March 5, 2021

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

RE: **Notice of Exempt Modification for T-Mobile**
Crown Site ID# 876331; T-Mobile Site ID# CT11423B
115 North Mountain Rd, New Britain, CT 06053
Latitude: 41° 40′ 35.72″/ Longitude: -72° 49′ 17.09″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 108-foot mount on the existing 118-foot self-support tower located at 115 North Mountain Road in New Britain. The property is owned by March 17, LLC and the tower is owned by Crown Castle. T-Mobile now intends to replace three (3) existing antennas at the 108-foot mount. This modification/proposal includes hardware that is both 4G(LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times. T-Mobile is also proposing mount modifications as shown on the enclosed mount analysis.

Planned Modifications:
Tower:

Remove and Replace:
(3) AIR21_B2A/B4P Antenna **(REMOVE)** - (3) AIR6449_B41 2500 MHz Antenna **(REPLACE)**

Install New:
(3) Radio 4415 B25
(3) SDX1926Q-43 diplexer
(1) 6x12 HCS hybrid cable
(1) SitePro 1 RMQP-496-HK platform mount

Remove:
(5) Coax cables
(3) Sector mount

Existing to Remain:
(3) RFS – APXVAARR24_43-U-NA20 600/700 MHz Antenna
(3) AIR32 B66A/B2A 1900/2100 MHz Antenna

Ground:

Install New:
(1) 6160 cabinet with BB6630, BB6648, iXRe router, PSU 4813 voltage booster
(1) B160 battery cabinet

Remove:
(1) Nortel cabinet

This facility was approved by the by the Town of New Britain on November 22, 1996. A copy of the Zoning Permit is attached hereto.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to The Honorable Erin Stewart, Mayor of the City of New Britain, as well as Sergio Lupo, Director of Health/Director of Licenses, Permits, and Inspections for the City of New Britain. A copy will also be sent to the property owner.

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

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

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

Sincerely,

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

cc:

The Honorable Erin Stewart, Mayor – *via email to mayor@newbritainct.gov*
27 West Main St
New Britain, CT 06051
(860) 826-3300

Sergio Lupo, Director of Health/Director of Licenses, Permits, and Inspections
27 West Main Street
Room 404
New Britain, CT 06051
860-826-3383

March 17, LLC
One Liberty Square
PO Box 3040
New Britain, CT 06050

Zajac, Richard

From: Zajac, Richard
Sent: Friday, March 5, 2021 1:53 PM
To: Mayor@NewBritainCT.gov
Subject: Connecticut Siting Council exempt modification application notification
Attachments: CSC Exempt Modification Application - 115 North Mountain Rd.pdf

Good afternoon Ms. Stewart,
Please see the attached application to the Connecticut Siting Council regarding antenna work on the existing cell tower located at 115 North Mountain Road in New Britain.

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

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

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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 ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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Exhibit A

Original Facility Approval

10:AM (ELECT) WAYNE GLEIFERT

083

B 85

CITY OF NEW BRITAIN
DEPARTMENT OF LICENSES, PERMITS
AND INSPECTIONS
TELEPHONE: 826-3383

BUILDING/ZONING PERMIT

DATE 11/22/96

COST 112,000.

FEE 1,780.

APPLICANT Sprint PCS TEL. NO. 294-5609

ADDRESS 9 Barnes Indusrial Rd, Wallingford, CT 06492

PERMIT FOR: Construct 120' Monopole Tower, per engineered drawings/specifications.

LOCATION North Mountain Rd, Lot C

BUILDING DIMENSIONS ____ FT. WIDE BY ____ FT. LONG AND ____ FT. IN HEIGHT

BUILDING TYPE ____ USE GROUP ____ LOT SIZE ____ ZONE ____

OWNER October 24 Corporation

ADDRESS

CERT. OF OCCUPANCY REQUIRED YES___ NO✓

AS-BUILT SURVEY REQUIRED YES___ NO✓

THE MATCHING APPLICATION IS PART AND PARCEL OF THIS BUILDING PERMIT.

12-5-96

BUILDING OFFICIAL

WNUK

WHERE APPLICABLE SEPARATE PERMITS ARE REQUIRED FOR ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS.

APPLICANT'S COPY

MANDATORY INSPECTIONS REQUIRED

POST PERMIT FOR DURATION OF WORK

Exhibit B

Property Card

115 NORTH MOUNTAIN RD

Location	115 NORTH MOUNTAIN RD	**Mblu**	F2D/ 102/ / /
Acct#	66600115	**Owner**	MARCH 17 LLC
Assessment	$233,310	**Appraisal**	$333,300
PID	1134	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$234,100	$99,200	$333,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$163,870	$69,440	$233,310

Owner of Record

Owner	MARCH 17 LLC	**Sale Price**	$900,000
Co-Owner		**Certificate**	
Address	PO BOX 3040 ONE LIBERTY SQUARE NEW BRITAIN , CT 06050	**Book & Page**	2021/980
		Sale Date	06/12/2019
		Instrument	17

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MARCH 17 LLC	$900,000		2021/980	17	06/12/2019
OCTOBER TWENTY FOUR INC	$550,000	1	1826/0309	19	09/29/2011
OCTOBER TWENTY FOUR INC	$0		0733/0284		02/02/1978
GIUSEPPE CACCAMO SALVATORE	$0		0431/0424		01/01/1900
	$0		0224/0239		01/01/1900

Building Information

Building 1 : Section 1

Year Built:

Building Photo

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	
Central Heat Sys	
Heat Type	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Num Kitchens	
Whirlpool Tub	
Fireplaces	
Rec Room Finish	
Rec Room Qual	
Bsmt Garages	
Fireplaces	
Bldg Nbhd	
Fndtn Cndtn	
Basement	

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

Building Layout

Building Layout (ParcelSketch.ashx?pid=1134&bid=1593)

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4400
Description	Ind Ld De
Zone	TP
Neighborhood	101G
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.82
Depth	
Assessed Value	$69,440
Appraised Value	$99,200

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV5	Conc Pad			256.00 S.F.	$3,100	1
FN3	Fence-6' Chain			150.00 L.F.	$1,500	1
CB3	PreCastConcCel			286.00 S.F.	$89,200	1
CB3	PreCastConcCel			360.00 S.F.	$140,300	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$234,100	$99,200	$333,300
2018	$234,100	$99,200	$333,300
2017	$234,100	$99,200	$333,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$163,870	$69,440	$233,310
2018	$163,870	$69,440	$233,310
2017	$163,870	$69,440	$233,310


Webster Resource Cent
Loon Lake Rd
Loon Lake Rd
Loon Lake Rd
84
Robindale Dr
Quinnipiac River
Yankee Expy
Yankee Expy
Hillhurst Ave
Elementar
Gaffney PreSchool
Quest Diagnostics
Quest Diagnostics 183...
84
Stanwood Dr

Exhibit C

Construction Drawings

T-Mobile

T-MOBILE SITE NUMBER: CT11423
T-MOBILE SITE NAME: I-84/NEW BRITAIN
SITE TYPE: MONOPOLE TOWER
TOWER HEIGHT: 118'-9"

BUSINESS UNIT #: 876331
SITE ADDRESS: 115 NORTH MOUNTAIN RD NEW BRITAIN, CT 06053
COUNTY: HARTFORD
JURISDICTION: TOWN OF GILFORD

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5997DB_2XAIR+1OP

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	NEW BRITAIN GRAVE PIT
SITE ADDRESS:	115 NORTH MOUNTAIN RD NEW BRITAIN, CT 06053
COUNTY:	HARTFORD
MAP/PARCEL #:	----
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.67640000°
LONGITUDE:	72.82150000°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	417FT
CURRENT ZONING:	----
JURISDICTION:	TOWN OF GILFORD
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	---- ---- ----
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	---- ----
TELCO PROVIDER:	---- ----

PROJECT TEAM

A&E FIRM:	INFINIGY 1033 WATERVLIET SHAKER RD. ALBANY, NY 12205
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	---- - PROJECT MANAGER ----
	---- - CONSTRUCTION MANAGER ----

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

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR ----. 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.

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:
- REMOVE (3) ANTENNAS
- REMOVE (5) COAX CABLES
- REMOVE (3) SECTOR MOUNTS
- INSTALL (3) ANTENNAS
- INSTALL (3) RRHs
- INSTALL (3) DIPLEXERS
- INSTALL (1) HYBRID CABLE
- INSTALL (1) PLATFORM

GROUND SCOPE OF WORK:
- REMOVE (1) EXISTING NORTEL CABINET
- INSTALL (1) 6160 & (1) B160 BATTERY CABINETS
- INSTALL (1) BB6630 IN (P) CABINET
- INSTALL (1) BB6648 IN (P) CABINET
- INSTALL (1) iXRe ROUTE IN (P) CABINET
- INSTALL (1) PSU 4813 IN (P) CABINET

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

LOCATION MAP

NO SCALE

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	BY OTHERS
DATED:	
MOUNT ANALYSIS:	INFINIGY ENGINEERING
DATED:	10/27/20
AC ELECTRICAL POWER DESIGN:	BY OTHERS
DATED:	
RFDS REVISION:	5
DATED:	9/21/20
ORDER ID:	529723
REVISION:	0

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

APPROVALS

APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		

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

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

INFINIGY
FROM ZERO TO INFINIGY
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1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CT11423

BU #: **876331**
NEW BRITAIN GRAVE PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-9" MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/02/20	MAP	PRELIMINARY	SS
0	12/07/20	MAP	FINAL	SS
1	01/05/21	MAP	LEASE AREA ADD	SS

STATE OF CONNECTICUT
HUSHEI SAKANOUE
34916
LICENSED PROFESSIONAL ENGINEER
1/5/21

SHEET NUMBER: T-1
REVISION: 1

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

GREENFIELD GROUNDING NOTES:

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

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35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

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T-MOBILE SITE NUMBER:
CT11423

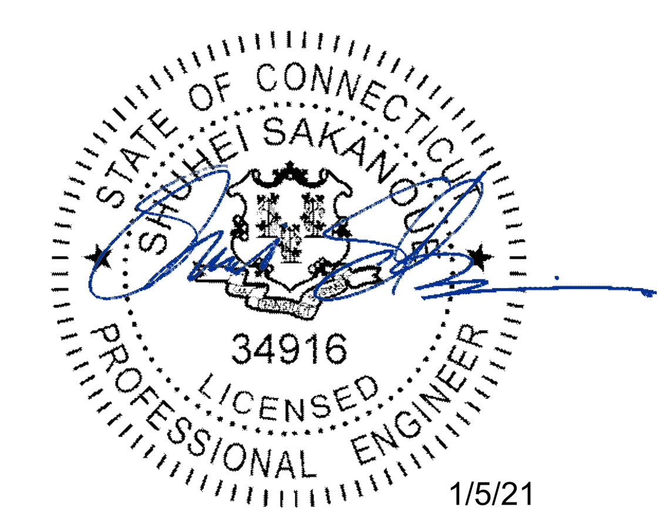
BU #: **876331**
NEW BRITAIN GRAVE PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-9" MONOPOLE TOWER

ISSUED FOR:

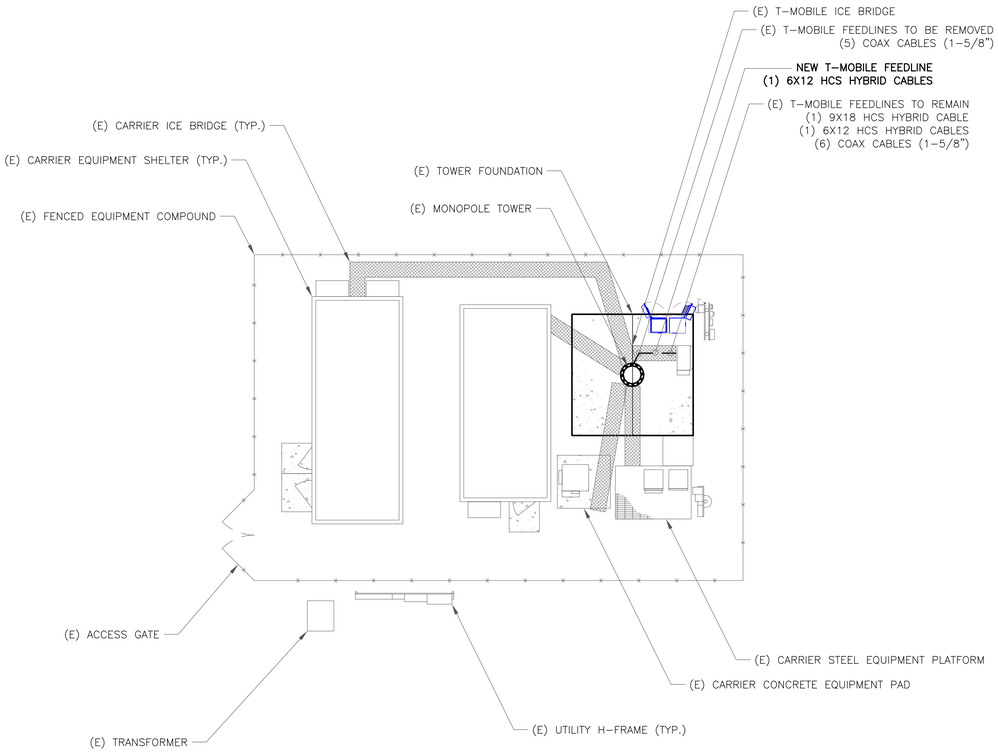
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/02/20	MAP	PRELIMINARY	SS
0	12/07/20	MAP	FINAL	SS
1	01/05/21	MAP	LEASE AREA ADD	SS



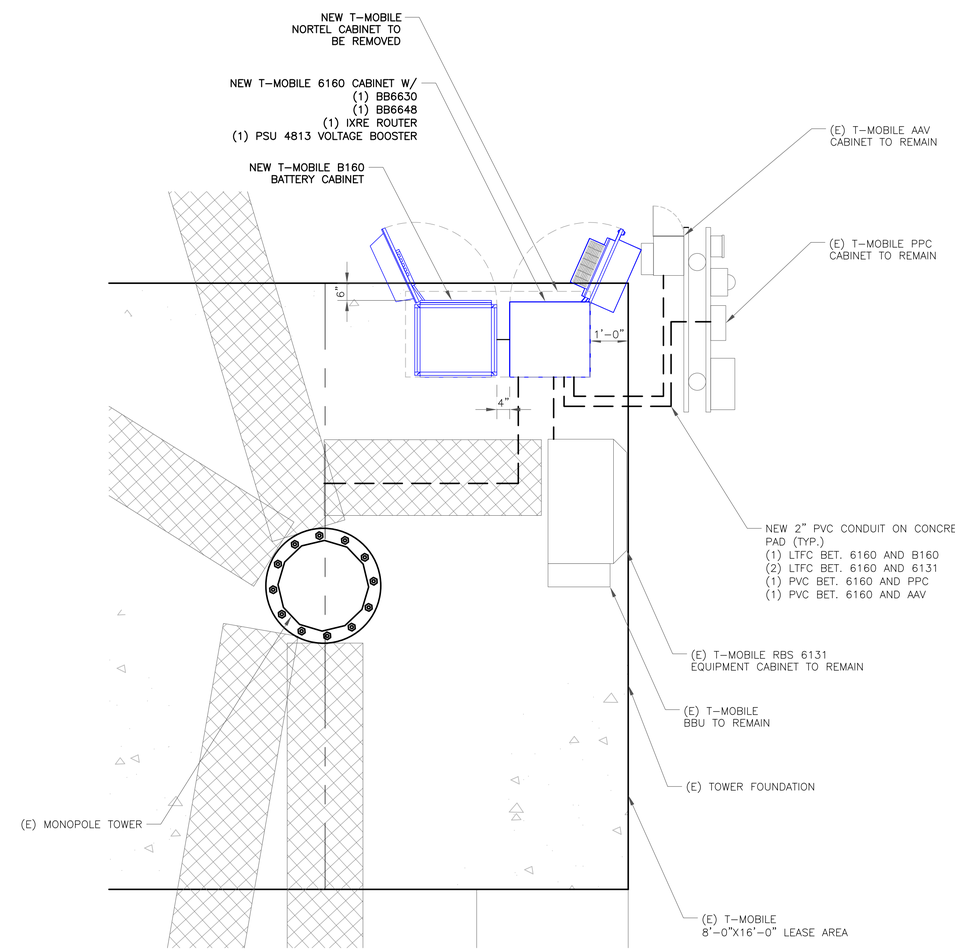
SHEET NUMBER: T-2
REVISION: 1

NOTE:

1. PLANS BASED ON SITE PLAN PROVIDED BY TOWER OWNER AND SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING T–MOBILE EQUIPMENT.



