0.032	-0.005
			Max. Vy	27	-0.040	0.047	-0.005
			Max. Vx	34	0.002	0.000	0.000
			Max Tension	19	0.651	0.000	0.000
			Max. Compression	6	-0.676	0.000	0.000
T3	160 - 140	Leg	Max. Mx	26	-0.043	-0.081	0.000
			Max. My	26	-0.044	0.000	0.002
			Max. Vy	26	0.049	0.000	0.000
			Max. Vx	26	-0.001	0.000	0.000
			Max Tension	23	51.724	-0.156	-0.017
		Max. Compression	18	-64.539	0.175	-0.026	

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	23 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle	Designed by	Sampath

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T4	140 - 120	Diagonal	Max. Mx	14	29.088	-0.278	-0.022
			Max. My	20	-7.063	-0.015	-0.380
			Max. Vy	14	-0.975	-0.278	-0.022
			Max. Vx	20	-0.899	-0.015	-0.203
			Max Tension	16	5.887	0.000	0.000
			Max. Compression	16	-5.970	0.000	0.000
			Max. Mx	38	0.701	0.093	-0.011
			Max. My	30	1.363	0.075	0.012
		Leg	Max. Vy	38	-0.061	0.093	-0.011
			Max. Vx	30	-0.004	0.000	0.000
			Max Tension	23	85.723	-0.227	-0.011
			Max. Compression	18	-104.521	0.330	-0.015
			Max. Mx	10	-104.473	0.332	0.020
			Max. My	20	-10.089	0.002	-0.412
			Max. Vy	14	-1.203	-0.156	-0.017
			Max. Vx	20	-1.135	0.004	-0.013
T5	120 - 100	Diagonal	Max Tension	16	7.308	0.000	0.000
			Max. Compression	16	-7.397	0.000	0.000
			Max. Mx	27	1.746	0.110	-0.014
			Max. My	30	-1.727	0.093	0.015
			Max. Vy	37	0.072	0.105	0.013
			Max. Vx	30	-0.004	0.000	0.000
			Max Tension	23	119.197	-0.324	-0.012
			Max. Compression	18	-142.673	0.741	-0.025
		Leg	Max. Mx	10	-142.563	0.754	0.021
			Max. My	20	-11.910	0.009	-0.662
			Max. Vy	11	-0.121	0.753	0.021
			Max. Vx	20	0.156	0.009	-0.662
			Max Tension	16	7.967	0.000	0.000
			Max. Compression	16	-7.933	0.000	0.000
			Max. Mx	27	2.303	0.155	-0.019
			Max. My	30	-1.012	0.139	0.021
T6	100 - 80	Diagonal	Max. Vy	37	0.095	0.152	-0.020
			Max. Vx	30	-0.005	0.000	0.000
			Max Tension	23	148.392	-0.617	-0.022
			Max. Compression	18	-176.367	0.911	-0.022
			Max. Mx	10	-176.094	0.911	0.034
			Max. My	20	-12.672	-0.060	-1.070
			Max. Vy	10	-0.132	0.911	0.034
			Max. Vx	20	-0.198	-0.060	-1.070
		Leg	Max Tension	16	9.287	0.000	0.000
			Max. Compression	16	-9.334	0.000	0.000
			Max. Mx	27	2.574	0.252	-0.032
			Max. My	36	2.558	0.247	-0.034
			Max. Vy	37	0.121	0.242	0.032
			Max. Vx	36	0.007	0.000	0.000
			Max Tension	23	179.993	-0.583	-0.021
			Max. Compression	18	-213.339	1.230	-0.029
T7	80 - 60	Diagonal	Max. Mx	10	-212.918	1.231	0.040
			Max. My	20	-15.728	0.036	-1.080
			Max. Vy	10	-0.164	1.231	0.040
			Max. Vx	20	0.169	-0.066	-0.859
			Max Tension	16	10.138	0.000	0.000
			Max. Compression	16	-10.282	0.000	0.000
			Max. Mx	27	2.780	0.324	-0.039
			Max. My	36	2.288	0.313	-0.041
		Leg	Max. Vy	37	0.148	0.315	0.038
			Max. Vx	36	0.008	0.000	0.000
			Max Tension	23	208.871	-1.324	-0.019
			Max. Compression	18	-248.495	1.147	-0.010
			Max. Mx	37	7.152	-2.001	-0.014
T8	60 - 40	Leg					

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	24 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle	Designed by	Sampath

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T9	40 - 20	Diagonal	Max. My	20	-17.833	-0.073	-1.283
			Max. Vy	33	0.301	-1.992	0.003
			Max. Vx	20	0.170	-0.073	-1.283
			Max Tension	16	9.928	0.000	0.000
			Max. Compression	16	-9.924	0.000	0.000
			Max. Mx	37	2.509	0.389	-0.056
			Max. My	30	-1.334	0.367	0.058
		Leg	Max. Vy	37	0.172	0.389	-0.056
			Max. Vx	30	-0.010	0.000	0.000
			Max Tension	23	237.927	-1.190	-0.016
			Max. Compression	18	-283.852	1.953	-0.024
			Max. Mx	37	8.505	-4.000	-0.011
			Max. My	20	-19.587	-0.123	-1.582
			Max. Vy	33	0.654	-3.995	0.002
T10	20 - 0	Diagonal	Max. Vx	20	-0.230	-0.123	-1.582
			Max Tension	12	11.487	0.000	0.000
			Max. Compression	12	-11.771	0.000	0.000
			Max. Mx	27	2.467	0.461	-0.050
			Max. My	36	3.745	0.411	-0.055
			Max. Vy	37	0.179	0.413	0.053
			Max. Vx	36	0.009	0.000	0.000
		Leg	Max Tension	23	266.311	-1.253	-0.023
			Max. Compression	18	-319.266	0.000	0.000
			Max. Mx	27	-158.930	4.051	0.001
			Max. My	20	-22.251	-0.207	-2.867
			Max. Vy	33	-0.778	-3.995	0.002
			Max. Vx	20	-0.420	-0.207	-2.867
			Max Tension	12	11.943	0.000	0.000
Diagonal	Max. Compression	10	-12.423	0.000	0.000		
	Max. Mx	37	-0.251	0.587	-0.059		
	Max. My	30	5.194	0.417	0.069		
	Max. Vy	37	0.198	0.587	-0.059		
	Max. Vx	30	-0.010	0.000	0.000		

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	328.092	32.736	-19.353
	Max. H _x	18	328.092	32.736	-19.353
	Max. H _z	7	-272.869	-28.068	16.636
	Min. Vert	7	-272.869	-28.068	16.636
	Min. H _x	7	-272.869	-28.068	16.636
	Min. H _z	18	328.092	32.736	-19.353
Leg B	Max. Vert	10	327.001	-32.590	-19.327
	Max. H _x	23	-273.275	27.937	16.638
	Max. H _z	23	-273.275	27.937	16.638
	Min. Vert	23	-273.275	27.937	16.638
	Min. H _x	10	327.001	-32.590	-19.327
	Min. H _z	10	327.001	-32.590	-19.327
Leg A	Max. Vert	2	325.970	-0.012	37.858
	Max. H _x	21	18.064	5.541	1.514
	Max. H _z	2	325.970	-0.012	37.858
	Min. Vert	15	-270.447	-0.004	-32.450
	Min. H _x	8	24.469	-5.557	2.039
	Min. H _z	15	-270.447	-0.004	-32.450

<p>tnxTower</p> <p>B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job</p> <p>77921.010.01 - SKY HILL, CT (BU# 876345)</p>	<p>Page</p> <p>25 of 33</p>
	<p>Project</p>	<p>Date</p> <p>14:08:59 11/09/19</p>
	<p>Client</p> <p>Crown Castle</p>	<p>Designed by</p> <p>Sampath</p>

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
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Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	59.763	0.000	0.000	-7.223	8.932	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	71.715	0.012	-60.680	-6552.987	7.142	-0.162
0.9 Dead+1.0 Wind 0 deg - No Ice	53.786	0.012	-60.680	-6550.820	4.463	-0.162
1.2 Dead+1.0 Wind 30 deg - No Ice	71.715	29.150	-50.626	-5494.154	-3147.198	8.429
0.9 Dead+1.0 Wind 30 deg - No Ice	53.786	29.150	-50.626	-5491.987	-3149.878	8.429
1.2 Dead+1.0 Wind 60 deg - No Ice	71.715	49.931	-28.920	-3174.741	-5450.114	-16.386
0.9 Dead+1.0 Wind 60 deg - No Ice	53.786	49.931	-28.920	-3172.574	-5452.794	-16.386
1.2 Dead+1.0 Wind 90 deg - No Ice	71.715	57.326	-0.012	-12.244	-6323.633	-56.811
0.9 Dead+1.0 Wind 90 deg - No Ice	53.786	57.326	-0.012	-10.077	-6326.313	-56.811
1.2 Dead+1.0 Wind 120 deg - No Ice	71.715	52.533	30.409	3292.655	-5691.527	-18.952
0.9 Dead+1.0 Wind 120 deg - No Ice	53.786	52.533	30.409	3294.822	-5694.207	-18.952
1.2 Dead+1.0 Wind 150 deg - No Ice	71.715	29.307	50.922	5535.405	-3176.893	9.013
0.9 Dead+1.0 Wind 150 deg - No Ice	53.786	29.307	50.922	5537.572	-3179.573	9.013
1.2 Dead+1.0 Wind 180 deg - No Ice	71.715	-0.012	57.441	6253.837	14.296	0.162
0.9 Dead+1.0 Wind 180 deg - No Ice	53.786	-0.012	57.441	6256.004	11.616	0.162
1.2 Dead+1.0 Wind 210 deg - No Ice	71.715	-29.150	50.626	5476.819	3168.636	-8.429
0.9 Dead+1.0 Wind 210 deg - No Ice	53.786	-29.150	50.626	5478.985	3165.956	-8.429
1.2 Dead+1.0 Wind 240 deg - No Ice	71.715	-52.736	30.539	3298.313	5715.611	16.386
0.9 Dead+1.0 Wind 240 deg - No Ice	53.786	-52.736	30.539	3300.480	5712.931	16.386
1.2 Dead+1.0 Wind 270 deg - No Ice	71.715	-57.326	0.012	-5.091	6345.071	56.811
0.9 Dead+1.0 Wind 270 deg - No Ice	53.786	-57.326	0.012	-2.924	6342.391	56.811
1.2 Dead+1.0 Wind 300 deg - No Ice	71.715	-49.728	-28.790	-3169.083	5468.906	18.952
0.9 Dead+1.0 Wind 300 deg - No Ice	53.786	-49.728	-28.790	-3166.917	5466.227	18.952
1.2 Dead+1.0 Wind 330 deg - No Ice	71.715	-29.307	-50.922	-5552.741	3198.331	-9.013
0.9 Dead+1.0 Wind 330 deg - No Ice	53.786	-29.307	-50.922	-5550.574	3195.652	-9.013
1.2 Dead+1.0 Ice+1.0 Temp	217.890	0.000	0.000	-37.948	-8.230	0.000
1.2 Dead+1.0 Wind 0 deg+1.0	217.890	-0.007	-17.232	-1919.479	-7.927	0.285

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	<p>Project</p>	<p>Date</p> <p>14:08:59 11/09/19</p>
	<p>Client</p> <p>Crown Castle</p>	<p>Designed by</p> <p>Sampath</p>

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
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 30 deg+1.0	217.890	8.307	-14.422	-1626.875	-923.593	1.977
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 60 deg+1.0	217.890	13.976	-8.081	-941.140	-1569.736	-6.612
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 90 deg+1.0	217.890	16.131	0.007	-37.646	-1821.493	-12.783
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120 deg+1.0	217.890	14.471	8.374	894.086	-1619.089	-5.780
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150 deg+1.0	217.890	8.396	14.561	1570.530	-935.230	2.128
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180 deg+1.0	217.890	0.007	16.822	1809.172	-8.532	-0.285
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210 deg+1.0	217.890	-8.307	14.422	1550.978	907.133	-1.977
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240 deg+1.0	217.890	-14.331	8.286	882.448	1583.077	6.612
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270 deg+1.0	217.890	-16.131	-0.007	-38.251	1805.033	12.783
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300 deg+1.0	217.890	-14.116	-8.169	-952.777	1572.828	5.780
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330 deg+1.0	217.890	-8.396	-14.561	-1646.427	918.770	-2.128
Ice+1.0 Temp						
Dead+Wind 0 deg - Service	59.763	0.003	-13.606	-1474.651	8.130	-0.036
Dead+Wind 30 deg - Service	59.763	6.536	-11.352	-1237.229	-699.165	1.890
Dead+Wind 60 deg - Service	59.763	11.196	-6.485	-717.149	-1215.546	-3.674
Dead+Wind 90 deg - Service	59.763	12.854	-0.003	-8.025	-1411.414	-12.739
Dead+Wind 120 deg - Service	59.763	11.779	6.819	733.030	-1269.678	-4.250
Dead+Wind 150 deg - Service	59.763	6.572	11.418	1235.920	-705.823	2.021
Dead+Wind 180 deg - Service	59.763	-0.003	12.880	1397.013	9.734	0.036
Dead+Wind 210 deg - Service	59.763	-6.536	11.352	1222.783	717.030	-1.890
Dead+Wind 240 deg - Service	59.763	-11.825	6.848	734.299	1288.136	3.674
Dead+Wind 270 deg - Service	59.763	-12.854	0.003	-6.421	1429.279	12.739
Dead+Wind 300 deg - Service	59.763	-11.151	-6.455	-715.881	1232.818	4.250
Dead+Wind 330 deg - Service	59.763	-6.572	-11.418	-1250.366	723.688	-2.021

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-59.763	0.000	-0.000	59.763	0.000	0.000%
2	0.012	-71.715	-60.680	-0.012	71.715	60.680	0.000%
3	0.012	-53.786	-60.680	-0.012	53.786	60.680	0.000%
4	29.150	-71.715	-50.626	-29.150	71.715	50.626	0.000%
5	29.150	-53.786	-50.626	-29.150	53.786	50.626	0.000%
6	49.931	-71.715	-28.920	-49.931	71.715	28.920	0.000%
7	49.931	-53.786	-28.920	-49.931	53.786	28.920	0.000%
8	57.326	-71.715	-0.012	-57.326	71.715	0.012	0.000%
9	57.326	-53.786	-0.012	-57.326	53.786	0.012	0.000%
10	52.533	-71.715	30.409	-52.533	71.715	-30.409	0.000%
11	52.533	-53.786	30.409	-52.533	53.786	-30.409	0.000%
12	29.307	-71.715	50.922	-29.307	71.715	-50.922	0.000%
13	29.307	-53.786	50.922	-29.307	53.786	-50.922	0.000%
14	-0.012	-71.715	57.441	0.012	71.715	-57.441	0.000%
15	-0.012	-53.786	57.441	0.012	53.786	-57.441	0.000%
16	-29.150	-71.715	50.626	29.150	71.715	-50.626	0.000%
17	-29.150	-53.786	50.626	29.150	53.786	-50.626	0.000%

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	27 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
18	-52.736	-71.715	30.539	52.736	71.715	-30.539	0.000%
19	-52.736	-53.786	30.539	52.736	53.786	-30.539	0.000%
20	-57.326	-71.715	0.012	57.326	71.715	-0.012	0.000%
21	-57.326	-53.786	0.012	57.326	53.786	-0.012	0.000%
22	-49.728	-71.715	-28.790	49.728	71.715	28.790	0.000%
23	-49.728	-53.786	-28.790	49.728	53.786	28.790	0.000%
24	-29.307	-71.715	-50.922	29.307	71.715	50.922	0.000%
25	-29.307	-53.786	-50.922	29.307	53.786	50.922	0.000%
26	0.000	-217.890	0.000	-0.000	217.890	-0.000	0.000%
27	-0.007	-217.890	-17.232	0.007	217.890	17.232	0.000%
28	8.307	-217.890	-14.422	-8.307	217.890	14.422	0.000%
29	13.976	-217.890	-8.081	-13.976	217.890	8.081	0.000%
30	16.131	-217.890	0.007	-16.131	217.890	-0.007	0.000%
31	14.471	-217.890	8.374	-14.471	217.890	-8.374	0.000%
32	8.396	-217.890	14.561	-8.396	217.890	-14.561	0.000%
33	0.007	-217.890	16.822	-0.007	217.890	-16.822	0.000%
34	-8.307	-217.890	14.422	8.307	217.890	-14.422	0.000%
35	-14.331	-217.890	8.286	14.331	217.890	-8.286	0.000%
36	-16.131	-217.890	-0.007	16.131	217.890	0.007	0.000%
37	-14.116	-217.890	-8.169	14.116	217.890	8.169	0.000%
38	-8.396	-217.890	-14.561	8.396	217.890	14.561	0.000%
39	0.003	-59.763	-13.606	-0.003	59.763	13.606	0.000%
40	6.536	-59.763	-11.352	-6.536	59.763	11.352	0.000%
41	11.196	-59.763	-6.485	-11.196	59.763	6.485	0.000%
42	12.854	-59.763	-0.003	-12.854	59.763	0.003	0.000%
43	11.779	-59.763	6.819	-11.779	59.763	-6.819	0.000%
44	6.572	-59.763	11.418	-6.572	59.763	-11.418	0.000%
45	-0.003	-59.763	12.880	0.003	59.763	-12.880	0.000%
46	-6.536	-59.763	11.352	6.536	59.763	-11.352	0.000%
47	-11.825	-59.763	6.848	11.825	59.763	-6.848	0.000%
48	-12.854	-59.763	0.003	12.854	59.763	-0.003	0.000%
49	-11.151	-59.763	-6.455	11.151	59.763	6.455	0.000%
50	-6.572	-59.763	-11.418	6.572	59.763	11.418	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	192 - 180	3.959	47	0.186	0.023
T2	180 - 160	3.489	47	0.184	0.023
T3	160 - 140	2.738	47	0.162	0.021
T4	140 - 120	2.088	47	0.138	0.019
T5	120 - 100	1.529	47	0.115	0.015
T6	100 - 80	1.065	47	0.094	0.011
T7	80 - 60	0.693	47	0.072	0.008
T8	60 - 40	0.407	47	0.054	0.006
T9	40 - 20	0.199	47	0.036	0.004
T10	20 - 0	0.060	47	0.019	0.002

Critical Deflections and Radius of Curvature - Service Wind

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 28 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
190.000	NNVV-65B-R4 w/ Mount Pipe	47	3.880	0.186	0.023	495471
180.000	(2) JAHH-65B-R3B	47	3.489	0.184	0.023	185850
170.000	(3) 7130.16.33.00 w/ Mount Pipe	47	3.104	0.175	0.022	64680
160.000	HBX-6516DS-VTM w/ Mount Pipe	47	2.738	0.162	0.021	40151
153.000	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	47	2.499	0.154	0.021	43167
140.000	7770.00 w/ Mount Pipe	47	2.088	0.138	0.019	55251
98.000	58532A	47	1.024	0.092	0.011	51670

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	192 - 180	17.598	18	0.824	0.102
T2	180 - 160	15.515	18	0.814	0.102
T3	160 - 140	12.183	18	0.721	0.095
T4	140 - 120	9.291	18	0.615	0.083
T5	120 - 100	6.805	18	0.511	0.065
T6	100 - 80	4.740	18	0.418	0.049
T7	80 - 60	3.087	18	0.322	0.037
T8	60 - 40	1.810	18	0.238	0.026
T9	40 - 20	0.885	18	0.162	0.017
T10	20 - 0	0.267	18	0.083	0.008

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
190.000	NNVV-65B-R4 w/ Mount Pipe	18	17.250	0.824	0.102	123935
180.000	(2) JAHH-65B-R3B	18	15.515	0.814	0.102	45668
170.000	(3) 7130.16.33.00 w/ Mount Pipe	18	13.809	0.775	0.100	15044
160.000	HBX-6516DS-VTM w/ Mount Pipe	18	12.183	0.721	0.095	9237
153.000	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	18	11.118	0.683	0.092	9914
140.000	7770.00 w/ Mount Pipe	18	9.291	0.615	0.083	12648
98.000	58532A	18	4.556	0.408	0.048	11620

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	192	Leg	A325N	0.625	4	1.078	20.340	0.053	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	1.475	7.116	0.207	1.05	Member Block Shear

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 29 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T2	180	Top Girt	A325N	0.625	1	0.097	7.116	0.014 ✓	1.05	Member Block Shear
		Leg	A325N	0.625	4	6.193	20.340	0.304 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	3.751	8.135	0.461 ✓	1.05	Member Block Shear
T3	160	Top Girt	A325N	0.625	1	0.651	8.135	0.080 ✓	1.05	Member Block Shear
		Leg	A325N	0.875	4	12.931	41.556	0.311 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	5.887	10.440	0.564 ✓	1.05	Gusset Bearing
T4	140	Leg	A325N	1.000	4	21.431	54.517	0.393 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	7.308	10.440	0.700 ✓	1.05	Gusset Bearing
T5	120	Leg	A325N	1.000	6	19.866	54.517	0.364 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.750	1	7.967	14.137	0.564 ✓	1.05	Member Bearing
T6	100	Leg	A325N	1.000	6	24.732	54.517	0.454 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.750	1	9.287	14.137	0.657 ✓	1.05	Member Bearing
T7	80	Leg	A325N	1.000	8	22.499	54.517	0.413 ✓	1.05	Bolt Tension
		Diagonal	A325N	0.750	1	10.138	14.137	0.717 ✓	1.05	Member Bearing
T8	60	Leg	A325N	1.000	8	26.109	54.517	0.479 ✓	1.05	Bolt Tension
		Diagonal	A325X	0.750	1	9.928	17.672	0.562 ✓	1.05	Member Bearing
T9	40	Leg	A325N	1.000	8	29.741	54.517	0.546 ✓	1.05	Bolt Tension
		Diagonal	A325X	0.750	1	11.486	17.672	0.650 ✓	1.05	Member Bearing
T10	20	Diagonal	A325X	0.750	1	11.943	18.922	0.631 ✓	1.05	Gusset Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	ROHN 2.5 STD	12.000	4.000	50.7 K=1.00	1.704	-6.957	63.560	0.109 ¹ ✓
T2	180 - 160	ROHN 2.5 STD	20.032	5.008	63.4 K=1.00	1.704	-32.541	57.139	0.570 ¹ ✓
T3	160 - 140	ROHN 3 EH	20.036	6.679	70.5 K=1.00	3.016	-64.539	94.337	0.684 ¹ ✓
T4	140 - 120	ROHN 4 EH	20.038	6.679	54.3 K=1.00	4.407	-104.521	159.899	0.654 ¹ ✓
T5	120 - 100	ROHN 5 EH	20.036	6.679	43.6 K=1.00	6.112	-142.673	239.378	0.596 ¹ ✓
T6	100 - 80	ROHN 6 EHS	20.036	10.018	54.0 K=1.00	6.713	-176.367	244.047	0.723 ¹ ✓

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	30 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle		Designed by

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T7	80 - 60	ROHN 6 EH	20.032	10.016	54.8 K=1.00	8.405	-213.339	303.757	0.702 ¹ ✓
T8	60 - 40	ROHN 8 EHS	20.042	10.021	41.2 K=1.00	9.719	-248.495	386.354	0.643 ¹ ✓
T9	40 - 20	ROHN 8 EHS	20.031	10.015	41.2 K=1.00	9.719	-283.852	386.409	0.735 ¹ ✓
T10	20 - 0	ROHN 8 EHS	20.033	10.017	41.2 K=1.00	9.719	-319.266	386.397	0.826 ¹ ✓

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	L1 3/4x1 3/4x3/16	7.700	3.585	125.3 K=1.00	0.621	-1.508	11.328	0.133 ¹ ✓
T2	180 - 160	L2x2x3/16	9.686	4.721	143.8 K=1.00	0.715	-3.671	9.897	0.371 ¹ ✓
T3	160 - 140	L2 1/2x2 1/2x1/4	12.241	6.028	147.3 K=1.00	1.190	-5.970	15.695	0.380 ¹ ✓
T4	140 - 120	L2 1/2x2 1/2x1/4	14.067	6.897	168.6 K=1.00	1.190	-7.397	11.987	0.617 ¹ ✓
T5	120 - 100	L3x3x1/4	15.944	7.773	157.6 K=1.00	1.440	-7.933	16.602	0.478 ¹ ✓
T6	100 - 80	L3 1/2x3 1/2x1/4	19.209	9.452	163.4 K=1.00	1.690	-9.334	18.110	0.515 ¹ ✓
T7	80 - 60	L4x4x1/4	20.935	10.297	155.4 K=1.00	1.940	-10.282	22.986	0.447 ¹ ✓
T8	60 - 40	L4x4x5/16	22.872	11.214	170.1 K=1.00	2.400	-9.924	23.735	0.418 ¹ ✓
T9	40 - 20	L4x4x5/16	24.688	12.078	183.2 K=1.00	2.400	-11.771	20.461	0.575 ¹ ✓
T10	20 - 0	L4x4x3/8	26.510	13.002	198.0 K=1.00	2.860	-12.423	20.882	0.595 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	L1 3/4x1 3/4x3/16	6.580	6.090	212.8 K=1.00	0.621	-0.086	3.926	0.022 ¹ ✓

KL/R > 200 (C) - 5

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 31 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	180 - 160	L2x2x3/16	6.580	6.090	185.5 K=1.00	0.715	-0.676	5.948	0.114 ¹ ✓

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	ROHN 2.5 STD	12.000	4.000	50.7	1.704	4.311	76.682	0.056 ¹ ✓
T2	180 - 160	ROHN 2.5 STD	20.032	5.008	63.4	1.704	24.773	76.682	0.323 ¹ ✓
T3	160 - 140	ROHN 3 EH	20.036	6.679	70.5	3.016	51.724	135.717	0.381 ¹ ✓
T4	140 - 120	ROHN 4 EH	20.038	6.679	54.3	4.407	85.723	198.335	0.432 ¹ ✓
T5	120 - 100	ROHN 5 EH	20.036	6.679	43.6	6.112	119.197	275.039	0.433 ¹ ✓
T6	100 - 80	ROHN 6 EHS	20.036	10.018	54.0	6.713	148.392	302.097	0.491 ¹ ✓
T7	80 - 60	ROHN 6 EH	20.032	10.016	54.8	8.405	179.993	378.222	0.476 ¹ ✓
T8	60 - 40	ROHN 8 EHS	20.042	10.021	41.2	9.719	208.871	437.369	0.478 ¹ ✓
T9	40 - 20	ROHN 8 EHS	20.031	10.015	41.2	9.719	237.927	437.369	0.544 ¹ ✓
T10	20 - 0	ROHN 8 EHS	20.033	10.017	41.2	9.719	266.311	437.369	0.609 ¹ ✓

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	L1 3/4x1 3/4x3/16	7.700	3.585	82.9	0.360	1.475	15.675	0.094 ¹ ✓
T2	180 - 160	L2x2x3/16	9.686	4.721	94.3	0.431	3.751	18.739	0.200 ¹ ✓
T3	160 - 140	L2 1/2x2 1/2x1/4	12.241	6.028	96.0	0.752	5.887	32.707	0.180 ¹ ✓

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 77921.010.01 - SKY HILL, CT (BU# 876345)	Page 32 of 33
	Project	Date 14:08:59 11/09/19
	Client Crown Castle	Designed by Sampath

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T4	140 - 120	L2 1/2x2 1/2x1/4	14.067	6.897	109.6	0.752	7.308	32.707	0.223 ¹ ✓
T5	120 - 100	L3x3x1/4	15.944	7.773	102.0	0.916	7.967	44.652	0.178 ¹ ✓
T6	100 - 80	L3 1/2x3 1/2x1/4	19.209	9.452	105.5	1.103	9.287	53.793	0.173 ¹ ✓
T7	80 - 60	L4x4x1/4	20.935	10.297	100.1	1.291	10.138	62.933	0.161 ¹ ✓
T8	60 - 40	L4x4x5/16	22.872	11.214	109.8	1.595	9.928	77.752	0.128 ¹ ✓
T9	40 - 20	L4x4x5/16	24.688	12.078	118.2	1.595	11.486	77.752	0.148 ¹ ✓
T10	20 - 0	L4x4x3/8	26.510	13.002	128.2	1.899	11.943	92.572	0.129 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	192 - 180	L1 3/4x1 3/4x3/16	6.580	6.090	141.7	0.360	0.097	15.675	0.006 ¹ ✓
T2	180 - 160	L2x2x3/16	6.580	6.090	123.3	0.431	0.651	18.739	0.035 ¹ ✓