1 SITE PLAN
SCALE: 10' 5' 0 10' 1"=10'–0" (FULL SIZE) 1"=20'–0" (11x17)



2 ENLARGED SITE PLAN
SCALE: 2' 1' 0 2' 1"=2'–0" (FULL SIZE) 1"=4'–0" (11x17)

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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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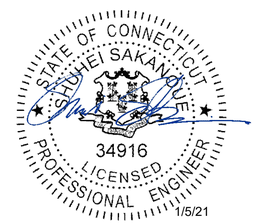
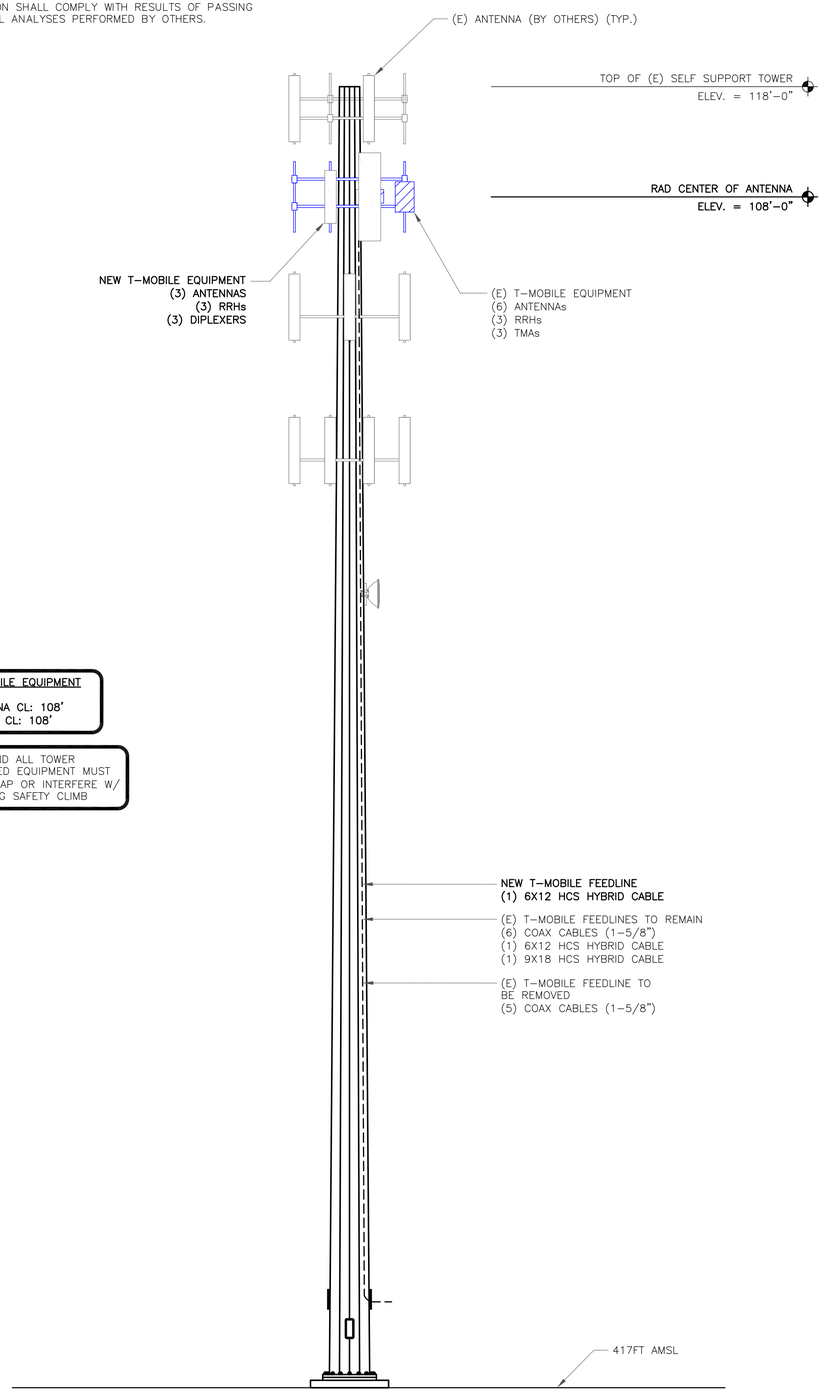


SHEET NUMBER: C-1

REVISION: 1

NOTES:

1. ELEVATION BASED ON DRAWING PROVIDED BY TOWER OWNER. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.
2. INFINIGY HAS NOT EVALUATED THE TOWER STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS.

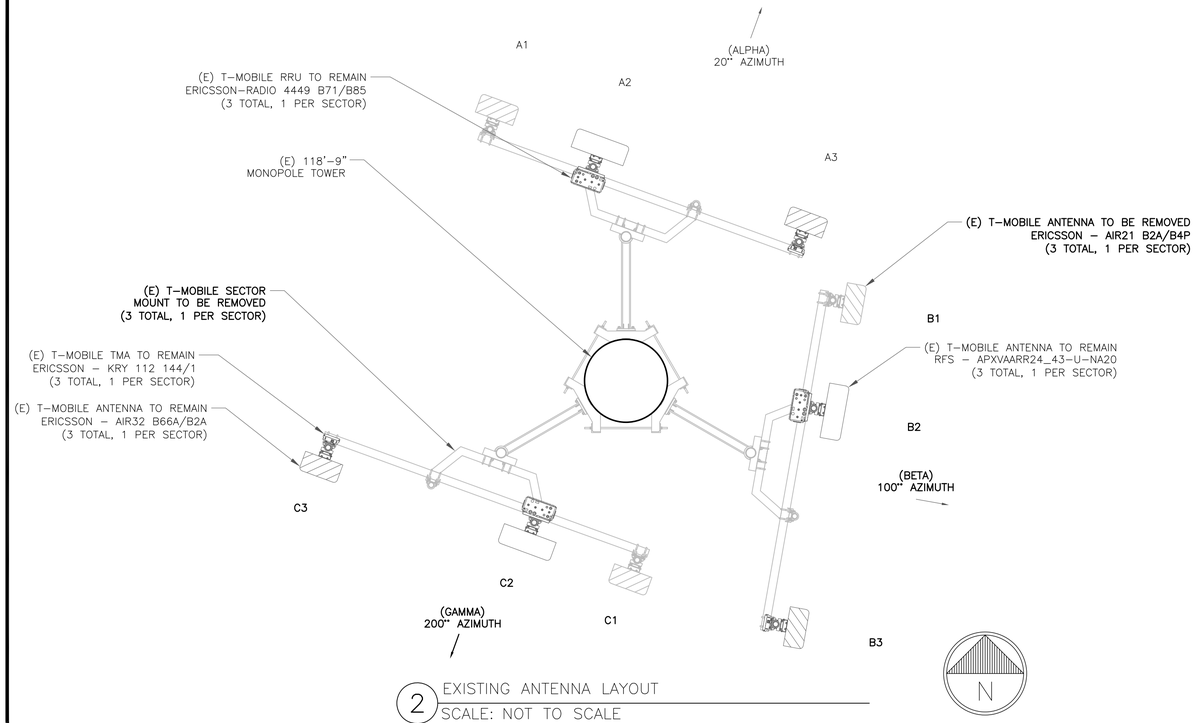


T-MOBILE EQUIPMENT

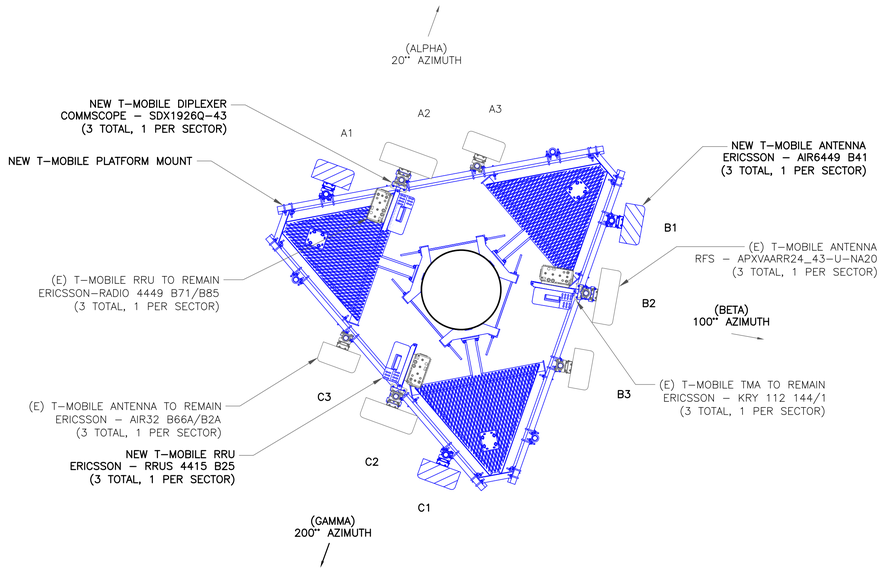
ANTENNA CL: 108'
MOUNT CL: 108'

ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE



3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
CT11423

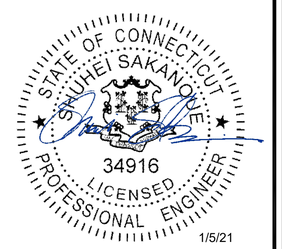
BU #: **876331**
NEW BRITAIN GRAVE PIT

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

EXISTING 118'-9" MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/02/20	MAP	PRELIMINARY	SS
0	12/07/20	MAP	FINAL	SS
1	01/05/21	MAP	LEASE AREA ADD	SS



SHEET NUMBER: C-2

REVISION: 1

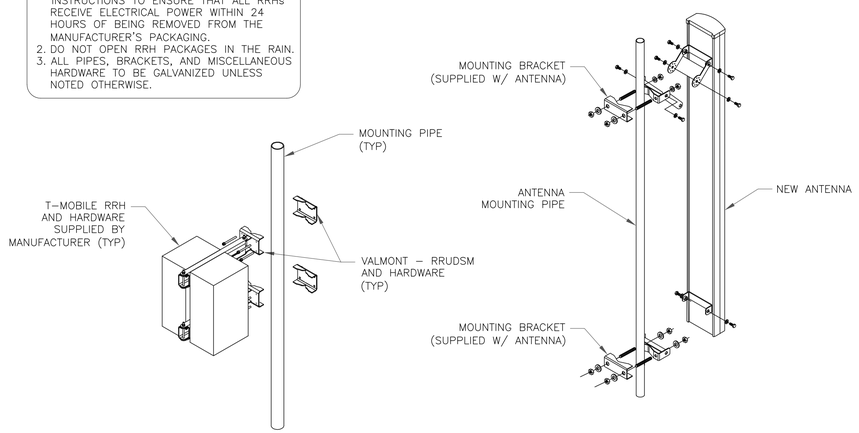
ANTENNA SCHEDULE

SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	**A1**	**L2500, N2500**	**108'**	**20''**	**ERICSSON**	**AIR6449 B41**	**0°**	**2°/2°**	**(1) ERICSSON – KRY 112 114/1**	**(1) 6X12 HCS HYBRID (SHARED)**
ALPHA	A2	L600, L700, N600, L1900, U2100	108'	20''	RFS	APXVAARR24_43-UNA20	0°	2°/2° 2°/2°	(1) ERICSSON – RRUS 4449 B71+B85 **(1) ERICSSON – RRUS 4424 B25** **(1) COMMSCOPE – SDX1926Q-43 DIPLEXER**	(2) 1-5/8" COAX (1) 6X12 HCS HYBRID (SHARED)
ALPHA	A3	L2100, L1900, G1900	108'	20''	ERICSSON	AIR32 B66A/B2A	0°	2°/2° 2°/2°	–	(1) 9X18 HCS HYBRID (SHARED)
BETA	**B1**	**L2500, N2500**	**108'**	**100°**	**ERICSSON**	**AIR6449 B41**	**0°**	**2°/2°**	**(1) ERICSSON – KRY 112 114/1**	**(1) 6X12 HCS HYBRID (SHARED)**
BETA	B2	L600, L700, N600, L1900, U2100	108'	100°	RFS	APXVAARR24_43-UNA20	0°	2°/2° 2°/2°	(1) ERICSSON – RRUS 4449 B71+B85 **(1) ERICSSON – RRUS 4424 B25** **(1) COMMSCOPE – SDX1926Q-43 DIPLEXER**	(2) 1-5/8" COAX (1) 6X12 HCS HYBRID (SHARED)
BETA	B3	L2100, L1900, G1900	108'	100°	ERICSSON	AIR32 B66A/B2A	0°	2°/2° 2°/2°	–	(1) 9X18 HCS HYBRID (SHARED)
GAMMA	**C1**	**L2500, N2500**	**108'**	**200°**	**ERICSSON**	**AIR6449 B41**	**0°**	**2°/2°**	**(1) ERICSSON – KRY 112 114/1**	**(1) 6X12 HCS HYBRID (SHARED)**
GAMMA	C2	L600, L700, N600, L1900, U2100	108'	200°	RFS	APXVAARR24_43-UNA20	0°	2°/2° 2°/2°	(1) ERICSSON – RRUS 4449 B71+B85 **(1) ERICSSON – RRUS 4424 B25** **(1) COMMSCOPE – SDX1926Q-43 DIPLEXER**	(2) 1-5/8" COAX (1) 6X12 HCS HYBRID (SHARED)
GAMMA	C3	L2100, L1900, G1900	108'	200°	ERICSSON	AIR32 B66A/B2A	0°	2°/2° 2°/2°	–	(1) 9X18 HCS HYBRID (SHARED)

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

NOTE:

1. CONTRACTOR SHALL INSTALL 3RD DUAL RRH MOUNT TO ACCOMMODATE ALL RRH BRACKETS HOLES IF NECESSARY.

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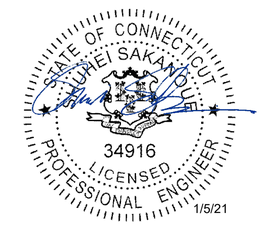
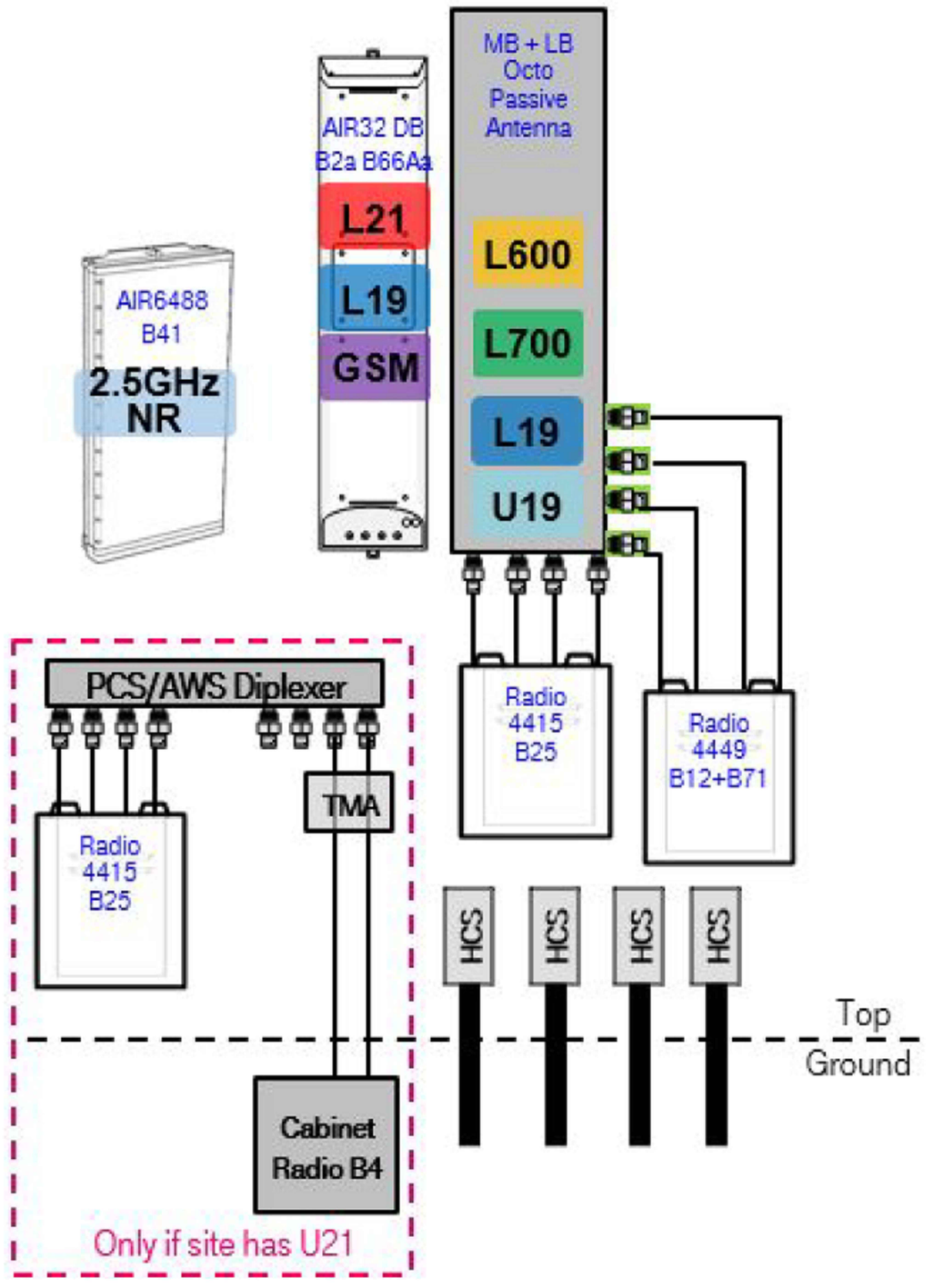
1	01/05/21	MAP	LEASE AREA ADD	SS



SHEET NUMBER: C-3

REVISION: 1



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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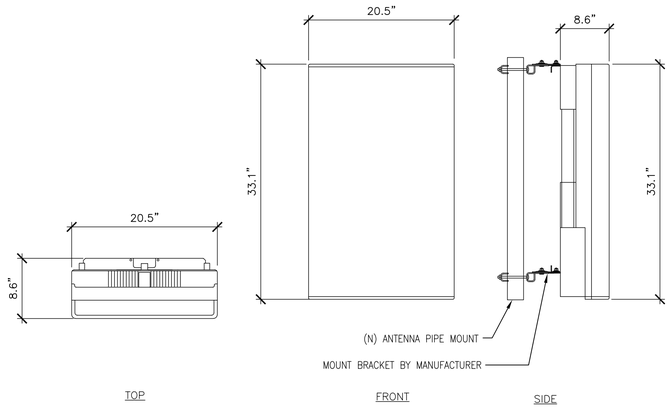
1	01/05/21	MAP	LEASE AREA ADD	SS

STATE OF CONNECTICUT
SHUHEI SAKAGUCHI
34916
LICENSED PROFESSIONAL ENGINEER
1/5/21

SHEET NUMBER: C-4
REVISION: 1

MANUFACTURER: ERICSSON
MODEL: AIR6449 B41
WEIGHT: 104 LBS (W/ MOUNT BRACKET 113)
DIMENSIONS: 33.1"H. X 20.5"W. X 8.6"D.
FREQUENCY: REFER TO RF DATA SHEET

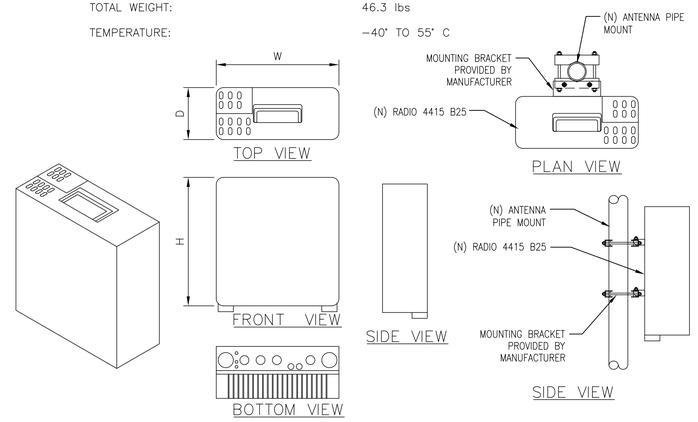


1 (N) AIR6449 B41 ANTENNA SPEC
SCALE: NOT TO SCALE

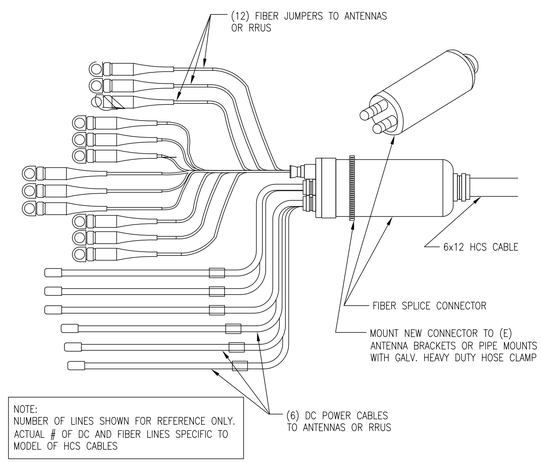
2 (N) COMMSCOPE – SDX1926Q-43 SPEC
SCALE: NOT TO SCALE

ERICSSON RADIO-4415 B66

DIMENSIONS, WxDxH:	13.2"x5.4"x14.9"
POWER CONSUMPTION:	660 WATTS
TOTAL WEIGHT:	46.3 lbs
TEMPERATURE:	-40° TO 55° C

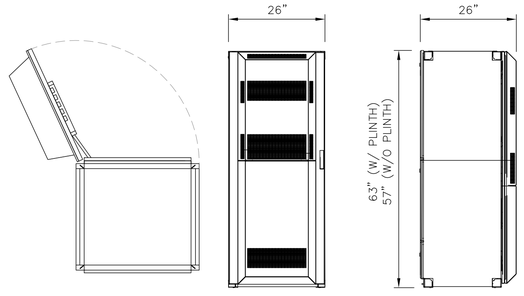


3 (N) RADIO 4415 B66 SPEC
SCALE: NOT TO SCALE



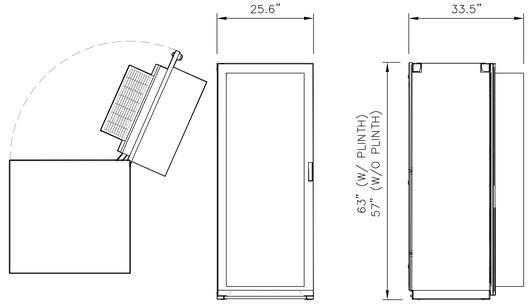
NOTE:
NUMBER OF LINES SHOWN FOR REFERENCE ONLY. ACTUAL # OF DC AND FIBER LINES SPECIFIC TO MODEL OF HCS CABLES

4 (N) 6X12 HCS CABLE DETAIL
SCALE: NOT TO SCALE



ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

5 (N) B160 BATTERY CABINET DETAIL
SCALE: NOT TO SCALE



ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

6 (N) 6160 EQUIPMENT CABINET DETAIL
SCALE: NOT TO SCALE

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BU #: **876331**
NEW BRITAIN GRAVE PIT

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NEW BRITAIN, CT 06053

EXISTING 118'-9" MONOPOLE TOWER

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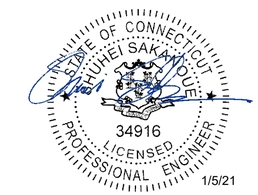


SHEET NUMBER: C-5

REVISION: 1

T-MOBILE PANEL SCHEDULE

MAIN: 200A MAIN BREAKER | **VOTAGE/PHASE:** 120/240V, 1-PHASE, 3-WIRE | **SHORT CIRCUIT CURRENT RATING:** --

MOUNTING: INSIDE PPC ENCLOSURE | **ENCLOSURE:** NEMA 3R | **SURGE PROTECTION DEVICE:** YES

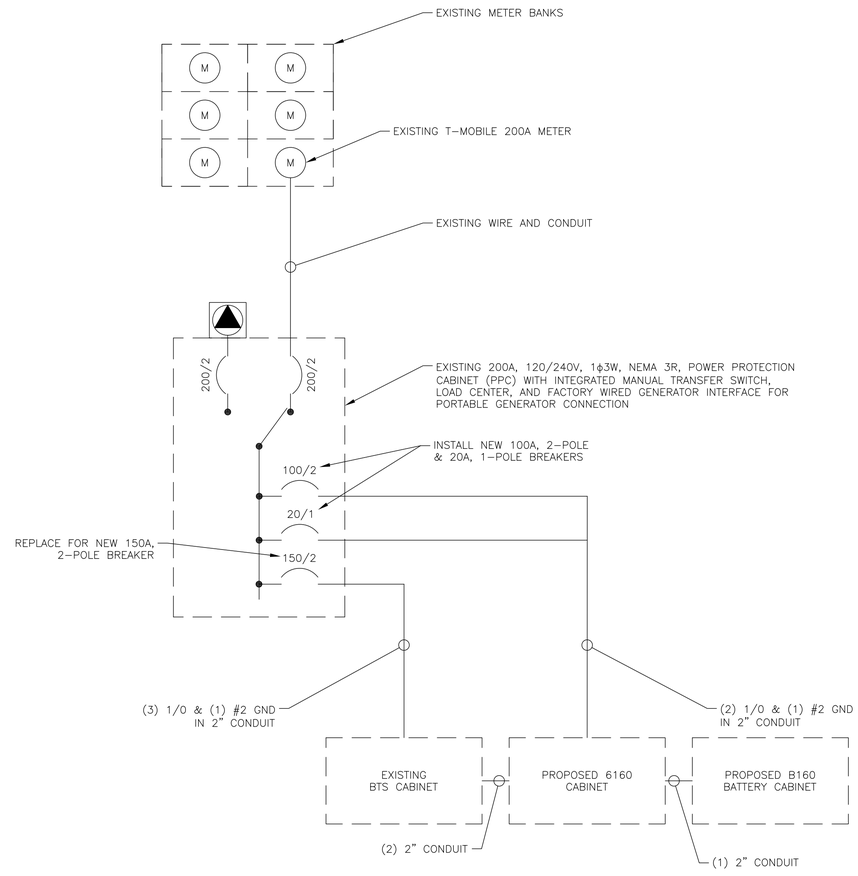
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA) A	PHASE LOADS (VA) B	CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
UTMS?*	0	NC	50	1	180		2	20	NC	180	GFI?
	0	NC		3		8500	4	150	C	8500	6131
6160**	2000	C	100	5	10500		6		C	8500	
	2000	C		7		2200	8	20	NC	200	SPOT LIGHT
6160 GFCI**	180	NC	20	9	2000		10				
				11			12				
				13			14				
				15		0	16				
				17	0		18				
				19		0	20				
				21	0		22				
				23		0	24				
BASE LOAD (VA) =					12680	10700					
25% OF CONTINUOUS LOAD (VA) =					2625	2625					
TOTAL LOAD (VA) =					15305	13325					
TOTAL LOAD (A) =					128	112					

* REMOVE WIRE TO EXISTING BREAKER AND MARK AS SPARE
**INDICATES NEW LOAD. ALL OTHER LOADS ARE EXISTING.
NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL GROUNDING AND BONDING PER THE NEC.



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

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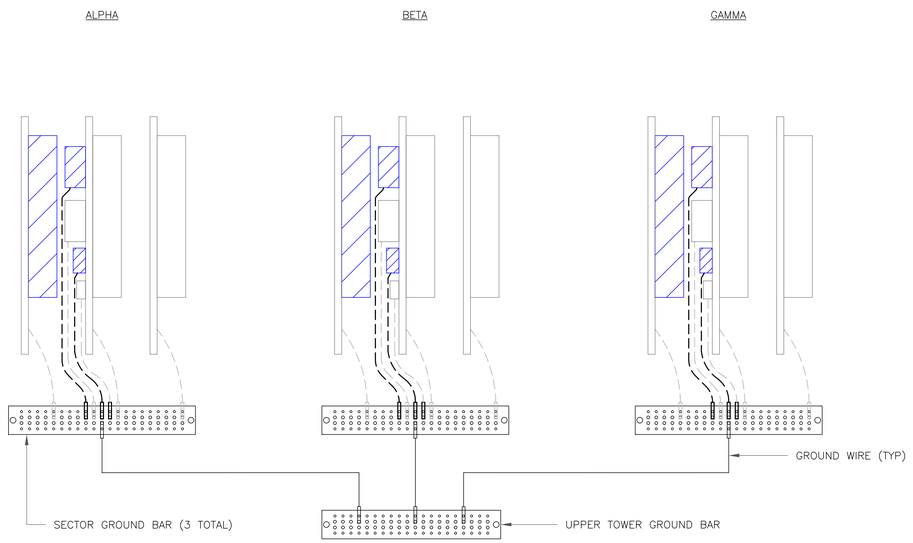
STATE OF CONNECTICUT
KUHEI SAKAMOTO
34916
LICENSED PROFESSIONAL ENGINEER
1/5/21

SHEET NUMBER: E-1
REVISION: 1



NOTE:

ALL NEW GROUNDS TO BE #6 STRANDED COPPER WITH GREEN INSULATION UNLESS NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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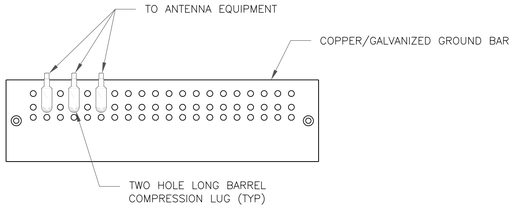
STATE OF CONNECTICUT
SHUHEI SAKANOUE
34916
LICENSED PROFESSIONAL ENGINEER
1/5/21

SHEET NUMBER: G-1

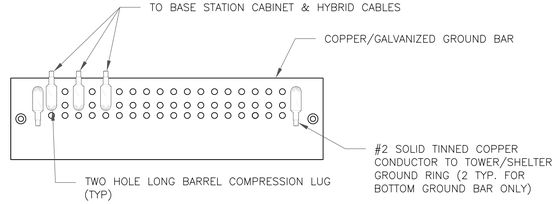
REVISION: 1



NOTES:

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

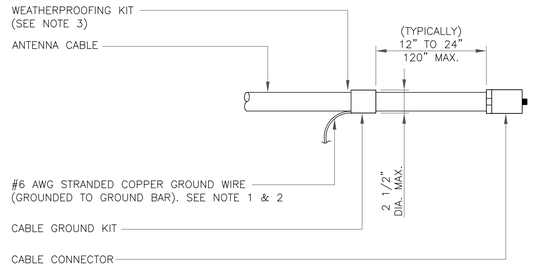
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