¹ P_u / φP_n controls

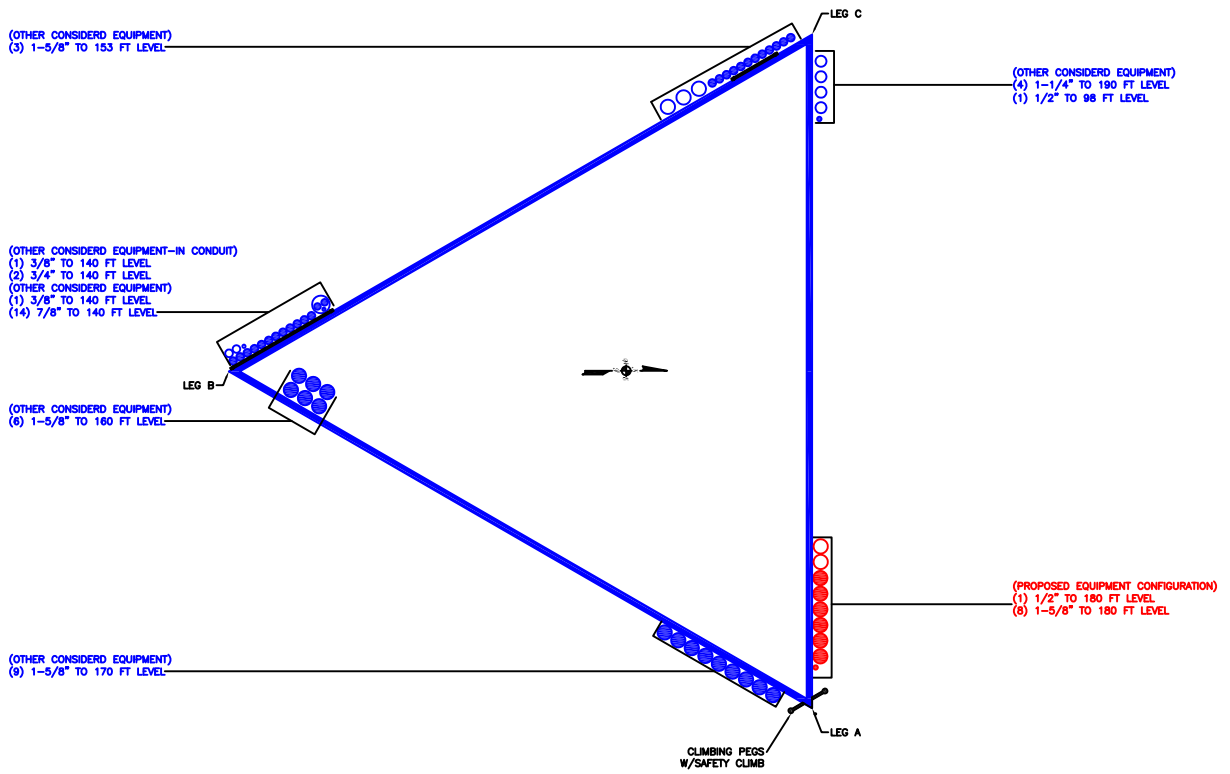
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	192 - 180	Leg	ROHN 2.5 STD	1	-6.957	66.738	10.4	Pass
T2	180 - 160	Leg	ROHN 2.5 STD	25	-32.541	59.996	54.2	Pass
T3	160 - 140	Leg	ROHN 3 EH	55	-64.539	99.054	65.2	Pass
T4	140 - 120	Leg	ROHN 4 EH	76	-104.521	167.894	62.3	Pass
T5	120 - 100	Leg	ROHN 5 EH	97	-142.673	251.347	56.8	Pass
T6	100 - 80	Leg	ROHN 6 EHS	118	-176.367	256.249	68.8	Pass
T7	80 - 60	Leg	ROHN 6 EH	133	-213.339	318.945	66.9	Pass
T8	60 - 40	Leg	ROHN 8 EHS	148	-248.495	405.672	61.3	Pass
T9	40 - 20	Leg	ROHN 8 EHS	163	-283.852	405.729	70.0	Pass
T10	20 - 0	Leg	ROHN 8 EHS	178	-319.266	405.717	78.7	Pass
T1	192 - 180	Diagonal	L1 3/4x1 3/4x3/16	7	-1.508	11.895	12.7	Pass
T2	180 - 160	Diagonal	L2x2x3/16	36	-3.671	10.392	19.7 (b) 35.3 43.9 (b)	Pass

tnxTower B+T Group 1717 S Boulder Ave, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	77921.010.01 - SKY HILL, CT (BU# 876345)	Page	33 of 33
	Project		Date	14:08:59 11/09/19
	Client	Crown Castle	Designed by	Sampath

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
T3	160 - 140	Diagonal	L2 1/2x2 1/2x1/4	63	-5.970	16.480	36.2	Pass	
T4	140 - 120	Diagonal	L2 1/2x2 1/2x1/4	84	-7.397	12.587	53.7 (b) 58.8	Pass	
T5	120 - 100	Diagonal	L3x3x1/4	105	-7.933	17.432	66.7 (b) 45.5	Pass	
T6	100 - 80	Diagonal	L3 1/2x3 1/2x1/4	126	-9.334	19.016	53.7 (b) 49.1	Pass	
T7	80 - 60	Diagonal	L4x4x1/4	141	-10.282	24.136	62.6 (b) 42.6	Pass	
T8	60 - 40	Diagonal	L4x4x5/16	156	-9.924	24.922	68.3 (b) 39.8	Pass	
T9	40 - 20	Diagonal	L4x4x5/16	168	-11.771	21.484	53.5 (b) 54.8	Pass	
T10	20 - 0	Diagonal	L4x4x3/8	183	-12.423	21.926	61.9 (b) 56.7	Pass	
T1	192 - 180	Top Girt	L1 3/4x1 3/4x3/16	5	-0.086	4.122	60.1 (b) 2.1	Pass	
T2	180 - 160	Top Girt	L2x2x3/16	29	-0.676	6.245	10.8	Pass	
							Summary		
							Leg (T10)	78.7	Pass
							Diagonal (T7)	68.3	Pass
							Top Girt (T2)	10.8	Pass
							Bolt Checks	68.3	Pass
							RATING =	78.7	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 876345

APPENDIX C
ADDITIONAL CALCULATIONS

CClplate

Project Information	
BU #	876345
Site Name	SKY HILL, CT
Order #	506808, Rev.0

Tower Information	
Tower Type	Self Support
TIA-222 Rev	H

Apply TIA-222-H Section 15.5

Applied Loads		
	Comp.	Uplift
Axial (k)	0.00	273.00
Shear (k)	0.00	33.00

Anchor Rod Data	
Quantity:	10
Diameter (in):	1
<u>Material Grade:</u>	A354-BC
Grout Considered:	Yes
l_{ar} (in):	0
Eta Factor, η :	0.55
Thread Type:	N-Included
Configuration:	Symmetrical

Fy=109 ksi Fu=125 ksi
Not Considered, $l_{ar} \leq 1(d)$

Anchor Rod Results	
Axial, P_{u_t} (kips)	27.30
Shear, V_u (kips)	3.30
Moment, M_u (kip-in)	-
Axial Cap., ϕP_{n_t} (kips)	56.81
Shear Cap., ϕV_n (kips)	36.82
Moment Cap., ϕM_n (kip-in)	-
Stress Rating	22.8%

Pass

77921_010_01_LPile (USCS units).lp7o

LPile Plus for Windows, Version 2013-07.007

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method

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Files Used for Analysis

Path to file locations: C:\Users\E3\Desktop\Working Job (RA)\77921_876345_Sky
Hill_Compile-----Sampath-----Akshaykumar-----_FDNQCD lpile rerun
with\77921_010_01_L-Pile\
Name of input data file: 77921_010_01_LPile (USCS units).lp7d
Name of output report file: 77921_010_01_LPile (USCS units).lp7o
Name of plot output file: 77921_010_01_LPile (USCS units).lp7p
Name of runtime message file: 77921_010_01_LPile (USCS units).lp7r

Date and Time of Analysis

Date: November 9, 2019 Time: 14:00:54

Problem Title

Project Name: SKY HILL, CT

Job Number: 876345

Client: CCI

Engineer:

Description:

 Program Options and Settings

Engineering Units of Input Data and Computations:

- Engineering units are US Customary Units (pounds, feet, inches)

Analysis Control Options:

- Maximum number of iterations allowed = 500
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in
- Number of pile increments = 100

Loading Type and Number of Cycles of Loading:

- Static loading specified

Computational Options:

- Use unfactored loads in computations (conventional analysis)
- Compute pile response under loading and nonlinear bending properties of pile (only if nonlinear pile properties are input)
- Use of p-y modification factors for p-y curves not selected
- Loading by lateral soil movements acting on pile not selected
- Input of shear resistance at the pile tip not selected
- Computation of pile-head foundation stiffness matrix not selected
- Push-over analysis of pile not selected
- Buckling analysis of pile not selected

Output Options:

- No p-y curves to be computed and reported for user-specified depths
- Values of pile-head deflection, bending moment, shear force, and soil reaction are printed for full length of pile.
- Printing Increment (nodal spacing of output points) = 1

 Pile Structural Properties and Geometry

Total number of pile sections = 1

Total length of pile = 26.50 ft

Depth of ground surface below top of pile = 0.50 ft

Pile diameter values used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile.

Point	Depth X ft	Pile Diameter in
1	0.00000	60.0000000
2	26.50000	60.0000000

Input Structural Properties:

Pile Section No. 1:

Section Type	=	Drilled Shaft (Bored Pile)
Section Length	=	26.50000 ft
Section Diameter	=	60.00000 in

Ground Slope and Pile Batter Angles

Ground Slope Angle	=	0.000 degrees
	=	0.000 radians
Pile Batter Angle	=	0.000 degrees
	=	0.000 radians

Soil and Rock Layering Information

The soil profile is modelled using 3 layers

Layer 1 is soft clay, p-y criteria by Matlock, 1970

Distance from top of pile to top of layer	=	0.50000 ft
Distance from top of pile to bottom of layer	=	3.83000 ft
Effective unit weight at top of layer	=	120.00000 pcf
Effective unit weight at bottom of layer	=	120.00000 pcf
Undrained cohesion at top of layer	=	0.10000 psf
Undrained cohesion at bottom of layer	=	0.10000 psf
Epsilon-50 at top of layer	=	0.0000
Epsilon-50 at bottom of layer	=	0.0000

NOTE: Internal default values for Epsilon-50 will be computed for this soil layer.

Layer 2 is stiff clay without free water

Distance from top of pile to top of layer	=	3.83000 ft
Distance from top of pile to bottom of layer	=	5.50000 ft
Effective unit weight at top of layer	=	130.00000 pcf
Effective unit weight at bottom of layer	=	130.00000 pcf
Undrained cohesion at top of layer	=	3000.00000 psf
Undrained cohesion at bottom of layer	=	3000.00000 psf
Epsilon-50 at top of layer	=	0.00400
Epsilon-50 at bottom of layer	=	0.00400

Layer 3 is stiff clay without free water

Distance from top of pile to top of layer	=	5.50000 ft
Distance from top of pile to bottom of layer	=	26.50000 ft
Effective unit weight at top of layer	=	135.00000 pcf
Effective unit weight at bottom of layer	=	135.00000 pcf
Undrained cohesion at top of layer	=	5000.00000 psf

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Undrained cohesion at bottom of layer = 5000.00000 psf
 Epsilon-50 at top of layer = 0.00200
 Epsilon-50 at bottom of layer = 0.00200

(Depth of lowest soil layer extends 0.00 ft below pile tip)

 Summary of Soil Properties

Strain Layer Factor Num. Epsilon 50	Layer Soil Type (p-y Curve Criteria)	Layer Depth ft	Effective Unit Wt. pcf	Undrained Cohesion psf
1 default	Soft Clay	0.500	120.000	0.10000
2 default	Stiff Clay w/o Free Water	3.830	120.000	0.10000
0.00400		5.500	130.000	3000.000
0.00400		5.500	130.000	3000.000
3 0.00200	Stiff Clay w/o Free Water	5.500	135.000	5000.000
0.00200		26.500	135.000	5000.000

 Loading Type

Static loading criteria were used when computing p-y curves for all analyses.

 Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 2

Load No. Top y	Load Compute Type vs. Pile Length	Condition 1	Condition 2	Axial Thrust Force, lbs
1	1 No	V = 38000. lbs	M = 0.0000 in-lbs	328000.
2	1 No	V = 33000. lbs	M = 0.0000 in-lbs	-273000.

V = perpendicular shear force applied to pile head
 M = bending moment applied to pile head

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y = lateral deflection relative to pile axis

S = pile slope relative to original pile batter angle

R = rotational stiffness applied to pile head

Axial thrust is assumed to be acting axially for all pile batter angles.

 Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	26.50000	ft
Shaft Diameter	=	60.00000	in
Concrete Cover Thickness	=	3.30000	in
Number of Reinforcing Bars	=	18	bars
Yield Stress of Reinforcing Bars	=	60000.	psi
Modulus of Elasticity of Reinforcing Bars	=	29000000.	psi
Gross Area of Shaft	=	2827.43339	sq. in.
Total Area of Reinforcing Steel	=	18.00000	sq. in.
Area Ratio of Steel Reinforcement	=	0.64	percent
Edge-to-Edge Bar Spacing	=	7.94894	in
Maximum Concrete Aggregate Size	=	0.75000	in
Ratio of Bar Spacing to Aggregate Size	=	10.60	
Offset of Center of Rebar Cage from Center of Pile	=	0.0000	in

Axial Structural Capacities:

Nom. Axial Structural Capacity = $0.85 F_c A_c + F_y A_s$	=	8244.055	ki ps
Tensile Load for Cracking of Concrete	=	-1077.607	ki ps
Nominal Axial Tensile Capacity	=	-1080.000	ki ps

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.12800	1.00000	26.13600	0.00000
2	1.12800	1.00000	24.55981	8.93904
3	1.12800	1.00000	20.02134	16.79990
4	1.12800	1.00000	13.06800	22.63444
5	1.12800	1.00000	4.53847	25.73894
6	1.12800	1.00000	-4.53847	25.73894
7	1.12800	1.00000	-13.06800	22.63444
8	1.12800	1.00000	-20.02134	16.79990
9	1.12800	1.00000	-24.55981	8.93904
10	1.12800	1.00000	-26.13600	0.00000
11	1.12800	1.00000	-24.55981	-8.93904
12	1.12800	1.00000	-20.02134	-16.79990
13	1.12800	1.00000	-13.06800	-22.63444
14	1.12800	1.00000	-4.53847	-25.73894
15	1.12800	1.00000	4.53847	-25.73894
16	1.12800	1.00000	13.06800	-22.63444

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17	1.12800	1.00000	20.02134	-16.79990
18	1.12800	1.00000	24.55981	-8.93904

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 7.94894 inches between Bars 17 and 18

Spacing to aggregate size ratio = 10.59858

Concrete Properties:

Compressive Strength of Concrete	=	3000.00000	psi
Modulus of Elasticity of Concrete	=	3122019.	psi
Modulus of Rupture of Concrete	=	-410.79191	psi
Compression Strain at Peak Stress	=	0.00163	
Tensile Strain at Fracture of Concrete	=	-0.0001160	
Maximum Coarse Aggregate Size	=	0.75000	in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 2

Number	Axial Thrust Force ki ps
-----	-----
1	-273.000
2	328.000

Definitions of Run Messages and Notes:

C = concrete in section has cracked in tension.
 Y = stress in reinforcing steel has reached yield stress.
 T = ACI 318-08 criteria for tension-controlled section met, tensile strain in reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than than 0.003. See ACI 318-08, Section 10.3.4.
 Z = depth of tensile zone in concrete section is less than 10 percent of section depth.

Bending Stiffness (EI) = Computed Bending Moment / Curvature.
 Position of neutral axis is measured from edge of compression side of pile.
 Compressive stresses and strains are positive in sign.
 Tensile stresses and strains are negative in sign.

Axial Thrust Force = -273.000 ki ps

Bending Max Concrete Curvature Stress rad/in. ksi	Bending Max Steel Moment Stress in-ki p ksi	Bending Run Stiffness Msg ki p-in ²	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in
-----	-----	-----	-----	-----	-----
0.00000417	1023.7105960	2456905430.	-30.9152030	-0.0000129	-0.0000379
-0.0475816	-1.0949337				
0.00000833	2047.3785429	2456854252.	-0.4990499	-0.000000416	-0.0000504
-0.0024452	-1.4548104				

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0.00001250	3070.3756584	2456300527.	9.6228979	0.0000120	-0.0000630		
0.0426506	-1.8152949						
0.00001667	4090.2050071	2454123004.	14.6770720	0.0000245	-0.0000755		
0.0873653	-2.1761082						
0.00002083	5105.6402960	2450707342.	17.7070041	0.0000369	-0.0000881		
0.1317200	-2.5370768						
0.00002500	6116.3197195	2446527888.	19.7257500	0.0000493	-0.0001007		
0.1757237	-2.8981331						
0.00002917	6116.3197195	2097023904.	-149.3101830	-0.0004355	-0.0006105		
0.000000	-17.6787780	C					
0.00003333	6116.3197195	1834895916.	-126.8963899	-0.0004230	-0.0006230		
0.000000	-18.0376510	C					
0.00003750	6116.3197195	1631018592.	-109.4634397	-0.0004105	-0.0006355		
0.000000	-18.3965241	C					
0.00004167	6116.3197195	1467916733.	-95.5170796	-0.0003980	-0.0006480		
0.000000	-18.7553971	C					
0.00004583	6116.3197195	1334469757.	-84.1064213	-0.0003855	-0.0006605		
0.000000	-19.1142702	C					
0.00005000	6116.3197195	1223263944.	-74.5975393	-0.0003730	-0.0006730		
0.000000	-19.4731432	C					
0.00005417	6116.3197195	1129166717.	-66.5515623	-0.0003605	-0.0006855		
0.000000	-19.8320162	C					
0.00005833	6116.3197195	1048511952.	-59.6550106	-0.0003480	-0.0006980		
0.000000	-20.1908893	C					
0.00006250	6116.3197195	978611155.	-53.6779991	-0.0003355	-0.0007105		
0.000000	-20.5497624	C					
0.00006667	6116.3197195	917447958.	-48.4481140	-0.0003230	-0.0007230		
0.000000	-20.9086354	C					
0.00007083	6116.3197195	863480431.	-43.8335096	-0.0003105	-0.0007355		
0.000000	-21.2675084	C					
0.00007500	6116.3197195	815509296.	-39.7316389	-0.0002980	-0.0007480		
0.000000	-21.6263815	C					
0.00007917	6116.3197195	772587754.	-36.0615442	-0.0002855	-0.0007605		
0.000000	-21.9852544	C					
0.00008333	6116.3197195	733958366.	-32.7584589	-0.0002730	-0.0007730		
0.000000	-22.3441275	C					
0.00008750	6116.3197195	699007968.	-29.7699531	-0.0002605	-0.0007855		
0.000000	-22.7030006	C					
0.00009167	6116.3197195	667234878.	-27.0531297	-0.0002480	-0.0007980		
0.000000	-23.0618736	C					
0.00009583	6116.3197195	638224666.	-24.5725518	-0.0002355	-0.0008105		
0.000000	-23.4207467	C					
0.000100	6116.3197195	611631972.	-22.2986888	-0.0002230	-0.0008230		
0.000000	-23.7796197	C					
0.000104	6116.3197195	587166693.	-20.2067347	-0.0002105	-0.0008355		
0.000000	-24.1384928	C					
0.000108	6116.3197195	564583359.	-18.2757002	-0.0001980	-0.0008480		
0.000000	-24.4973658	C					
0.000113	6116.3197195	543672864.	-16.4877054	-0.0001855	-0.0008605		
0.000000	-24.8562388	C					
0.000117	6116.3197195	524255976.	-14.8274244	-0.0001730	-0.0008730		
0.000000	-25.2151119	C					
0.000121	6116.3197195	506178184.	-13.2816456	-0.0001605	-0.0008855		
0.000000	-25.5739850	C					
0.000125	6116.3197195	489305578.	-11.8389186	-0.0001480	-0.0008980		
0.000000	-25.9328580	C					
0.000129	6116.3197195	473521527.	-10.4892709	-0.0001355	-0.0009105		
0.000000	-26.2917310	C					
0.000133	6116.3197195	458723979.	-9.2239761	-0.0001230	-0.0009230		
0.000000	-26.6506041	C					
0.000138	6116.3197195	444823252.	-8.0353659	-0.0001105	-0.0009355		
0.000000	-27.0094771	C					
0.000142	6116.3197195	431740215.	-6.9166739	-0.0000980	-0.0009480		

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0. 000000	-27. 3683502	C				
0. 0000146	6116. 3197195		419404781.	-5. 8619071	-0. 0000855	-0. 0009605
0. 000000	-27. 7272232	C				
0. 0000150	6116. 3197195		407754648.	-4. 8657386	-0. 0000730	-0. 0009730
0. 000000	-28. 0860962	C				
0. 0000154	6116. 3197195		396734252.	-3. 9234169	-0. 0000605	-0. 0009855
0. 000000	-28. 4449693	C				
0. 0000158	6116. 3197195		386293877.	-3. 0306912	-0. 0000480	-0. 0009980
0. 000000	-28. 8038423	C				
0. 0000163	6116. 3197195		376388906.	-2. 1837462	-0. 0000355	-0. 0010105
0. 000000	-29. 1627154	C				
0. 0000171	6116. 3197195		358028471.	-0. 6137995	-0. 0000105	-0. 0010355
0. 000000	-29. 8804615	C				
0. 0000179	6116. 3197195		341375984.	0. 7935320	0. 0000142	-0. 0010608
0. 0323901	-30. 6068190	C				
0. 0000188	6116. 3197195		326203718.	1. 9525702	0. 0000366	-0. 0010884
0. 1127299	-31. 4001649	C				
0. 0000196	6116. 3197195		312322709.	2. 8871626	0. 0000565	-0. 0011185
0. 1832058	-32. 2649572	C				
0. 0000204	6116. 3197195		299574843.	3. 6558370	0. 0000746	-0. 0011504
0. 2463756	-33. 1828148	C				
0. 0000213	6116. 3197195		287826810.	4. 3043649	0. 0000915	-0. 0011835
0. 3044023	-34. 1375600	C				
0. 0000221	6116. 3197195		276965421.	4. 8608617	0. 0001073	-0. 0012177
0. 3585328	-35. 1198981	C				
0. 0000229	6116. 3197195		266893951.	5. 3453555	0. 0001225	-0. 0012525
0. 4096487	-36. 1231908	C				
0. 0000238	6116. 3197195		257529251.	5. 7746611	0. 0001371	-0. 0012879
0. 4585643	-37. 1410771	C				
0. 0000246	6116. 3197195		248799446.	6. 1517911	0. 0001512	-0. 0013238
0. 5051143	-38. 1754105	C				
0. 0000254	6116. 3197195		240642087.	6. 4907720	0. 0001650	-0. 0013600
0. 5501020	-39. 2196357	C				
0. 0000263	6116. 3197195		233002656.	6. 7995078	0. 0001785	-0. 0013965
0. 5939275	-40. 2704996	C				
0. 0000271	6214. 0069000		229440255.	7. 0774255	0. 0001917	-0. 0014333
0. 6363138	-41. 3306476	C				
0. 0000279	6524. 9193845		233728456.	7. 3334168	0. 0002047	-0. 0014703
0. 6778424	-42. 3951129	C				
0. 0000288	6836. 7401338		237799657.	7. 5707545	0. 0002177	-0. 0015073
0. 7186517	-43. 4627585	C				
0. 0000296	7151. 0745465		241726464.	7. 7854313	0. 0002303	-0. 0015447
0. 7582267	-44. 5383737	C				
0. 0000304	7464. 9701038		245423675.	7. 9893538	0. 0002430	-0. 0015820
0. 7975520	-45. 6130991	C				
0. 0000313	7779. 9912778		248959721.	8. 1777933	0. 0002556	-0. 0016194
0. 8360803	-46. 6919999	C				
0. 0000321	8096. 6272298		252362407.	8. 3502839	0. 0002679	-0. 0016571
0. 8736575	-47. 7766316	C				
0. 0000329	8412. 8544611		255580389.	8. 5148999	0. 0002803	-0. 0016947
0. 9109923	-48. 8604434	C				
0. 0000338	8728. 6692152		258627236.	8. 6722329	0. 0002927	-0. 0017323
0. 9480831	-49. 9434270	C				
0. 0000346	9046. 3691806		261581759.	8. 8147365	0. 0003048	-0. 0017702
0. 9840871	-51. 0336793	C				
0. 0000354	9364. 1931000		264400746.	8. 9495320	0. 0003170	-0. 0018080
1. 0196666	-52. 1249598	C				
0. 0000363	9681. 6305386		267079463.	9. 0788561	0. 0003291	-0. 0018459
1. 0550072	-53. 2154774	C				
0. 0000371	9998. 6782963		269627280.	9. 2030846	0. 0003413	-0. 0018837
1. 0901074	-54. 3052243	C				
0. 0000379	10316.		272063550.	9. 3211125	0. 0003534	-0. 0019216
1. 1248066	-55. 3957849	C				

77921_010_01_LP i l e (USCS uni ts). l p7o						
0. 0000387		10634.		274429901.	9. 4287501	0. 0003654 -0. 0019596
1. 1585952	-56.	4923169	C			
0. 0000396		10952.		276687330.	9. 5324759	0. 0003773 -0. 0019977
1. 1921466	-57.	5881369	C			
0. 0000404		11270.		278842493.	9. 6325376	0. 0003893 -0. 0020357
1. 2254595	-58.	6832381	C			
0. 0000412		11587.		280901508.	9. 7291629	0. 0004013 -0. 0020737
1. 2585327	-59.	7776137	C			
0. 0000421		11904.		282870008.	9. 8225618	0. 0004134 -0. 0021116
1. 2913648	-60.	0000000	CY			
0. 0000429		12221.		284758645.	9. 9121151	0. 0004254 -0. 0021496
1. 3238587	-60.	0000000	CY			
0. 0000437		12539.		286598483.	9. 9941124	0. 0004372 -0. 0021878
1. 3555476	-60.	0000000	CY			
0. 0000446		12856.		288361487.	10. 0735694	0. 0004491 -0. 0022259
1. 3869971	-60.	0000000	CY			
0. 0000454		13154.		289632616.	10. 1441475	0. 0004607 -0. 0022643
1. 4174206	-60.	0000000	CY			
0. 0000462		13398.		289680302.	10. 1943247	0. 0004715 -0. 0023035
1. 4453715	-60.	0000000	CY			
0. 0000471		13628.		289442987.	10. 2387126	0. 0004821 -0. 0023429
1. 4725782	-60.	0000000	CY			
0. 0000479		13858.		289208971.	10. 2819078	0. 0004927 -0. 0023823
1. 4995884	-60.	0000000	CY			
0. 0000487		14075.		288726970.	10. 3197483	0. 0005031 -0. 0024219
1. 5258710	-60.	0000000	CY			
0. 0000496		14249.		287372079.	10. 3415548	0. 0005128 -0. 0024622
1. 5500529	-60.	0000000	CY			
0. 0000529		14847.		280570898.	10. 3935197	0. 0005500 -0. 0026250
1. 6410691	-60.	0000000	CY			
0. 0000562		15442.		274518005.	10. 4422935	0. 0005874 -0. 0027876
1. 7295343	-60.	0000000	CY			
0. 0000596		15831.		265690811.	10. 4190355	0. 0006208 -0. 0029542
1. 8058479	-60.	0000000	CY			
0. 0000629		16168.		256971126.	10. 3836708	0. 0006533 -0. 0031217
1. 8777393	-60.	0000000	CY			
0. 0000662		16504.		249112477.	10. 3537707	0. 0006859 -0. 0032891
1. 9476737	-60.	0000000	CY			
0. 0000696		16839.		241990849.	10. 3285870	0. 0007187 -0. 0034563
2. 0156296	-60.	0000000	CY			
0. 0000729		17136.		235010839.	10. 2944201	0. 0007506 -0. 0036244
2. 0796440	-60.	0000000	CY			
0. 0000762		17298.		226863849.	10. 2171836	0. 0007791 -0. 0037959
2. 1345925	-60.	0000000	CY			
0. 0000796		17460.		219386908.	10. 1473653	0. 0008076 -0. 0039674
2. 1879939	-60.	0000000	CY			
0. 0000829		17620.		212503867.	10. 0842168	0. 0008361 -0. 0041389
2. 2398568	-60.	0000000	CY			
0. 0000862		17780.		206145771.	10. 0269800	0. 0008648 -0. 0043102
2. 2901672	-60.	0000000	CY			
0. 0000896		17939.		200253924.	9. 9750098	0. 0008936 -0. 0044814
2. 3389107	-60.	0000000	CY			
0. 0000929		18098.		194778051.	9. 9277544	0. 0009225 -0. 0046525
2. 3860728	-60.	0000000	CY			
0. 0000963		18256.		189672876.	9. 8833597	0. 0009513 -0. 0048237
2. 4314264	-60.	0000000	CY			
0. 0000996		18413.		184899923.	9. 8405969	0. 0009800 -0. 0049950
2. 4748348	-60.	0000000	CY			
0. 0001029		18543.		180175036.	9. 7906085	0. 0010076 -0. 0051674
2. 5150016	-60.	0000000	CY			
0. 0001063		18619.		175233728.	9. 7222744	0. 0010330 -0. 0053420
2. 5503308	-60.	0000000	CY			
0. 0001096		18681.		170472559.	9. 6535206	0. 0010579 -0. 0055171

77921_010_01_LP i l e (USCS uni ts). l p7o

2. 5836382	-60. 0000000	CY					
0. 0001129	18743.		165989629.	9. 5894301	0. 0010828	-0. 0056922	
2. 6157537	-60. 0000000	CY					
0. 0001163	18805.		161760967.	9. 5296084	0. 0011078	-0. 0058672	
2. 6466674	-60. 0000000	CY					
0. 0001196	18866.		157765273.	9. 4737053	0. 0011329	-0. 0060421	
2. 6763691	-60. 0000000	CY					
0. 0001229	18927.		153983558.	9. 4214088	0. 0011580	-0. 0062170	
2. 7048483	-60. 0000000	CY					
0. 0001263	18988.		150398838.	9. 3724400	0. 0011833	-0. 0063917	
2. 7320946	-60. 0000000	CY					
0. 0001296	19048.		146995874.	9. 3265489	0. 0012086	-0. 0065664	
2. 7580971	-60. 0000000	CY					
0. 0001329	19108.		143758017.	9. 2817270	0. 0012337	-0. 0067413	
2. 7826105	-60. 0000000	CY					
0. 0001363	19167.		140671692.	9. 2369296	0. 0012585	-0. 0069165	
2. 8055385	-60. 0000000	CY					
0. 0001396	19225.		137730442.	9. 1948112	0. 0012834	-0. 0070916	
2. 8272555	-60. 0000000	CY					
0. 0001429	19283.		134924085.	9. 1551919	0. 0013084	-0. 0072666	
2. 8477501	-60. 0000000	CY					
0. 0001462	19341.		132243366.	9. 1179085	0. 0013335	-0. 0074415	
2. 8670110	-60. 0000000	CY					
0. 0001496	19398.		129679855.	9. 0828124	0. 0013586	-0. 0076164	
2. 8850263	-60. 0000000	CY					
0. 0001529	19455.		127225854.	9. 0497685	0. 0013839	-0. 0077911	
2. 9017841	-60. 0000000	CY					
0. 0001562	19512.		124874322.	9. 0186533	0. 0014092	-0. 0079658	
2. 9172721	-60. 0000000	CY					
0. 0001596	19568.		122618807.	8. 9893537	0. 0014346	-0. 0081404	
2. 9314776	-60. 0000000	CY					
0. 0001629	19624.		120452262.	8. 9616736	0. 0014600	-0. 0083150	
2. 9443803	-60. 0000000	CY					
0. 0001662	19679.		118370163.	8. 9355935	0. 0014855	-0. 0084895	
2. 9559745	-60. 0000000	CY					
0. 0001696	19719.		116280514.	8. 9033876	0. 0015099	-0. 0086651	
2. 9657407	-60. 0000000	CY					
0. 0001729	19753.		114234051.	8. 8697155	0. 0015337	-0. 0088413	
2. 9741244	-60. 0000000	CY					
0. 0001762	19779.		112220404.	8. 8337392	0. 0015569	-0. 0090181	
2. 9811503	-60. 0000000	CY					
0. 0001796	19796.		110235042.	8. 7952759	0. 0015795	-0. 0091955	
2. 9868996	-60. 0000000	CY					
0. 0001829	19814.		108320915.	8. 7585712	0. 0016021	-0. 0093729	
2. 9916184	-60. 0000000	CY					
0. 0002029	19908.		98108831.	8. 5523595	0. 0017354	-0. 0104396	
2. 9926663	-60. 0000000	CY					
0. 0002229	19993.		89688306.	8. 3877525	0. 0018698	-0. 0115052	
2. 9926083	-60. 0000000	CY					
0. 0002429	20072.		82628938.	8. 2599732	0. 0020065	-0. 0125685	
2. 9982237	-60. 0000000	CY					
0. 0002629	20145.		76622225.	8. 1602797	0. 0021455	-0. 0136295	
2. 9981823	-60. 0000000	CY					
0. 0002829	20213.		71446603.	8. 0785967	0. 0022856	-0. 0146894	
2. 9879763	60. 0000000	CY					
0. 0003029	20277.		66938211.	8. 0044949	0. 0024247	-0. 0157503	
2. 9991962	60. 0000000	CY					
0. 0003229	20337.		62978259.	7. 9455349	0. 0025657	-0. 0168093	
2. 9874723	60. 0000000	CY					
0. 0003429	20395.		59473821.	7. 8977368	0. 0027083	-0. 0178667	
2. 9963579	60. 0000000	CY					
0. 0003629	20450.		56349694.	7. 8593683	0. 0028523	-0. 0189227	
2. 9956147	60. 0000000	CY					

77921_010_01_LPile (USCS units).lp7o					
0.0003829	20484.	53494670.	7.8100681	0.0029906	-0.0199844
2.9805950	60.0000000	CY			
0.0004029	20513.	50910513.	7.7637126	0.0031281	-0.0210469
2.9933683	60.0000000	CYT			
0.0004229	20518.	48516437.	7.7015392	0.0032571	-0.0221179
2.9992503	60.0000000	CYT			
0.0004429	20524.	46337195.	7.6468815	0.0033869	-0.0231881
2.9945999	60.0000000	CYT			
0.0004629	20528.	44345307.	7.5983724	0.0035174	-0.0242576
2.9836987	60.0000000	CYT			
0.0004829	20533.	42518033.	7.5546806	0.0036483	-0.0253267
2.9727173	60.0000000	CYT			
0.0005029	20537.	40835719.	7.5152487	0.0037795	-0.0263955
2.9845738	60.0000000	CYT			
0.0005229	20540.	39279701.	7.4733167	0.0039079	-0.0274671
2.9930260	60.0000000	CYT			

Axial Thrust Force = 328.000 kips

Bending Max Concrete Curvature Stress rad/in. ksi	Bending Max Steel Moment Stress in-kip ksi	Bending Run Stiffness Msg kip-in ²	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in
0.000000417	1020.6620491	2449588918.	103.2929338	0.0000430	0.0000180
0.1555502	1.2444980				
0.000000833	2041.2854402	2449542528.	66.6880490	0.0000556	0.000005573
0.1997598	1.6043779				
0.000001250	3061.7379901	2449390392.	54.5046628	0.0000681	-0.000006869
0.2437035	1.9649190				
0.000001667	4080.3113202	2448186792.	48.4229944	0.0000807	-0.0000193
0.2873580	2.3259447				
0.000002083	5095.0855190	2445641049.	44.7781419	0.0000933	-0.0000317
0.3306940	2.6872211				
0.000002500	6105.3629166	2442145167.	42.3501914	0.0001059	-0.0000441
0.3736978	3.0486389				
0.000002917	7110.8803779	2438016130.	40.6170086	0.0001185	-0.0000565
0.4163630	3.4101470				
0.000003333	8111.5233441	2433457003.	39.3177811	0.0001311	-0.0000689
0.4586862	3.7717189				
0.000003750	9107.2360492	2428596280.	38.3077201	0.0001437	-0.0000813
0.5006656	4.1333396				
0.000004167	10098.	2423517449.	37.5000028	0.0001563	-0.0000937
0.5422999	4.4950003				
0.000004583	11084.	2418276270.	36.8394016	0.0001688	-0.0001062
0.5835884	4.8566955				
0.000005000	11084.	2216753248.	30.3274218	0.0001516	-0.0001484
0.5261068	4.3539762	C			
0.000005417	11084.	2046233767.	29.4264792	0.0001594	-0.0001656
0.5514947	-4.7554657	C			
0.000005833	11084.	1900074212.	28.6302027	0.0001670	-0.0001830
0.5762888	-5.2559741	C			
0.000006250	11084.	1773402598.	27.9191481	0.0001745	-0.0002005
0.6005266	-5.7602794	C			
0.000006667	11084.	1662564936.	27.2781335	0.0001819	-0.0002181
0.6242321	-6.2682276	C			
0.000007083	11084.	1564766998.	26.6978396	0.0001891	-0.0002359
0.6474814	-6.7791938	C			
0.000007500	11084.	1477835499.	26.1682976	0.0001963	-0.0002537

77921_010_01_LP i l e (USCS uni ts). l p7o

0. 6702832	-7. 2931453	C					
0. 00007917	11084.		1400054683.	25. 6834540	0. 0002033	-0. 0002717	
0. 6926924	-7. 8096321	C					
0. 00008333	11084.		1330051949.	25. 2383818	0. 0002103	-0. 0002897	
0. 7147605	-8. 3282244	C					
0. 00008750	11084.		1266716142.	24. 8292368	0. 0002173	-0. 0003077	
0. 7365422	-8. 8484561	C					
0. 00009167	11084.		1209138135.	24. 4484325	0. 0002241	-0. 0003259	
0. 7579620	-9. 3710417	C					
0. 00009583	11084.		1156566912.	24. 0949921	0. 0002309	-0. 0003441	
0. 7791057	-9. 8952251	C					
0. 0000100	11084.		1108376624.	23. 7671915	0. 0002377	-0. 0003623	
0. 8000294	-10. 4205144	C					
0. 0000104	11084.		1064041559.	23. 4584942	0. 0002444	-0. 0003806	
0. 8206218	-10. 9479549	C					
0. 0000108	11084.		1023116884.	23. 1719420	0. 0002510	-0. 0003990	
0. 8410633	-11. 4758982	C					
0. 0000113	11084.		985223666.	22. 9005879	0. 0002576	-0. 0004174	
0. 8611982	-12. 0058082	C					
0. 0000117	11084.		950037106.	22. 6467575	0. 0002642	-0. 0004358	
0. 8811719	-12. 5363470	C					
0. 0000121	11084.		917277206.	22. 4077258	0. 0002708	-0. 0004542	
0. 9009513	-13. 0678344	C					
0. 0000125	11084.		886701299.	22. 1802738	0. 0002773	-0. 0004727	
0. 9204715	-13. 6009007	C					
0. 0000129	11084.		858098031.	21. 9678092	0. 0002838	-0. 0004912	
0. 9399129	-14. 1338498	C					
0. 0000133	11084.		831282468.	21. 7643035	0. 0002902	-0. 0005098	
0. 9590884	-14. 6684693	C					
0. 0000138	11084.		806092090.	21. 5711733	0. 0002966	-0. 0005284	
0. 9780931	-15. 2038696	C					
0. 0000142	11084.		782383499.	21. 3896814	0. 0003030	-0. 0005470	
0. 9970206	-15. 7391559	C					
0. 0000146	11084.		760029685.	21. 2159749	0. 0003094	-0. 0005656	
1. 0157466	-16. 2755356	C					
0. 0000150	11084.		738917749.	21. 0491989	0. 0003157	-0. 0005843	
1. 0342633	-16. 8130984	C					
0. 0000154	11240.		729070935.	20. 8916873	0. 0003221	-0. 0006029	
1. 0527046	-17. 3505498	C					
0. 0000158	11407.		720444026.	20. 7427091	0. 0003284	-0. 0006216	
1. 0710703	-17. 8878894	C					
0. 0000163	11573.		712184081.	20. 5980054	0. 0003347	-0. 0006403	
1. 0891887	-18. 4268149	C					
0. 0000171	11904.		696798326.	20. 3275419	0. 0003473	-0. 0006777	
1. 1250582	-19. 5057719	C					
0. 0000179	12234.		682807617.	20. 0824261	0. 0003598	-0. 0007152	
1. 1605976	-20. 5846310	C					
0. 0000188	12561.		669902255.	19. 8518616	0. 0003722	-0. 0007528	
1. 1954105	-21. 6674252	C					
0. 0000196	12887.		658073027.	19. 6416828	0. 0003846	-0. 0007904	
1. 2299329	-22. 7497859	C					
0. 0000204	13213.		647158291.	19. 4473576	0. 0003971	-0. 0008279	
1. 2640475	-23. 8329186	C					
0. 0000213	13536.		637002936.	19. 2637245	0. 0004094	-0. 0008656	
1. 2975627	-24. 9188547	C					
0. 0000221	13859.		627594926.	19. 0946250	0. 0004217	-0. 0009033	
1. 3307920	-26. 0043589	C					
0. 0000229	14182.		618852627.	18. 9384767	0. 0004340	-0. 0009410	
1. 3637344	-27. 0894289	C					
0. 0000238	14503.		610650516.	18. 7894710	0. 0004462	-0. 0009788	
1. 3961052	-28. 1771269	C					
0. 0000246	14823.		602969052.	18. 6496753	0. 0004585	-0. 0010165	
1. 4280943	-29. 2654606	C					

77921_010_01_LPi le (USCS uni ts). l p7o						
0. 0000254		15143.		595775068.	18. 5196376	0. 0004707 -0. 0010543
1. 4598006	-30.	3533587	C			
0. 0000263		15462.		589022054.	18. 3984316	0. 0004830 -0. 0010920
1. 4912233	-31.	4408189	C			
0. 0000271		15780.		582662518.	18. 2846009	0. 0004952 -0. 0011298
1. 5223163	-32.	5283446	C			
0. 0000279		16097.		576626099.	18. 1740807	0. 0005074 -0. 0011676
1. 5528374	-33.	6186921	C			
0. 0000288		16414.		570925568.	18. 0704991	0. 0005195 -0. 0012055
1. 5830785	-34.	7085963	C			
0. 0000296		16730.		565532462.	17. 9732726	0. 0005317 -0. 0012433
1. 6130387	-35.	7980548	C			
0. 0000304		17046.		560421433.	17. 8818818	0. 0005439 -0. 0012811
1. 6427170	-36.	8870650	C			
0. 0000313		17362.		555569839.	17. 7958627	0. 0005561 -0. 0013189
1. 6721123	-37.	9756243	C			
0. 0000321		17677.		550957389.	17. 7147997	0. 0005683 -0. 0013567
1. 7012235	-39.	0637300	C			
0. 0000329		17990.		546542512.	17. 6354897	0. 0005805 -0. 0013945
1. 7298272	-40.	1540805	C			
0. 0000338		18304.		542328393.	17. 5599236	0. 0005926 -0. 0014324
1. 7580986	-41.	2445997	C			
0. 0000346		18616.		538305662.	17. 4884616	0. 0006048 -0. 0014702
1. 7860891	-42.	3346553	C			
0. 0000354		18929.		534460743.	17. 4208170	0. 0006170 -0. 0015080
1. 8137978	-43.	4242441	C			
0. 0000363		19241.		530781305.	17. 3567292	0. 0006292 -0. 0015458
1. 8412236	-44.	5133633	C			
0. 0000371		19552.		527256126.	17. 2959613	0. 0006414 -0. 0015836
1. 8683653	-45.	6020099	C			
0. 0000379		19864.		523874968.	17. 2382971	0. 0006536 -0. 0016214
1. 8952220	-46.	6901807	C			
0. 0000387		20174.		520628475.	17. 1835391	0. 0006659 -0. 0016591
1. 9217925	-47.	7778728	C			
0. 0000396		20485.		517508076.	17. 1315065	0. 0006781 -0. 0016969
1. 9480757	-48.	8650830	C			
0. 0000404		20794.		514500603.	17. 0811618	0. 0006904 -0. 0017346
1. 9739949	-49.	9528298	C			
0. 0000412		21103.		511595692.	17. 0318032	0. 0007026 -0. 0017724
1. 9994991	-51.	0418303	C			
0. 0000421		21412.		508796003.	16. 9848084	0. 0007148 -0. 0018102
2. 0247183	-52.	1303316	C			
0. 0000429		21720.		506095346.	16. 9400425	0. 0007270 -0. 0018480
2. 0496514	-53.	2183303	C			
0. 0000437		22028.		503487999.	16. 8973809	0. 0007393 -0. 0018857
2. 0742973	-54.	3058228	C			
0. 0000446		22335.		500968672.	16. 8567085	0. 0007515 -0. 0019235
2. 0986548	-55.	3928055	C			
0. 0000454		22642.		498532457.	16. 8179184	0. 0007638 -0. 0019612
2. 1227227	-56.	4792748	C			
0. 0000462		22948.		496174804.	16. 7809118	0. 0007761 -0. 0019989
2. 1464999	-57.	5652269	C			
0. 0000471		23254.		493891481.	16. 7455967	0. 0007884 -0. 0020366
2. 1699851	-58.	6506581	C			
0. 0000479		23560.		491678551.	16. 7118875	0. 0008008 -0. 0020742
2. 1931771	-59.	7355645	C			
0. 0000487		23865.		489532346.	16. 6797047	0. 0008131 -0. 0021119
2. 2160747	-60.	0000000	CY			
0. 0000496		24169.		487449442.	16. 6489740	0. 0008255 -0. 0021495
2. 2386767	-60.	0000000	CY			
0. 0000529		25358.		479208940.	16. 5343275	0. 0008749 -0. 0023001
2. 3256494	-60.	0000000	CY			
0. 0000562		26244.		466563684.	16. 3777731	0. 0009212 -0. 0024538

77921_010_01_LP i l e (USCS uni ts). l p7o

2. 4022413	-60. 0000000	CY					
0. 0000596	26882.		451166475.	16. 1929946	0. 0009648	-0. 0026102	
2. 4700186	-60. 0000000	CY					
0. 0000629	27450.		436298681.	16. 0187335	0. 0010078	-0. 0027672	
2. 5328928	-60. 0000000	CY					
0. 0000662	28014.		422850501.	15. 8630963	0. 0010509	-0. 0029241	
2. 5918960	-60. 0000000	CY					
0. 0000696	28381.		407876970.	15. 6779534	0. 0010909	-0. 0030841	
2. 6430117	-60. 0000000	CY					
0. 0000729	28707.		393696092.	15. 5040164	0. 0011305	-0. 0032445	
2. 6902163	-60. 0000000	CY					
0. 0000762	29030.		380721466.	15. 3477298	0. 0011703	-0. 0034047	
2. 7342785	-60. 0000000	CY					
0. 0000796	29347.		368763057.	15. 2007227	0. 0012097	-0. 0035653	
2. 7746569	-60. 0000000	CY					
0. 0000829	29661.		357718197.	15. 0649461	0. 0012491	-0. 0037259	
2. 8116646	-60. 0000000	CY					
0. 0000862	29949.		347240052.	14. 9364312	0. 0012883	-0. 0038867	
2. 8451222	-60. 0000000	CY					
0. 0000896	30130.		336334051.	14. 7939059	0. 0013253	-0. 0040497	
2. 8737242	-60. 0000000	CY					
0. 0000929	30289.		325977896.	14. 6560978	0. 0013618	-0. 0042132	
2. 8990642	-60. 0000000	CY					
0. 0000963	30442.		316282742.	14. 5230815	0. 0013978	-0. 0043772	
2. 9212975	-60. 0000000	CY					
0. 0000996	30594.		307219760.	14. 4006670	0. 0014341	-0. 0045409	
2. 9408555	-60. 0000000	CY					
0. 0001029	30744.		298727146.	14. 2878545	0. 0014705	-0. 0047045	
2. 9576996	-60. 0000000	CY					
0. 0001063	30892.		290750834.	14. 1837706	0. 0015070	-0. 0048680	
2. 9717898	-60. 0000000	CY					
0. 0001096	31038.		283238754.	14. 0866333	0. 0015437	-0. 0050313	
2. 9830543	-60. 0000000	CY					
0. 0001129	31179.		276125780.	13. 9904005	0. 0015797	-0. 0051953	
2. 9913564	-60. 0000000	CY					
0. 0001163	31318.		269405951.	13. 9012658	0. 0016160	-0. 0053590	
2. 9969118	-60. 0000000	CY					
0. 0001196	31456.		263046041.	13. 8186699	0. 0016525	-0. 0055225	
2. 9996770	-60. 0000000	CY					
0. 0001229	31591.		257014957.	13. 7422190	0. 0016891	-0. 0056859	
2. 9965948	-60. 0000000	CY					
0. 0001263	31708.		251150054.	13. 6659473	0. 0017253	-0. 0058497	
2. 9994629	-60. 0000000	CY					
0. 0001296	31793.		245344226.	13. 5858374	0. 0017605	-0. 0060145	
2. 9978575	-60. 0000000	CY					
0. 0001329	31851.		239629172.	13. 5033360	0. 0017948	-0. 0061802	
2. 9983668	-60. 0000000	CY					
0. 0001363	31904.		234158862.	13. 4189150	0. 0018283	-0. 0063467	
2. 9998963	-60. 0000000	CY					
0. 0001396	31956.		228939500.	13. 3395384	0. 0018620	-0. 0065130	
2. 9960444	-60. 0000000	CY					
0. 0001429	32007.		223956713.	13. 2649379	0. 0018958	-0. 0066792	
2. 9983849	-60. 0000000	CY					
0. 0001462	32057.		219195585.	13. 1946590	0. 0019297	-0. 0068453	
2. 9998648	-60. 0000000	CY					
0. 0001496	32106.		214638973.	13. 1286754	0. 0019638	-0. 0070112	
2. 9966459	-60. 0000000	CY					
0. 0001529	32155.		210274961.	13. 0665455	0. 0019981	-0. 0071769	
2. 9973729	-60. 0000000	CY					
0. 0001562	32202.		206092789.	13. 0078496	0. 0020325	-0. 0073425	
2. 9994075	-60. 0000000	CY					
0. 0001596	32249.		202080593.	12. 9524310	0. 0020670	-0. 0075080	
2. 9994685	-60. 0000000	CY					

77921_010_01_LPile (USCS units).lp7o						
0.0001629	32294.	198225441.	12.9003937	0.0021017	-0.0076733	
2.9945706	-60.0000000	CY				
0.0001662	32337.	194507548.	12.8457168	0.0021356	-0.0078394	
2.9975605	60.0000000	CY				
0.0001696	32379.	190932781.	12.7937812	0.0021696	-0.0080054	
2.9993754	60.0000000	CY				
0.0001729	32421.	187492910.	12.7444795	0.0022037	-0.0081713	
2.9999998	60.0000000	CY				
0.0001762	32461.	184177519.	12.6980852	0.0022380	-0.0083370	
2.9952529	60.0000000	CY				
0.0001796	32502.	180982962.	12.6539389	0.0022724	-0.0085026	
2.9957483	60.0000000	CY				
0.0001829	32541.	177902651.	12.6119167	0.0023069	-0.0086681	
2.9982009	60.0000000	CY				
0.0002029	32770.	161497212.	12.3998607	0.0025161	-0.0096589	
2.9989511	60.0000000	CY				
0.0002229	32983.	147958996.	12.2329613	0.0027269	-0.0106481	
2.9978724	60.0000000	CY				
0.0002429	33111.	136305418.	12.0582614	0.0029292	-0.0116458	
2.9910889	60.0000000	CY				
0.0002629	33163.	126133657.	11.8882294	0.0031256	-0.0126494	
2.9999515	60.0000000	CYT				
0.0002829	33197.	117337580.	11.7616831	0.0033276	-0.0136474	
2.9912232	60.0000000	CYT				
0.0003029	33208.	109626865.	11.6694428	0.0035349	-0.0146401	
2.9999439	60.0000000	CYT				
0.0003229	33210.	102843084.	11.5874536	0.0037418	-0.0156332	
2.9846607	60.0000000	CYT				
0.0003429	33210.	96844945.	11.5993797	0.0039776	-0.0165974	
2.9994528	60.0000000	CYT				

 Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain = 0.003 or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	-273.000	20485.961	0.00300000
2	328.000	33129.532	0.00300000

Note note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318-08, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.70).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318-08, Section 9.3.2.2 or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial (Factored) Load Capacity	Resistance Factor at Ult. Mom.	Nominal Bending Stiffness Moment Cap.	Ultimate (Factored) Axial Thrust	Ultimate Moment
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No. in-kip	for Moment	77921_010_01_LPile (USCS units).lp7o in-kip kip-in ²	kip kips
1	0.65	20485.961	-177.450
13315.874		289664279.170	
2	0.65	33129.532	213.200
21534.195		507723405.090	
1	0.70	20485.961	-191.100
14340.172		286333646.346	
2	0.70	33129.532	229.600
23190.672		494364495.590	
1	0.75	20485.961	-204.750
15364.471		275303335.479	
2	0.75	33129.532	246.000
24847.149		482751102.559	

 Computed Values of Pile Loading and Deflection
 for Lateral Loading for Load Case Number 1

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 38000.0 lbs
 Applied moment at pile head = 0.0 in-lbs
 Axial thrust load on pile head = 328000.0 lbs

Depth Res.	Soil X	Deflect. Spr.	Bending Distrib. Moment	Shear Force	Slope S	Total Stress	Bending Stiffness	Soil p
feet	Es*h lb/inch	Lat. y inches	Load lb-in	lbs	radians	psi*	lb-in ²	lb/in
0.000	0.00	0.0117	4.622E-06	38000.	-0.000127	0.000	2.450E+12	
0.000	0.265	0.0113	120973.	38000.	-0.000127	0.000	2.450E+12	
-0.0289	0.530	0.0109	241945.	38000.	-0.000127	0.000	2.450E+12	
-0.0285	0.795	8.3951	0.000	38000.	-0.000126	0.000	2.450E+12	
-0.0281	1.060	8.6078	0.000	38000.	-0.000126	0.000	2.450E+12	
-0.0278	1.325	8.8337	0.000	38000.	-0.000125	0.000	2.450E+12	
-0.0274	1.590	0.009730	604858.	38000.	-0.000124	0.000	2.450E+12	
-0.0270	1.855	9.0738	0.000	38000.	-0.000123	0.000	2.450E+12	
-0.0266	2.120	0.009333	725827.	37999.	-0.000122	0.000	2.450E+12	
-0.0262	2.385	9.3292	0.000	37999.	-0.000121	0.000	2.450E+12	
-0.0258	2.650	0.008549	967761.	37999.	-0.000119	0.000	2.450E+12	
		9.8913	0.000					
		10.2010	1088726.					
		0.007781	1209689.					
		10.5320	0.000					

77921_010_01_LPile (USCS units).lp7o							
2. 915	0. 007404	1330650.	37999.	-0. 000118	0. 000	2. 450E+12	
-0. 0253	10. 8865	0. 000					
3. 180	0. 007033	1451609.	37999.	-0. 000116	0. 000	2. 450E+12	
-0. 0249	11. 2664	0. 000					
3. 445	0. 006668	1572566.	37999.	-0. 000114	0. 000	2. 450E+12	
-0. 0245	11. 6743	0. 000					
3. 710	0. 006309	1693520.	37999.	-0. 000112	0. 000	2. 450E+12	
-0. 0240	12. 1129	0. 000					
3. 975	0. 005957	1814472.	37051.	-0. 000109	0. 000	2. 450E+12	
-596. 1430	318230.	0. 000					
4. 240	0. 005613	1929393.	35158.	-0. 000107	0. 000	2. 450E+12	
-594. 5823	336868.	0. 000					
4. 505	0. 005276	2038299.	33270.	-0. 000104	0. 000	2. 450E+12	
-592. 6225	357160.	0. 000					
4. 770	0. 004949	2141209.	31389.	-0. 000102	0. 000	2. 450E+12	
-590. 2492	379304.	0. 000					
5. 035	0. 004629	2238147.	29517.	-9. 889E-05	0. 000	2. 450E+12	
-587. 4488	403524.	0. 000					
5. 300	0. 004320	2329142.	27654.	-9. 593E-05	0. 000	2. 449E+12	
-584. 2078	430084.	0. 000					
5. 565	0. 004019	2414226.	24963.	-9. 285E-05	0. 000	2. 449E+12	
-1107. 9724	876600.	0. 000					
5. 830	0. 003729	2488103.	21454.	-8. 966E-05	0. 000	2. 449E+12	
-1098. 9722	937160.	0. 000					
6. 095	0. 003449	2550862.	17975.	-8. 639E-05	0. 000	2. 449E+12	
-1089. 0983	1004136.	0. 000					
6. 360	0. 003180	2602605.	14529.	-8. 305E-05	0. 000	2. 449E+12	
-1078. 3219	1078457.	0. 000					
6. 625	0. 002921	2643440.	11119.	-7. 964E-05	0. 000	2. 449E+12	
-1066. 6114	1161234.	0. 000					
6. 890	0. 002673	2673486.	7746. 9414	-7. 619E-05	0. 000	2. 449E+12	
-1053. 9312	1253803.	0. 000					
7. 155	0. 002436	2692870.	4417. 2077	-7. 271E-05	0. 000	2. 449E+12	
-1040. 2409	1357785.	0. 000					
7. 420	0. 002211	2701731.	1132. 6898	-6. 921E-05	0. 000	2. 449E+12	
-1025. 4936	1475169.	0. 000					
7. 685	0. 001996	2700218.	-2103. 1637	-6. 570E-05	0. 000	2. 449E+12	
-1009. 6344	1608422.	0. 000					
7. 950	0. 001793	2688492.	-5286. 7126	-6. 220E-05	0. 000	2. 449E+12	
-992. 5977	1760644.	0. 000					
8. 215	0. 001601	2666724.	-8414. 0864	-5. 873E-05	0. 000	2. 449E+12	
-974. 3041	1935783.	0. 000					
8. 480	0. 001419	2635101.	-11481.	-5. 528E-05	0. 000	2. 449E+12	
-954. 6560	2138961.	0. 000					
8. 745	0. 001249	2593820.	-14483.	-5. 189E-05	0. 000	2. 449E+12	
-933. 5309	2376948.	0. 000					
9. 010	0. 001089	2543095.	-17313.	-4. 856E-05	0. 000	2. 449E+12	
-846. 1776	2470325.	0. 000					
9. 275	0. 000940	2483810.	-19831.	-4. 529E-05	0. 000	2. 449E+12	
-737. 1796	2493571.	0. 000					
9. 540	0. 000801	2417067.	-22011.	-4. 211E-05	0. 000	2. 449E+12	
-634. 1182	2516825.	0. 000					
9. 805	0. 000672	2343908.	-23873.	-3. 902E-05	0. 000	2. 449E+12	
-536. 9973	2540085.	0. 000					
10. 070	0. 000553	2265315.	-25436.	-3. 603E-05	0. 000	2. 449E+12	
-445. 7914	2563351.	0. 000					
10. 335	0. 000443	2182212.	-26718.	-3. 314E-05	0. 000	2. 450E+12	
-360. 4483	2586622.	0. 000					
10. 600	0. 000342	2095460.	-27737.	-3. 037E-05	0. 000	2. 450E+12	
-280. 8911	2609897.	0. 000					
10. 865	0. 000250	2005866.	-28513.	-2. 770E-05	0. 000	2. 450E+12	
-207. 0206	2633178.	0. 000					
11. 130	0. 000166	1914175.	-29063.	-2. 516E-05	0. 000	2. 450E+12	

77921_010_01_LPile (USCS units).lp7o

-138.7172	2656462.	0.000					
11.395	9.000E-05	1821078.	-29404.	-2.273E-05	0.000	2.450E+12	
-75.8435	2679750.	0.000					
11.660	2.147E-05	1727213.	-29554.	-2.043E-05	0.000	2.450E+12	
-18.2463	2703042.	0.000					
11.925	-3.994E-05	1633160.	-29528.	-1.825E-05	0.000	2.450E+12	
34.2418	2726337.	0.000					
12.190	-9.460E-05	1539452.	-29344.	-1.619E-05	0.000	2.450E+12	
81.8000	2749636.	0.000					
12.455	-0.000143	1446568.	-29015.	-1.425E-05	0.000	2.450E+12	
124.6176	2772937.	0.000					
12.720	-0.000185	1354943.	-28558.	-1.243E-05	0.000	2.450E+12	
162.8922	2796241.	0.000					
12.985	-0.000222	1264963.	-27986.	-1.073E-05	0.000	2.450E+12	
196.8280	2819547.	0.000					
13.250	-0.000254	1176972.	-27313.	-9.148E-06	0.000	2.450E+12	
226.6341	2842856.	0.000					
13.515	-0.000280	1091271.	-26551.	-7.676E-06	0.000	2.450E+12	
252.5232	2866167.	0.000					
13.780	-0.000302	1008123.	-25713.	-6.313E-06	0.000	2.450E+12	
274.7100	2889480.	0.000					
14.045	-0.000320	927750.	-24810.	-5.057E-06	0.000	2.450E+12	
293.4098	2912795.	0.000					
14.310	-0.000334	850344.	-23852.	-3.903E-06	0.000	2.450E+12	
308.8375	2936112.	0.000					
14.575	-0.000345	776060.	-22850.	-2.847E-06	0.000	2.450E+12	
321.2061	2959431.	0.000					
14.840	-0.000353	705023.	-21814.	-1.886E-06	0.000	2.450E+12	
330.7263	2982751.	0.000					
15.105	-0.000357	637329.	-20751.	-1.014E-06	0.000	2.450E+12	
337.6046	3006073.	0.000					
15.370	-0.000359	573048.	-19670.	-2.286E-07	0.000	2.450E+12	
342.0432	3029397.	0.000					
15.635	-0.000359	512226.	-18579.	4.759E-07	0.000	2.450E+12	
344.2391	3052722.	0.000					
15.900	-0.000356	454883.	-17484.	1.104E-06	0.000	2.450E+12	
344.3829	3076048.	0.000					
16.165	-0.000352	401023.	-16392.	1.659E-06	0.000	2.450E+12	
342.6590	3099375.	0.000					
16.430	-0.000345	350628.	-15308.	2.147E-06	0.000	2.450E+12	
339.2442	3122704.	0.000					
16.695	-0.000338	303662.	-14237.	2.572E-06	0.000	2.450E+12	
334.3081	3146034.	0.000					
16.960	-0.000329	260077.	-13184.	2.938E-06	0.000	2.450E+12	
328.0118	3169364.	0.000					
17.225	-0.000319	219808.	-12152.	3.249E-06	0.000	2.450E+12	
320.5085	3192696.	0.000					
17.490	-0.000308	182780.	-11147.	3.510E-06	0.000	2.450E+12	
311.9427	3216029.	0.000					
17.755	-0.000297	148906.	-10170.	3.726E-06	0.000	2.450E+12	
302.4500	3239363.	0.000					
18.020	-0.000285	118091.	-9224.5747	3.899E-06	0.000	2.450E+12	
292.1573	3262698.	0.000					
18.285	-0.000272	90230.	-8312.9643	4.034E-06	0.000	2.450E+12	
281.1826	3286033.	0.000					
18.550	-0.000259	65212.	-7437.1648	4.135E-06	0.000	2.450E+12	
269.6347	3309370.	0.000					
18.815	-0.000246	42921.	-6598.8398	4.205E-06	0.000	2.450E+12	
257.6137	3332707.	0.000					
19.080	-0.000232	23235.	-5799.3487	4.248E-06	0.000	2.450E+12	
245.2109	3356045.	0.000					
19.345	-0.000219	6028.2959	-5039.7749	4.267E-06	0.000	2.450E+12	
232.5085	3379384.	0.000					