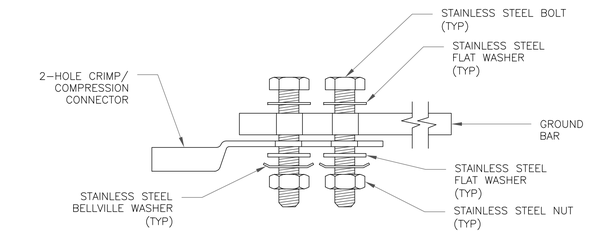
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



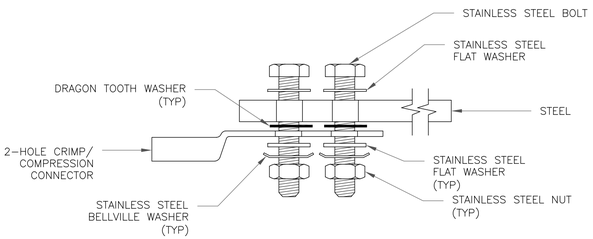
NOTES:

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

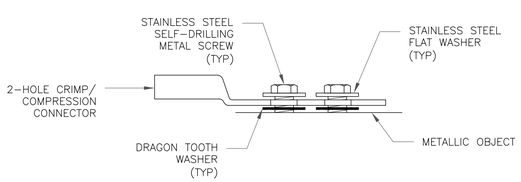
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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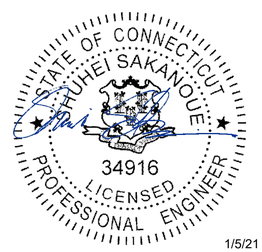


1/5/21

SHEET NUMBER: G-2

REVISION: 1

Exhibit D

Structural Analysis Report

Date: **November 04, 2020**

Rebecca Klein
Crown Castle
6325 Ardrey Kell Road, Suite 600
Charlotte, NC 28277

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11423
	Carrier Site Name:	I-84/NEW BRITAIN
Crown Castle Designation:	**Crown Castle BU Number:**	876331
	Crown Castle SIte Name:	NEW BRITAIN GRAVEL PIT
	Crown Castle JDE Job Number:	620155
	Crown Castle Work Order Number:	1890934
	Crown Castle Order Number:	529723 Rev. 0
Engineering Firm Designation:	**Crown Castle Project Number:**	1890934
Site Data:	**115 North Mountain Rd, NEW BRITAIN, Hartford County, CT**	
	Latitude *41° 40' 35.72"*, Longitude *-72° 49' 17.09"*	
	118 Foot - Monopole Tower	

Dear Rebecca Klein,

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

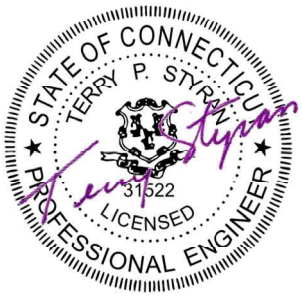
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity - 96.7%**

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

Structural analysis prepared by: Nicholas Cvetic, E.I.T.

Respectfully submitted by:



Terry P Styran
2020.11.05
08:34:38 -05'00'

Terry P. Styran, P.E.
Senior Project Engineer

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1) INTRODUCTION

This tower is a 118 ft monopole tower designed by ROHN. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

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

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
108.0	108.0	3	commscope	SDX1926Q-43	3 6	1-5/8 7/8
		3	ericsson	AIR 32 B2a/B66Aa		
		3	ericsson	AIR6449 B41_T-MOBILE		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B71 B85A_ T-MOBILE		
		3	ericsson	RRUS 4415 B25		
		3	rfs celwave	APXVAARR24_43-U-NA20		
		1	site pro 1	RMQP-496-HK		

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)
116.0	116.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	tower mounts	Pipe Mount [PM 601-3]		
114.0	116.0	3	alcatel lucent	TD-RRH8x20-25	4 1	1-1/4 1/2
		1	andrew	VHLP1-23		
		1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe		
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
		1	samsung telecommunications	WIMAX DAP HEAD		
	114.0	1	tower mounts	Platform Mount [LP 502-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
98.0	98.0	1	andrew	SBNH-1D6565C w/ Mount Pipe	12 2 1	7/8 3/4 3/8
		2	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe		
		1	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe		
		3	communication components inc.	DTMABP7819VG12A		
		3	ericsson	RRUS 11 B12		
		3	ericsson	RRUS 32 B2		
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	7020.00		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		3	powerwave technologies	TT19-08BP111-001		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 712-1]		
85.0	86.0	3	alcatel lucent	RRH2X60-AWS	13	1-5/8
		3	alcatel lucent	RRH2X60-PCS		
		6	andrew	CBC721-DF		
		6	andrew	HBXX-6517DS-A2M w/ Mount Pipe		
		2	antel	BXA-70040-6CF-EDIN-2 w/ Mount Pipe		
		4	antel	BXA-70063-6CF-2 w/ Mount Pipe		
		1	rfs celwave	DB-B1-6C-12AB-0Z		
	85.0	1	tower mounts	Platform Mount [LP 303-1]		
80.0	81.0	1	lucent	KS24019-L112A	1	1/2
	80.0	1	tower mounts	Side Arm Mount [SO 701-1]		
72.0	74.0	2	argus technologies	LLPX310R w/ Mount Pipe	2 3 3	1/2 1/4 5/8
		1	dragonwave	HORIZON COMPACT		
		1	samsung telecommunications	WIMAX DAP HEAD		
	73.0	1	andrew	VHLP1-23		
		1	samsung telecommunications	WIMAX DAP HEAD		
	72.0	1	argus technologies	LLPX310R w/ Mount Pipe		
		1	dragonwave	A-ANT-18G-2-C		
		1	dragonwave	HORIZON COMPACT		
		1	samsung telecommunications	WIMAX DAP HEAD		
		1	tower mounts	Side Arm Mount [SO 101-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	FDH	2192549	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	ROHN	1947809	CCISITES
4-TOWER MANUFACTURER DRAWINGS	ROHN	5875885	CCISITES
4-POST-MODIFICATION INSPECTION	TEP	3684848	CCISITES
4-POST-MODIFICATION INSPECTION	SGS	5407775	CCISITES
4-POST-MODIFICATION INSPECTION	SGS	5596857	CCISITES
4-POST-MODIFICATION INSPECTION	TEP	6131239	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Paul J. Ford and Company	2268906	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
118 - 113	Pole	TP24x24x0.25	Pole	2.6%	Pass
113 - 108	Pole	TP24x24x0.25	Pole	7.3%	Pass
108 - 103	Pole	TP24x24x0.25	Pole	18.9%	Pass
103 - 98	Pole	TP24x24x0.25	Pole	30.2%	Pass
98 - 93	Pole	TP24x24x0.25	Pole	47.6%	Pass
93 - 90	Pole	TP24x24x0.25	Pole	57.9%	Pass
90 - 85	Pole	TP24x24x0.375	Pole	48.3%	Pass
85 - 80	Pole	TP24x24x0.375	Pole	64.8%	Pass
80 - 76.5	Pole	TP24x24x0.375	Pole	76.0%	Pass
76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	55.4%	Pass
76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	60.6%	Pass
74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	60.1%	Pass

73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	72.0%	Pass
68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	74.2%	Pass
68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	84.8%	Pass
64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	73.5%	Pass
64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	76.3%	Pass
63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	79.2%	Pass
62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	85.6%	Pass
60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	54.2%	Pass
59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	61.7%	Pass
54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	69.4%	Pass
49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	70.2%	Pass
49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	64.6%	Pass
49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	71.8%	Pass
44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	74.7%	Pass
42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	66.0%	Pass
41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	72.5%	Pass
36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	75.5%	Pass
34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.4%	Pass
34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.7%	Pass
34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	76.2%	Pass
33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	81.2%	Pass
30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	73.5%	Pass
29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	75.0%	Pass
28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	62.2%	Pass
28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	67.3%	Pass
23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	63.3%	Pass
23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	64.7%	Pass
21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	77.7%	Pass
21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	80.3%	Pass
19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.0%	Pass
18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.3%	Pass
18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	70.0%	Pass
18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	75.1%	Pass
13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	75.7%	Pass
12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	78.9%	Pass
12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	79.9%	Pass
11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	70.6%	Pass
11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	71.3%	Pass
10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	67.2%	Pass

10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	69.7%	Pass
7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	67.6%	Pass
7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	68.4%	Pass
6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	68.6%	Pass
6 - 3.73	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	58.9%	Pass
3.73 - 3.48	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	59.1%	Pass
3.48 - 2.75	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	59.6%	Pass
2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	64.0%	Pass
2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	64.3%	Pass
2 - 1.75	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	71.7%	Pass
1.75 - 0	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	73.2%	Pass
				Summary	
			Pole	79.3%	Pass
			Reinforcement	85.6%	Pass
			Overall	85.6%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Bridge Stiffeners	90	22.8	Pass
	Flange Bolts		15.5	Pass
	Flange Plates		16.3	Pass
1	Bridge Stiffeners	60	65.6	Pass
	Flange Bolts		54.0	Pass
	Flange Plates		86.9	Pass
1	Bridge Stiffeners	30	52.2	Pass
	Flange Bolts		52.3	Pass
	Flange Plates		95.4	Pass
1	Anchor Rods	0	90.5	Pass
	Base Plate		57.7	Pass
1	Base Foundation	0	96.7	Pass

Structure Rating (max from all components) =	**96.7%**

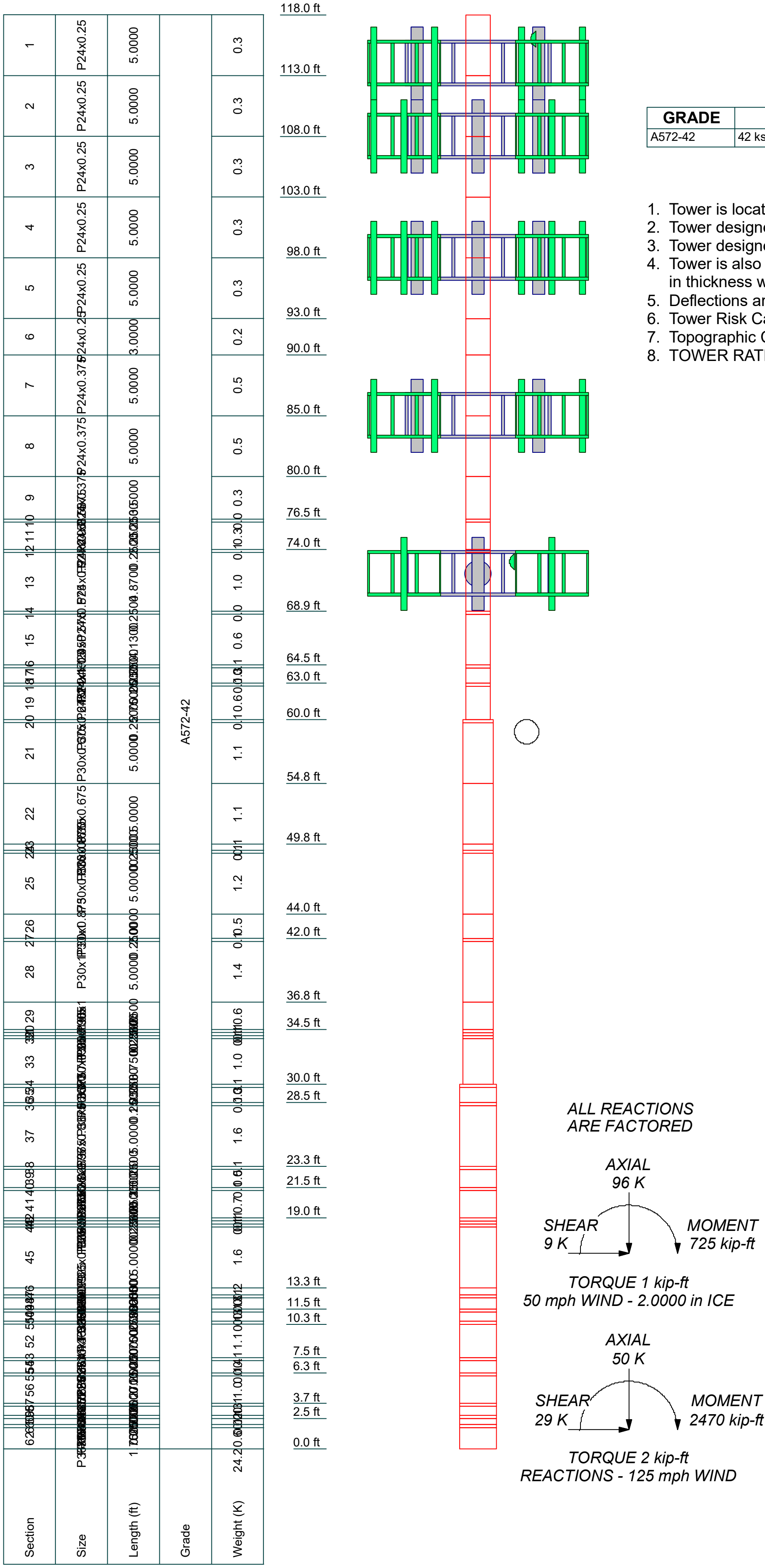
Notes:
1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-42	42 ksi	60 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 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 0.0000 ft
8. TOWER RATING: 85.6%

CROWN CASTLE
The Pathway to Possible
Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
Phone: (724) 416-2000
FAX:

Job: **BU# 876331**		
Project:		
Client: Crown Castle	Drawn by: NCvetic	App'd:
Code: TIA-222-H	Date: 11/04/20	Scale: NTS
Path: \\netapp4.us.crowncastle.com\cad\Structural Work Area\870000-879999\876331\WO 1890934 - SA\Prod\876331 Mod eri		Dwg No. E-1