77921_010_01_LPile (USCS units).lp7o							
19.610	-0.000205	-8827.0339	-4320.9533	4.265E-06	0.000	2.450E+12	
219.5805	3402723.	0.000					
19.875	-0.000192	-21462.	-3643.4972	4.246E-06	0.000	2.450E+12	
206.4925	3426063.	0.000					
20.140	-0.000178	-32009.	-3007.8242	4.211E-06	0.000	2.450E+12	
193.3018	3449404.	0.000					
20.405	-0.000165	-40600.	-2414.1823	4.164E-06	0.000	2.450E+12	
180.0579	3472745.	0.000					
20.670	-0.000152	-47371.	-1862.6743	4.107E-06	0.000	2.450E+12	
166.8026	3496087.	0.000					
20.935	-0.000139	-52456.	-1353.2809	4.042E-06	0.000	2.450E+12	
153.5706	3519429.	0.000					
21.200	-0.000126	-55987.	-885.8841	3.972E-06	0.000	2.450E+12	
140.3896	3542772.	0.000					
21.465	-0.000113	-58098.	-460.2882	3.898E-06	0.000	2.450E+12	
127.2807	3566116.	0.000					
21.730	-0.000101	-58922.	-76.2403	3.822E-06	0.000	2.450E+12	
114.2588	3589460.	0.000					
21.995	-8.919E-05	-58591.	266.5508	3.745E-06	0.000	2.450E+12	
101.3331	3612804.	0.000					
22.260	-7.740E-05	-57235.	568.3970	3.670E-06	0.000	2.450E+12	
88.5073	3636149.	0.000					
22.525	-6.585E-05	-54984.	829.6142	3.597E-06	0.000	2.450E+12	
75.7803	3659494.	0.000					
22.790	-5.452E-05	-51966.	1050.5079	3.528E-06	0.000	2.450E+12	
63.1465	3682840.	0.000					
23.055	-4.341E-05	-48310.	1231.3594	3.463E-06	0.000	2.450E+12	
50.5965	3706186.	0.000					
23.320	-3.250E-05	-44142.	1372.4144	3.403E-06	0.000	2.450E+12	
38.1173	3729533.	0.000					
23.585	-2.177E-05	-39588.	1473.8724	3.349E-06	0.000	2.450E+12	
25.6928	3752880.	0.000					
23.850	-1.120E-05	-34775.	1535.8788	3.300E-06	0.000	2.450E+12	
13.3049	3776227.	0.000					
24.115	-7.812E-07	-29827.	1558.5177	3.258E-06	0.000	2.450E+12	
0.9334	3799575.	0.000					
24.380	9.519E-06	-24870.	1541.8070	3.223E-06	0.000	2.450E+12	
-11.4432	3822923.	0.000					
24.645	1.972E-05	-20028.	1485.6957	3.194E-06	0.000	2.450E+12	
-23.8469	3846272.	0.000					
24.910	2.983E-05	-15427.	1390.0627	3.171E-06	0.000	2.450E+12	
-36.2997	3869621.	0.000					
25.175	3.988E-05	-11194.	1254.7176	3.153E-06	0.000	2.450E+12	
-48.8230	3892970.	0.000					
25.440	4.989E-05	-7453.7610	1079.4040	3.141E-06	0.000	2.450E+12	
-61.4371	3916319.	0.000					
25.705	5.986E-05	-4335.1659	863.8047	3.134E-06	0.000	2.450E+12	
-74.1599	3939669.	0.000					
25.970	6.982E-05	-1966.5000	607.5493	3.130E-06	0.000	2.450E+12	
-87.0070	3963019.	0.000					
26.235	7.976E-05	-477.6807	310.2241	3.128E-06	0.000	2.450E+12	
-99.9900	3986369.	0.000					
26.500	8.971E-05	0.000	0.000	3.128E-06	0.000	2.450E+12	
-95.1194	1685879.	0.000					

* This analysis computed pile response using nonlinear moment-curvature relationships.

Values of total stress due to combined axial and bending stresses are computed only

for elastic sections only and do not equal the actual stresses in concrete and steel.

Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the

pile.

Output Summary for Load Case No. 1:

Pile-head deflection = 0.0117410 inches
 Computed slope at pile head = -0.0001271 radians
 Maximum bending moment = 2701731. inch-lbs
 Maximum shear force = 38000. lbs
 Depth of maximum bending moment = 7.4200000 feet below pile head
 Depth of maximum shear force = 0.2650000 feet below pile head
 Number of iterations = 10
 Number of zero deflection points = 2

 Computed Values of Pile Loading and Deflection
 for Lateral Loading for Load Case Number 2

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 33000.0 lbs
 Applied moment at pile head = 0.0 in-lbs
 Axial thrust load on pile head = -273000.0 lbs

Depth Res.	Deflect. Soil Spr.	Bending Distrib.	Shear Force	Slope S	Total Stress	Bending Stiffness	Soil p
X	y	Moment	lbs	radians	psi *	lb-in ²	lb/in
Es*h	Lat. Load	in-lbs					
feet	inches						
lb/inch	lb/inch						
0.000	0.000	3.793E-06	33000.	-0.000105	0.000	2.457E+12	
0.000	0.000	0.000	33000.	-0.000105	0.000	2.457E+12	
0.000	0.000	0.000	33000.	-0.000105	0.000	2.457E+12	
-0.0268	9.7221	0.000	33000.	-0.000104	0.000	2.457E+12	
-0.0265	9.9754	0.000	33000.	-0.000104	0.000	2.457E+12	
-0.0261	10.2448	0.000	33000.	-0.000104	0.000	2.457E+12	
-0.0258	10.5316	0.000	33000.	-0.000103	0.000	2.457E+12	
-0.0254	10.8372	0.000	33000.	-0.000102	0.000	2.457E+12	
-0.0250	11.1633	0.000	33000.	-0.000102	0.000	2.457E+12	
-0.0247	11.5118	0.000	32999.	-0.000100	0.000	2.457E+12	
-0.0243	11.8845	0.000	32999.	-9.934E-05	0.000	2.457E+12	
-0.0239	12.2837	0.000	32999.	-9.805E-05	0.000	2.457E+12	
-0.0235	12.7121	0.000	32999.	-9.663E-05	0.000	2.457E+12	
-0.0231	13.1723	0.000	32999.	-9.507E-05	0.000	2.457E+12	
-0.0226	13.6677	0.000	32999.	-9.337E-05	0.000	2.457E+12	

77921_010_01_LPile (USCS units).lp7o							
3. 710	0. 004973	1467919.	32999.	-9. 154E-05	0. 000	2. 457E+12	
-0. 0222	14. 2017	0. 000					
3. 975	0. 004685	1572777.	32106.	-8. 957E-05	0. 000	2. 457E+12	
-561. 7195	381259.	0. 000					
4. 240	0. 004404	1671957.	30322.	-8. 747E-05	0. 000	2. 457E+12	
-559. 9144	404336.	0. 000					
4. 505	0. 004129	1765476.	28545.	-8. 525E-05	0. 000	2. 457E+12	
-557. 7126	429543.	0. 000					
4. 770	0. 003861	1853358.	26776.	-8. 290E-05	0. 000	2. 457E+12	
-555. 0997	457142.	0. 000					
5. 035	0. 003602	1935628.	25016.	-8. 045E-05	0. 000	2. 457E+12	
-552. 0620	487439.	0. 000					
5. 300	0. 003350	2012318.	23266.	-7. 790E-05	0. 000	2. 457E+12	
-548. 5858	520787.	0. 000					
5. 565	0. 003106	2083462.	20741.	-7. 525E-05	0. 000	2. 457E+12	
-1039. 5388	1064248.	0. 000					
5. 830	0. 002871	2144097.	17450.	-7. 251E-05	0. 000	2. 457E+12	
-1030. 1624	1140968.	0. 000					
6. 095	0. 002645	2194316.	14190.	-6. 970E-05	0. 000	2. 457E+12	
-1019. 9133	1226209.	0. 000					
6. 360	0. 002428	2234225.	10964.	-6. 684E-05	0. 000	2. 457E+12	
-1008. 7611	1321269.	0. 000					
6. 625	0. 002220	2263934.	7775. 8418	-6. 393E-05	0. 000	2. 457E+12	
-996. 6716	1427715.	0. 000					
6. 890	0. 002021	2283568.	4627. 2006	-6. 098E-05	0. 000	2. 457E+12	
-983. 6060	1547454.	0. 000					
7. 155	0. 001832	2293258.	1521. 7317	-5. 802E-05	0. 000	2. 457E+12	
-969. 5191	1682830.	0. 000					
7. 420	0. 001652	2293146.	-1537. 2325	-5. 505E-05	0. 000	2. 457E+12	
-954. 3577	1836756.	0. 000					
7. 685	0. 001482	2283385.	-4546. 1733	-5. 209E-05	0. 000	2. 457E+12	
-938. 0579	2012908.	0. 000					
7. 950	0. 001321	2264141.	-7501. 3465	-4. 915E-05	0. 000	2. 457E+12	
-920. 5416	2215986.	0. 000					
8. 215	0. 001169	2235591.	-10369.	-4. 623E-05	0. 000	2. 457E+12	
-882. 7811	2400632.	0. 000					
8. 480	0. 001027	2198117.	-13017.	-4. 336E-05	0. 000	2. 457E+12	
-782. 7629	2423854.	0. 000					
8. 745	0. 000894	2152729.	-15355.	-4. 055E-05	0. 000	2. 457E+12	
-687. 6297	2447085.	0. 000					
9. 010	0. 000769	2100390.	-17398.	-3. 780E-05	0. 000	2. 457E+12	
-597. 4332	2470325.	0. 000					
9. 275	0. 000653	2042012.	-19162.	-3. 512E-05	0. 000	2. 457E+12	
-512. 1975	2493571.	0. 000					
9. 540	0. 000546	1978457.	-20663.	-3. 251E-05	0. 000	2. 457E+12	
-431. 9209	2516825.	0. 000					
9. 805	0. 000446	1910536.	-21917.	-3. 000E-05	0. 000	2. 457E+12	
-356. 5782	2540085.	0. 000					
10. 070	0. 000355	1839011.	-22939.	-2. 757E-05	0. 000	2. 457E+12	
-286. 1220	2563351.	0. 000					
10. 335	0. 000271	1764595.	-23745.	-2. 524E-05	0. 000	2. 457E+12	
-220. 4849	2586622.	0. 000					
10. 600	0. 000194	1687952.	-24349.	-2. 300E-05	0. 000	2. 457E+12	
-159. 5813	2609897.	0. 000					
10. 865	0. 000125	1609696.	-24767.	-2. 087E-05	0. 000	2. 457E+12	
-103. 3090	2633178.	0. 000					
11. 130	6. 171E-05	1530398.	-25013.	-1. 884E-05	0. 000	2. 457E+12	
-51. 5513	2656462.	0. 000					
11. 395	4. 958E-06	1450580.	-25102.	-1. 691E-05	0. 000	2. 457E+12	
-4. 1784	2679750.	0. 000					
11. 660	-4. 582E-05	1370722.	-25046.	-1. 508E-05	0. 000	2. 457E+12	
38. 9508	2703042.	0. 000					
11. 925	-9. 096E-05	1291259.	-24861.	-1. 336E-05	0. 000	2. 457E+12	

77921_010_01_LPile (USCS units).lp7o

77. 9870	2726337.	0. 000					
12. 190	-0. 000131	1212586.	-24557.	-1. 174E-05	0. 000	2. 457E+12	
113. 0892	2749636.	0. 000					
12. 455	-0. 000166	1135058.	-24147.	-1. 022E-05	0. 000	2. 457E+12	
144. 4231	2772937.	0. 000					
12. 720	-0. 000196	1058991.	-23644.	-8. 800E-06	0. 000	2. 457E+12	
172. 1597	2796241.	0. 000					
12. 985	-0. 000222	984667.	-23058.	-7. 477E-06	0. 000	2. 457E+12	
196. 4738	2819547.	0. 000					
13. 250	-0. 000243	912331.	-22399.	-6. 250E-06	0. 000	2. 457E+12	
217. 5433	2842856.	0. 000					
13. 515	-0. 000261	842196.	-21679.	-5. 114E-06	0. 000	2. 457E+12	
235. 5473	2866167.	0. 000					
13. 780	-0. 000276	774443.	-20906.	-4. 068E-06	0. 000	2. 457E+12	
250. 6656	2889480.	0. 000					
14. 045	-0. 000287	709227.	-20089.	-3. 108E-06	0. 000	2. 457E+12	
263. 0775	2912795.	0. 000					
14. 310	-0. 000296	646671.	-19237.	-2. 230E-06	0. 000	2. 457E+12	
272. 9606	2936112.	0. 000					
14. 575	-0. 000301	586876.	-18357.	-1. 432E-06	0. 000	2. 457E+12	
280. 4904	2959431.	0. 000					
14. 840	-0. 000305	529919.	-17456.	-7. 093E-07	0. 000	2. 457E+12	
285. 8391	2982751.	0. 000					
15. 105	-0. 000306	475853.	-16542.	-5. 838E-08	0. 000	2. 457E+12	
289. 1753	3006073.	0. 000					
15. 370	-0. 000305	424711.	-15620.	5. 244E-07	0. 000	2. 457E+12	
290. 6629	3029397.	0. 000					
15. 635	-0. 000303	376509.	-14696.	1. 043E-06	0. 000	2. 457E+12	
290. 4608	3052722.	0. 000					
15. 900	-0. 000298	331245.	-13775.	1. 501E-06	0. 000	2. 457E+12	
288. 7226	3076048.	0. 000					
16. 165	-0. 000293	288901.	-12862.	1. 902E-06	0. 000	2. 457E+12	
285. 5957	3099375.	0. 000					
16. 430	-0. 000286	249445.	-11961.	2. 251E-06	0. 000	2. 457E+12	
281. 2212	3122704.	0. 000					
16. 695	-0. 000279	212834.	-11075.	2. 550E-06	0. 000	2. 457E+12	
275. 7336	3146034.	0. 000					
16. 960	-0. 000270	179011.	-10209.	2. 803E-06	0. 000	2. 457E+12	
269. 2604	3169364.	0. 000					
17. 225	-0. 000261	147911.	-9364. 1913	3. 015E-06	0. 000	2. 457E+12	
261. 9222	3192696.	0. 000					
17. 490	-0. 000251	119460.	-8544. 1418	3. 188E-06	0. 000	2. 457E+12	
253. 8322	3216029.	0. 000					
17. 755	-0. 000241	93576.	-7750. 8458	3. 326E-06	0. 000	2. 457E+12	
245. 0962	3239363.	0. 000					
18. 020	-0. 000230	70170.	-6986. 2007	3. 432E-06	0. 000	2. 457E+12	
235. 8127	3262698.	0. 000					
18. 285	-0. 000219	49149.	-6251. 8028	3. 509E-06	0. 000	2. 457E+12	
226. 0728	3286033.	0. 000					
18. 550	-0. 000208	30415.	-5548. 9706	3. 561E-06	0. 000	2. 457E+12	
215. 9601	3309370.	0. 000					
18. 815	-0. 000196	13864.	-4878. 7680	3. 589E-06	0. 000	2. 457E+12	
205. 5510	3332707.	0. 000					
19. 080	-0. 000185	-607. 8271	-4242. 0276	3. 598E-06	0. 000	2. 457E+12	
194. 9146	3356045.	0. 000					
19. 345	-0. 000173	-13109.	-3639. 3737	3. 589E-06	0. 000	2. 457E+12	
184. 1130	3379384.	0. 000					
19. 610	-0. 000162	-23748.	-3071. 2441	3. 565E-06	0. 000	2. 457E+12	
173. 2012	3402723.	0. 000					
19. 875	-0. 000151	-32636.	-2537. 9122	3. 529E-06	0. 000	2. 457E+12	
162. 2277	3426063.	0. 000					
20. 140	-0. 000139	-39883.	-2039. 5080	3. 482E-06	0. 000	2. 457E+12	
151. 2341	3449404.	0. 000					

77921_010_01_LPile (USCS units).lp7o							
20.405	-0.000128	-45601.	-1576.0385	3.426E-06	0.000	2.457E+12	
140.2561	3472745.	0.000					
20.670	-0.000118	-49901.	-1147.4073	3.365E-06	0.000	2.457E+12	
129.3232	3496087.	0.000					
20.935	-0.000107	-52893.	-753.4336	3.298E-06	0.000	2.457E+12	
118.4590	3519429.	0.000					
21.200	-9.666E-05	-54687.	-393.8698	3.228E-06	0.000	2.457E+12	
107.6818	3542772.	0.000					
21.465	-8.650E-05	-55392.	-68.4183	3.157E-06	0.000	2.457E+12	
97.0047	3566116.	0.000					
21.730	-7.658E-05	-55116.	223.2520	3.086E-06	0.000	2.457E+12	
86.4358	3589460.	0.000					
21.995	-6.688E-05	-53967.	481.4914	3.015E-06	0.000	2.457E+12	
75.9789	3612804.	0.000					
22.260	-5.740E-05	-52049.	706.6555	2.946E-06	0.000	2.457E+12	
65.6337	3636149.	0.000					
22.525	-4.814E-05	-49467.	899.0924	2.881E-06	0.000	2.457E+12	
55.3958	3659494.	0.000					
22.790	-3.908E-05	-46326.	1059.1315	2.819E-06	0.000	2.457E+12	
45.2578	3682840.	0.000					
23.055	-3.021E-05	-42726.	1187.0735	2.761E-06	0.000	2.457E+12	
35.2089	3706186.	0.000					
23.320	-2.152E-05	-38771.	1283.1811	2.708E-06	0.000	2.457E+12	
25.2361	3729533.	0.000					
23.585	-1.298E-05	-34561.	1347.6716	2.661E-06	0.000	2.457E+12	
15.3240	3752880.	0.000					
23.850	-4.594E-06	-30195.	1380.7110	2.619E-06	0.000	2.457E+12	
5.4555	3776227.	0.000					
24.115	3.672E-06	-25775.	1382.4087	2.583E-06	0.000	2.457E+12	
-4.3877	3799575.	0.000					
24.380	1.183E-05	-21399.	1352.8149	2.552E-06	0.000	2.457E+12	
-14.2248	3822923.	0.000					
24.645	1.990E-05	-17166.	1291.9181	2.527E-06	0.000	2.457E+12	
-24.0751	3846272.	0.000					
24.910	2.791E-05	-13178.	1199.6453	2.508E-06	0.000	2.457E+12	
-33.9580	3869621.	0.000					
25.175	3.585E-05	-9532.3556	1075.8637	2.493E-06	0.000	2.457E+12	
-43.8921	3892970.	0.000					
25.440	4.376E-05	-6330.8773	920.3830	2.483E-06	0.000	2.457E+12	
-53.8945	3916319.	0.000					
25.705	5.164E-05	-3674.4087	732.9614	2.476E-06	0.000	2.457E+12	
-63.9807	3939669.	0.000					
25.970	5.951E-05	-1664.9432	513.3114	2.473E-06	0.000	2.457E+12	
-74.1639	3963019.	0.000					
26.235	6.737E-05	-405.4548	261.1088	2.471E-06	0.000	2.457E+12	
-84.4540	3986369.	0.000					
26.500	7.523E-05	0.000	0.000	2.471E-06	0.000	2.457E+12	
-79.7653	1685879.	0.000					

* This analysis computed pile response using nonlinear moment-curvature relationships.

Values of total stress due to combined axial and bending stresses are computed only for elastic sections only and do not equal the actual stresses in concrete and steel.

Stresses in concrete and steel may be interpolated from the output for nonlinear bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 2:

Pile-head deflection = 0.0094443 inches

77921_010_01_LPile (USCS units).lp7o

Computed slope at pile head = -0.0001048 radians
 Maximum bending moment = 2293258. inch-lbs
 Maximum shear force = 33000. lbs
 Depth of maximum bending moment = 7.1550000 feet below pile head
 Depth of maximum shear force = 0.2650000 feet below pile head
 Number of iterations = 8
 Number of zero deflection points = 2

 Summary of Pile Response(s)

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, lbs, and Load 2 = Moment, in-lbs
 Load Type 2: Load 1 = Shear, lbs, and Load 2 = Slope, radians
 Load Type 3: Load 1 = Shear, lbs, and Load 2 = Rotational Stiffness, in-lbs/radian
 Load Type 4: Load 1 = Top Deflection, inches, and Load 2 = Moment, in-lbs
 Load Type 5: Load 1 = Top Deflection, inches, and Load 2 = Slope, radians

Case No.	Load Type No.	Maximum Shear in Pile lbs	Pile-head	Pile-head	Axial Loading lbs	Pile-head	Maximum Moment in Pile in-lbs
			Condition 1 V(lbs) or y(inches)	Condition 2 in-lb, rad., or in-lb/rad. Rotation radians		Deflection inches	
1	1	V = 38000.	M = 0.000	328000.	0.01174103		
2701731.		38000.	-0.00012712				
2	1	V = 33000.	M = 0.000	-273000.	0.00944429		
2293258.		33000.	-0.00010484				

The analysis ended normally.

Drilled Pier Foundation

BU # :	876345
Site Name:	SKY HILL, CT
Order Number:	506808, Rev.0

TIA-222 Revison:	H
Tower Type:	Self Support



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	0	0
Axial Force (kips)	328	273
Shear Force (kips)	38	33

Material Properties	
Concrete Strength, f _c :	3 ksi
Rebar Strength, F _y :	60 ksi

Pier Design Data	
Depth	26 ft
Ext. Above Grade	0.5 ft
Pier Section 1	
<i>From 0.5' above grade to 26' below grade</i>	
Pier Diameter	5 ft
Rebar Quantity	18
Rebar Size	9
Rebar Cage Diameter	51 in
Tie Size	5

Analysis Results		
Soil Lateral Capacity	Compression	Uplift
D _{v=0} (ft from TOC)	11.53	11.53
Soil Safety Factor	37.00	42.61
Max Moment (kip-ft)	302.92	263.06
Rating*	3.4%	3.0%
Soil Vertical Capacity	Compression	Uplift
Skin Friction (kips)	520.43	520.43
End Bearing (kips)	375.00	-
Weight of Concrete (kips)	93.66	70.24
Total Capacity (kips)	895.43	590.68
Axial (kips)	421.66	273.00
Rating*	44.8%	44.0%
Reinforced Concrete Capacity	Compression	Uplift
Critical Depth (ft from TOC)	11.83	10.77
Critical Moment (kip-ft)	225.14	191.10
Critical Moment Capacity	2360.67	1645.40
Rating*	9.1%	11.1%
Soil Interaction Rating*		44.8%
Structural Foundation Rating*		11.1%

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
	N/A <input type="checkbox"/>

*Rating per TIA-222-H Section 15.5

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

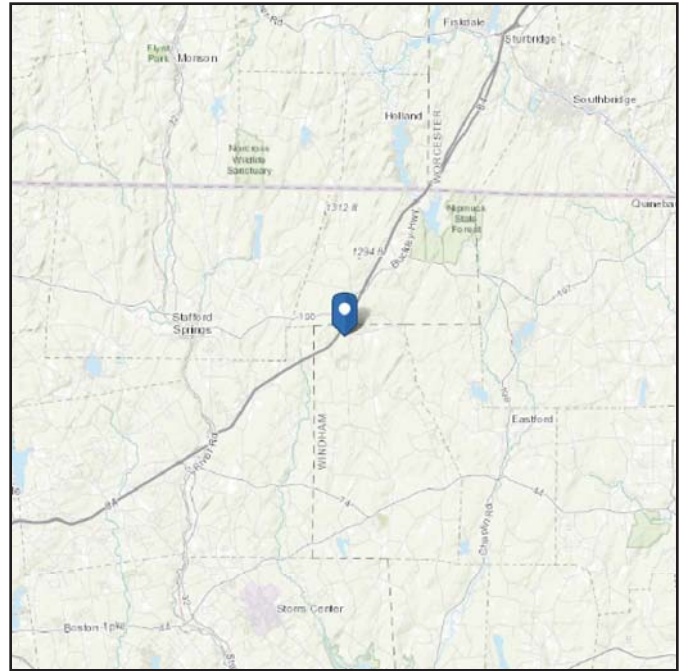
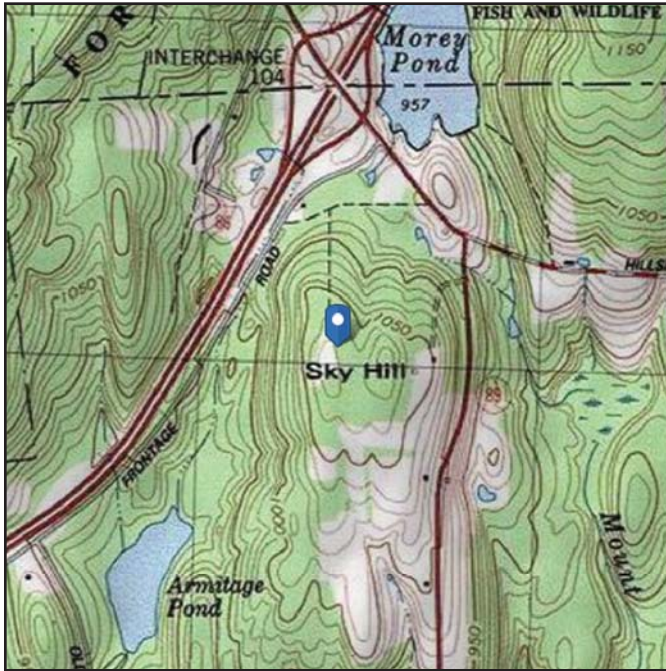
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2	2	120	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	3.33	1.33	130	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3.33	5	1.67	130	150	3	0	1.650	1.650	0.00	0.00			Cohesive
4	5	26	21	135	150	5	0	2.321	2.321	2.10	2.10	25.46479		Cohesive

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 1068.03 ft (NAVD 88)
Latitude: 41.952139
Longitude: -72.195528

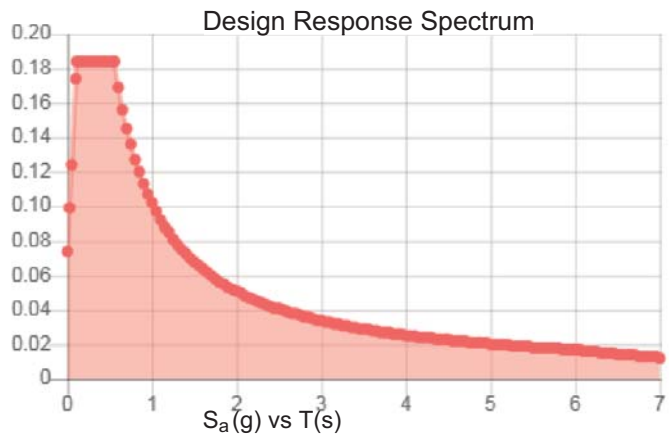
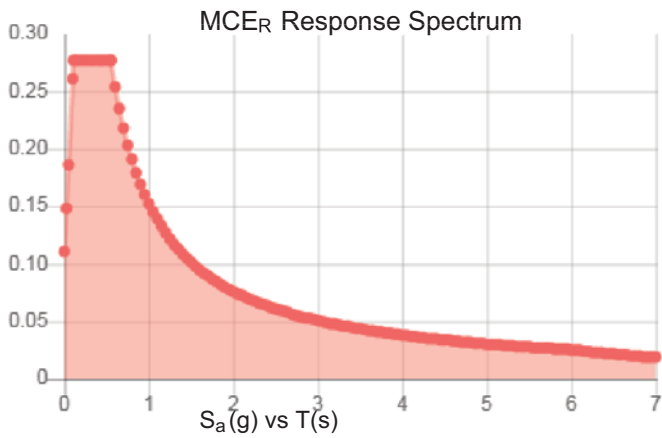


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.173	S_{DS} :	0.184
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.277	PGA _M :	0.136
S_{M1} :	0.152	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Fri Nov 01 2019

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 5 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Fri Nov 01 2019

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

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

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Exhibit E

Mount Analysis

Date: **October 30, 2019**

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



Engineered Tower Solutions, PLLC
8774 Yates Drive, Suite 150
Westminster, CO 80031
(919) 782-2710
Helen.Tesfaye@ets-pllc.com

Subject: Mount Analysis Report

Carrier Designation: Verizon Wireless Equipment Change-Out
Carrier Site Number: NG32249
Carrier Site Name: WESTFORD CT

Crown Castle Designation: Crown Castle BU Number: 876345
Crown Castle Site Name: SKY HILL
Crown Castle JDE Job Number: 592730
Crown Castle Order Number: 506808 Rev. 0

Engineering Firm Designation: ETS, PLLC Report Designation: 196669.14

Site Data: 33 Janowski Road, Ashford, Windham County, CT 06278
Latitude: 41° 57' 7.70" Longitude: -72° 11' 43.90"

Structure Information: Tower Height & Type: 192.0 ft Self Support Tower
Mount Elevation: 180.0 ft
Mount Type: 14.0 ft Sector Mount

Dear Darcy Tarr,

ETS, 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 above mentioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

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

Sector Mount (Multiple)

Sufficient

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Helen Tesfaye, EI

Respectfully Submitted by:

Frederic G. Bost, PE
Owner/ President
(919) 782-2710
Geoff.Bost@ets-pllc.com

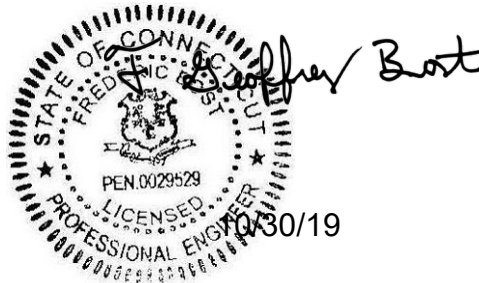


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

Table 4 - Tieback End Reactions

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

1) INTRODUCTION

This mount is an existing 14.0 ft Sector Mount. This mount is installed at the 180.0 ft elevation on (3) sectors of the 192.0 ft Self Support tower. Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	2.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.173
Seismic S₁:	0.062
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
180.0	184.0	1	SYMMETRICOM	58532A	(3) 14.0 ft Sector Mounts
	181.0	6	COMMSCOPE	JAHH-65B-R3B	
		3	COMMSCOPE	BSAMNT-SBS-2-2	
		3	SAMSUNG TELECOMMUNICATIONS	CBRS	
		2	COMMSCOPE	RC3DC-3315-PF-48	
		3	RFS/CELWAVE	FDJ85020Q7-S1	
		3	SAMSUNG TELECOMMUNICATIONS	20W CBRS	
		3	SAMSUNG TELECOMMUNICATIONS	RFV01U-D1A	
		3	SAMSUNG TELECOMMUNICATIONS	RFV01U-D2A	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Carrier Application	Verizon Wireless	10/22/2019	CCIsites
4-Structural Analysis Report	B+T Group	8651627	CCIsites
Structure Level Drawings (Proposed)	Verizon Wireless	10/22/2019	CCIsites

3.1) Analysis Method

RISA 3D (Version 17.0.2), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed, using Microsoft Excel, by ETS, PLLC was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

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

3.2) Assumptions

- 1) Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis.
- 2) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer’s specification.
- 3) The configuration of antennas, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
- 4) 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.
- 5) This Structural Analysis is not a condition assessment of the mount and is an evaluation of the theoretical structural capacity.
- 6) This analysis is based from the information supplied, and therefore, this report’s results are as accurate as the supplied data.
- 7) Engineered Tower Solutions, PLLC makes no warranties, expressed and/or implied, in connection with this report, and disclaims any liability associated with material, fabrication, or erection of the mount. Engineered Tower Solutions, PLLC will not be held responsible from any consequential or incidental damages sustained by any person, firm, or organization as a result of the contents of this report. The maximum liability of Engineered Tower Solutions, PLLC pursuant to this report will be limited to the total fee received for compilation of this report.
- 8) It is the tower owner’s responsibility to verify that the mount modeled and analyzed is the correct structure modeled.
- 9) The use of this report shall be limited to the purpose for which it was commissioned and may not be used for any other purposes without the written consent of Engineered Tower Solutions, PLLC.
- 10) Steel grades have been assumed as follows:

a) Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
b) HSS (Rectangular)	ASTM A500 (GR B-46)
c) HSS (Round)	ASTM A500 (GR B-42)
d) Pipe	ASTM A53 (GR 35)
e) Connection Bolts	ASTM A325
f) U-Bolts	SAE 429 Gr.2

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

4) ANALYSIS RESULTS

Table 3(a) - Mount Component Stresses vs. Capacity (Sector Mount, Alpha/Beta Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Face Mount Horizontal (2.5 SCH40)	FM-TOP	180.0	36.1	Pass
	Side Arm Horizontal (2.0 SCH40)	SA-TOP-1		36.8	Pass
	Bracing Horizontal (2.0 SCH40)	SA-V-3		19.1	Pass
	Mount Pipes (2.0 SCH40)	MP1		26.1	Pass

Table 3(b) - Mount Component Stresses vs. Capacity (Sector Mount, Gamma Sector)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Face Mount Horizontal (2.5 SCH40)	FM-TOP	180.0	34.8	Pass
	Side Arm Horizontal (2.0 SCH40)	SA-TOP-2		44.9	Pass
	Bracing Horizontal (2.0 SCH40)	SA-V-3		26.6	Pass
	Mount Pipes (2.0 SCH40)	MP1		26.5	Pass

Structure Rating (max from all components) =	44.9%
---	--------------

Notes:

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

Verizon Mount Classification	M1000R(1000)-4[12]
-------------------------------------	---------------------------

Table 4 - Tieback Connection Data Table

Tower Connection Node No.	Existing / Proposed	Resultant End Reaction (lb)	Connected Member Type	Connected Member Size	Member Compressive Capacity (lb) ³	Notes
N49A	Existing	1118.1	Leg	ROHN 2.5 STD	2856.9	1

Notes:

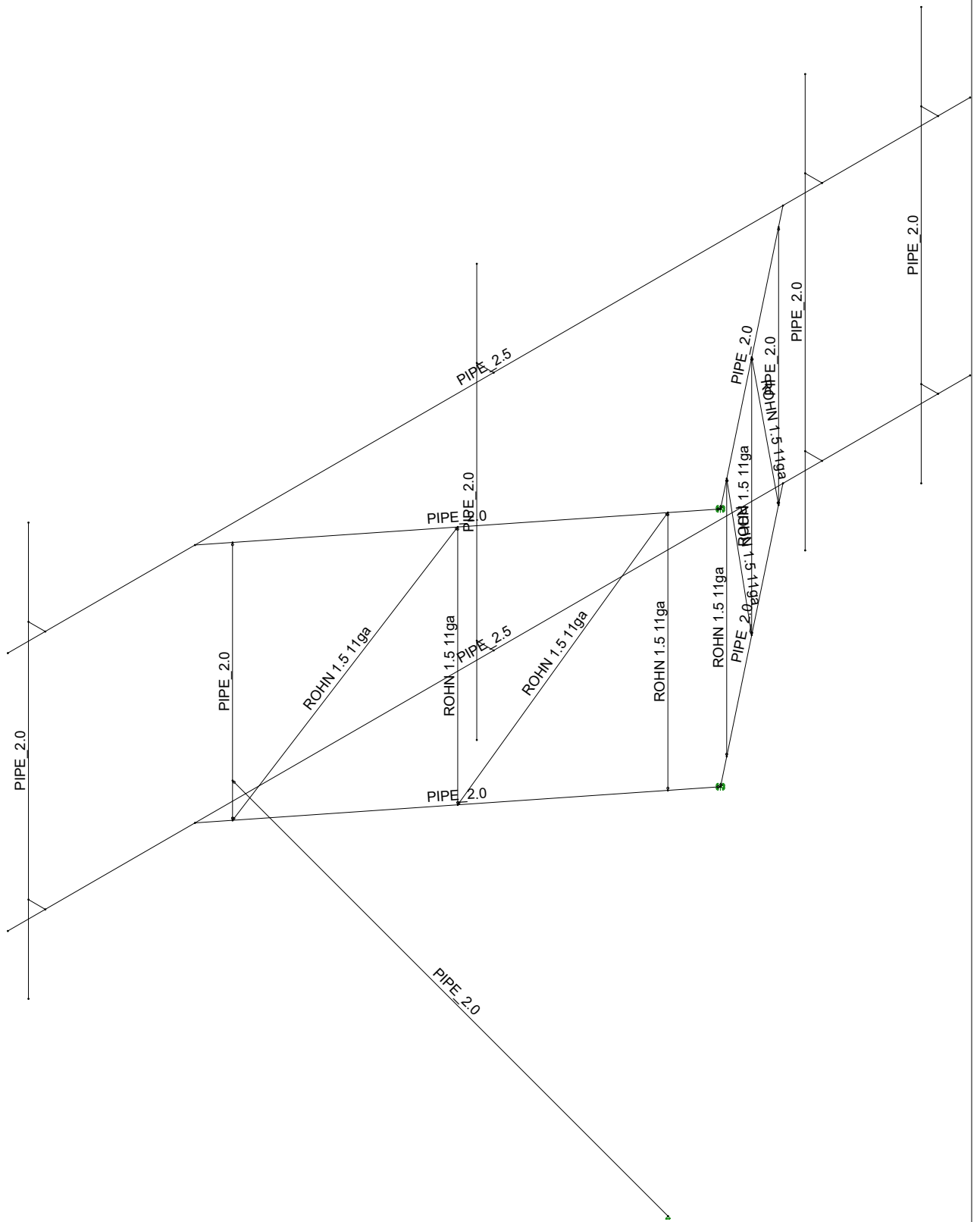
- 1) Tieback connection point is within 25% of either end of the connected tower member
- 2) Tieback connection point is NOT within 25% of either end of the connected tower member
- 3) Reduced member compressive capacity according to CED-STD-10294 *Standard for Installation of Mounts and Appurtenances*

4.1) Recommendations

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

APPENDIX A

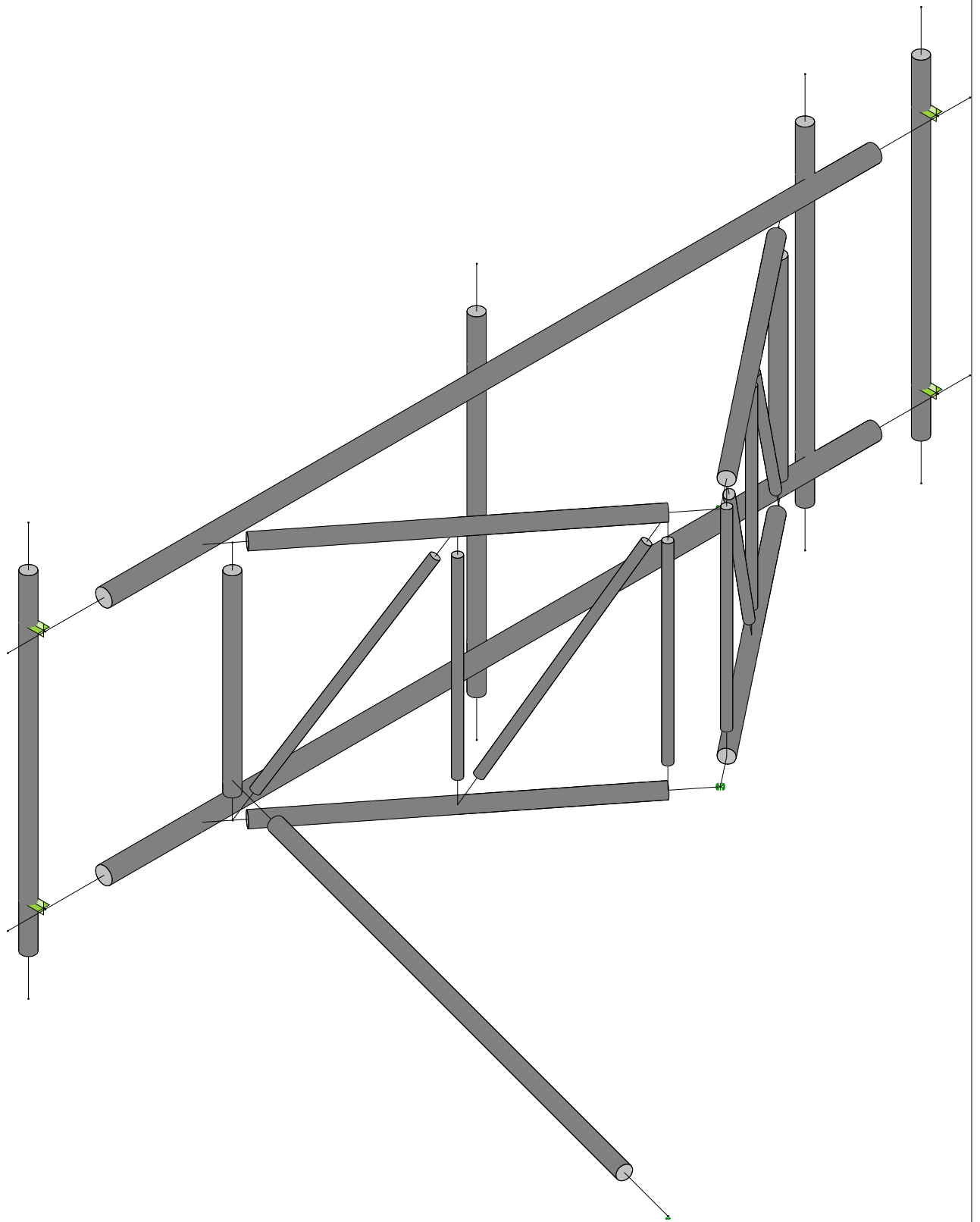
WIRE FRAME AND RENDERED MODELS



ETS, PLLC
DHK
196669.14

SKY HILL

SK - 1
Oct 30, 2019 at 10:07 AM
SKY HILL_Loaded.r3d



ETS, PLLC
DHK
196669.14

SKY HILL

SK - 2
Oct 30, 2019 at 10:07 AM
SKY HILL_Loaded.r3d

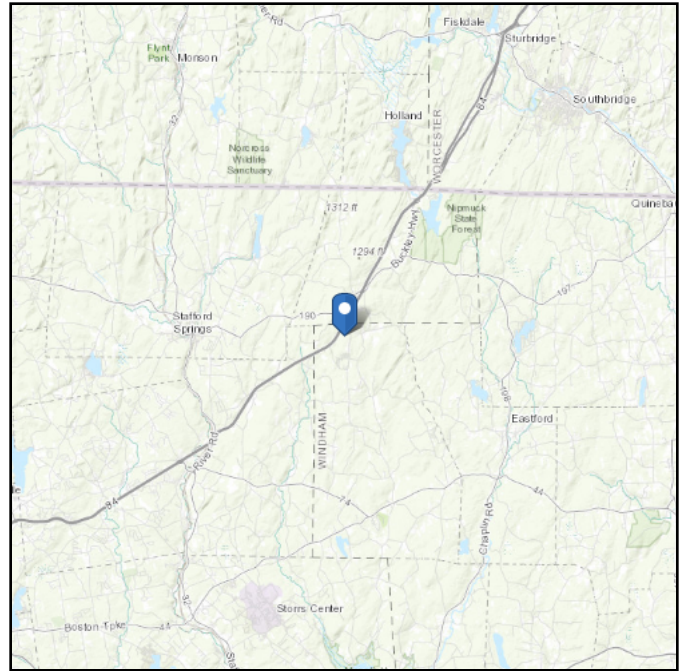
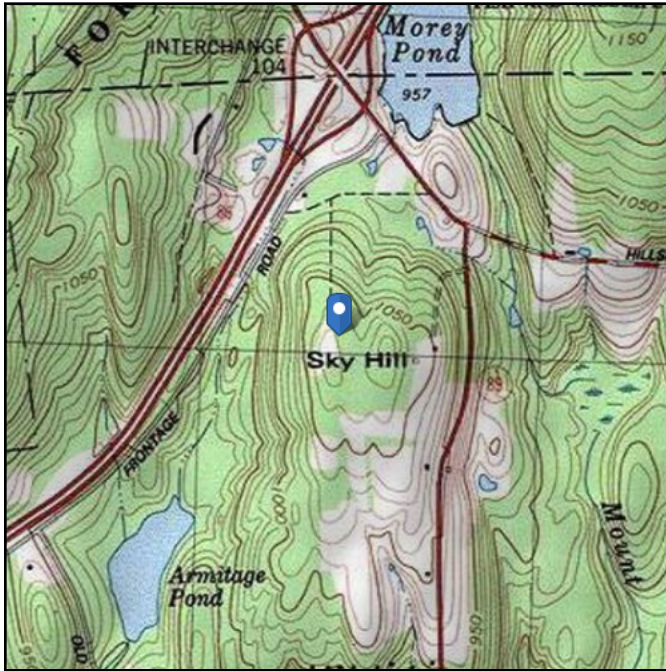
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 1068.03 ft (NAVD 88)
Latitude: 41.952139
Longitude: -72.195528



Wind

Results:

Wind Speed:	125 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	94 Vmph
100-year MRI	101 Vmph

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

Date Accessed: Wed Oct 30 2019

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

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

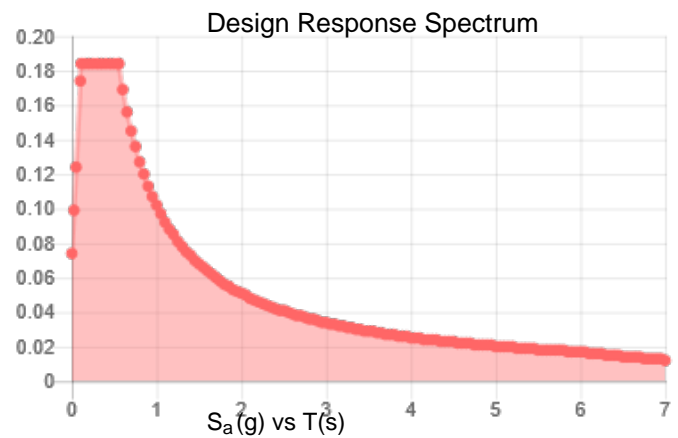
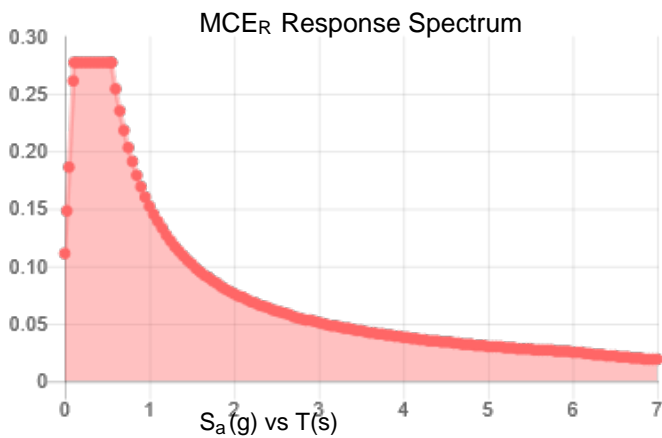
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.173	S_{DS} :	0.184
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.277	PGA _M :	0.136
S_{M1} :	0.152	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Wed Oct 30 2019

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Oct 30 2019

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

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

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate...	Section/Shape	Type	Design List	Material	Design ...
1	FM-BOT	N9	N7			PIPE 2.5	None	None	A53 Gr.B	Typical
2	FM-TOP	N10	N8			PIPE 2.5	None	None	A53 Gr.B	Typical
3	M57	N43	N45			RIGID	None	None	RIGID	Typical
4	M58	N44	N46			RIGID	None	None	RIGID	Typical
5	MP1	N38	N35			PIPE 2.0	None	None	A53 Gr.B	Typical
6	MP2	N39	N36			PIPE 2.0	None	None	A53 Gr.B	Typical
7	MP3	N48	N47			PIPE 2.0	None	None	A53 Gr.B	Typical
8	MP4	N40	N37			PIPE 2.0	None	None	A53 Gr.B	Typical
9	RL1	N23	N29			RIGID	None	None	RIGID	Typical
10	RL2	N24	N30			RIGID	None	None	RIGID	Typical
11	RL3	N25	N31			RIGID	None	None	RIGID	Typical
12	RL4	N26	N32			RIGID	None	None	RIGID	Typical
13	RL5	N27	N33			RIGID	None	None	RIGID	Typical
14	RL6	N28	N34			RIGID	None	None	RIGID	Typical
15	SA-BOT-1	N1	N3			PIPE 2.0	None	None	A53 Gr.B	Typical
16	SA-BOT-2	N1	N5			PIPE 2.0	None	None	A53 Gr.B	Typical
17	SA-D-1	N12	N19			ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
18	SA-D-2	N20	N15			ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
19	SA-D-3	N14	N21			ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
20	SA-D-4	N22	N17			ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
21	SA-TOP-1	N2	N4			PIPE 2.0	None	None	A53 Gr.B	Typical
22	SA-TOP-2	N2	N6			PIPE 2.0	None	None	A53 Gr.B	Typical
23	SA-V-1	N11	N12		52	ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
24	SA-V-2	N19	N20		52	ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
25	SA-V-3	N15	N16		52	PIPE 2.0	None	None	A53 Gr.B	Typical
26	SA-V-4	N13	N14		38	ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
27	SA-V-5	N21	N22		38	ROHN 1.5 11ga	None	None	A53 Gr.B	Typical
28	SA-V-6	N17	N18		38	PIPE 2.0	None	None	A53 Gr.B	Typical
29	STAB	N49A	N49			PIPE 2.0	None	None	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		8	23.5	0
3	Total General		8	23.5	0
4					
5	Hot Rolled Steel				
6	A53 Gr.B	PIPE 2.0	11	740.8	.2
7	A53 Gr.B	PIPE 2.5	2	336	.2
8	A53 Gr.B	ROHN 1.5 11ga	8	367.9	0
9	Total HR Steel		21	1444.7	.4

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	Y	-65.4	%67
2	MP2	Y	-196.9	%67
3	MP3	Y	-84.8	%70
4	MP4	Y	-64	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	188.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
2	MP2	X	86.4	%67
3	MP3	X	132.1	%70
4	MP4	X	365.4	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	149.1	%67
2	MP2	X	78.1	%67
3	MP3	X	110.9	%70
4	MP4	X	295.5	%67
5	MP1	Z	86.1	%67
6	MP2	Z	45.1	%67
7	MP3	Z	64	%70
8	MP4	Z	170.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	69.6	%67
2	MP2	X	48.8	%67
3	MP3	X	60	%70
4	MP4	X	146.4	%67
5	MP1	Z	120.5	%67
6	MP2	Z	84.6	%67
7	MP3	Z	103.9	%70
8	MP4	Z	253.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	122.6	%67
6	MP2	Z	101.5	%67
7	MP3	Z	115.9	%70
8	MP4	Z	268.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-69.6	%67
2	MP2	X	-48.8	%67
3	MP3	X	-60	%70
4	MP4	X	-146.4	%67
5	MP1	Z	120.5	%67
6	MP2	Z	84.6	%67
7	MP3	Z	103.9	%70
8	MP4	Z	253.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
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Member Point Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-149.1	%67
2	MP2	X	-78.1	%67
3	MP3	X	-110.9	%70
4	MP4	X	-295.5	%67
5	MP1	Z	86.1	%67
6	MP2	Z	45.1	%67
7	MP3	Z	64	%70
8	MP4	Z	170.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-188.6	%67
2	MP2	X	-86.4	%67
3	MP3	X	-132.1	%70
4	MP4	X	-365.4	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-149.1	%67
2	MP2	X	-78.1	%67
3	MP3	X	-110.9	%70
4	MP4	X	-295.5	%67
5	MP1	Z	-86.1	%67
6	MP2	Z	-45.1	%67
7	MP3	Z	-64	%70
8	MP4	Z	-170.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-69.6	%67
2	MP2	X	-48.8	%67
3	MP3	X	-60	%70
4	MP4	X	-146.4	%67
5	MP1	Z	-120.5	%67
6	MP2	Z	-84.6	%67
7	MP3	Z	-103.9	%70
8	MP4	Z	-253.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	-122.6	%67
6	MP2	Z	-101.5	%67
7	MP3	Z	-115.9	%70
8	MP4	Z	-268.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
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Member Point Loads (BLC 12 : Wind Load (300 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	69.6	%67
2	MP2	X	48.8	%67
3	MP3	X	60	%70
4	MP4	X	146.4	%67
5	MP1	Z	-120.5	%67
6	MP2	Z	-84.6	%67
7	MP3	Z	-103.9	%70
8	MP4	Z	-253.6	%67

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

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	149.1	%67
2	MP2	X	78.1	%67
3	MP3	X	110.9	%70
4	MP4	X	295.5	%67
5	MP1	Z	-86.1	%67
6	MP2	Z	-45.1	%67
7	MP3	Z	-64	%70
8	MP4	Z	-170.6	%67

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	Y	-208.6	%67
2	MP2	Y	-1517.8	%67
3	MP3	Y	-165.5	%70
4	MP4	Y	-378.2	%67

Member Point Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	54.1	%67
2	MP2	X	19.5	%67
3	MP3	X	41.4	%70
4	MP4	X	82.8	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

Member Point Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	43.6	%67
2	MP2	X	19.3	%67
3	MP3	X	34.6	%70
4	MP4	X	67.6	%67
5	MP1	Z	25.2	%67
6	MP2	Z	11.1	%67
7	MP3	Z	20	%70
8	MP4	Z	39	%67

Member Point Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	21.4	%67
2	MP2	X	14	%67
3	MP3	X	18.4	%70

Member Point Loads (BLC 17 : Wind on Ice (60 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
4	MP4	X	34.2	%67
5	MP1	Z	37.1	%67
6	MP2	Z	24.2	%67
7	MP3	Z	31.9	%70
8	MP4	Z	59.3	%67

Member Point Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	39.1	%67
6	MP2	Z	30.8	%67
7	MP3	Z	35.3	%70
8	MP4	Z	63.7	%67

Member Point Loads (BLC 19 : Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-21.4	%67
2	MP2	X	-14	%67
3	MP3	X	-18.4	%70
4	MP4	X	-34.2	%67
5	MP1	Z	37.1	%67
6	MP2	Z	24.2	%67
7	MP3	Z	31.9	%70
8	MP4	Z	59.3	%67

Member Point Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-43.6	%67
2	MP2	X	-19.3	%67
3	MP3	X	-34.6	%70
4	MP4	X	-67.6	%67
5	MP1	Z	25.2	%67
6	MP2	Z	11.1	%67
7	MP3	Z	20	%70
8	MP4	Z	39	%67

Member Point Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-54.1	%67
2	MP2	X	-19.5	%67
3	MP3	X	-41.4	%70
4	MP4	X	-82.8	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

Member Point Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-43.6	%67
2	MP2	X	-19.3	%67

Member Point Loads (BLC 22 : Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
3	MP3	X	-34.6	%70
4	MP4	X	-67.6	%67
5	MP1	Z	-25.2	%67
6	MP2	Z	-11.1	%67
7	MP3	Z	-20	%70
8	MP4	Z	-39	%67

Member Point Loads (BLC 23 : Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-21.4	%67
2	MP2	X	-14	%67
3	MP3	X	-18.4	%70
4	MP4	X	-34.2	%67
5	MP1	Z	-37.1	%67
6	MP2	Z	-24.2	%67
7	MP3	Z	-31.9	%70
8	MP4	Z	-59.3	%67

Member Point Loads (BLC 24 : Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	-39.1	%67
6	MP2	Z	-30.8	%67
7	MP3	Z	-35.3	%70
8	MP4	Z	-63.7	%67

Member Point Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	21.4	%67
2	MP2	X	14	%67
3	MP3	X	18.4	%70
4	MP4	X	34.2	%67
5	MP1	Z	-37.1	%67
6	MP2	Z	-24.2	%67
7	MP3	Z	-31.9	%70
8	MP4	Z	-59.3	%67

Member Point Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	43.6	%67
2	MP2	X	19.3	%67
3	MP3	X	34.6	%70
4	MP4	X	67.6	%67
5	MP1	Z	-25.2	%67
6	MP2	Z	-11.1	%67
7	MP3	Z	-20	%70
8	MP4	Z	-39	%67

Member Point Loads (BLC 27 : Horizontal Seismic, Eh (0))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	65.4	%67

Member Point Loads (BLC 27 : Horizontal Seismic, Eh (0)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
2	MP2	X	196.9	%67
3	MP3	X	84.8	%70
4	MP4	X	64	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

Member Point Loads (BLC 28 : Horizontal Seismic, Eh (30))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	56.6	%67
2	MP2	X	170.5	%67
3	MP3	X	73.4	%70
4	MP4	X	55.4	%67
5	MP1	Z	32.7	%67
6	MP2	Z	98.4	%67
7	MP3	Z	42.4	%70
8	MP4	Z	32	%67

Member Point Loads (BLC 29 : Horizontal Seismic, Eh (60))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	32.7	%67
2	MP2	X	98.5	%67
3	MP3	X	42.4	%70
4	MP4	X	32	%67
5	MP1	Z	56.6	%67
6	MP2	Z	170.5	%67
7	MP3	Z	73.4	%70
8	MP4	Z	55.4	%67

Member Point Loads (BLC 30 : Horizontal Seismic, Eh (90))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	65.4	%67
6	MP2	Z	196.9	%67
7	MP3	Z	84.8	%70
8	MP4	Z	64	%67

Member Point Loads (BLC 31 : Horizontal Seismic, Eh (120))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-32.7	%67
2	MP2	X	-98.4	%67
3	MP3	X	-42.4	%70
4	MP4	X	-32	%67
5	MP1	Z	56.6	%67
6	MP2	Z	170.5	%67
7	MP3	Z	73.4	%70
8	MP4	Z	55.4	%67

Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
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Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-56.6	%67
2	MP2	X	-170.5	%67
3	MP3	X	-73.4	%70
4	MP4	X	-55.4	%67
5	MP1	Z	32.7	%67
6	MP2	Z	98.4	%67
7	MP3	Z	42.4	%70
8	MP4	Z	32	%67

Member Point Loads (BLC 33 : Horizontal Seismic, Eh (180))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-65.4	%67
2	MP2	X	-196.9	%67
3	MP3	X	-84.8	%70
4	MP4	X	-64	%67
5	MP1	Z	0	%67
6	MP2	Z	0	%67
7	MP3	Z	0	%70
8	MP4	Z	0	%67

Member Point Loads (BLC 34 : Horizontal Seismic, Eh (210))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-56.6	%67
2	MP2	X	-170.5	%67
3	MP3	X	-73.4	%70
4	MP4	X	-55.4	%67
5	MP1	Z	-32.7	%67
6	MP2	Z	-98.5	%67
7	MP3	Z	-42.4	%70
8	MP4	Z	-32	%67

Member Point Loads (BLC 35 : Horizontal Seismic, Eh (240))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	-32.7	%67
2	MP2	X	-98.5	%67
3	MP3	X	-42.4	%70
4	MP4	X	-32	%67
5	MP1	Z	-56.6	%67
6	MP2	Z	-170.5	%67
7	MP3	Z	-73.4	%70
8	MP4	Z	-55.4	%67