Tower Input Data

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

3) Tower is located in Hartford County, Connecticut.
4) Tower base elevation above sea level: 350.0000 ft.
5) Basic wind speed of 125 mph.
6) Risk Category II.
7) Exposure Category C.
8) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
9) Topographic Category: 1.
10) Crest Height: 0.0000 ft.
11) Nominal ice thickness of 2.0000 in.
12) Ice thickness is considered to increase with height.
13) Ice density of 56.0000 pcf.
14) A wind speed of 50 mph is used in combination with ice.
15) Temperature drop of 50.0000 °F.
16) Deflections calculated using a wind speed of 60 mph.
17) TOWER RATING: 85.6%.
18) A non-linear (P-delta) analysis was used.
19) Pressures are calculated at each section.
20) Stress ratio used in pole design is 1.05.
21) Tower analysis based on target reliabilities in accordance with Annex S.
22) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
23) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	118.0000-113.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L2	113.0000-108.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L3	108.0000-103.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L4	103.0000-98.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L5	98.0000-93.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L6	93.0000-90.0000	3.0000	P24x0.25	A572-42 (42 ksi)	
L7	90.0000-85.0000	5.0000	P24x0.375	A572-42 (42 ksi)	
L8	85.0000-80.0000	5.0000	P24x0.375	A572-42 (42 ksi)	
L9	80.0000-76.5000	3.5000	P24x0.375	A572-42 (42 ksi)	
L10	76.5000-76.2500	0.2500	P24x0.5875	A572-42 (42 ksi)	
L11	76.2500-74.0000	2.2500	P24x0.5875	A572-42 (42 ksi)	
L12	74.0000-73.7500	0.2500	P24x0.9	A572-42 (42 ksi)	
L13	73.7500-68.8800	4.8700	P24x0.9	A572-42 (42 ksi)	
L14	68.8800-68.6300	0.2500	P24x0.575	A572-42 (42 ksi)	
L15	68.6300-64.5000	4.1300	P24x0.575	A572-42 (42 ksi)	
L16	64.5000-64.2500	0.2500	P24x1.05	A572-42 (42 ksi)	
L17	64.2500-63.0000	1.2500	P24x1.05	A572-42 (42 ksi)	
L18	63.0000-62.7500	0.2500	P24x1	A572-42 (42 ksi)	
L19	62.7500-60.0000	2.7500	P24x1	A572-42 (42 ksi)	
L20	60.0000-59.7500	0.2500	P30x0.675	A572-42 (42 ksi)	
L21	59.7500-54.7500	5.0000	P30x0.675	A572-42 (42 ksi)	
L22	54.7500-49.7500	5.0000	P30x0.675	A572-42 (42 ksi)	
L23	49.7500-49.2500	0.5000	P30x0.675	A572-42 (42 ksi)	
L24	49.2500-49.0000	0.2500	P30x0.875	A572-42 (42 ksi)	
L25	49.0000-44.0000	5.0000	P30x0.875	A572-42 (42 ksi)	
L26	44.0000-42.0000	2.0000	P30x0.875	A572-42 (42 ksi)	
L27	42.0000-41.7500	0.2500	P30x1	A572-42 (42 ksi)	
L28	41.7500-36.7500	5.0000	P30x1	A572-42 (42 ksi)	
L29	36.7500-34.5000	2.2500	P30x1	A572-42 (42 ksi)	
L30	34.5000-34.2500	0.2500	P30x1.05	A572-42 (42 ksi)	
L31	34.2500-34.0000	0.2500	P30x1.05	A572-42 (42 ksi)	
L32	34.0000-33.7500	0.2500	P30x0.95	A572-42 (42 ksi)	
L33	33.7500-30.0000	3.7500	P30x0.95	A572-42 (42 ksi)	
L34	30.0000-29.7500	0.2500	P36x0.7	A572-42 (42 ksi)	
L35	29.7500-28.5000	1.2500	P36x0.7	A572-42	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
				(42 ksi)	
L36	28.5000-28.2500	0.2500	P36x0.8375	A572-42 (42 ksi)	
L37	28.2500-23.2500	5.0000	P36x0.8375	A572-42 (42 ksi)	
L38	23.2500-23.0000	0.2500	P36x0.975	A572-42 (42 ksi)	
L39	23.0000-21.5000	1.5000	P36x0.975	A572-42 (42 ksi)	
L40	21.5000-21.2500	0.2500	P36x0.825	A572-42 (42 ksi)	
L41	21.2500-19.0000	2.2500	P36x0.825	A572-42 (42 ksi)	
L42	19.0000-18.7500	0.2500	P36x0.975	A572-42 (42 ksi)	
L43	18.7500-18.5000	0.2500	P36x0.975	A572-42 (42 ksi)	
L44	18.5000-18.2500	0.2500	P36x0.925	A572-42 (42 ksi)	
L45	18.2500-13.2500	5.0000	P36x0.925	A572-42 (42 ksi)	
L46	13.2500-12.7000	0.5500	P36x0.925	A572-42 (42 ksi)	
L47	12.7000-12.4500	0.2500	P36x0.9	A572-42 (42 ksi)	
L48	12.4500-11.5000	0.9500	P36x0.9	A572-42 (42 ksi)	
L49	11.5000-11.2500	0.2500	P36x0.9	A572-42 (42 ksi)	
L50	11.2500-10.5000	0.7500	P36x0.9	A572-42 (42 ksi)	
L51	10.5000-10.2500	0.2500	P36x1.325	A572-42 (42 ksi)	
L52	10.2500-7.5000	2.7500	P36x1.325	A572-42 (42 ksi)	
L53	7.5000-7.2500	0.2500	P36x1.4	A572-42 (42 ksi)	
L54	7.2500-6.2500	1.0000	P36x1.4	A572-42 (42 ksi)	
L55	6.2500-6.0000	0.2500	P36x1.4	A572-42 (42 ksi)	
L56	6.0000-3.7300	2.2700	P36x1.725	A572-42 (42 ksi)	
L57	3.7300-3.4800	0.2500	P36x1.725	A572-42 (42 ksi)	
L58	3.4800-2.7500	0.7300	P36x1.725	A572-42 (42 ksi)	
L59	2.7500-2.5000	0.2500	P36x1.675	A572-42 (42 ksi)	
L60	2.5000-2.0000	0.5000	P36x1.675	A572-42 (42 ksi)	
L61	2.0000-1.7500	0.2500	P36x1.425	A572-42 (42 ksi)	
L62	1.7500-0.0000	1.7500	P36x1.425	A572-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 118.0000-113.0000				1	1	1			
L2 113.0000-108.0000				1	1	1			
L3 108.0000-103.0000				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L4 103.0000-98.0000				1	1	1			
L5 98.0000-93.0000				1	1	1			
L6 93.0000-90.0000				1	1	1			
L7 90.0000-85.0000				1	1	1			
L8 85.0000-80.0000				1	1	1			
L9 80.0000-76.5000				1	1	1			
L10 76.5000-76.2500				1	1	0.956504			
L11 76.2500-74.0000				1	1	0.956504			
L12 74.0000-73.7500				1	1	0.938317			
L13 73.7500-68.8800				1	1	0.938317			
L14 68.8800-68.6300				1	1	0.976776			
L15 68.6300-64.5000				1	1	0.976776			
L16 64.5000-64.2500				1	1	0.928412			
L17 64.2500-63.0000				1	1	0.928412			
L18 63.0000-62.7500				1	1	0.941574			
L19 62.7500-60.0000				1	1	0.941574			
L20 60.0000-59.7500				1	1	1.03516			
L21 59.7500-54.7500				1	1	1.03516			
L22 54.7500-49.7500				1	1	1.03516			
L23 49.7500-49.2500				1	1	1.03516			
L24 49.2500-49.0000				1	1	0.878976			
L25 49.0000-44.0000				1	1	0.878976			
L26 44.0000-42.0000				1	1	0.878976			
L27 42.0000-41.7500				1	1	0.871205			
L28 41.7500-36.7500				1	1	0.871205			
L29 36.7500-34.5000				1	1	0.871205			
L30 34.5000-34.2500				1	1	0.925396			
L31 34.2500-34.0000				1	1	0.925396			
L32 34.0000-33.7500				1	1	0.915479			
L33 33.7500-30.0000				1	1	0.915479			
L34 30.0000-29.7500				1	1	1.02978			
L35 29.7500-28.5000				1	1	1.02978			
L36 28.5000-28.2500				1	1	1.01			
L37 28.2500-				1	1	1.01			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
23.2500									
L38 23.2500-23.0000				1	1	0.982824			
L39 23.0000-21.5000				1	1	0.982824			
L40 21.5000-21.2500				1	1	1.00849			
L41 21.2500-19.0000				1	1	1.00849			
L42 19.0000-18.7500				1	1	0.982824			
L43 18.7500-18.5000				1	1	0.982824			
L44 18.5000-18.2500				1	1	0.95108			
L45 18.2500-13.2500				1	1	0.95108			
L46 13.2500-12.7000				1	1	0.95108			
L47 12.7000-12.4500				1	1	0.981841			
L48 12.4500-11.5000				1	1	0.981841			
L49 11.5000-11.2500				1	1	1.07001			
L50 11.2500-10.5000				1	1	1.07001			
L51 10.5000-10.2500				1	1	0.839629			
L52 10.2500-7.5000				1	1	0.839629			
L53 7.5000-7.2500				1	1	0.828084			
L54 7.2500-6.2500				1	1	0.828084			
L55 6.2500-6.0000				1	1	0.828084			
L56 6.0000-3.7300				1	1	0.713254			
L57 3.7300-3.4800				1	1	0.713254			
L58 3.4800-2.7500				1	1	0.713254			
L59 2.7500-2.5000				1	1	0.667039			
L60 2.5000-2.0000				1	1	0.667039			
L61 2.0000-1.7500				1	1	0.691176			
L62 1.7500-0.0000				1	1	0.691176			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
**											

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	78.0000 - 0.0000	1	No Ice	0.1667	0.0000
							1/2" Ice	0.2778	0.0000
							1" Ice	0.3889	0.0000
							2" Ice	0.6111	0.0000
1" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	35.5000 - 0.0000	1	No Ice	0.1667	0.0000
							1/2" Ice	0.2778	0.0000
							1" Ice	0.3889	0.0000
							2" Ice	0.6111	0.0000
3/4" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	50.2500 - 35.5000	1	No Ice	0.1250	0.0000
							1/2" Ice	0.2361	0.0000
							1" Ice	0.3472	0.0000
							2" Ice	0.5694	0.0000
3/4" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	75.0000 - 60.0000	1	No Ice	0.1250	0.0000
							1/2" Ice	0.2361	0.0000
							1" Ice	0.3472	0.0000
							2" Ice	0.5694	0.0000
**									
HB114-1-08U4-M5J(1-1/4)	C	No	No	Inside Pole	114.0000 - 0.0000	3	No Ice	0.0000	1.0800
							1/2" Ice	0.0000	1.0800
							1" Ice	0.0000	1.0800
							2" Ice	0.0000	1.0800
LDF4-50A(1/2)	C	No	No	Inside Pole	114.0000 - 0.0000	1	No Ice	0.0000	0.1500
							1/2" Ice	0.0000	0.1500
							1" Ice	0.0000	0.1500
							2" Ice	0.0000	0.1500
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	114.0000 - 0.0000	1	No Ice	0.0000	1.2200
							1/2" Ice	0.0000	1.2200
							1" Ice	0.0000	1.2200
							2" Ice	0.0000	1.2200
**									
AL5-50(7/8)	C	No	No	Inside Pole	108.0000 - 0.0000	6	No Ice	0.0000	0.2600
							1/2" Ice	0.0000	0.2600
							1" Ice	0.0000	0.2600
							2" Ice	0.0000	0.2600
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	C	No	No	Inside Pole	108.0000 - 0.0000	3	No Ice	0.0000	1.0700
							1/2" Ice	0.0000	1.0700
							1" Ice	0.0000	1.0700
							2" Ice	0.0000	1.0700
**									
LDF5-50A(7/8)	C	No	No	Inside Pole	98.0000 - 0.0000	12	No Ice	0.0000	0.3300
							1/2" Ice	0.0000	0.3300
							1" Ice	0.0000	0.3300
							2" Ice	0.0000	0.3300
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	98.0000 - 0.0000	1	No Ice	0.0000	0.0586
							1/2" Ice	0.0000	0.0586
							1" Ice	0.0000	0.0586
							2" Ice	0.0000	0.0586
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	98.0000 - 0.0000	2	No Ice	0.0000	0.5840
							1/2" Ice	0.0000	0.5840
							1" Ice	0.0000	0.5840
							2" Ice	0.0000	0.5840
**									
LDF7-50A(1-5/8)	C	No	No	CaAa (Out Of Face)	85.0000 - 0.0000	2	No Ice	0.1980	0.8200
							1/2" Ice	0.2980	2.3349
							1" Ice	0.3980	4.4608
							2" Ice	0.5980	10.5450
LDF7-50A(1-5/8)	C	No	No	CaAa (Out Of Face)	85.0000 - 0.0000	10	No Ice	0.0000	0.8200
							1/2" Ice	0.0000	2.3349
							1" Ice	0.0000	4.4608
							2" Ice	0.0000	10.5450
HB158-1-08U8-S8J18(1-5/8)	C	No	No	CaAa (Out Of Face)	85.0000 - 0.0000	1	No Ice	0.0000	1.3000
							1/2" Ice	0.0000	2.8149
							1" Ice	0.0000	4.9408
							2" Ice	0.0000	11.0250
**									
LDF4-50A(1/2)	C	No	No	Inside Pole	80.0000 - 0.0000	1	No Ice	0.0000	0.1500
							1/2" Ice	0.0000	0.1500

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1" Ice	0.0000	0.1500
							2" Ice	0.0000	0.1500
1" Rigid Conduit (3/4" EMT)	C	No	No	CaAa (Out Of Face)	80.0000 - 72.0000	1	No Ice	0.0922	0.4570
							1/2" Ice	0.1922	1.3257
							1" Ice	0.2922	2.8052
							2" Ice	0.4922	7.5968
1" Rigid Conduit (3/4" EMT)	C	No	No	CaAa (Out Of Face)	72.0000 - 0.0000	1	No Ice	0.0000	0.4570
							1/2" Ice	0.0000	1.3257
							1" Ice	0.0000	2.8052
							2" Ice	0.0000	7.5968
**									
FSJ1-50A(1/4)	C	No	No	Inside Pole	72.0000 - 0.0000	3	No Ice	0.0000	0.0450
							1/2" Ice	0.0000	0.0450
							1" Ice	0.0000	0.0450
							2" Ice	0.0000	0.0450
HJ4.5-50(5/8)	C	No	No	Inside Pole	72.0000 - 0.0000	3	No Ice	0.0000	0.4000
							1/2" Ice	0.0000	0.4000
							1" Ice	0.0000	0.4000
							2" Ice	0.0000	0.4000
FSJ4P-50B-1(1/2)	C	No	No	CaAa (Out Of Face)	72.0000 - 0.0000	2	No Ice	0.0000	0.1400
							1/2" Ice	0.0000	0.7692
							1" Ice	0.0000	2.0092
							2" Ice	0.0000	6.3220
2" (Nominal) Conduit	C	No	No	CaAa (Out Of Face)	72.0000 - 0.0000	1	No Ice	0.2375	0.7200
							1/2" Ice	0.3375	2.4762
							1" Ice	0.4375	4.8433
							2" Ice	0.6375	11.4101
2" (Nominal) Conduit	C	No	No	CaAa (Out Of Face)	72.0000 - 0.0000	1	No Ice	0.0000	0.7200
							1/2" Ice	0.0000	2.4762
							1" Ice	0.0000	4.8433
							2" Ice	0.0000	11.4101
**									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.0000-113.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0046
L2	113.0000-108.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0231
L3	108.0000-103.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0469
L4	103.0000-98.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0469
L5	98.0000-93.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0728
L6	93.0000-90.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0437
L7	90.0000-85.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.000	0.0728
L8	85.0000-80.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.980	0.1285

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L9	80.0000-76.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.959	0.0921
L10	76.5000-76.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.164	0.0066
L11	76.2500-74.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.598	0.0592
L12	74.0000-73.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.195	0.0066
L13	73.7500-68.8800	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.251	0.1377
L14	68.8800-68.6300	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.231	0.0073
L15	68.6300-64.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	3.821	0.1213
L16	64.5000-64.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.231	0.0073
L17	64.2500-63.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.156	0.0367
L18	63.0000-62.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.231	0.0073
L19	62.7500-60.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	2.544	0.0808
L20	60.0000-59.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.200	0.0073
L21	59.7500-54.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.001	0.1468
L22	54.7500-49.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.063	0.1468
L23	49.7500-49.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.463	0.0147
L24	49.2500-49.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.231	0.0073
L25	49.0000-44.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.626	0.1468
L26	44.0000-42.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.850	0.0587
L27	42.0000-41.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.231	0.0073
L28	41.7500-36.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.626	0.1468
L29	36.7500-34.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	2.123	0.0661
L30	34.5000-34.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L31	34.2500-34.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L32	34.0000-33.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L33	33.7500-30.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	3.626	0.1101
L34	30.0000-29.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L35	29.7500-28.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.209	0.0367
L36	28.5000-28.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L37	28.2500-23.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.834	0.1468
L38	23.2500-23.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L39	23.0000-21.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.450	0.0441
L40	21.5000-21.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L41	21.2500-19.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	2.175	0.0661
L42	19.0000-18.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L43	18.7500-18.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L44	18.5000-18.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L45	18.2500-13.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	4.834	0.1468
L46	13.2500-12.7000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.532	0.0162
L47	12.7000-12.4500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L48	12.4500-11.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.918	0.0279
L49	11.5000-11.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L50	11.2500-10.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.725	0.0220
L51	10.5000-10.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L52	10.2500-7.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	2.659	0.0808
L53	7.5000-7.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L54	7.2500-6.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.967	0.0294