Member Point Loads (BLC 36 : Horizontal Seismic, Eh (270))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	%67
2	MP2	X	0	%67
3	MP3	X	0	%70
4	MP4	X	0	%67
5	MP1	Z	-65.4	%67
6	MP2	Z	-196.9	%67
7	MP3	Z	-84.8	%70
8	MP4	Z	-64	%67

Member Point Loads (BLC 37 : Horizontal Seismic, Eh (300))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
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Member Point Loads (BLC 37 : Horizontal Seismic, Eh (300)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP1	X	32.7	%67
2	MP2	X	98.5	%67
3	MP3	X	42.4	%70
4	MP4	X	32	%67
5	MP1	Z	-56.6	%67
6	MP2	Z	-170.5	%67
7	MP3	Z	-73.4	%70
8	MP4	Z	-55.4	%67

Member Point Loads (BLC 38 : Horizontal Seismic, Eh (330))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP1	X	56.6	%67
2	MP2	X	170.5	%67
3	MP3	X	73.4	%70
4	MP4	X	55.4	%67
5	MP1	Z	-32.7	%67
6	MP2	Z	-98.5	%67
7	MP3	Z	-42.4	%70
8	MP4	Z	-32	%67

Member Point Loads (BLC 39 : Maintenance Load, Lm (MP1))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP1	Y	-500	%50

Member Point Loads (BLC 40 : Maintenance Load, Lm (MP2))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP2	Y	-500	%50

Member Point Loads (BLC 41 : Maintenance Load, Lm (MP3))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP3	Y	-500	%50

Member Point Loads (BLC 42 : Maintenance Load, Lm (MP4))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP4	Y	-500	%50

Member Point Loads (BLC 75 : Maintenance Load, Lv (Pos. 1))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	FM-BOT	Y	-250	0

Member Point Loads (BLC 76 : Maintenance Load, Lv (Pos. 2))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	FM-BOT	Y	-250	%50

Member Point Loads (BLC 77 : Maintenance Load, Lv (Pos. 3))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	FM-BOT	Y	-250	%100

Member Point Loads (BLC 78 : Maintenance Load, Lv (Pos. 4))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	FM-TOP	Y	-250	0



Member Point Loads (BLC 79 : Maintenance Load, Lv (Pos. 5))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	FM-TOP	Y	-250	%50

Member Point Loads (BLC 80 : Maintenance Load, Lv (Pos. 6))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	FM-TOP	Y	-250	%100

Member Point Loads (BLC 81 : Maintenance Load, Lv (Pos. 7))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	SA-BOT-1	Y	-250	%100

Member Point Loads (BLC 82 : Maintenance Load, Lv (Pos. 8))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	SA-BOT-2	Y	-250	%100

Member Point Loads (BLC 83 : Maintenance Load, Lv (Pos. 9))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	SA-TOP-1	Y	-250	%100

Member Point Loads (BLC 84 : Maintenance Load, Lv (Pos. 10))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	SA-TOP-2	Y	-250	%100

Member Point Loads (BLC 175 : Antenna Wind Load (0 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	181.4	%25
4	MP2	X	259.1	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	0	0
12	MP2	Z	0	0
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 176 : Antenna Wind Load (30 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	129.2	%25
4	MP2	X	184.5	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0



Member Point Loads (BLC 176 : Antenna Wind Load (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
11	MP2	Z	74.6	%25
12	MP2	Z	106.5	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 177 : Antenna Wind Load (60 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	42.3	%25
4	MP2	X	60.4	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	73.3	%25
12	MP2	Z	104.7	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 178 : Antenna Wind Load (90 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	52.4	%25
12	MP2	Z	74.8	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 179 : Antenna Wind Load (120 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-42.3	%25
4	MP2	X	-60.4	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0



Member Point Loads (BLC 179 : Antenna Wind Load (120 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	73.3	%25
12	MP2	Z	104.7	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 180 : Antenna Wind Load (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-129.2	%25
4	MP2	X	-184.5	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	74.6	%25
12	MP2	Z	106.5	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 181 : Antenna Wind Load (180 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-181.4	%25
4	MP2	X	-259.1	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	0	0
12	MP2	Z	0	0
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 182 : Antenna Wind Load (210 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-129.2	%25
4	MP2	X	-184.5	%95.833
5	MP3	X	0	0
6	MP3	X	0	0



Member Point Loads (BLC 182 : Antenna Wind Load (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-74.6	%25
12	MP2	Z	-106.5	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 183 : Antenna Wind Load (240 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-42.3	%25
4	MP2	X	-60.4	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-73.3	%25
12	MP2	Z	-104.7	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 184 : Antenna Wind Load (270 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-52.4	%25
12	MP2	Z	-74.8	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 185 : Antenna Wind Load (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	42.3	%25
4	MP2	X	60.4	%95.833



Member Point Loads (BLC 185 : Antenna Wind Load (300 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-73.3	%25
12	MP2	Z	-104.7	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 186 : Antenna Wind Load (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	129.2	%25
4	MP2	X	184.5	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-74.6	%25
12	MP2	Z	-106.5	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 187 : Antenna Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	38.5	%25
4	MP2	X	55	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	0	0
12	MP2	Z	0	0
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 188 : Antenna Wind on Ice (30 deg))

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



Member Point Loads (BLC 188 : Antenna Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
3	MP2	X	27.9	%25
4	MP2	X	39.8	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	16.1	%25
12	MP2	Z	23	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 189 : Antenna Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	9.8	%25
4	MP2	X	14	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	16.9	%25
12	MP2	Z	24.2	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 190 : Antenna Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	13.2	%25
12	MP2	Z	18.9	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 191 : Antenna Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
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Member Point Loads (BLC 191 : Antenna Wind on Ice (120 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-9.8	%25
4	MP2	X	-14	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	16.9	%25
12	MP2	Z	24.2	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 192 : Antenna Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-27.9	%25
4	MP2	X	-39.8	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	16.1	%25
12	MP2	Z	23	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 193 : Antenna Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-38.5	%25
4	MP2	X	-55	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	0	0
12	MP2	Z	0	0
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0



Member Point Loads (BLC 194 : Antenna Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-27.9	%25
4	MP2	X	-39.8	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-16.1	%25
12	MP2	Z	-23	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 195 : Antenna Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	-9.8	%25
4	MP2	X	-14	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-16.9	%25
12	MP2	Z	-24.2	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 196 : Antenna Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-13.2	%25
12	MP2	Z	-18.9	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0



Member Point Loads (BLC 197 : Antenna Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	9.8	%25
4	MP2	X	14	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-16.9	%25
12	MP2	Z	-24.2	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Point Loads (BLC 198 : Antenna Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	27.9	%25
4	MP2	X	39.8	%95.833
5	MP3	X	0	0
6	MP3	X	0	0
7	MP4	X	0	0
8	MP4	X	0	0
9	MP1	Z	0	0
10	MP1	Z	0	0
11	MP2	Z	-16.1	%25
12	MP2	Z	-23	%95.833
13	MP3	Z	0	0
14	MP3	Z	0	0
15	MP4	Z	0	0
16	MP4	Z	0	0

Member Distributed Loads (BLC 2 : Wind Load (0 deg))

	Member Label	Direction	Start Magnitude[lb/ft, ...]	End Magnitude[lb/ft, ...]	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	12.1	12.1	0	0
2	FM-TOP	X	12.1	12.1	0	0
3	SA-BOT-1	X	10	10	0	0
4	SA-BOT-2	X	10	10	0	0
5	SA-D-1	X	6.2	6.2	0	0
6	SA-D-2	X	6.2	6.2	0	0
7	SA-D-3	X	6.2	6.2	0	0
8	SA-D-4	X	6.2	6.2	0	0
9	SA-TOP-1	X	10	10	0	0
10	SA-TOP-2	X	10	10	0	0
11	SA-V-1	X	6.2	6.2	0	0
12	SA-V-2	X	6.2	6.2	0	0
13	SA-V-3	X	10	10	0	0
14	SA-V-4	X	6.2	6.2	0	0
15	SA-V-5	X	6.2	6.2	0	0
16	SA-V-6	X	10	10	0	0
17	STAB	X	10	10	0	0



Member Distributed Loads (BLC 2 : Wind Load (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	0	0	0	0
21	SA-BOT-2	Z	0	0	0	0
22	SA-D-1	Z	0	0	0	0
23	SA-D-2	Z	0	0	0	0
24	SA-D-3	Z	0	0	0	0
25	SA-D-4	Z	0	0	0	0
26	SA-TOP-1	Z	0	0	0	0
27	SA-TOP-2	Z	0	0	0	0
28	SA-V-1	Z	0	0	0	0
29	SA-V-2	Z	0	0	0	0
30	SA-V-3	Z	0	0	0	0
31	SA-V-4	Z	0	0	0	0
32	SA-V-5	Z	0	0	0	0
33	SA-V-6	Z	0	0	0	0
34	STAB	Z	0	0	0	0

Member Distributed Loads (BLC 3 : Wind Load (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	10.4	10.4	0	0
2	FM-TOP	X	10.4	10.4	0	0
3	SA-BOT-1	X	8.6	8.6	0	0
4	SA-BOT-2	X	8.6	8.6	0	0
5	SA-D-1	X	5.4	5.4	0	0
6	SA-D-2	X	5.4	5.4	0	0
7	SA-D-3	X	5.4	5.4	0	0
8	SA-D-4	X	5.4	5.4	0	0
9	SA-TOP-1	X	8.6	8.6	0	0
10	SA-TOP-2	X	8.6	8.6	0	0
11	SA-V-1	X	5.4	5.4	0	0
12	SA-V-2	X	5.4	5.4	0	0
13	SA-V-3	X	8.6	8.6	0	0
14	SA-V-4	X	5.4	5.4	0	0
15	SA-V-5	X	5.4	5.4	0	0
16	SA-V-6	X	8.6	8.6	0	0
17	STAB	X	8.6	8.6	0	0
18	FM-BOT	Z	6	6	0	0
19	FM-TOP	Z	6	6	0	0
20	SA-BOT-1	Z	5	5	0	0
21	SA-BOT-2	Z	5	5	0	0
22	SA-D-1	Z	3.1	3.1	0	0
23	SA-D-2	Z	3.1	3.1	0	0
24	SA-D-3	Z	3.1	3.1	0	0
25	SA-D-4	Z	3.1	3.1	0	0
26	SA-TOP-1	Z	5	5	0	0
27	SA-TOP-2	Z	5	5	0	0
28	SA-V-1	Z	3.1	3.1	0	0
29	SA-V-2	Z	3.1	3.1	0	0
30	SA-V-3	Z	5	5	0	0
31	SA-V-4	Z	3.1	3.1	0	0
32	SA-V-5	Z	3.1	3.1	0	0
33	SA-V-6	Z	5	5	0	0
34	STAB	Z	5	5	0	0



Member Distributed Loads (BLC 4 : Wind Load (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	6	6	0	0
2	FM-TOP	X	6	6	0	0
3	SA-BOT-1	X	5	5	0	0
4	SA-BOT-2	X	5	5	0	0
5	SA-D-1	X	3.1	3.1	0	0
6	SA-D-2	X	3.1	3.1	0	0
7	SA-D-3	X	3.1	3.1	0	0
8	SA-D-4	X	3.1	3.1	0	0
9	SA-TOP-1	X	5	5	0	0
10	SA-TOP-2	X	5	5	0	0
11	SA-V-1	X	3.1	3.1	0	0
12	SA-V-2	X	3.1	3.1	0	0
13	SA-V-3	X	5	5	0	0
14	SA-V-4	X	3.1	3.1	0	0
15	SA-V-5	X	3.1	3.1	0	0
16	SA-V-6	X	5	5	0	0
17	STAB	X	5	5	0	0
18	FM-BOT	Z	10.4	10.4	0	0
19	FM-TOP	Z	10.4	10.4	0	0
20	SA-BOT-1	Z	8.6	8.6	0	0
21	SA-BOT-2	Z	8.6	8.6	0	0
22	SA-D-1	Z	5.4	5.4	0	0
23	SA-D-2	Z	5.4	5.4	0	0
24	SA-D-3	Z	5.4	5.4	0	0
25	SA-D-4	Z	5.4	5.4	0	0
26	SA-TOP-1	Z	8.6	8.6	0	0
27	SA-TOP-2	Z	8.6	8.6	0	0
28	SA-V-1	Z	5.4	5.4	0	0
29	SA-V-2	Z	5.4	5.4	0	0
30	SA-V-3	Z	8.6	8.6	0	0
31	SA-V-4	Z	5.4	5.4	0	0
32	SA-V-5	Z	5.4	5.4	0	0
33	SA-V-6	Z	8.6	8.6	0	0
34	STAB	Z	8.6	8.6	0	0

Member Distributed Loads (BLC 5 : Wind Load (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	0	0	0	0
2	FM-TOP	X	0	0	0	0
3	SA-BOT-1	X	0	0	0	0
4	SA-BOT-2	X	0	0	0	0
5	SA-D-1	X	0	0	0	0
6	SA-D-2	X	0	0	0	0
7	SA-D-3	X	0	0	0	0
8	SA-D-4	X	0	0	0	0
9	SA-TOP-1	X	0	0	0	0
10	SA-TOP-2	X	0	0	0	0
11	SA-V-1	X	0	0	0	0
12	SA-V-2	X	0	0	0	0
13	SA-V-3	X	0	0	0	0
14	SA-V-4	X	0	0	0	0
15	SA-V-5	X	0	0	0	0
16	SA-V-6	X	0	0	0	0
17	STAB	X	0	0	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0



Member Distributed Loads (BLC 5 : Wind Load (90 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
20	SA-BOT-1	Z	10	10	0	0
21	SA-BOT-2	Z	10	10	0	0
22	SA-D-1	Z	6.2	6.2	0	0
23	SA-D-2	Z	6.2	6.2	0	0
24	SA-D-3	Z	6.2	6.2	0	0
25	SA-D-4	Z	6.2	6.2	0	0
26	SA-TOP-1	Z	10	10	0	0
27	SA-TOP-2	Z	10	10	0	0
28	SA-V-1	Z	6.2	6.2	0	0
29	SA-V-2	Z	6.2	6.2	0	0
30	SA-V-3	Z	10	10	0	0
31	SA-V-4	Z	6.2	6.2	0	0
32	SA-V-5	Z	6.2	6.2	0	0
33	SA-V-6	Z	10	10	0	0
34	STAB	Z	10	10	0	0

Member Distributed Loads (BLC 6 : Wind Load (120 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-6	-6	0	0
2	FM-TOP	X	-6	-6	0	0
3	SA-BOT-1	X	-5	-5	0	0
4	SA-BOT-2	X	-5	-5	0	0
5	SA-D-1	X	-3.1	-3.1	0	0
6	SA-D-2	X	-3.1	-3.1	0	0
7	SA-D-3	X	-3.1	-3.1	0	0
8	SA-D-4	X	-3.1	-3.1	0	0
9	SA-TOP-1	X	-5	-5	0	0
10	SA-TOP-2	X	-5	-5	0	0
11	SA-V-1	X	-3.1	-3.1	0	0
12	SA-V-2	X	-3.1	-3.1	0	0
13	SA-V-3	X	-5	-5	0	0
14	SA-V-4	X	-3.1	-3.1	0	0
15	SA-V-5	X	-3.1	-3.1	0	0
16	SA-V-6	X	-5	-5	0	0
17	STAB	X	-5	-5	0	0
18	FM-BOT	Z	10.4	10.4	0	0
19	FM-TOP	Z	10.4	10.4	0	0
20	SA-BOT-1	Z	8.6	8.6	0	0
21	SA-BOT-2	Z	8.6	8.6	0	0
22	SA-D-1	Z	5.4	5.4	0	0
23	SA-D-2	Z	5.4	5.4	0	0
24	SA-D-3	Z	5.4	5.4	0	0
25	SA-D-4	Z	5.4	5.4	0	0
26	SA-TOP-1	Z	8.6	8.6	0	0
27	SA-TOP-2	Z	8.6	8.6	0	0
28	SA-V-1	Z	5.4	5.4	0	0
29	SA-V-2	Z	5.4	5.4	0	0
30	SA-V-3	Z	8.6	8.6	0	0
31	SA-V-4	Z	5.4	5.4	0	0
32	SA-V-5	Z	5.4	5.4	0	0
33	SA-V-6	Z	8.6	8.6	0	0
34	STAB	Z	8.6	8.6	0	0

Member Distributed Loads (BLC 7 : Wind Load (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-10.4	-10.4	0	0



Member Distributed Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
2	FM-TOP	X	-10.4	-10.4	0	0
3	SA-BOT-1	X	-8.6	-8.6	0	0
4	SA-BOT-2	X	-8.6	-8.6	0	0
5	SA-D-1	X	-5.4	-5.4	0	0
6	SA-D-2	X	-5.4	-5.4	0	0
7	SA-D-3	X	-5.4	-5.4	0	0
8	SA-D-4	X	-5.4	-5.4	0	0
9	SA-TOP-1	X	-8.6	-8.6	0	0
10	SA-TOP-2	X	-8.6	-8.6	0	0
11	SA-V-1	X	-5.4	-5.4	0	0
12	SA-V-2	X	-5.4	-5.4	0	0
13	SA-V-3	X	-8.6	-8.6	0	0
14	SA-V-4	X	-5.4	-5.4	0	0
15	SA-V-5	X	-5.4	-5.4	0	0
16	SA-V-6	X	-8.6	-8.6	0	0
17	STAB	X	-8.6	-8.6	0	0
18	FM-BOT	Z	6	6	0	0
19	FM-TOP	Z	6	6	0	0
20	SA-BOT-1	Z	5	5	0	0
21	SA-BOT-2	Z	5	5	0	0
22	SA-D-1	Z	3.1	3.1	0	0
23	SA-D-2	Z	3.1	3.1	0	0
24	SA-D-3	Z	3.1	3.1	0	0
25	SA-D-4	Z	3.1	3.1	0	0
26	SA-TOP-1	Z	5	5	0	0
27	SA-TOP-2	Z	5	5	0	0
28	SA-V-1	Z	3.1	3.1	0	0
29	SA-V-2	Z	3.1	3.1	0	0
30	SA-V-3	Z	5	5	0	0
31	SA-V-4	Z	3.1	3.1	0	0
32	SA-V-5	Z	3.1	3.1	0	0
33	SA-V-6	Z	5	5	0	0
34	STAB	Z	5	5	0	0

Member Distributed Loads (BLC 8 : Wind Load (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-12.1	-12.1	0	0
2	FM-TOP	X	-12.1	-12.1	0	0
3	SA-BOT-1	X	-10	-10	0	0
4	SA-BOT-2	X	-10	-10	0	0
5	SA-D-1	X	-6.2	-6.2	0	0
6	SA-D-2	X	-6.2	-6.2	0	0
7	SA-D-3	X	-6.2	-6.2	0	0
8	SA-D-4	X	-6.2	-6.2	0	0
9	SA-TOP-1	X	-10	-10	0	0
10	SA-TOP-2	X	-10	-10	0	0
11	SA-V-1	X	-6.2	-6.2	0	0
12	SA-V-2	X	-6.2	-6.2	0	0
13	SA-V-3	X	-10	-10	0	0
14	SA-V-4	X	-6.2	-6.2	0	0
15	SA-V-5	X	-6.2	-6.2	0	0
16	SA-V-6	X	-10	-10	0	0
17	STAB	X	-10	-10	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	0	0	0	0



Member Distributed Loads (BLC 8 : Wind Load (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
21	SA-BOT-2	Z	0	0	0	0
22	SA-D-1	Z	0	0	0	0
23	SA-D-2	Z	0	0	0	0
24	SA-D-3	Z	0	0	0	0
25	SA-D-4	Z	0	0	0	0
26	SA-TOP-1	Z	0	0	0	0
27	SA-TOP-2	Z	0	0	0	0
28	SA-V-1	Z	0	0	0	0
29	SA-V-2	Z	0	0	0	0
30	SA-V-3	Z	0	0	0	0
31	SA-V-4	Z	0	0	0	0
32	SA-V-5	Z	0	0	0	0
33	SA-V-6	Z	0	0	0	0
34	STAB	Z	0	0	0	0

Member Distributed Loads (BLC 9 : Wind Load (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-10.4	-10.4	0	0
2	FM-TOP	X	-10.4	-10.4	0	0
3	SA-BOT-1	X	-8.6	-8.6	0	0
4	SA-BOT-2	X	-8.6	-8.6	0	0
5	SA-D-1	X	-5.4	-5.4	0	0
6	SA-D-2	X	-5.4	-5.4	0	0
7	SA-D-3	X	-5.4	-5.4	0	0
8	SA-D-4	X	-5.4	-5.4	0	0
9	SA-TOP-1	X	-8.6	-8.6	0	0
10	SA-TOP-2	X	-8.6	-8.6	0	0
11	SA-V-1	X	-5.4	-5.4	0	0
12	SA-V-2	X	-5.4	-5.4	0	0
13	SA-V-3	X	-8.6	-8.6	0	0
14	SA-V-4	X	-5.4	-5.4	0	0
15	SA-V-5	X	-5.4	-5.4	0	0
16	SA-V-6	X	-8.6	-8.6	0	0
17	STAB	X	-8.6	-8.6	0	0
18	FM-BOT	Z	-6	-6	0	0
19	FM-TOP	Z	-6	-6	0	0
20	SA-BOT-1	Z	-5	-5	0	0
21	SA-BOT-2	Z	-5	-5	0	0
22	SA-D-1	Z	-3.1	-3.1	0	0
23	SA-D-2	Z	-3.1	-3.1	0	0
24	SA-D-3	Z	-3.1	-3.1	0	0
25	SA-D-4	Z	-3.1	-3.1	0	0
26	SA-TOP-1	Z	-5	-5	0	0
27	SA-TOP-2	Z	-5	-5	0	0
28	SA-V-1	Z	-3.1	-3.1	0	0
29	SA-V-2	Z	-3.1	-3.1	0	0
30	SA-V-3	Z	-5	-5	0	0
31	SA-V-4	Z	-3.1	-3.1	0	0
32	SA-V-5	Z	-3.1	-3.1	0	0
33	SA-V-6	Z	-5	-5	0	0
34	STAB	Z	-5	-5	0	0

Member Distributed Loads (BLC 10 : Wind Load (240 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-6	-6	0	0
2	FM-TOP	X	-6	-6	0	0



Member Distributed Loads (BLC 10 : Wind Load (240 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
3	SA-BOT-1	X	-5	-5	0	0
4	SA-BOT-2	X	-5	-5	0	0
5	SA-D-1	X	-3.1	-3.1	0	0
6	SA-D-2	X	-3.1	-3.1	0	0
7	SA-D-3	X	-3.1	-3.1	0	0
8	SA-D-4	X	-3.1	-3.1	0	0
9	SA-TOP-1	X	-5	-5	0	0
10	SA-TOP-2	X	-5	-5	0	0
11	SA-V-1	X	-3.1	-3.1	0	0
12	SA-V-2	X	-3.1	-3.1	0	0
13	SA-V-3	X	-5	-5	0	0
14	SA-V-4	X	-3.1	-3.1	0	0
15	SA-V-5	X	-3.1	-3.1	0	0
16	SA-V-6	X	-5	-5	0	0
17	STAB	X	-5	-5	0	0
18	FM-BOT	Z	-10.4	-10.4	0	0
19	FM-TOP	Z	-10.4	-10.4	0	0
20	SA-BOT-1	Z	-8.6	-8.6	0	0
21	SA-BOT-2	Z	-8.6	-8.6	0	0
22	SA-D-1	Z	-5.4	-5.4	0	0
23	SA-D-2	Z	-5.4	-5.4	0	0
24	SA-D-3	Z	-5.4	-5.4	0	0
25	SA-D-4	Z	-5.4	-5.4	0	0
26	SA-TOP-1	Z	-8.6	-8.6	0	0
27	SA-TOP-2	Z	-8.6	-8.6	0	0
28	SA-V-1	Z	-5.4	-5.4	0	0
29	SA-V-2	Z	-5.4	-5.4	0	0
30	SA-V-3	Z	-8.6	-8.6	0	0
31	SA-V-4	Z	-5.4	-5.4	0	0
32	SA-V-5	Z	-5.4	-5.4	0	0
33	SA-V-6	Z	-8.6	-8.6	0	0
34	STAB	Z	-8.6	-8.6	0	0

Member Distributed Loads (BLC 11 : Wind Load (270 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	0	0	0	0
2	FM-TOP	X	0	0	0	0
3	SA-BOT-1	X	0	0	0	0
4	SA-BOT-2	X	0	0	0	0
5	SA-D-1	X	0	0	0	0
6	SA-D-2	X	0	0	0	0
7	SA-D-3	X	0	0	0	0
8	SA-D-4	X	0	0	0	0
9	SA-TOP-1	X	0	0	0	0
10	SA-TOP-2	X	0	0	0	0
11	SA-V-1	X	0	0	0	0
12	SA-V-2	X	0	0	0	0
13	SA-V-3	X	0	0	0	0
14	SA-V-4	X	0	0	0	0
15	SA-V-5	X	0	0	0	0
16	SA-V-6	X	0	0	0	0
17	STAB	X	0	0	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	-10	-10	0	0
21	SA-BOT-2	Z	-10	-10	0	0



Member Distributed Loads (BLC 11 : Wind Load (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
22	SA-D-1	Z	-6.2	-6.2	0	0
23	SA-D-2	Z	-6.2	-6.2	0	0
24	SA-D-3	Z	-6.2	-6.2	0	0
25	SA-D-4	Z	-6.2	-6.2	0	0
26	SA-TOP-1	Z	-10	-10	0	0
27	SA-TOP-2	Z	-10	-10	0	0
28	SA-V-1	Z	-6.2	-6.2	0	0
29	SA-V-2	Z	-6.2	-6.2	0	0
30	SA-V-3	Z	-10	-10	0	0
31	SA-V-4	Z	-6.2	-6.2	0	0
32	SA-V-5	Z	-6.2	-6.2	0	0
33	SA-V-6	Z	-10	-10	0	0
34	STAB	Z	-10	-10	0	0

Member Distributed Loads (BLC 12 : Wind Load (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	6	6	0	0
2	FM-TOP	X	6	6	0	0
3	SA-BOT-1	X	5	5	0	0
4	SA-BOT-2	X	5	5	0	0
5	SA-D-1	X	3.1	3.1	0	0
6	SA-D-2	X	3.1	3.1	0	0
7	SA-D-3	X	3.1	3.1	0	0
8	SA-D-4	X	3.1	3.1	0	0
9	SA-TOP-1	X	5	5	0	0
10	SA-TOP-2	X	5	5	0	0
11	SA-V-1	X	3.1	3.1	0	0
12	SA-V-2	X	3.1	3.1	0	0
13	SA-V-3	X	5	5	0	0
14	SA-V-4	X	3.1	3.1	0	0
15	SA-V-5	X	3.1	3.1	0	0
16	SA-V-6	X	5	5	0	0
17	STAB	X	5	5	0	0
18	FM-BOT	Z	-10.4	-10.4	0	0
19	FM-TOP	Z	-10.4	-10.4	0	0
20	SA-BOT-1	Z	-8.6	-8.6	0	0
21	SA-BOT-2	Z	-8.6	-8.6	0	0
22	SA-D-1	Z	-5.4	-5.4	0	0
23	SA-D-2	Z	-5.4	-5.4	0	0
24	SA-D-3	Z	-5.4	-5.4	0	0
25	SA-D-4	Z	-5.4	-5.4	0	0
26	SA-TOP-1	Z	-8.6	-8.6	0	0
27	SA-TOP-2	Z	-8.6	-8.6	0	0
28	SA-V-1	Z	-5.4	-5.4	0	0
29	SA-V-2	Z	-5.4	-5.4	0	0
30	SA-V-3	Z	-8.6	-8.6	0	0
31	SA-V-4	Z	-5.4	-5.4	0	0
32	SA-V-5	Z	-5.4	-5.4	0	0
33	SA-V-6	Z	-8.6	-8.6	0	0
34	STAB	Z	-8.6	-8.6	0	0

Member Distributed Loads (BLC 13 : Wind Load (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	10.4	10.4	0	0
2	FM-TOP	X	10.4	10.4	0	0
3	SA-BOT-1	X	8.6	8.6	0	0



Member Distributed Loads (BLC 13 : Wind Load (330 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
4	SA-BOT-2	X	8.6	8.6	0	0
5	SA-D-1	X	5.4	5.4	0	0
6	SA-D-2	X	5.4	5.4	0	0
7	SA-D-3	X	5.4	5.4	0	0
8	SA-D-4	X	5.4	5.4	0	0
9	SA-TOP-1	X	8.6	8.6	0	0
10	SA-TOP-2	X	8.6	8.6	0	0
11	SA-V-1	X	5.4	5.4	0	0
12	SA-V-2	X	5.4	5.4	0	0
13	SA-V-3	X	8.6	8.6	0	0
14	SA-V-4	X	5.4	5.4	0	0
15	SA-V-5	X	5.4	5.4	0	0
16	SA-V-6	X	8.6	8.6	0	0
17	STAB	X	8.6	8.6	0	0
18	FM-BOT	Z	-6	-6	0	0
19	FM-TOP	Z	-6	-6	0	0
20	SA-BOT-1	Z	-5	-5	0	0
21	SA-BOT-2	Z	-5	-5	0	0
22	SA-D-1	Z	-3.1	-3.1	0	0
23	SA-D-2	Z	-3.1	-3.1	0	0
24	SA-D-3	Z	-3.1	-3.1	0	0
25	SA-D-4	Z	-3.1	-3.1	0	0
26	SA-TOP-1	Z	-5	-5	0	0
27	SA-TOP-2	Z	-5	-5	0	0
28	SA-V-1	Z	-3.1	-3.1	0	0
29	SA-V-2	Z	-3.1	-3.1	0	0
30	SA-V-3	Z	-5	-5	0	0
31	SA-V-4	Z	-3.1	-3.1	0	0
32	SA-V-5	Z	-3.1	-3.1	0	0
33	SA-V-6	Z	-5	-5	0	0
34	STAB	Z	-5	-5	0	0