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L55	6.2500-6.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L56	6.0000-3.7300	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	2.195	0.0667
L57	3.7300-3.4800	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L58	3.4800-2.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.706	0.0214
L59	2.7500-2.5000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L60	2.5000-2.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.483	0.0147
L61	2.0000-1.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	0.242	0.0073
L62	1.7500-0.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0000
		C	0.000	0.000	0.000	1.692	0.0514

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.0000-113.0000	A	1.927	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0046
L2	113.0000-108.0000	A	1.918	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0231
L3	108.0000-103.0000	A	1.910	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0469
L4	103.0000-98.0000	A	1.900	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0469
L5	98.0000-93.0000	A	1.891	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0728
L6	93.0000-90.0000	A	1.883	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0437
L7	90.0000-85.0000	A	1.874	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.000	0.0728
L8	85.0000-80.0000	A	1.863	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	5.706	0.7065
L9	80.0000-76.5000	A	1.853	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	6.468	0.5165
L10	76.5000-76.2500	A	1.849	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.544	0.0368
L11	76.2500-74.0000	A	1.846	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	5.423	0.3306
L12	74.0000-73.7500	A	1.843	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.676	0.0367

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L13	73.7500-68.8800	A	1.836	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	13.591	0.8154
L14	68.8800-68.6300	A	1.829	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.709	0.0447
L15	68.6300-64.5000	A	1.824	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	11.687	0.7353
L16	64.5000-64.2500	A	1.817	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.706	0.0443
L17	64.2500-63.0000	A	1.815	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	3.526	0.2215
L18	63.0000-62.7500	A	1.813	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.705	0.0442
L19	62.7500-60.0000	A	1.809	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	7.740	0.4853
L20	60.0000-59.7500	A	1.804	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.571	0.0440
L21	59.7500-54.7500	A	1.796	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	11.386	0.8758
L22	54.7500-49.7500	A	1.780	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	11.579	0.8671
L23	49.7500-49.2500	A	1.770	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	1.387	0.0862
L24	49.2500-49.0000	A	1.769	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.693	0.0431
L25	49.0000-44.0000	A	1.759	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	13.813	0.8562
L26	44.0000-42.0000	A	1.746	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	5.497	0.3396
L27	42.0000-41.7500	A	1.741	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.686	0.0423
L28	41.7500-36.7500	A	1.730	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	13.659	0.8406
L29	36.7500-34.5000	A	1.713	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	6.149	0.3743
L30	34.5000-34.2500	A	1.707	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.687	0.0414
L31	34.2500-34.0000	A	1.706	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.687	0.0414
L32	34.0000-33.7500	A	1.704	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.687	0.0414
L33	33.7500-30.0000	A	1.694	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	10.261	0.6164
L34	30.0000-29.7500	A	1.683	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.681	0.0408
L35	29.7500-28.5000	A	1.679	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	3.400	0.2034

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L36	28.5000-28.2500	A	1.675	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.679	0.0406
L37	28.2500-23.2500	A	1.658	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	13.494	0.8029
L38	23.2500-23.0000	A	1.641	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.670	0.0397
L39	23.0000-21.5000	A	1.634	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	4.011	0.2371
L40	21.5000-21.2500	A	1.628	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.667	0.0393
L41	21.2500-19.0000	A	1.618	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	5.978	0.3517
L42	19.0000-18.7500	A	1.608	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.661	0.0388
L43	18.7500-18.5000	A	1.605	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.661	0.0387
L44	18.5000-18.2500	A	1.603	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.660	0.0387
L45	18.2500-13.2500	A	1.579	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	13.079	0.7609
L46	13.2500-12.7000	A	1.548	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	1.421	0.0819
L47	12.7000-12.4500	A	1.544	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.645	0.0371
L48	12.4500-11.5000	A	1.536	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	2.443	0.1403
L49	11.5000-11.2500	A	1.528	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.641	0.0367
L50	11.2500-10.5000	A	1.521	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	1.917	0.1096
L51	10.5000-10.2500	A	1.514	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.637	0.0363
L52	10.2500-7.5000	A	1.491	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	6.941	0.3929
L53	7.5000-7.2500	A	1.463	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.624	0.0350
L54	7.2500-6.2500	A	1.451	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	2.482	0.1386
L55	6.2500-6.0000	A	1.437	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.617	0.0343
L56	6.0000-3.7300	A	1.404	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	5.523	0.3035
L57	3.7300-3.4800	A	1.362	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.597	0.0323
L58	3.4800-2.7500	A	1.343	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	1.729	0.0929

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L59	2.7500-2.5000	A	1.320	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.586	0.0312
L60	2.5000-2.0000	A	1.300	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	1.162	0.0613
L61	2.0000-1.7500	A	1.276	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	0.575	0.0301
L62	1.7500-0.0000	A	1.182	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0000
		C		0.000	0.000	0.000	3.853	0.1930

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	118.0000-113.0000	0.0000	0.0000	0.0000	0.0000
L2	113.0000-108.0000	0.0000	0.0000	0.0000	0.0000
L3	108.0000-103.0000	0.0000	0.0000	0.0000	0.0000
L4	103.0000-98.0000	0.0000	0.0000	0.0000	0.0000
L5	98.0000-93.0000	0.0000	0.0000	0.0000	0.0000
L6	93.0000-90.0000	0.0000	0.0000	0.0000	0.0000
L7	90.0000-85.0000	0.0000	0.0000	0.0000	0.0000
L8	85.0000-80.0000	-2.5785	1.4887	-3.0303	1.7495
L9	80.0000-76.5000	-3.3051	1.9082	-4.1583	2.4008
L10	76.5000-76.2500	-3.6690	2.1183	-4.5712	2.6392
L11	76.2500-74.0000	-3.8646	2.2312	-4.8362	2.7922
L12	74.0000-73.7500	-4.0935	2.3634	-5.1353	2.9649
L13	73.7500-68.8800	-4.3764	2.5267	-5.2181	3.0127
L14	68.8800-68.6300	-4.5242	2.6120	-5.2611	3.0375
L15	68.6300-64.5000	-4.5242	2.6120	-5.2566	3.0349
L16	64.5000-64.2500	-4.5242	2.6120	-5.2519	3.0322
L17	64.2500-63.0000	-4.5242	2.6120	-5.2502	3.0312
L18	63.0000-62.7500	-4.5242	2.6120	-5.2486	3.0303
L19	62.7500-60.0000	-4.5242	2.6120	-5.2452	3.0283
L20	60.0000-59.7500	-4.5190	2.6091	-5.2558	3.0344
L21	59.7500-54.7500	-4.5190	2.6091	-5.2481	3.0300
L22	54.7500-49.7500	-4.5648	2.6355	-5.3039	3.0622
L23	49.7500-49.2500	-4.9557	2.8612	-5.8806	3.3952
L24	49.2500-49.0000	-4.9557	2.8612	-5.8792	3.3944
L25	49.0000-44.0000	-4.9557	2.8612	-5.8693	3.3887
L26	44.0000-42.0000	-4.9557	2.8612	-5.8552	3.3805
L27	42.0000-41.7500	-4.9557	2.8612	-5.8505	3.3778
L28	41.7500-36.7500	-4.9557	2.8612	-5.8388	3.3711
L29	36.7500-34.5000	-5.0166	2.8963	-5.8433	3.3737
L30	34.5000-34.2500	-5.0914	2.9395	-5.8642	3.3857
L31	34.2500-34.0000	-5.0914	2.9395	-5.8629	3.3849
L32	34.0000-33.7500	-5.0914	2.9395	-5.8616	3.3842
L33	33.7500-30.0000	-5.0914	2.9395	-5.8509	3.3780
L34	30.0000-29.7500	-5.4472	3.1449	-6.3763	3.6814
L35	29.7500-28.5000	-5.4472	3.1449	-6.3710	3.6783
L36	28.5000-28.2500	-5.4472	3.1449	-6.3655	3.6751
L37	28.2500-23.2500	-5.4472	3.1449	-6.3451	3.6633
L38	23.2500-23.0000	-5.4472	3.1449	-6.3226	3.6503
L39	23.0000-21.5000	-5.4472	3.1449	-6.3145	3.6457
L40	21.5000-21.2500	-5.4472	3.1449	-6.3062	3.6409
L41	21.2500-19.0000	-5.4472	3.1449	-6.2936	3.6336
L42	19.0000-18.7500	-5.4472	3.1449	-6.2803	3.6259
L43	18.7500-18.5000	-5.4472	3.1449	-6.2776	3.6244
L44	18.5000-18.2500	-5.4472	3.1449	-6.2748	3.6227

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L45	18.2500-13.2500	-5.4472	3.1449	-6.2430	3.6044
L46	13.2500-12.7000	-5.4472	3.1449	-6.2032	3.5814
L47	12.7000-12.4500	-5.4472	3.1449	-6.1968	3.5777
L48	12.4500-11.5000	-5.4472	3.1449	-6.1869	3.5720
L49	11.5000-11.2500	-5.4472	3.1449	-6.1764	3.5660
L50	11.2500-10.5000	-5.4472	3.1449	-6.1673	3.5607
L51	10.5000-10.2500	-5.4472	3.1449	-6.1578	3.5552
L52	10.2500-7.5000	-5.4472	3.1449	-6.1263	3.5370
L53	7.5000-7.2500	-5.4472	3.1449	-6.0892	3.5156
L54	7.2500-6.2500	-5.4472	3.1449	-6.0716	3.5054
L55	6.2500-6.0000	-5.4472	3.1449	-6.0523	3.4943
L56	6.0000-3.7300	-5.4472	3.1449	-6.0070	3.4682
L57	3.7300-3.4800	-5.4472	3.1449	-5.9487	3.4345
L58	3.4800-2.7500	-5.4472	3.1449	-5.9206	3.4183
L59	2.7500-2.5000	-5.4472	3.1449	-5.8879	3.3994
L60	2.5000-2.0000	-5.4472	3.1449	-5.8587	3.3825
L61	2.0000-1.7500	-5.4472	3.1449	-5.8244	3.3627
L62	1.7500-0.0000	-5.4472	3.1449	-5.6843	3.2818

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Bridge Stiffener (84" x 9" x 1.25")	A	None		0.0000	90.0000	No Ice	7.7583	1.4583	0.2700
						1/2" Ice	8.2903	2.2539	0.2994
						1" Ice	8.8296	3.0617	0.3370
						2" Ice	9.9306	4.4888	0.4320
Bridge Stiffener (84" x 9" x 1.25")	B	None		0.0000	90.0000	No Ice	0.0000	0.0000	0.2700
						1/2" Ice	0.0000	0.0000	0.2994
						1" Ice	0.0000	0.0000	0.3370
						2" Ice	0.0000	0.0000	0.4320
Bridge Stiffener (84" x 9" x 1.25")	C	None		0.0000	90.0000	No Ice	0.0000	0.0000	0.2700
						1/2" Ice	0.0000	0.0000	0.2994
						1" Ice	0.0000	0.0000	0.3370
						2" Ice	0.0000	0.0000	0.4320
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.0000	60.0000	No Ice	11.3880	1.4583	0.4300
						1/2" Ice	11.9226	2.2539	0.4777
						1" Ice	12.4642	3.0617	0.5311
						2" Ice	13.5684	4.4888	0.6586
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.0000	60.0000	No Ice	0.0000	0.0000	0.4300
						1/2" Ice	0.0000	0.0000	0.4777
						1" Ice	0.0000	0.0000	0.5311
						2" Ice	0.0000	0.0000	0.6586
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.0000	60.0000	No Ice	0.0000	0.0000	0.4300
						1/2" Ice	0.0000	0.0000	0.4777
						1" Ice	0.0000	0.0000	0.5311
						2" Ice	0.0000	0.0000	0.6586
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.0000	30.0000	No Ice	11.3880	1.4583	0.4300
						1/2" Ice	11.9226	2.2539	0.4777
						Ice	12.4642	3.0617	0.5311

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
							1" Ice	13.5684	4.4888	0.6586
							2" Ice			
Bridge Stiffener (84" x 14.5" x 1.25")	B	None			0.0000	30.0000	No Ice	0.0000	0.0000	0.4300
							1/2" Ice	0.0000	0.0000	0.4777
							1" Ice	0.0000	0.0000	0.5311
							2" Ice	0.0000	0.0000	0.6586
Bridge Stiffener (84" x 14.5" x 1.25")	C	None			0.0000	30.0000	No Ice	0.0000	0.0000	0.4300
							1/2" Ice	0.0000	0.0000	0.4777
							1" Ice	0.0000	0.0000	0.5311
							2" Ice	0.0000	0.0000	0.6586
**										
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.3218	2.2381	0.0600
			0.0000				1/2" Ice	2.5266	2.4407	0.0831
			0.0000				1" Ice	2.7388	2.6507	0.1095
							2" Ice	3.1855	3.0929	0.1727
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.3218	2.2381	0.0600
			0.0000				1/2" Ice	2.5266	2.4407	0.0831
			0.0000				1" Ice	2.7388	2.6507	0.1095
							2" Ice	3.1855	3.0929	0.1727
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.3218	2.2381	0.0600
			0.0000				1/2" Ice	2.5266	2.4407	0.0831
			0.0000				1" Ice	2.7388	2.6507	0.1095
							2" Ice	3.1855	3.0929	0.1727
800MHz 2X50W RRH W/FILTER	A	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.0583	1.9317	0.0640
			0.0000				1/2" Ice	2.2398	2.1087	0.0861
			0.0000				1" Ice	2.4287	2.2931	0.1113
							2" Ice	2.8287	2.6843	0.1716
800MHz 2X50W RRH W/FILTER	B	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.0583	1.9317	0.0640
			0.0000				1/2" Ice	2.2398	2.1087	0.0861
			0.0000				1" Ice	2.4287	2.2931	0.1113
							2" Ice	2.8287	2.6843	0.1716
800MHz 2X50W RRH W/FILTER	C	From Leg	1.0000	0.0000	0.0000	116.0000	No Ice	2.0583	1.9317	0.0640
			0.0000				1/2" Ice	2.2398	2.1087	0.0861
			0.0000				1" Ice	2.4287	2.2931	0.1113
							2" Ice	2.8287	2.6843	0.1716
Pipe Mount [PM 601-3]	C	None			0.0000	116.0000	No Ice	3.1700	3.1700	0.1950
							1/2" Ice	3.7900	3.7900	0.2324
							1" Ice	4.4200	4.4200	0.2790
							2" Ice	5.7600	5.7600	0.4015
**										
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.0000	0.0000	0.0000	114.0000	No Ice	4.6000	4.0100	0.0951
			0.0000				1/2" Ice	5.0500	4.4500	0.1595
			2.0000				1" Ice	5.5000	4.8900	0.2348
							2" Ice	6.4400	5.8200	0.4191
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.0000	0.0000	0.0000	114.0000	No Ice	4.6000	4.0100	0.0951
			0.0000				1/2" Ice	5.0500	4.4500	0.1595
			2.0000				1" Ice	5.5000	4.8900	0.2348
							2" Ice	6.4400	5.8200	0.4191
APXV9ERR18-C-A20 w/ Mount Pipe	C	From Leg	4.0000	0.0000	0.0000	114.0000	No Ice	4.6000	4.0100	0.0951
			0.0000				1/2" Ice	5.0500	4.4500	0.1595
			2.0000				1" Ice	5.5000	4.8900	0.2348
							2" Ice	6.4400	5.8200	0.4191
APXVTM14-C-120 w/	A	From Leg	4.0000	0.0000	0.0000	114.0000	No Ice	4.0900	2.8600	0.0770

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.0000 2.0000			1/2" Ice 1" Ice 2" Ice	4.4800 4.8800 5.7100	3.2300 3.6100 4.4000	0.1267 0.1853 0.3307
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.0900 4.4800 4.8800 5.7100	2.8600 3.2300 3.6100 4.4000	0.0770 0.1267 0.1853 0.3307
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.0900 4.4800 4.8800 5.7100	2.8600 3.2300 3.6100 4.4000	0.0770 0.1267 0.1853 0.3307
TD-RRH8x20-25	A	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.0455 4.2975 4.5570 5.0981	1.5345 1.7142 1.9008 2.2951	0.0700 0.0972 0.1278 0.2005
TD-RRH8x20-25	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.0455 4.2975 4.5570 5.0981	1.5345 1.7142 1.9008 2.2951	0.0700 0.0972 0.1278 0.2005
TD-RRH8x20-25	C	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.0455 4.2975 4.5570 5.0981	1.5345 1.7142 1.9008 2.2951	0.0700 0.0972 0.1278 0.2005
WIMAX DAP HEAD	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.5467 1.7037 1.8681 2.2193	0.6840 0.7999 0.9228 1.1926	0.0330 0.0446 0.0585 0.0939
Platform Mount [LP 502-1]	C	None		0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	18.2800 23.5400 28.5300 38.8500	18.2800 23.5400 28.5300 38.8500	0.9250 1.4349 2.0702 3.7139
(2) 2.375" OD x 3' Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.5826 0.7701 0.9669 1.3881	0.5826 0.7701 0.9669 1.3881	0.0300 0.0326 0.0403 0.0632
(2) 2.375" OD x 3' Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.5826 0.7701 0.9669 1.3881	0.5826 0.7701 0.9669 1.3881	0.0300 0.0326 0.0403 0.0632
(2) 2.375" OD x 3' Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.5826 0.7701 0.9669 1.3881	0.5826 0.7701 0.9669 1.3881	0.0300 0.0326 0.0403 0.0632
**									
AIR6449 B41_T-MOBILE	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.6591 5.9606 6.2696 6.9099	2.4765 2.7036 2.9377 3.4268	0.1146 0.1535 0.1966 0.2963
AIR6449 B41_T-MOBILE	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.6591 5.9606 6.2696 6.9099	2.4765 2.7036 2.9377 3.4268	0.1146 0.1535 0.1966 0.2963

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
AIR6449 B41_T-MOBILE	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.6591 5.9606 6.2696 6.9099	2.4765 2.7036 2.9377 3.4268	0.1146 0.1535 0.1966 0.2963
APXVAARR24_43-U-NA20	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	14.6700 15.4300 16.2100 17.8100	5.3200 5.9900 6.6800 8.0800	0.1533 0.2659 0.3870 0.6556
APXVAARR24_43-U-NA20	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	14.6700 15.4300 16.2100 17.8100	5.3200 5.9900 6.6800 8.0800	0.1533 0.2659 0.3870 0.6556
APXVAARR24_43-U-NA20	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	14.6700 15.4300 16.2100 17.8100	5.3200 5.9900 6.6800 8.0800	0.1533 0.2659 0.3870 0.6556
AIR 32 B2a/B66Aa	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.5099 6.8870 7.2712 8.0604	4.7123 5.0683 5.4313 6.1782	0.1322 0.1780 0.2291 0.3479
AIR 32 B2a/B66Aa	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.5099 6.8870 7.2712 8.0604	4.7123 5.0683 5.4313 6.1782	0.1322 0.1780 0.2291 0.3479
AIR 32 B2a/B66Aa	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	6.5099 6.8870 7.2712 8.0604	4.7123 5.0683 5.4313 6.1782	0.1322 0.1780 0.2291 0.3479
KRY 112 144/1	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.3500 0.4259 0.5093 0.6981	0.1750 0.2343 0.3009 0.4565	0.0110 0.0142 0.0186 0.0319
KRY 112 144/1	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.3500 0.4259 0.5093 0.6981	0.1750 0.2343 0.3009 0.4565	0.0110 0.0142 0.0186 0.0319
KRY 112 144/1	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.3500 0.4259 0.5093 0.6981	0.1750 0.2343 0.3009 0.4565	0.0110 0.0142 0.0186 0.0319
SDX1926Q-43	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.2410 0.3063 0.3791 0.5469	0.1013 0.1444 0.1948 0.3180	0.0062 0.0086 0.0122 0.0235
SDX1926Q-43	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.2410 0.3063 0.3791 0.5469	0.1013 0.1444 0.1948 0.3180	0.0062 0.0086 0.0122 0.0235
SDX1926Q-43	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.2410 0.3063 0.3791 0.5469	0.1013 0.1444 0.1948 0.3180	0.0062 0.0086 0.0122 0.0235

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.9701 2.1466 2.3306 2.7207	1.5865 1.7488 1.9185 2.2800	0.0732 0.0930 0.1156 0.1704
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.9701 2.1466 2.3306 2.7207	1.5865 1.7488 1.9185 2.2800	0.0732 0.0930 0.1156 0.1704
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.9701 2.1466 2.3306 2.7207	1.5865 1.7488 1.9185 2.2800	0.0732 0.0930 0.1156 0.1704
RRUS 4415 B25	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.6444 1.8044 1.9719 2.3292	0.6788 0.7911 0.9129 1.1834	0.0440 0.0564 0.0712 0.1087
RRUS 4415 B25	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.6444 1.8044 1.9719 2.3292	0.6788 0.7911 0.9129 1.1834	0.0440 0.0564 0.0712 0.1087
RRUS 4415 B25	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.6444 1.8044 1.9719 2.3292	0.6788 0.7911 0.9129 1.1834	0.0440 0.0564 0.0712 0.1087
Platform Mount [LP 301-1_KCKR]	C	None		0.0000	108.0000	No Ice 1/2" Ice 1" Ice 2" Ice	35.0300 44.4600 53.7200 72.2900	35.0300 44.4600 53.7200 72.2900	1.8635 2.5158 3.3259 5.4239
**									
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	9.2200 9.9800 10.7600 12.3600	6.2500 6.9600 7.7000 9.2200	0.0736 0.1434 0.2242 0.4201
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	12.2500 13.1900 14.1600 16.1400	8.3300 9.2300 10.1500 12.0500	0.1048 0.1940 0.2965 0.5430
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	9.2200 9.9800 10.7600 12.3600	6.2500 6.9600 7.7000 9.2200	0.0736 0.1434 0.2242 0.4201
SBNH-1D6565C w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.5600 6.0700 6.5900 7.6500	4.4700 4.9700 5.4700 6.5200	0.0848 0.1667 0.2622 0.4953
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	4.6300 5.0600 5.5100 6.4300	3.2700 3.6900 4.1200 5.0000	0.0741 0.1333 0.2032 0.3764
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice	4.6300 5.0600 5.5100 6.4300	3.2700 3.6900 4.1200 5.0000	0.0741 0.1333 0.2032 0.3764

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
7770.00 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.7460 6.1791 6.6067 7.4880	4.2543 5.0137 5.7109 7.1553	0.0554 0.1028 0.1566 0.2866
7770.00 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.7460 6.1791 6.6067 7.4880	4.2543 5.0137 5.7109 7.1553	0.0554 0.1028 0.1566 0.2866
7770.00 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	5.7460 6.1791 6.6067 7.4880	4.2543 5.0137 5.7109 7.1553	0.0554 0.1028 0.1566 0.2866
RRUS 11 B12	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.0507 0.0716 0.0955 0.1532
RRUS 11 B12	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.0507 0.0716 0.0955 0.1532
RRUS 11 B12	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.8333 3.0426 3.2593 3.7148	1.1821 1.3299 1.4848 1.8259	0.0507 0.0716 0.0955 0.1532
DTMABP7819VG12A	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.9762 1.1002 1.2316 1.5166	0.3387 0.4192 0.5098 0.7143	0.0192 0.0265 0.0356 0.0602
DTMABP7819VG12A	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.9762 1.1002 1.2316 1.5166	0.3387 0.4192 0.5098 0.7143	0.0192 0.0265 0.0356 0.0602
DTMABP7819VG12A	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.9762 1.1002 1.2316 1.5166	0.3387 0.4192 0.5098 0.7143	0.0192 0.0265 0.0356 0.0602
RRUS 32 B2	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.7313 2.9531 3.1823 3.6628	1.6681 1.8552 2.0493 2.4585	0.0529 0.0740 0.0982 0.1571
RRUS 32 B2	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.7313 2.9531 3.1823 3.6628	1.6681 1.8552 2.0493 2.4585	0.0529 0.0740 0.0982 0.1571
RRUS 32 B2	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	2.7313 2.9531 3.1823 3.6628	1.6681 1.8552 2.0493 2.4585	0.0529 0.0740 0.0982 0.1571
TT19-08BP111-001	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice	0.5453 0.6406 0.7433 0.9710	0.4420 0.5303 0.6260 0.8397	0.0160 0.0217 0.0291 0.0494

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft* *ft* *ft*	*Azimuth Adjustment* *°*	*Placement* *ft*		*C_AA_A Front* *ft^2*	*C_AA_A Side* *ft^2*	*Weight* *K*
						2" Ice			
TT19-08BP111-001	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.5453 0.6406 0.7433 0.9710	0.4420 0.5303 0.6260 0.8397	0.0160 0.0217 0.0291 0.0494
TT19-08BP111-001	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.5453 0.6406 0.7433 0.9710	0.4420 0.5303 0.6260 0.8397	0.0160 0.0217 0.0291 0.0494
(2) 7020.00	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.1021 0.1469 0.1991 0.3258	0.1750 0.2393 0.3109 0.4765	0.0022 0.0052 0.0093 0.0221
(2) 7020.00	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.1021 0.1469 0.1991 0.3258	0.1750 0.2393 0.3109 0.4765	0.0022 0.0052 0.0093 0.0221
(2) 7020.00	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	0.1021 0.1469 0.1991 0.3258	0.1750 0.2393 0.3109 0.4765	0.0022 0.0052 0.0093 0.0221
DC6-48-60-18-8F	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	1.2117 1.8924 2.1051 2.5703	1.2117 1.8924 2.1051 2.5703	0.0200 0.0420 0.0668 0.1256
Platform Mount [LP 712-1]	C	None		0.0000	98.0000	No Ice 1/2" Ice 1" Ice 2" Ice	24.5600 27.9200 31.2700 37.9800	24.5600 27.9200 31.2700 37.9800	1.3350 1.9148 2.5477 3.9714
**									
(2) HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice 1" Ice 2" Ice	7.9700 8.7300 9.5100 11.1100	5.9900 6.7200 7.4700 9.0200	0.0758 0.1392 0.2138 0.3974
(2) HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice 1" Ice 2" Ice	7.9700 8.7300 9.5100 11.1100	5.9900 6.7200 7.4700 9.0200	0.0758 0.1392 0.2138 0.3974
(2) HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice 1" Ice 2" Ice	7.9700 8.7300 9.5100 11.1100	5.9900 6.7200 7.4700 9.0200	0.0758 0.1392 0.2138 0.3974
(2) BXA-70040-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice 1" Ice 2" Ice	14.6473 15.2625 15.8421 17.0264	7.3656 8.5350 9.4168 11.2293	0.0633 0.1643 0.2741 0.5235
(2) BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice 1" Ice 2" Ice	7.8065 8.3569 8.8720 9.9271	5.8008 6.9529 7.8191 9.6015	0.0422 0.1030 0.1715 0.3352
(2) BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000	No Ice 1/2" Ice	7.8065 8.3569 8.8720	5.8008 6.9529 7.8191	0.0422 0.1030 0.1715

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
							1" Ice	9.9271	9.6015	0.3352
							2" Ice			
(2) CBC721-DF	B	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	0.3850	0.1115	0.0044
			0.0000	1.0000			1/2" Ice	0.4648	0.1650	0.0071
								0.5520	0.2256	0.0111
							1" Ice	0.7487	0.3686	0.0232
							2" Ice			
(4) CBC721-DF	C	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	0.3850	0.1115	0.0044
			0.0000	1.0000			1/2" Ice	0.4648	0.1650	0.0071
								0.5520	0.2256	0.0111
							1" Ice	0.7487	0.3686	0.0232
							2" Ice			
(2) RRH2X60-AWS	A	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	3.5002	1.8157	0.0600
			0.0000	1.0000			1/2" Ice	3.7609	2.0519	0.0827
								4.0285	2.2894	0.1091
							1" Ice	4.5849	2.7852	0.1734
							2" Ice			
RRH2X60-AWS	B	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	3.5002	1.8157	0.0600
			0.0000	1.0000			1/2" Ice	3.7609	2.0519	0.0827
								4.0285	2.2894	0.1091
							1" Ice	4.5849	2.7852	0.1734
							2" Ice			
RRH2X60-PCS	B	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	2.2000	1.7233	0.0550
			0.0000	1.0000			1/2" Ice	2.3926	1.9015	0.0754
								2.5926	2.0870	0.0987
							1" Ice	3.0148	2.4804	0.1552
							2" Ice			
(2) RRH2X60-PCS	C	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	2.2000	1.7233	0.0550
			0.0000	1.0000			1/2" Ice	2.3926	1.9015	0.0754
								2.5926	2.0870	0.0987
							1" Ice	3.0148	2.4804	0.1552
							2" Ice			
DB-B1-6C-12AB-0Z	B	From Leg	4.0000	0.0000	0.0000	85.0000	No Ice	3.3636	2.1921	0.0214
			0.0000	1.0000			1/2" Ice	3.5972	2.3950	0.0499
								3.8383	2.6056	0.0820
							1" Ice	4.3426	3.0491	0.1576
							2" Ice			
Platform Mount [LP 303-1]	C	None			0.0000	85.0000	No Ice	14.6900	14.6900	1.2500
							1/2" Ice	18.0100	18.0100	1.5689
								21.3400	21.3400	1.9420
							1" Ice	28.0800	28.0800	2.8522
							2" Ice			
**										
KS24019-L112A	A	From Leg	3.0000	0.0000	0.0000	80.0000	No Ice	0.1000	0.1000	0.0050
			0.0000	1.0000			1/2" Ice	0.1800	0.1800	0.0065
								0.2600	0.2600	0.0080
							1" Ice	0.4200	0.4200	0.0110
							2" Ice			
Side Arm Mount [SO 701-1]	A	None			0.0000	80.0000	No Ice	0.8500	1.6700	0.0650
							1/2" Ice	1.1400	2.3400	0.0790
								1.4300	3.0100	0.0930
							1" Ice	2.0100	4.3500	0.1210
							2" Ice			
**										
LLPX310R w/ Mount Pipe	A	From Leg	2.0000	0.0000	0.0000	72.0000	No Ice	3.8800	2.3600	0.0573
			0.0000	2.0000			1/2" Ice	4.2900	2.7300	0.0913
								4.7200	3.1200	0.1325
							1" Ice	5.6100	3.9400	0.2376
							2" Ice			
LLPX310R w/ Mount Pipe	B	From Leg	2.0000	0.0000	0.0000	72.0000	No Ice	3.8800	2.3600	0.0573
			0.0000	0.0000			1/2" Ice	4.2900	2.7300	0.0913
								4.7200	3.1200	0.1325
							1" Ice	5.6100	3.9400	0.2376
							2" Ice			
LLPX310R w/ Mount Pipe	C	From Leg	2.0000	0.0000	0.0000	72.0000	No Ice	3.8800	2.3600	0.0573