Member Distributed Loads (BLC 14 : Ice Load)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	Y	-15.3	-15.3	0	0
2	FM-TOP	Y	-15.3	-15.3	0	0
3	SA-BOT-1	Y	-13.8	-13.8	0	0
4	SA-BOT-2	Y	-13.8	-13.8	0	0
5	SA-D-1	Y	-11.2	-11.2	0	0
6	SA-D-2	Y	-11.2	-11.2	0	0
7	SA-D-3	Y	-11.2	-11.2	0	0
8	SA-D-4	Y	-11.2	-11.2	0	0
9	SA-TOP-1	Y	-13.8	-13.8	0	0
10	SA-TOP-2	Y	-13.8	-13.8	0	0
11	SA-V-1	Y	-11.2	-11.2	0	0
12	SA-V-2	Y	-11.2	-11.2	0	0
13	SA-V-3	Y	-13.8	-13.8	0	0
14	SA-V-4	Y	-11.2	-11.2	0	0
15	SA-V-5	Y	-11.2	-11.2	0	0
16	SA-V-6	Y	-13.8	-13.8	0	0
17	STAB	Y	-13.8	-13.8	0	0

Member Distributed Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	4.6	4.6	0	0
2	FM-TOP	X	4.6	4.6	0	0

Member Distributed Loads (BLC 15 : Wind on Ice (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
3	SA-BOT-1	X	3.6	3.6	0	0
4	SA-BOT-2	X	3.6	3.6	0	0
5	SA-D-1	X	3	3	0	0
6	SA-D-2	X	3	3	0	0
7	SA-D-3	X	3	3	0	0
8	SA-D-4	X	3	3	0	0
9	SA-TOP-1	X	3.6	3.6	0	0
10	SA-TOP-2	X	3.6	3.6	0	0
11	SA-V-1	X	3	3	0	0
12	SA-V-2	X	3	3	0	0
13	SA-V-3	X	3.6	3.6	0	0
14	SA-V-4	X	3	3	0	0
15	SA-V-5	X	3	3	0	0
16	SA-V-6	X	3.6	3.6	0	0
17	STAB	X	3.9	3.9	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	0	0	0	0
21	SA-BOT-2	Z	0	0	0	0
22	SA-D-1	Z	0	0	0	0
23	SA-D-2	Z	0	0	0	0
24	SA-D-3	Z	0	0	0	0
25	SA-D-4	Z	0	0	0	0
26	SA-TOP-1	Z	0	0	0	0
27	SA-TOP-2	Z	0	0	0	0
28	SA-V-1	Z	0	0	0	0
29	SA-V-2	Z	0	0	0	0
30	SA-V-3	Z	0	0	0	0
31	SA-V-4	Z	0	0	0	0
32	SA-V-5	Z	0	0	0	0
33	SA-V-6	Z	0	0	0	0
34	STAB	Z	0	0	0	0

Member Distributed Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	4	4	0	0
2	FM-TOP	X	4	4	0	0
3	SA-BOT-1	X	3.1	3.1	0	0
4	SA-BOT-2	X	3.1	3.1	0	0
5	SA-D-1	X	2.6	2.6	0	0
6	SA-D-2	X	2.6	2.6	0	0
7	SA-D-3	X	2.6	2.6	0	0
8	SA-D-4	X	2.6	2.6	0	0
9	SA-TOP-1	X	3.1	3.1	0	0
10	SA-TOP-2	X	3.1	3.1	0	0
11	SA-V-1	X	2.6	2.6	0	0
12	SA-V-2	X	2.6	2.6	0	0
13	SA-V-3	X	3.1	3.1	0	0
14	SA-V-4	X	2.6	2.6	0	0
15	SA-V-5	X	2.6	2.6	0	0
16	SA-V-6	X	3.1	3.1	0	0
17	STAB	X	3.4	3.4	0	0
18	FM-BOT	Z	2.3	2.3	0	0
19	FM-TOP	Z	2.3	2.3	0	0
20	SA-BOT-1	Z	1.8	1.8	0	0
21	SA-BOT-2	Z	1.8	1.8	0	0



Member Distributed Loads (BLC 16 : Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
22	SA-D-1	Z	1.5	1.5	0	0
23	SA-D-2	Z	1.5	1.5	0	0
24	SA-D-3	Z	1.5	1.5	0	0
25	SA-D-4	Z	1.5	1.5	0	0
26	SA-TOP-1	Z	1.8	1.8	0	0
27	SA-TOP-2	Z	1.8	1.8	0	0
28	SA-V-1	Z	1.5	1.5	0	0
29	SA-V-2	Z	1.5	1.5	0	0
30	SA-V-3	Z	1.8	1.8	0	0
31	SA-V-4	Z	1.5	1.5	0	0
32	SA-V-5	Z	1.5	1.5	0	0
33	SA-V-6	Z	1.8	1.8	0	0
34	STAB	Z	1.9	1.9	0	0

Member Distributed Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	2.3	2.3	0	0
2	FM-TOP	X	2.3	2.3	0	0
3	SA-BOT-1	X	1.8	1.8	0	0
4	SA-BOT-2	X	1.8	1.8	0	0
5	SA-D-1	X	1.5	1.5	0	0
6	SA-D-2	X	1.5	1.5	0	0
7	SA-D-3	X	1.5	1.5	0	0
8	SA-D-4	X	1.5	1.5	0	0
9	SA-TOP-1	X	1.8	1.8	0	0
10	SA-TOP-2	X	1.8	1.8	0	0
11	SA-V-1	X	1.5	1.5	0	0
12	SA-V-2	X	1.5	1.5	0	0
13	SA-V-3	X	1.8	1.8	0	0
14	SA-V-4	X	1.5	1.5	0	0
15	SA-V-5	X	1.5	1.5	0	0
16	SA-V-6	X	1.8	1.8	0	0
17	STAB	X	1.9	1.9	0	0
18	FM-BOT	Z	4	4	0	0
19	FM-TOP	Z	4	4	0	0
20	SA-BOT-1	Z	3.1	3.1	0	0
21	SA-BOT-2	Z	3.1	3.1	0	0
22	SA-D-1	Z	2.6	2.6	0	0
23	SA-D-2	Z	2.6	2.6	0	0
24	SA-D-3	Z	2.6	2.6	0	0
25	SA-D-4	Z	2.6	2.6	0	0
26	SA-TOP-1	Z	3.1	3.1	0	0
27	SA-TOP-2	Z	3.1	3.1	0	0
28	SA-V-1	Z	2.6	2.6	0	0
29	SA-V-2	Z	2.6	2.6	0	0
30	SA-V-3	Z	3.1	3.1	0	0
31	SA-V-4	Z	2.6	2.6	0	0
32	SA-V-5	Z	2.6	2.6	0	0
33	SA-V-6	Z	3.1	3.1	0	0
34	STAB	Z	3.4	3.4	0	0

Member Distributed Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	0	0	0	0
2	FM-TOP	X	0	0	0	0
3	SA-BOT-1	X	0	0	0	0

Member Distributed Loads (BLC 18 : Wind on Ice (90 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
4	SA-BOT-2	X	0	0	0	0
5	SA-D-1	X	0	0	0	0
6	SA-D-2	X	0	0	0	0
7	SA-D-3	X	0	0	0	0
8	SA-D-4	X	0	0	0	0
9	SA-TOP-1	X	0	0	0	0
10	SA-TOP-2	X	0	0	0	0
11	SA-V-1	X	0	0	0	0
12	SA-V-2	X	0	0	0	0
13	SA-V-3	X	0	0	0	0
14	SA-V-4	X	0	0	0	0
15	SA-V-5	X	0	0	0	0
16	SA-V-6	X	0	0	0	0
17	STAB	X	0	0	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	3.6	3.6	0	0
21	SA-BOT-2	Z	3.6	3.6	0	0
22	SA-D-1	Z	3	3	0	0
23	SA-D-2	Z	3	3	0	0
24	SA-D-3	Z	3	3	0	0
25	SA-D-4	Z	3	3	0	0
26	SA-TOP-1	Z	3.6	3.6	0	0
27	SA-TOP-2	Z	3.6	3.6	0	0
28	SA-V-1	Z	3	3	0	0
29	SA-V-2	Z	3	3	0	0
30	SA-V-3	Z	3.6	3.6	0	0
31	SA-V-4	Z	3	3	0	0
32	SA-V-5	Z	3	3	0	0
33	SA-V-6	Z	3.6	3.6	0	0
34	STAB	Z	3.9	3.9	0	0

Member Distributed Loads (BLC 19 : Wind on Ice (120 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-2.3	-2.3	0	0
2	FM-TOP	X	-2.3	-2.3	0	0
3	SA-BOT-1	X	-1.8	-1.8	0	0
4	SA-BOT-2	X	-1.8	-1.8	0	0
5	SA-D-1	X	-1.5	-1.5	0	0
6	SA-D-2	X	-1.5	-1.5	0	0
7	SA-D-3	X	-1.5	-1.5	0	0
8	SA-D-4	X	-1.5	-1.5	0	0
9	SA-TOP-1	X	-1.8	-1.8	0	0
10	SA-TOP-2	X	-1.8	-1.8	0	0
11	SA-V-1	X	-1.5	-1.5	0	0
12	SA-V-2	X	-1.5	-1.5	0	0
13	SA-V-3	X	-1.8	-1.8	0	0
14	SA-V-4	X	-1.5	-1.5	0	0
15	SA-V-5	X	-1.5	-1.5	0	0
16	SA-V-6	X	-1.8	-1.8	0	0
17	STAB	X	-1.9	-1.9	0	0
18	FM-BOT	Z	4	4	0	0
19	FM-TOP	Z	4	4	0	0
20	SA-BOT-1	Z	3.1	3.1	0	0
21	SA-BOT-2	Z	3.1	3.1	0	0
22	SA-D-1	Z	2.6	2.6	0	0



Member Distributed Loads (BLC 19 : Wind on Ice (120 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
23	SA-D-2	Z	2.6	2.6	0	0
24	SA-D-3	Z	2.6	2.6	0	0
25	SA-D-4	Z	2.6	2.6	0	0
26	SA-TOP-1	Z	3.1	3.1	0	0
27	SA-TOP-2	Z	3.1	3.1	0	0
28	SA-V-1	Z	2.6	2.6	0	0
29	SA-V-2	Z	2.6	2.6	0	0
30	SA-V-3	Z	3.1	3.1	0	0
31	SA-V-4	Z	2.6	2.6	0	0
32	SA-V-5	Z	2.6	2.6	0	0
33	SA-V-6	Z	3.1	3.1	0	0
34	STAB	Z	3.4	3.4	0	0

Member Distributed Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-4	-4	0	0
2	FM-TOP	X	-4	-4	0	0
3	SA-BOT-1	X	-3.1	-3.1	0	0
4	SA-BOT-2	X	-3.1	-3.1	0	0
5	SA-D-1	X	-2.6	-2.6	0	0
6	SA-D-2	X	-2.6	-2.6	0	0
7	SA-D-3	X	-2.6	-2.6	0	0
8	SA-D-4	X	-2.6	-2.6	0	0
9	SA-TOP-1	X	-3.1	-3.1	0	0
10	SA-TOP-2	X	-3.1	-3.1	0	0
11	SA-V-1	X	-2.6	-2.6	0	0
12	SA-V-2	X	-2.6	-2.6	0	0
13	SA-V-3	X	-3.1	-3.1	0	0
14	SA-V-4	X	-2.6	-2.6	0	0
15	SA-V-5	X	-2.6	-2.6	0	0
16	SA-V-6	X	-3.1	-3.1	0	0
17	STAB	X	-3.4	-3.4	0	0
18	FM-BOT	Z	2.3	2.3	0	0
19	FM-TOP	Z	2.3	2.3	0	0
20	SA-BOT-1	Z	1.8	1.8	0	0
21	SA-BOT-2	Z	1.8	1.8	0	0
22	SA-D-1	Z	1.5	1.5	0	0
23	SA-D-2	Z	1.5	1.5	0	0
24	SA-D-3	Z	1.5	1.5	0	0
25	SA-D-4	Z	1.5	1.5	0	0
26	SA-TOP-1	Z	1.8	1.8	0	0
27	SA-TOP-2	Z	1.8	1.8	0	0
28	SA-V-1	Z	1.5	1.5	0	0
29	SA-V-2	Z	1.5	1.5	0	0
30	SA-V-3	Z	1.8	1.8	0	0
31	SA-V-4	Z	1.5	1.5	0	0
32	SA-V-5	Z	1.5	1.5	0	0
33	SA-V-6	Z	1.8	1.8	0	0
34	STAB	Z	1.9	1.9	0	0

Member Distributed Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-4.6	-4.6	0	0
2	FM-TOP	X	-4.6	-4.6	0	0
3	SA-BOT-1	X	-3.6	-3.6	0	0
4	SA-BOT-2	X	-3.6	-3.6	0	0

Member Distributed Loads (BLC 21 : Wind on Ice (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
5	SA-D-1	X	-3	-3	0	0
6	SA-D-2	X	-3	-3	0	0
7	SA-D-3	X	-3	-3	0	0
8	SA-D-4	X	-3	-3	0	0
9	SA-TOP-1	X	-3.6	-3.6	0	0
10	SA-TOP-2	X	-3.6	-3.6	0	0
11	SA-V-1	X	-3	-3	0	0
12	SA-V-2	X	-3	-3	0	0
13	SA-V-3	X	-3.6	-3.6	0	0
14	SA-V-4	X	-3	-3	0	0
15	SA-V-5	X	-3	-3	0	0
16	SA-V-6	X	-3.6	-3.6	0	0
17	STAB	X	-3.9	-3.9	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	0	0	0	0
21	SA-BOT-2	Z	0	0	0	0
22	SA-D-1	Z	0	0	0	0
23	SA-D-2	Z	0	0	0	0
24	SA-D-3	Z	0	0	0	0
25	SA-D-4	Z	0	0	0	0
26	SA-TOP-1	Z	0	0	0	0
27	SA-TOP-2	Z	0	0	0	0
28	SA-V-1	Z	0	0	0	0
29	SA-V-2	Z	0	0	0	0
30	SA-V-3	Z	0	0	0	0
31	SA-V-4	Z	0	0	0	0
32	SA-V-5	Z	0	0	0	0
33	SA-V-6	Z	0	0	0	0
34	STAB	Z	0	0	0	0

Member Distributed Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-4	-4	0	0
2	FM-TOP	X	-4	-4	0	0
3	SA-BOT-1	X	-3.1	-3.1	0	0
4	SA-BOT-2	X	-3.1	-3.1	0	0
5	SA-D-1	X	-2.6	-2.6	0	0
6	SA-D-2	X	-2.6	-2.6	0	0
7	SA-D-3	X	-2.6	-2.6	0	0
8	SA-D-4	X	-2.6	-2.6	0	0
9	SA-TOP-1	X	-3.1	-3.1	0	0
10	SA-TOP-2	X	-3.1	-3.1	0	0
11	SA-V-1	X	-2.6	-2.6	0	0
12	SA-V-2	X	-2.6	-2.6	0	0
13	SA-V-3	X	-3.1	-3.1	0	0
14	SA-V-4	X	-2.6	-2.6	0	0
15	SA-V-5	X	-2.6	-2.6	0	0
16	SA-V-6	X	-3.1	-3.1	0	0
17	STAB	X	-3.4	-3.4	0	0
18	FM-BOT	Z	-2.3	-2.3	0	0
19	FM-TOP	Z	-2.3	-2.3	0	0
20	SA-BOT-1	Z	-1.8	-1.8	0	0
21	SA-BOT-2	Z	-1.8	-1.8	0	0
22	SA-D-1	Z	-1.5	-1.5	0	0
23	SA-D-2	Z	-1.5	-1.5	0	0



Member Distributed Loads (BLC 22 : Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
24	SA-D-3	Z	-1.5	-1.5	0	0
25	SA-D-4	Z	-1.5	-1.5	0	0
26	SA-TOP-1	Z	-1.8	-1.8	0	0
27	SA-TOP-2	Z	-1.8	-1.8	0	0
28	SA-V-1	Z	-1.5	-1.5	0	0
29	SA-V-2	Z	-1.5	-1.5	0	0
30	SA-V-3	Z	-1.8	-1.8	0	0
31	SA-V-4	Z	-1.5	-1.5	0	0
32	SA-V-5	Z	-1.5	-1.5	0	0
33	SA-V-6	Z	-1.8	-1.8	0	0
34	STAB	Z	-1.9	-1.9	0	0

Member Distributed Loads (BLC 23 : Wind on Ice (240 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	-2.3	-2.3	0	0
2	FM-TOP	X	-2.3	-2.3	0	0
3	SA-BOT-1	X	-1.8	-1.8	0	0
4	SA-BOT-2	X	-1.8	-1.8	0	0
5	SA-D-1	X	-1.5	-1.5	0	0
6	SA-D-2	X	-1.5	-1.5	0	0
7	SA-D-3	X	-1.5	-1.5	0	0
8	SA-D-4	X	-1.5	-1.5	0	0
9	SA-TOP-1	X	-1.8	-1.8	0	0
10	SA-TOP-2	X	-1.8	-1.8	0	0
11	SA-V-1	X	-1.5	-1.5	0	0
12	SA-V-2	X	-1.5	-1.5	0	0
13	SA-V-3	X	-1.8	-1.8	0	0
14	SA-V-4	X	-1.5	-1.5	0	0
15	SA-V-5	X	-1.5	-1.5	0	0
16	SA-V-6	X	-1.8	-1.8	0	0
17	STAB	X	-1.9	-1.9	0	0
18	FM-BOT	Z	-4	-4	0	0
19	FM-TOP	Z	-4	-4	0	0
20	SA-BOT-1	Z	-3.1	-3.1	0	0
21	SA-BOT-2	Z	-3.1	-3.1	0	0
22	SA-D-1	Z	-2.6	-2.6	0	0
23	SA-D-2	Z	-2.6	-2.6	0	0
24	SA-D-3	Z	-2.6	-2.6	0	0
25	SA-D-4	Z	-2.6	-2.6	0	0
26	SA-TOP-1	Z	-3.1	-3.1	0	0
27	SA-TOP-2	Z	-3.1	-3.1	0	0
28	SA-V-1	Z	-2.6	-2.6	0	0
29	SA-V-2	Z	-2.6	-2.6	0	0
30	SA-V-3	Z	-3.1	-3.1	0	0
31	SA-V-4	Z	-2.6	-2.6	0	0
32	SA-V-5	Z	-2.6	-2.6	0	0
33	SA-V-6	Z	-3.1	-3.1	0	0
34	STAB	Z	-3.4	-3.4	0	0

Member Distributed Loads (BLC 24 : Wind on Ice (270 deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	0	0	0	0
2	FM-TOP	X	0	0	0	0
3	SA-BOT-1	X	0	0	0	0
4	SA-BOT-2	X	0	0	0	0
5	SA-D-1	X	0	0	0	0



Member Distributed Loads (BLC 24 : Wind on Ice (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
6	SA-D-2	X	0	0	0	0
7	SA-D-3	X	0	0	0	0
8	SA-D-4	X	0	0	0	0
9	SA-TOP-1	X	0	0	0	0
10	SA-TOP-2	X	0	0	0	0
11	SA-V-1	X	0	0	0	0
12	SA-V-2	X	0	0	0	0
13	SA-V-3	X	0	0	0	0
14	SA-V-4	X	0	0	0	0
15	SA-V-5	X	0	0	0	0
16	SA-V-6	X	0	0	0	0
17	STAB	X	0	0	0	0
18	FM-BOT	Z	0	0	0	0
19	FM-TOP	Z	0	0	0	0
20	SA-BOT-1	Z	-3.6	-3.6	0	0
21	SA-BOT-2	Z	-3.6	-3.6	0	0
22	SA-D-1	Z	-3	-3	0	0
23	SA-D-2	Z	-3	-3	0	0
24	SA-D-3	Z	-3	-3	0	0
25	SA-D-4	Z	-3	-3	0	0
26	SA-TOP-1	Z	-3.6	-3.6	0	0
27	SA-TOP-2	Z	-3.6	-3.6	0	0
28	SA-V-1	Z	-3	-3	0	0
29	SA-V-2	Z	-3	-3	0	0
30	SA-V-3	Z	-3.6	-3.6	0	0
31	SA-V-4	Z	-3	-3	0	0
32	SA-V-5	Z	-3	-3	0	0
33	SA-V-6	Z	-3.6	-3.6	0	0
34	STAB	Z	-3.9	-3.9	0	0

Member Distributed Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	2.3	2.3	0	0
2	FM-TOP	X	2.3	2.3	0	0
3	SA-BOT-1	X	1.8	1.8	0	0
4	SA-BOT-2	X	1.8	1.8	0	0
5	SA-D-1	X	1.5	1.5	0	0
6	SA-D-2	X	1.5	1.5	0	0
7	SA-D-3	X	1.5	1.5	0	0
8	SA-D-4	X	1.5	1.5	0	0
9	SA-TOP-1	X	1.8	1.8	0	0
10	SA-TOP-2	X	1.8	1.8	0	0
11	SA-V-1	X	1.5	1.5	0	0
12	SA-V-2	X	1.5	1.5	0	0
13	SA-V-3	X	1.8	1.8	0	0
14	SA-V-4	X	1.5	1.5	0	0
15	SA-V-5	X	1.5	1.5	0	0
16	SA-V-6	X	1.8	1.8	0	0
17	STAB	X	1.9	1.9	0	0
18	FM-BOT	Z	-4	-4	0	0
19	FM-TOP	Z	-4	-4	0	0
20	SA-BOT-1	Z	-3.1	-3.1	0	0
21	SA-BOT-2	Z	-3.1	-3.1	0	0
22	SA-D-1	Z	-2.6	-2.6	0	0
23	SA-D-2	Z	-2.6	-2.6	0	0
24	SA-D-3	Z	-2.6	-2.6	0	0



Member Distributed Loads (BLC 25 : Wind on Ice (300 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
25	SA-D-4	Z	-2.6	-2.6	0	0
26	SA-TOP-1	Z	-3.1	-3.1	0	0
27	SA-TOP-2	Z	-3.1	-3.1	0	0
28	SA-V-1	Z	-2.6	-2.6	0	0
29	SA-V-2	Z	-2.6	-2.6	0	0
30	SA-V-3	Z	-3.1	-3.1	0	0
31	SA-V-4	Z	-2.6	-2.6	0	0
32	SA-V-5	Z	-2.6	-2.6	0	0
33	SA-V-6	Z	-3.1	-3.1	0	0
34	STAB	Z	-3.4	-3.4	0	0

Member Distributed Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM-BOT	X	4	4	0	0
2	FM-TOP	X	4	4	0	0
3	SA-BOT-1	X	3.1	3.1	0	0
4	SA-BOT-2	X	3.1	3.1	0	0
5	SA-D-1	X	2.6	2.6	0	0
6	SA-D-2	X	2.6	2.6	0	0
7	SA-D-3	X	2.6	2.6	0	0
8	SA-D-4	X	2.6	2.6	0	0
9	SA-TOP-1	X	3.1	3.1	0	0
10	SA-TOP-2	X	3.1	3.1	0	0
11	SA-V-1	X	2.6	2.6	0	0
12	SA-V-2	X	2.6	2.6	0	0
13	SA-V-3	X	3.1	3.1	0	0
14	SA-V-4	X	2.6	2.6	0	0
15	SA-V-5	X	2.6	2.6	0	0
16	SA-V-6	X	3.1	3.1	0	0
17	STAB	X	3.4	3.4	0	0
18	FM-BOT	Z	-2.3	-2.3	0	0
19	FM-TOP	Z	-2.3	-2.3	0	0
20	SA-BOT-1	Z	-1.8	-1.8	0	0
21	SA-BOT-2	Z	-1.8	-1.8	0	0
22	SA-D-1	Z	-1.5	-1.5	0	0
23	SA-D-2	Z	-1.5	-1.5	0	0
24	SA-D-3	Z	-1.5	-1.5	0	0
25	SA-D-4	Z	-1.5	-1.5	0	0
26	SA-TOP-1	Z	-1.8	-1.8	0	0
27	SA-TOP-2	Z	-1.8	-1.8	0	0
28	SA-V-1	Z	-1.5	-1.5	0	0
29	SA-V-2	Z	-1.5	-1.5	0	0
30	SA-V-3	Z	-1.8	-1.8	0	0
31	SA-V-4	Z	-1.5	-1.5	0	0
32	SA-V-5	Z	-1.5	-1.5	0	0
33	SA-V-6	Z	-1.8	-1.8	0	0
34	STAB	Z	-1.9	-1.9	0	0

Load Combinations

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
1	1.4D	Yes	Y		1	1.4							
2	1.2D + 1.0W (0 deg)	Yes	Y		1	1.2	2	1	175	1			
3	1.2D + 1.0W (30 d...	Yes	Y		1	1.2	3	1	176	1			
4	1.2D + 1.0W (60 d...	Yes	Y		1	1.2	4	1	177	1			
5	1.2D + 1.0W (90 d...	Yes	Y		1	1.2	5	1	178	1			



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:34 PM
 Checked By: JAA

Load Combinations (Continued)

Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
6 1.2D + 1.0W (120 ...)	Yes	Y		1	1.2	6	1	179	1				
7 1.2D + 1.0W (150 ...)	Yes	Y		1	1.2	7	1	180	1				
8 1.2D + 1.0W (180 ...)	Yes	Y		1	1.2	8	1	181	1				
9 1.2D + 1.0W (210 ...)	Yes	Y		1	1.2	9	1	182	1				
10 1.2D + 1.0W (240 ...)	Yes	Y		1	1.2	10	1	183	1				
11 1.2D + 1.0W (270 ...)	Yes	Y		1	1.2	11	1	184	1				
12 1.2D + 1.0W (300 ...)	Yes	Y		1	1.2	12	1	185	1				
13 1.2D + 1.0W (330 ...)	Yes	Y		1	1.2	13	1	186	1				
14 1.2D + Di + Wi (0 d...	Yes	Y		1	1.2	14	1	15	1	187	1		
15 1.2D + Di + Wi (30 ...)	Yes	Y		1	1.2	14	1	16	1	188	1		
16 1.2D + Di + Wi (60 ...)	Yes	Y		1	1.2	14	1	17	1	189	1		
17 1.2D + Di + Wi (90 ...)	Yes	Y		1	1.2	14	1	18	1	190	1		
18 1.2D + Di + Wi (12...	Yes	Y		1	1.2	14	1	19	1	191	1		
19 1.2D + Di + Wi (15...	Yes	Y		1	1.2	14	1	20	1	192	1		
20 1.2D + Di + Wi (18...	Yes	Y		1	1.2	14	1	21	1	193	1		
21 1.2D + Di + Wi (21...	Yes	Y		1	1.2	14	1	22	1	194	1		
22 1.2D + Di + Wi (24...	Yes	Y		1	1.2	14	1	23	1	195	1		
23 1.2D + Di + Wi (27...	Yes	Y		1	1.2	14	1	24	1	196	1		
24 1.2D + Di + Wi (30...	Yes	Y		1	1.2	14	1	25	1	197	1		
25 1.2D + Di + Wi (33...	Yes	Y		1	1.2	14	1	26	1	198	1		
26 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	27	.092				
27 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	28	.092				
28 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	29	.092				
29 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	30	.092				
30 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	31	.092				
31 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	32	.092				
32 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	33	.092				
33 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	34	.092				
34 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	35	.092				
35 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	36	.092				
36 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	37	.092				
37 1.2D + 1.0 Ev + 1.0...	Yes	Y		1	1.2	1	.037	38	.092				
38 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	2	.053	175	.053		
39 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	3	.053	176	.053		
40 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	4	.053	177	.053		
41 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	5	.053	178	.053		
42 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	6	.053	179	.053		
43 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	7	.053	180	.053		
44 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	8	.053	181	.053		
45 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	9	.053	182	.053		
46 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	10	.053	183	.053		
47 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	11	.053	184	.053		
48 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	12	.053	185	.053		
49 1.2D + 1.5Lm1 + 1...	Yes	Y		1	1.2	39	1.5	13	.053	186	.053		
50 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	2	.053	175	.053		
51 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	3	.053	176	.053		
52 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	4	.053	177	.053		
53 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	5	.053	178	.053		
54 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	6	.053	179	.053		
55 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	7	.053	180	.053		
56 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	8	.053	181	.053		
57 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	9	.053	182	.053		
58 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	10	.053	183	.053		
59 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	11	.053	184	.053		
60 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	12	.053	185	.053		
61 1.2D + 1.5Lm2 + 1...	Yes	Y		1	1.2	40	1.5	13	.053	186	.053		
62 1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	2	.053	175	.053		



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:34 PM
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Load Combinations (Continued)

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
63	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	3	.053	176	.053		
64	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	4	.053	177	.053		
65	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	5	.053	178	.053		
66	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	6	.053	179	.053		
67	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	7	.053	180	.053		
68	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	8	.053	181	.053		
69	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	9	.053	182	.053		
70	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	10	.053	183	.053		
71	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	11	.053	184	.053		
72	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	12	.053	185	.053		
73	1.2D + 1.5Lm3 + 1...	Yes	Y		1	1.2	41	1.5	13	.053	186	.053		
74	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	2	.053	175	.053		
75	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	3	.053	176	.053		
76	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	4	.053	177	.053		
77	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	5	.053	178	.053		
78	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	6	.053	179	.053		
79	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	7	.053	180	.053		
80	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	8	.053	181	.053		
81	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	9	.053	182	.053		
82	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	10	.053	183	.053		
83	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	11	.053	184	.053		
84	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	12	.053	185	.053		
85	1.2D + 1.5Lm4 + 1...	Yes	Y		1	1.2	42	1.5	13	.053	186	.053		
86	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	2	.053	175	.053		
87	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	3	.053	176	.053		
88	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	4	.053	177	.053		
89	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	5	.053	178	.053		
90	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	6	.053	179	.053		
91	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	7	.053	180	.053		
92	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	8	.053	181	.053		
93	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	9	.053	182	.053		
94	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	10	.053	183	.053		
95	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	11	.053	184	.053		
96	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	12	.053	185	.053		
97	1.2D + 1.5Lm5 + 1...		Y		1	1.2	43	1.5	13	.053	186	.053		
98	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	2	.053	175	.053		
99	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	3	.053	176	.053		
100	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	4	.053	177	.053		
101	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	5	.053	178	.053		
102	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	6	.053	179	.053		
103	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	7	.053	180	.053		
104	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	8	.053	181	.053		
105	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	9	.053	182	.053		
106	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	10	.053	183	.053		
107	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	11	.053	184	.053		
108	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	12	.053	185	.053		
109	1.2D + 1.5Lm6 + 1...		Y		1	1.2	44	1.5	13	.053	186	.053		
110	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	2	.053	175	.053		
111	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	3	.053	176	.053		
112	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	4	.053	177	.053		
113	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	5	.053	178	.053		
114	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	6	.053	179	.053		
115	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	7	.053	180	.053		
116	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	8	.053	181	.053		
117	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	9	.053	182	.053		
118	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	10	.053	183	.053		
119	1.2D + 1.5Lm7 + 1...		Y		1	1.2	45	1.5	11	.053	184	.053		



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:34 PM
 Checked By: JAA

Load Combinations (Continued)

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
120	1.2D + 1.5Lm7 + 1...	Y			1	1.2	45	1.5	12	.053	185	.053	
121	1.2D + 1.5Lm7 + 1...	Y			1	1.2	45	1.5	13	.053	186	.053	
122	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	2	.053	175	.053	
123	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	3	.053	176	.053	
124	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	4	.053	177	.053	
125	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	5	.053	178	.053	
126	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	6	.053	179	.053	
127	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	7	.053	180	.053	
128	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	8	.053	181	.053	
129	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	9	.053	182	.053	
130	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	10	.053	183	.053	
131	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	11	.053	184	.053	
132	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	12	.053	185	.053	
133	1.2D + 1.5Lm8 + 1...	Y			1	1.2	46	1.5	13	.053	186	.053	
134	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	2	.053	175	.053	
135	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	3	.053	176	.053	
136	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	4	.053	177	.053	
137	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	5	.053	178	.053	
138	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	6	.053	179	.053	
139	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	7	.053	180	.053	
140	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	8	.053	181	.053	
141	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	9	.053	182	.053	
142	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	10	.053	183	.053	
143	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	11	.053	184	.053	
144	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	12	.053	185	.053	
145	1.2D + 1.5Lm9 + 1...	Y			1	1.2	47	1.5	13	.053	186	.053	
146	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	2	.053	175	.053	
147	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	3	.053	176	.053	
148	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	4	.053	177	.053	
149	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	5	.053	178	.053	
150	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	6	.053	179	.053	
151	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	7	.053	180	.053	
152	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	8	.053	181	.053	
153	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	9	.053	182	.053	
154	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	10	.053	183	.053	
155	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	11	.053	184	.053	
156	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	12	.053	185	.053	
157	1.2D + 1.5Lm10 + ...	Y			1	1.2	48	1.5	13	.053	186	.053	
158	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	2	.053	175	.053	
159	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	3	.053	176	.053	
160	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	4	.053	177	.053	
161	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	5	.053	178	.053	
162	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	6	.053	179	.053	
163	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	7	.053	180	.053	
164	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	8	.053	181	.053	
165	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	9	.053	182	.053	
166	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	10	.053	183	.053	
167	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	11	.053	184	.053	
168	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	12	.053	185	.053	
169	1.2D + 1.5Lm11 + ...	Y			1	1.2	49	1.5	13	.053	186	.053	
170	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	2	.053	175	.053	
171	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	3	.053	176	.053	
172	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	4	.053	177	.053	
173	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	5	.053	178	.053	
174	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	6	.053	179	.053	
175	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	7	.053	180	.053	
176	1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	8	.053	181	.053	



Load Combinations (Continued)

Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
177 1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	9	.053	182	.053	
178 1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	10	.053	183	.053	
179 1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	11	.053	184	.053	
180 1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	12	.053	185	.053	
181 1.2D + 1.5Lm12 + ...	Y			1	1.2	50	1.5	13	.053	186	.053	
182 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	2	.053	175	.053	
183 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	3	.053	176	.053	
184 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	4	.053	177	.053	
185 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	5	.053	178	.053	
186 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	6	.053	179	.053	
187 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	7	.053	180	.053	
188 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	8	.053	181	.053	
189 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	9	.053	182	.053	
190 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	10	.053	183	.053	
191 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	11	.053	184	.053	
192 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	12	.053	185	.053	
193 1.2D + 1.5Lm13 + ...	Y			1	1.2	51	1.5	13	.053	186	.053	
194 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	2	.053	175	.053	
195 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	3	.053	176	.053	
196 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	4	.053	177	.053	
197 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	5	.053	178	.053	
198 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	6	.053	179	.053	
199 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	7	.053	180	.053	
200 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	8	.053	181	.053	
201 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	9	.053	182	.053	
202 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	10	.053	183	.053	
203 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	11	.053	184	.053	
204 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	12	.053	185	.053	
205 1.2D + 1.5Lm14 + ...	Y			1	1.2	52	1.5	13	.053	186	.053	
206 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	2	.053	175	.053	
207 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	3	.053	176	.053	
208 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	4	.053	177	.053	
209 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	5	.053	178	.053	
210 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	6	.053	179	.053	
211 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	7	.053	180	.053	
212 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	8	.053	181	.053	
213 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	9	.053	182	.053	
214 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	10	.053	183	.053	
215 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	11	.053	184	.053	
216 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	12	.053	185	.053	
217 1.2D + 1.5Lm15 + ...	Y			1	1.2	53	1.5	13	.053	186	.053	
218 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	2	.053	175	.053	
219 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	3	.053	176	.053	
220 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	4	.053	177	.053	
221 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	5	.053	178	.053	
222 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	6	.053	179	.053	
223 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	7	.053	180	.053	
224 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	8	.053	181	.053	
225 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	9	.053	182	.053	
226 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	10	.053	183	.053	
227 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	11	.053	184	.053	
228 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	12	.053	185	.053	
229 1.2D + 1.5Lm16 + ...	Y			1	1.2	54	1.5	13	.053	186	.053	
230 1.2D + 1.5Lm17 + ...	Y			1	1.2	55	1.5	2	.053	175	.053	
231 1.2D + 1.5Lm17 + ...	Y			1	1.2	55	1.5	3	.053	176	.053	
232 1.2D + 1.5Lm17 + ...	Y			1	1.2	55	1.5	4	.053	177	.053	
233 1.2D + 1.5Lm17 + ...	Y			1	1.2	55	1.5	5	.053	178	.053	



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:34 PM
 Checked By: JAA

Load Combinations (Continued)

	Description	Solve	P	Delta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
234	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	6	.053	179	.053		
235	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	7	.053	180	.053		
236	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	8	.053	181	.053		
237	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	9	.053	182	.053		
238	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	10	.053	183	.053		
239	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	11	.053	184	.053		
240	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	12	.053	185	.053		
241	1.2D + 1.5Lm17 + ...		Y			1	1.2	55	1.5	13	.053	186	.053		
242	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	2	.053	175	.053		
243	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	3	.053	176	.053		
244	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	4	.053	177	.053		
245	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	5	.053	178	.053		
246	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	6	.053	179	.053		
247	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	7	.053	180	.053		
248	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	8	.053	181	.053		
249	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	9	.053	182	.053		
250	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	10	.053	183	.053		
251	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	11	.053	184	.053		
252	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	12	.053	185	.053		
253	1.2D + 1.5Lm18 + ...		Y			1	1.2	56	1.5	13	.053	186	.053		
254	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	2	.053	175	.053		
255	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	3	.053	176	.053		
256	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	4	.053	177	.053		
257	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	5	.053	178	.053		
258	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	6	.053	179	.053		
259	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	7	.053	180	.053		
260	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	8	.053	181	.053		
261	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	9	.053	182	.053		
262	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	10	.053	183	.053		
263	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	11	.053	184	.053		
264	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	12	.053	185	.053		
265	1.2D + 1.5Lm19 + ...		Y			1	1.2	57	1.5	13	.053	186	.053		
266	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	2	.053	175	.053		
267	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	3	.053	176	.053		
268	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	4	.053	177	.053		
269	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	5	.053	178	.053		
270	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	6	.053	179	.053		
271	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	7	.053	180	.053		
272	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	8	.053	181	.053		
273	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	9	.053	182	.053		
274	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	10	.053	183	.053		
275	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	11	.053	184	.053		
276	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	12	.053	185	.053		
277	1.2D + 1.5Lm20 + ...		Y			1	1.2	58	1.5	13	.053	186	.053		
278	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	2	.053	175	.053		
279	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	3	.053	176	.053		
280	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	4	.053	177	.053		
281	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	5	.053	178	.053		
282	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	6	.053	179	.053		
283	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	7	.053	180	.053		
284	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	8	.053	181	.053		
285	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	9	.053	182	.053		
286	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	10	.053	183	.053		
287	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	11	.053	184	.053		
288	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	12	.053	185	.053		
289	1.2D + 1.5Lm21 + ...		Y			1	1.2	59	1.5	13	.053	186	.053		
290	1.2D + 1.5Lm22 + ...		Y			1	1.2	60	1.5	2	.053	175	.053		



Load Combinations (Continued)

Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
291	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	3	.053	176	.053		
292	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	4	.053	177	.053		
293	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	5	.053	178	.053		
294	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	6	.053	179	.053		
295	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	7	.053	180	.053		
296	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	8	.053	181	.053		
297	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	9	.053	182	.053		
298	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	10	.053	183	.053		
299	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	11	.053	184	.053		
300	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	12	.053	185	.053		
301	1.2D + 1.5Lm22 + ...	Y		1	1.2	60	1.5	13	.053	186	.053		
302	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	2	.053	175	.053		
303	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	3	.053	176	.053		
304	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	4	.053	177	.053		
305	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	5	.053	178	.053		
306	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	6	.053	179	.053		
307	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	7	.053	180	.053		
308	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	8	.053	181	.053		
309	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	9	.053	182	.053		
310	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	10	.053	183	.053		
311	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	11	.053	184	.053		
312	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	12	.053	185	.053		
313	1.2D + 1.5Lm23 + ...	Y		1	1.2	61	1.5	13	.053	186	.053		
314	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	2	.053	175	.053		
315	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	3	.053	176	.053		
316	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	4	.053	177	.053		
317	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	5	.053	178	.053		
318	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	6	.053	179	.053		
319	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	7	.053	180	.053		
320	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	8	.053	181	.053		
321	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	9	.053	182	.053		
322	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	10	.053	183	.053		
323	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	11	.053	184	.053		
324	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	12	.053	185	.053		
325	1.2D + 1.5Lm24 + ...	Y		1	1.2	62	1.5	13	.053	186	.053		
326	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	2	.053	175	.053		
327	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	3	.053	176	.053		
328	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	4	.053	177	.053		
329	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	5	.053	178	.053		
330	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	6	.053	179	.053		
331	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	7	.053	180	.053		
332	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	8	.053	181	.053		
333	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	9	.053	182	.053		
334	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	10	.053	183	.053		
335	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	11	.053	184	.053		
336	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	12	.053	185	.053		
337	1.2D + 1.5Lm25 + ...	Y		1	1.2	63	1.5	13	.053	186	.053		
338	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	2	.053	175	.053		
339	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	3	.053	176	.053		
340	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	4	.053	177	.053		
341	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	5	.053	178	.053		
342	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	6	.053	179	.053		
343	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	7	.053	180	.053		
344	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	8	.053	181	.053		
345	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	9	.053	182	.053		
346	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	10	.053	183	.053		
347	1.2D + 1.5Lm26 + ...	Y		1	1.2	64	1.5	11	.053	184	.053		



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:35 PM
 Checked By: JAA

Load Combinations (Continued)

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
348	1.2D + 1.5Lm26 + ...		Y		1	1.2	64	1.5	12	.053	185	.053	
349	1.2D + 1.5Lm26 + ...		Y		1	1.2	64	1.5	13	.053	186	.053	
350	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	2	.053	175	.053	
351	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	3	.053	176	.053	
352	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	4	.053	177	.053	
353	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	5	.053	178	.053	
354	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	6	.053	179	.053	
355	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	7	.053	180	.053	
356	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	8	.053	181	.053	
357	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	9	.053	182	.053	
358	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	10	.053	183	.053	
359	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	11	.053	184	.053	
360	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	12	.053	185	.053	
361	1.2D + 1.5Lm27 + ...		Y		1	1.2	65	1.5	13	.053	186	.053	
362	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	2	.053	175	.053	
363	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	3	.053	176	.053	
364	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	4	.053	177	.053	
365	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	5	.053	178	.053	
366	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	6	.053	179	.053	
367	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	7	.053	180	.053	
368	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	8	.053	181	.053	
369	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	9	.053	182	.053	
370	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	10	.053	183	.053	
371	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	11	.053	184	.053	
372	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	12	.053	185	.053	
373	1.2D + 1.5Lm28 + ...		Y		1	1.2	66	1.5	13	.053	186	.053	
374	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	2	.053	175	.053	
375	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	3	.053	176	.053	
376	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	4	.053	177	.053	
377	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	5	.053	178	.053	
378	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	6	.053	179	.053	
379	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	7	.053	180	.053	
380	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	8	.053	181	.053	
381	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	9	.053	182	.053	
382	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	10	.053	183	.053	
383	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	11	.053	184	.053	
384	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	12	.053	185	.053	
385	1.2D + 1.5Lm29 + ...		Y		1	1.2	67	1.5	13	.053	186	.053	
386	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	2	.053	175	.053	
387	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	3	.053	176	.053	
388	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	4	.053	177	.053	
389	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	5	.053	178	.053	
390	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	6	.053	179	.053	
391	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	7	.053	180	.053	
392	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	8	.053	181	.053	
393	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	9	.053	182	.053	
394	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	10	.053	183	.053	
395	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	11	.053	184	.053	
396	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	12	.053	185	.053	
397	1.2D + 1.5Lm30 + ...		Y		1	1.2	68	1.5	13	.053	186	.053	
398	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	2	.053	175	.053	
399	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	3	.053	176	.053	
400	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	4	.053	177	.053	
401	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	5	.053	178	.053	
402	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	6	.053	179	.053	
403	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	7	.053	180	.053	
404	1.2D + 1.5Lm31 + ...		Y		1	1.2	69	1.5	8	.053	181	.053	



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:35 PM
 Checked By: JAA

Load Combinations (Continued)

Description	Solve	P	Delta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
405 1.2D + 1.5Lm31 + ...		Y			1	1.2	69	1.5	9	.053	182	.053		
406 1.2D + 1.5Lm31 + ...		Y			1	1.2	69	1.5	10	.053	183	.053		
407 1.2D + 1.5Lm31 + ...		Y			1	1.2	69	1.5	11	.053	184	.053		
408 1.2D + 1.5Lm31 + ...		Y			1	1.2	69	1.5	12	.053	185	.053		
409 1.2D + 1.5Lm31 + ...		Y			1	1.2	69	1.5	13	.053	186	.053		
410 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	2	.053	175	.053		
411 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	3	.053	176	.053		
412 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	4	.053	177	.053		
413 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	5	.053	178	.053		
414 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	6	.053	179	.053		
415 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	7	.053	180	.053		
416 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	8	.053	181	.053		
417 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	9	.053	182	.053		
418 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	10	.053	183	.053		
419 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	11	.053	184	.053		
420 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	12	.053	185	.053		
421 1.2D + 1.5Lm32 + ...		Y			1	1.2	70	1.5	13	.053	186	.053		
422 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	2	.053	175	.053		
423 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	3	.053	176	.053		
424 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	4	.053	177	.053		
425 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	5	.053	178	.053		
426 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	6	.053	179	.053		
427 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	7	.053	180	.053		
428 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	8	.053	181	.053		
429 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	9	.053	182	.053		
430 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	10	.053	183	.053		
431 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	11	.053	184	.053		
432 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	12	.053	185	.053		
433 1.2D + 1.5Lm33 + ...		Y			1	1.2	71	1.5	13	.053	186	.053		
434 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	2	.053	175	.053		
435 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	3	.053	176	.053		
436 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	4	.053	177	.053		
437 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	5	.053	178	.053		
438 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	6	.053	179	.053		
439 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	7	.053	180	.053		
440 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	8	.053	181	.053		
441 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	9	.053	182	.053		
442 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	10	.053	183	.053		
443 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	11	.053	184	.053		
444 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	12	.053	185	.053		
445 1.2D + 1.5Lm34 + ...		Y			1	1.2	72	1.5	13	.053	186	.053		
446 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	2	.053	175	.053		
447 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	3	.053	176	.053		
448 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	4	.053	177	.053		
449 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	5	.053	178	.053		
450 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	6	.053	179	.053		
451 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	7	.053	180	.053		
452 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	8	.053	181	.053		
453 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	9	.053	182	.053		
454 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	10	.053	183	.053		
455 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	11	.053	184	.053		
456 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	12	.053	185	.053		
457 1.2D + 1.5Lm35 + ...		Y			1	1.2	73	1.5	13	.053	186	.053		
458 1.2D + 1.5Lm36 + ...		Y			1	1.2	74	1.5	2	.053	175	.053		
459 1.2D + 1.5Lm36 + ...		Y			1	1.2	74	1.5	3	.053	176	.053		
460 1.2D + 1.5Lm36 + ...		Y			1	1.2	74	1.5	4	.053	177	.053		
461 1.2D + 1.5Lm36 + ...		Y			1	1.2	74	1.5	5	.053	178	.053		



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:35 PM
 Checked By: JAA

Load Combinations (Continued)

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
462	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	6	.053	179	.053	
463	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	7	.053	180	.053	
464	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	8	.053	181	.053	
465	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	9	.053	182	.053	
466	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	10	.053	183	.053	
467	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	11	.053	184	.053	
468	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	12	.053	185	.053	
469	1.2D + 1.5Lm36 + ...		Y		1	1.2	74	1.5	13	.053	186	.053	
470	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	75	1.5					
471	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	76	1.5					
472	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	77	1.5					
473	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	78	1.5					
474	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	79	1.5					
475	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	80	1.5					
476	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	81	1.5					
477	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	82	1.5					
478	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	83	1.5					
479	1.2D + 1.5Lv (Posit...	Yes	Y		1	1.2	84	1.5					
480	1.2D + 1.5Lv (Posit...		Y		1	1.2	85	1.5					
481	1.2D + 1.5Lv (Posit...		Y		1	1.2	86	1.5					
482	1.2D + 1.5Lv (Posit...		Y		1	1.2	87	1.5					
483	1.2D + 1.5Lv (Posit...		Y		1	1.2	88	1.5					
484	1.2D + 1.5Lv (Posit...		Y		1	1.2	89	1.5					
485	1.2D + 1.5Lv (Posit...		Y		1	1.2	90	1.5					
486	1.2D + 1.5Lv (Posit...		Y		1	1.2	91	1.5					
487	1.2D + 1.5Lv (Posit...		Y		1	1.2	92	1.5					
488	1.2D + 1.5Lv (Posit...		Y		1	1.2	93	1.5					
489	1.2D + 1.5Lv (Posit...		Y		1	1.2	94	1.5					
490	1.2D + 1.5Lv (Posit...		Y		1	1.2	95	1.5					
491	1.2D + 1.5Lv (Posit...		Y		1	1.2	96	1.5					
492	1.2D + 1.5Lv (Posit...		Y		1	1.2	97	1.5					
493	1.2D + 1.5Lv (Posit...		Y		1	1.2	98	1.5					
494	1.2D + 1.5Lv (Posit...		Y		1	1.2	99	1.5					
495	1.2D + 1.5Lv (Posit...		Y		1	1.2	100	1.5					
496	1.2D + 1.5Lv (Posit...		Y		1	1.2	101	1.5					
497	1.2D + 1.5Lv (Posit...		Y		1	1.2	102	1.5					
498	1.2D + 1.5Lv (Posit...		Y		1	1.2	103	1.5					
499	1.2D + 1.5Lv (Posit...		Y		1	1.2	104	1.5					
500	1.2D + 1.5Lv (Posit...		Y		1	1.2	105	1.5					
501	1.2D + 1.5Lv (Posit...		Y		1	1.2	106	1.5					
502	1.2D + 1.5Lv (Posit...		Y		1	1.2	107	1.5					
503	1.2D + 1.5Lv (Posit...		Y		1	1.2	108	1.5					
504	1.2D + 1.5Lv (Posit...		Y		1	1.2	109	1.5					
505	1.2D + 1.5Lv (Posit...		Y		1	1.2	110	1.5					
506	1.2D + 1.5Lv (Posit...		Y		1	1.2	111	1.5					
507	1.2D + 1.5Lv (Posit...		Y		1	1.2	112	1.5					
508	1.2D + 1.5Lv (Posit...		Y		1	1.2	113	1.5					
509	1.2D + 1.5Lv (Posit...		Y		1	1.2	114	1.5					
510	1.2D + 1.5Lv (Posit...		Y		1	1.2	115	1.5					
511	1.2D + 1.5Lv (Posit...		Y		1	1.2	116	1.5					
512	1.2D + 1.5Lv (Posit...		Y		1	1.2	117	1.5					
513	1.2D + 1.5Lv (Posit...		Y		1	1.2	118	1.5					
514	1.2D + 1.5Lv (Posit...		Y		1	1.2	119	1.5					
515	1.2D + 1.5Lv (Posit...		Y		1	1.2	120	1.5					
516	1.2D + 1.5Lv (Posit...		Y		1	1.2	121	1.5					
517	1.2D + 1.5Lv (Posit...		Y		1	1.2	122	1.5					
518	1.2D + 1.5Lv (Posit...		Y		1	1.2	123	1.5					



Company : ETS, PLLC
 Designer : DHK
 Job Number : 196669.14
 Model Name : SKY HILL

Oct 30, 2019
 2:35 PM
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Load Combinations (Continued)

	Description	Solve	PDelta	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
519	1.2D + 1.5Lv (Posit...		Y		1	1.2	124	1.5					
520	1.2D + 1.5Lv (Posit...		Y		1	1.2	125	1.5					
521	1.2D + 1.5Lv (Posit...		Y		1	1.2	126	1.5					
522	1.2D + 1.5Lv (Posit...		Y		1	1.2	127	1.5					
523	1.2D + 1.5Lv (Posit...		Y		1	1.2	128	1.5					
524	1.2D + 1.5Lv (Posit...		Y		1	1.2	129	1.5					
525	1.2D + 1.5Lv (Posit...		Y		1	1.2	130	1.5					
526	1.2D + 1.5Lv (Posit...		Y		1	1.2	131	1.5					
527	1.2D + 1.5Lv (Posit...		Y		1	1.2	132	1.5					
528	1.2D + 1.5Lv (Posit...		Y		1	1.2	133	1.5					
529	1.2D + 1.5Lv (Posit...		Y		1	1.2	134	1.5					
530	1.2D + 1.5Lv (Posit...		Y		1	1.2	135	1.5					
531	1.2D + 1.5Lv (Posit...		Y		1	1.2	136	1.5					
532	1.2D + 1.5Lv (Posit...		Y		1	1.2	137	1.5					
533	1.2D + 1.5Lv (Posit...		Y		1	1.2	138	1.5					
534	1.2D + 1.5Lv (Posit...		Y		1	1.2	139	1.5					
535	1.2D + 1.5Lv (Posit...		Y		1	1.2	140	1.5					
536	1.2D + 1.5Lv (Posit...		Y		1	1.2	141	1.5					
537	1.2D + 1.5Lv (Posit...		Y		1	1.2	142	1.5					
538	1.2D + 1.5Lv (Posit...		Y		1	1.2	143	1.5					
539	1.2D + 1.5Lv (Posit...		Y		1	1.2	144	1.5					
540	1.2D + 1.5Lv (Posit...		Y		1	1.2	145	1.5					
541	1.2D + 1.5Lv (Posit...		Y		1	1.2	146	1.5					
542	1.2D + 1.5Lv (Posit...		Y		1	1.2	147	1.5					
543	1.2D + 1.5Lv (Posit...		Y		1	1.2	148	1.5					
544	1.2D + 1.5Lv (Posit...		Y		1	1.2	149	1.5					
545	1.2D + 1.5Lv (Posit...		Y		1	1.2	150	1.5					
546	1.2D + 1.5Lv (Posit...		Y		1	1.2	151	1.5					
547	1.2D + 1.5Lv (Posit...		Y		1	1.2	152	1.5					
548	1.2D + 1.5Lv (Posit...		Y		1	1.2	153	1.5					
549	1.2D + 1.5Lv (Posit...		Y		1	1.2	154	1.5					
550	1.2D + 1.5Lv (Posit...		Y		1	1.2	155	1.5					
551	1.2D + 1.5Lv (Posit...		Y		1	1.2	156	1.5					
552	1.2D + 1.5Lv (Posit...		Y		1	1.2	157	1.5					
553	1.2D + 1.5Lv (Posit...		Y		1	1.2	158	1.5					
554	1.2D + 1.5Lv (Posit...		Y		1	1.2	159	1.5					
555	1.2D + 1.5Lv (Posit...		Y		1	1.2	160	1.5					
556	1.2D + 1.5Lv (Posit...		Y		1	1.2	161	1.5					
557	1.2D + 1.5Lv (Posit...		Y		1	1.2	162	1.5					
558	1.2D + 1.5Lv (Posit...		Y		1	1.2	163	1.5					
559	1.2D + 1.5Lv (Posit...		Y		1	1.2	164	1.5					
560	1.2D + 1.5Lv (Posit...		Y		1	1.2	165	1.5					
561	1.2D + 1.5Lv (Posit...		Y		1	1.2	166	1.5					
562	1.2D + 1.5Lv (Posit...		Y		1	1.2	167	1.5					
563	1.2D + 1.5Lv (Posit...		Y		1	1.2	168	1.5					
564	1.2D + 1.5Lv (Posit...		Y		1	1.2	169	1.5					
565	1.2D + 1.5Lv (Posit...		Y		1	1.2	170	1.5					
566	1.2D + 1.5Lv (Posit...		Y		1	1.2	171	1.5					
567	1.2D + 1.5Lv (Posit...		Y		1	1.2	172	1.5					
568	1.2D + 1.5Lv (Posit...		Y		1	1.2	173	1.5					
569	1.2D + 1.5Lv (Posit...		Y		1	1.2	174	1.5					



Company : ETS, PLLC
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 2:35 PM
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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	N1	max	569.604	7	1737.426	16	1130.87	46	200.76	84	0	479	-99.938	13
		min	-4051.105	25	381.677	10	-1443.098	76	-171.595	42	0	1	-637.291	19
3	N2	max	4041.49	20	2745.443	22	1469.093	82	287.989	84	0	479	-174.587	13
		min	-607.982	2	597.245	4	-1156.876	40	-241.745	42	0	1	-921.781	18
5	N49A	max	1065.062	12	80.611	24	330.153	12	0	479	0	479	0	479
		min	-1064.187	6	18.545	6	-329.474	6	0	1	0	1	0	1
7	Totals:	max	2119.249	8	4562.304	18	1521.885	10						
		min	-2119.25	2	999.658	13	-1521.885	4						

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

Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc [...]	phi*Pnt [lb]	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	SA-TOP-2	PIPE 2.0	.449	0	22	.196	0	18	22519.89	32130	1871.625	1871.625	4...	H1-1b
2	SA-TOP-1	PIPE 2.0	.361	0	18	.178	0	19	22519.89	32130	1871.625	1871.625	3...	H1-1b
3	FM-TOP	PIPE 2.5	.348	84	19	.111	136.5	22	27862.69	50715	3596.25	3596.25	1...	H1-1b
4	FM-BOT	PIPE 2.5	.336	84	18	.118	136.5	24	27862.69	50715	3596.25	3596.25	1...	H1-1b
5	SA-BOT-2	PIPE 2.0	.335	0	25	.147	61.249	18	22519.89	32130	1871.625	1871.625	4...	H1-1b
6	SA-V-3	PIPE 2.0	.266	6.125	6	.110	0	12	27741.09	32130	1871.625	1871.625	1...	H1-1b
7	MP1	PIPE 2.0	.265	15	48	.051	48.75	19	20866.733	32130	1871.625	1871.625	1...	H1-1b
8	SA-BOT-1	PIPE 2.0	.260	0	25	.131	61.249	24	22519.89	32130	1871.625	1871.625	3...	H1-1b
9	MP2	PIPE 2.0	.217	15	6	.080	15	6	20866.733	32130	1871.625	1871.625	1...	H1-1b
10	SA-V-5	ROHN 1.5 11ga	.215	17.938	24	.032	0	6	11247.128	16387.812	601.398	601.398	1...	H1-1a
11	MP4	PIPE 2.0	.206	15	76	.059	48.75	8	20866.733	32130	1871.625	1871.625	1...	H1-1b
12	MP3	PIPE 2.0	.187	15	78	.041	51	8	20866.733	32130	1871.625	1871.625	1...	H1-1b
13	SA-V-2	ROHN 1.5 11ga	.164	0	18	.034	0	12	11247.128	16387.812	601.398	601.398	1...	H1-1b*
14	SA-D-3	ROHN 1.5 11ga	.121	24.733	15	.024	49.466	12	9721.894	16387.812	601.398	601.398	1...	H1-1b
15	SA-D-4	ROHN 1.5 11ga	.114	25.239	15	.013	0	12	9514.512	16387.812	601.398	601.398	1...	H1-1b
16	STAB	PIPE 2.0	.112	53.758	18	.009	0	24	12253.44	32130	1871.625	1871.625	1...	H1-1b
17	SA-D-1	ROHN 1.5 11ga	.102	24.733	25	.023	49.466	6	9721.894	16387.812	601.398	601.398	1...	H1-1b
18	SA-D-2	ROHN 1.5 11ga	.093	25.239	24	.014	0	14	9514.512	16387.812	601.398	601.398	1...	H1-1b
19	SA-V-4	ROHN 1.5 11ga	.089	0	24	.036	0	6	11247.128	16387.812	601.398	601.398	1...	H1-1b*
20	SA-V-1	ROHN 1.5 11ga	.072	0	18	.043	0	12	11247.128	16387.812	601.398	601.398	1...	H1-1b*
21	SA-V-6	PIPE 2.0	.040	0	22	.030	0	6	27741.09	32130	1871.625	1871.625	1...	H1-1b*

Exhibit F

Power Density/RF Emissions Report

Site Name: Westford 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	4	50	200	180	0.0022	2.4	0.09%
VZW PCS	1970	4	1493	5972	180	0.0663	1.0	6.63%
VZW Cellular	869	3	342	1026	180	0.0114	0.579333333	1.97%
VZW Cellular	880	4	479	1916	180	0.0213	0.586666667	3.62%
VZW AWS	2145	4	1493	5972	180	0.0663	1.0	6.63%
VZW 700	746	4	621	2484	180	0.0276	0.497333333	5.54%

Total Percentage of Maximum Permissible Exposure 24.39%

*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/cm² = 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.