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.0000				1/2" Ice	4.2900	2.7300	0.0913
			2.0000				1" Ice	4.7200	3.1200	0.1325
							2" Ice	5.6100	3.9400	0.2376
WIMAX DAP HEAD	A	From Leg	2.0000		0.0000	72.0000	No Ice	1.5467	0.6840	0.0330
			0.0000				1/2" Ice	1.7037	0.7999	0.0446
			2.0000				1" Ice	1.8681	0.9228	0.0585
							2" Ice	2.2193	1.1926	0.0939
WIMAX DAP HEAD	B	From Leg	2.0000		0.0000	72.0000	No Ice	1.5467	0.6840	0.0330
			0.0000				1/2" Ice	1.7037	0.7999	0.0446
			0.0000				1" Ice	1.8681	0.9228	0.0585
							2" Ice	2.2193	1.1926	0.0939
WIMAX DAP HEAD	B	From Leg	2.0000		0.0000	72.0000	No Ice	1.5467	0.6840	0.0330
			0.0000				1/2" Ice	1.7037	0.7999	0.0446
			1.0000				1" Ice	1.8681	0.9228	0.0585
							2" Ice	2.2193	1.1926	0.0939
HORIZON COMPACT	A	From Leg	2.0000		0.0000	72.0000	No Ice	0.7208	0.3681	0.0115
			0.0000				1/2" Ice	0.8278	0.4499	0.0180
			0.0000				1" Ice	0.9422	0.5391	0.0261
							2" Ice	1.1933	0.7396	0.0483
HORIZON COMPACT	C	From Leg	2.0000		0.0000	72.0000	No Ice	0.7208	0.3681	0.0115
			0.0000				1/2" Ice	0.8278	0.4499	0.0180
			2.0000				1" Ice	0.9422	0.5391	0.0261
							2" Ice	1.1933	0.7396	0.0483
Side Arm Mount [SO 101-3]	C	None			0.0000	72.0000	No Ice	5.8100	5.8100	0.2520
							1/2" Ice	6.9500	6.9500	0.3414
							1" Ice	8.2800	8.2800	0.4574
							2" Ice	11.5400	11.5400	0.7799
**										

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
VHLP1-23	B	Paraboloid w/o Radome	From Leg	4.0000		0.0000		114.0000	1.2750	No Ice	1.2800	0.0100
				0.0000						1/2" Ice	1.4500	0.0200
				2.0000						1" Ice	1.6200	0.0200
										2" Ice	1.9700	0.0400
A-ANT-18G-2-C	A	Paraboloid w/o Radome	From Leg	2.0000		0.0000		72.0000	2.1750	No Ice	3.7200	0.0300
				0.0000						1/2" Ice	4.0100	0.0300
				0.0000						1" Ice	4.3000	0.3600
										2" Ice	4.8800	0.0650
VHLP1-23	B	Paraboloid w/o Radome	From Leg	2.0000		0.0000		72.0000	1.2750	No Ice	1.2800	0.0100
				0.0000						1/2" Ice	1.4500	0.0200
				1.0000						1" Ice	1.6200	0.0200
										2" Ice	1.9700	0.0400
**												

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
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	118 - 113	Pole	Max Tension	26	0.0000	-0.0002	0.0000
			Max. Compression	26	-9.4308	-0.5996	-0.3463
			Max. Mx	8	-3.0511	-8.7247	-0.1701
			Max. My	14	-3.0509	-0.2830	-8.5336
			Max. Vy	20	-3.7367	8.3695	0.0827
			Max. Vx	2	-3.7017	0.0977	8.3560
			Max. Torque	6			-0.3012
L2	113 - 108	Pole	Max Tension	1	0.0000	0.0000	0.0000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-10.1430	-0.5996	-0.3463
			Max. Mx	8	-3.4373	-28.0849	-0.2667
			Max. My	14	-3.4368	-0.4215	-27.7388
			Max. Vy	20	-4.0690	27.8839	0.4332
			Max. Vx	2	-4.0344	0.6141	27.6963
			Max. Torque	6			-0.3012
L3	108 - 103	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-21.5662	-0.5995	-0.3463
			Max. Mx	8	-7.6738	-73.3382	-0.3684
			Max. My	2	-7.6668	1.1455	72.9466
			Max. Vy	20	-9.2450	73.2939	0.7968
			Max. Vx	2	-9.2132	1.1455	72.9466
			Max. Torque	6			-0.3012
L4	103 - 98	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-22.3040	-0.5995	-0.3463
			Max. Mx	20	-8.1013	120.3029	1.1612
			Max. My	2	-8.0973	1.6779	119.7976
			Max. Vy	20	-9.5600	120.3029	1.1612
			Max. Vx	2	-9.5286	1.6779	119.7976
			Max. Torque	6			-0.3012
L5	98 - 93	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-32.1573	-1.1359	0.5349
			Max. Mx	8	-11.2179	-190.0427	-0.5849
			Max. My	2	-11.2087	2.1651	189.4436
			Max. Vy	20	-14.1196	189.9901	1.6864
			Max. Vx	2	-14.0610	2.1651	189.4436
			Max. Torque	12			0.6752
L6	93 - 90	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-32.6169	-1.1257	0.5354
			Max. Mx	20	-11.5155	232.5886	1.9582
			Max. My	2	-11.5098	2.5395	231.8668
			Max. Vy	20	-14.2871	232.5886	1.9582
			Max. Vx	2	-14.2288	2.5395	231.8668
			Max. Torque	12			0.6751
L7	90 - 85	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-34.9924	-1.1052	0.5352
			Max. Mx	20	-13.1482	306.9194	2.4133
			Max. My	2	-13.1416	3.1667	305.9109
			Max. Vy	20	-15.0131	306.9194	2.4133
			Max. Vx	2	-14.9561	3.1667	305.9109
			Max. Torque	12			0.6750
L8	85 - 80	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-45.4966	-1.0586	1.4414
			Max. Mx	20	-16.5097	411.1174	3.1586
			Max. My	2	-16.4744	3.9687	412.5138
			Max. Vy	20	-20.2287	411.1174	3.1586
			Max. Vx	2	-20.5947	3.9687	412.5138
			Max. Torque	12			1.1298
L9	80 - 76.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-46.7757	-0.6252	1.2460
			Max. Mx	20	-17.1578	482.6871	3.5871
			Max. My	2	-17.1240	4.5582	485.3226
			Max. Vy	20	-20.5712	482.6871	3.5871
			Max. Vx	2	-20.9375	4.5582	485.3226
			Max. Torque	12			1.0543
L10	76.5 - 76.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-46.8706	-0.5930	1.2287
			Max. Mx	20	-17.2233	487.8325	3.6160
			Max. My	2	-17.1899	4.6004	490.5549
			Max. Vy	20	-20.5820	487.8325	3.6160
			Max. Vx	2	-20.9482	4.6004	490.5549
			Max. Torque	12			0.9722
L11	76.25 - 74	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-47.7240	-0.3158	1.0731
			Max. Mx	20	-17.6946	534.3796	3.8766
			Max. My	2	-17.6618	4.9783	537.8835
			Max. Vy	20	-20.7792	534.3796	3.8766
			Max. Vx	2	-21.1456	4.9783	537.8835
			Max. Torque	12			0.9645

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L12	74 - 73.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-47.8391	-0.2833	1.0557
			Max. Mx	20	-17.7757	539.5783	3.9055
			Max. My	2	-17.7431	5.0204	543.1690
			Max. Vy	20	-20.7959	539.5783	3.9055
			Max. Vx	2	-21.1624	5.0204	543.1690
			Max. Torque	12			0.8899
L13	73.75 - 68.88	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-52.1947	-0.0657	1.0385
			Max. Mx	20	-19.8540	645.4993	4.7904
			Max. My	2	-19.8165	5.9916	651.5090
			Max. Vy	20	-22.2263	645.4993	4.7904
			Max. Vx	14	22.7393	-2.8791	-650.1176
			Max. Torque	24			-0.9662
L14	68.88 - 68.63	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-52.2974	-0.0271	1.0171
			Max. Mx	20	-19.9167	651.0598	4.8370
			Max. My	2	-19.8796	6.0591	657.1837
			Max. Vy	20	-22.2418	651.0598	4.8370
			Max. Vx	14	22.7548	-2.9031	-655.8049
			Max. Torque	22			-0.8772
L15	68.63 - 64.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-53.9916	0.5946	0.6657
			Max. Mx	20	-20.8391	743.6666	5.6067
			Max. My	2	-20.8049	7.1723	751.6777
			Max. Vy	20	-22.5893	743.6666	5.6067
			Max. Vx	14	23.1023	-3.3003	-750.5060
			Max. Torque	22			-0.8680
L16	64.5 - 64.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-54.1235	0.6336	0.6444
			Max. Mx	20	-20.9353	749.3170	5.6532
			Max. My	2	-20.9016	7.2399	757.4422
			Max. Vy	20	-22.6015	749.3170	5.6532
			Max. Vx	14	23.1144	-3.3241	-756.2832
			Max. Torque	22			-0.7174
L17	64.25 - 63	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-54.7826	0.8199	0.5383
			Max. Mx	20	-21.3455	777.6565	5.8858
			Max. My	2	-21.3121	7.5764	786.3527
			Max. Vy	20	-22.7261	777.6565	5.8858
			Max. Vx	14	23.2392	-3.4440	-785.2565
			Max. Torque	22			-0.7083
L18	63 - 62.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-54.9121	0.8586	0.5170
			Max. Mx	20	-21.4359	783.3418	5.9322
			Max. My	2	-21.4029	7.6439	792.1522
			Max. Vy	20	-22.7412	783.3418	5.9322
			Max. Vx	14	23.2541	-3.4679	-791.0686
			Max. Torque	22			-0.6632
L19	62.75 - 60	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-56.3344	1.2686	0.2842
			Max. Mx	20	-22.3273	846.2503	6.4434
			Max. My	2	-22.2955	8.3846	856.3169
			Max. Vy	20	-22.9972	846.2503	6.4434
			Max. Vx	14	23.5103	-3.7311	-855.3718
			Max. Torque	22			-0.6542
L20	60 - 59.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-58.6223	1.3165	0.2578
			Max. Mx	20	-23.9434	852.1456	6.4894
			Max. My	2	-23.9118	8.4531	862.3253
			Max. Vy	20	-23.5784	852.1456	6.4894
			Max. Vx	14	24.0923	-3.7541	-861.3938
			Max. Torque	22			-0.5556
L21	59.75 - 54.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-61.1906	2.2339	-0.2648
			Max. Mx	20	-25.4878	971.3183	7.4101

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-25.4584	9.8194	983.7586
			Max. Vy	20	-24.0640	971.3183	7.4101
			Max. Vx	14	24.5780	-4.2158	-983.0994
			Max. Torque	22			-0.5459
L22	54.75 - 49.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-63.7470	3.1427	-0.7826
			Max. Mx	20	-27.0524	1092.8131	8.3287
			Max. My	2	-27.0257	11.1845	1107.5123
			Max. Vy	20	-24.5154	1092.8131	8.3287
			Max. Vx	14	25.0289	-4.6758	-1107.1258
			Max. Torque	22			-0.3550
L23	49.75 - 49.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-64.0019	3.2333	-0.8341
			Max. Mx	20	-27.2146	1105.0853	8.4204
			Max. My	2	-27.1884	11.3208	1120.0103
			Max. Vy	20	-24.5556	1105.0853	8.4204
			Max. Vx	14	25.0690	-4.7217	-1119.6511
			Max. Torque	32			-0.3197
L24	49.25 - 49	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-64.1355	3.2795	-0.8599
			Max. Mx	20	-27.3014	1111.2302	8.4662
			Max. My	2	-27.2754	11.3891	1126.2679
			Max. Vy	20	-24.5765	1111.2302	8.4662
			Max. Vx	14	25.0899	-4.7447	-1125.9224
			Max. Torque	32			-0.3256
L25	49 - 44	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-66.7992	4.1732	-1.3706
			Max. Mx	20	-28.9768	1235.3521	9.3824
			Max. My	2	-28.9531	12.7511	1252.6458
			Max. Vy	20	-25.0471	1235.3521	9.3824
			Max. Vx	14	25.5601	-5.2033	-1252.5734
			Max. Torque	32			-0.4423
L26	44 - 42	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-67.8606	4.5275	-1.5729
			Max. Mx	20	-29.6529	1285.6363	9.7482
			Max. My	14	-29.6291	-5.3862	-1303.8683
			Max. Vy	20	-25.2234	1285.6363	9.7482
			Max. Vx	14	25.7360	-5.3862	-1303.8683
			Max. Torque	32			-0.4880
L27	42 - 41.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-68.0023	4.5729	-1.5982
			Max. Mx	20	-29.7536	1291.9465	9.7939
			Max. My	14	-29.7302	-5.4090	-1310.3048
			Max. Vy	20	-25.2375	1291.9465	9.7939
			Max. Vx	14	25.7500	-5.4090	-1310.3048
			Max. Torque	32			-0.4936
L28	41.75 - 36.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-70.8281	5.4462	-2.0981
			Max. Mx	20	-31.6199	1419.2907	10.7061
			Max. My	14	-31.5991	-5.8649	-1440.1730
			Max. Vy	20	-25.6761	1419.2907	10.7061
			Max. Vx	14	26.1879	-5.8649	-1440.1730
			Max. Torque	13			-0.6344
L29	36.75 - 34.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.0942	5.8343	-2.3203
			Max. Mx	20	-32.4652	1477.2816	11.1157

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-32.4459	-6.0694	-1499.2981
			Max. Vy	20	-25.8613	1477.2816	11.1157
			Max. Vx	14	26.3727	-6.0694	-1499.2981
			Max. Torque	13			-0.7402
L30	34.5 - 34.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.2439	5.8782	-2.3449
			Max. Mx	20	-32.5772	1483.7504	11.1611
			Max. My	14	-32.5583	-6.0921	-1505.8929
			Max. Vy	20	-25.8712	1483.7504	11.1611
			Max. Vx	14	26.3824	-6.0921	-1505.8929
			Max. Torque	13			-0.7522
L31	34.25 - 34	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.3935	5.9210	-2.3695
			Max. Mx	20	-32.6804	1490.2243	11.2066
			Max. My	14	-32.6617	-6.1148	-1512.4927
			Max. Vy	20	-25.8917	1490.2243	11.2066
			Max. Vx	14	26.4028	-6.1148	-1512.4927
			Max. Torque	13			-0.7641
L32	34 - 33.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.5338	5.9637	-2.3940
			Max. Mx	20	-32.7747	1496.7031	11.2520
			Max. My	14	-32.7562	-6.1375	-1519.0975
			Max. Vy	20	-25.9115	1496.7031	11.2520
			Max. Vx	14	26.4226	-6.1375	-1519.0975
			Max. Torque	13			-0.7760
L33	33.75 - 30	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-74.6336	6.5757	-2.7477
			Max. Mx	20	-34.1858	1594.4539	11.9324
			Max. My	14	-34.1696	-6.4770	-1618.7350
			Max. Vy	20	-26.2069	1594.4539	11.9324
			Max. Vx	14	26.7171	-6.4770	-1618.7350
			Max. Torque	13			-0.9527
L34	30 - 29.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-76.8898	6.6253	-2.7759
			Max. Mx	20	-35.8323	1601.1253	11.9773
			Max. My	14	-35.8165	-6.4988	-1625.5318
			Max. Vy	20	-26.6791	1601.1253	11.9773
			Max. Vx	14	27.1894	-6.4988	-1625.5318
			Max. Torque	13			-0.9666
L35	29.75 - 28.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-77.6052	6.8669	-2.9159
			Max. Mx	20	-36.2953	1634.5648	12.2013
			Max. My	14	-36.2800	-6.6076	-1659.5979
			Max. Vy	20	-26.8008	1634.5648	12.2013
			Max. Vx	14	27.3109	-6.6076	-1659.5979
			Max. Torque	13			-1.0359
L36	28.5 - 28.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-77.7619	6.9163	-2.9439
			Max. Mx	20	-36.4122	1641.2693	12.2461
			Max. My	14	-36.3973	-6.6293	-1666.4277
			Max. Vy	20	-26.8114	1641.2693	12.2461
			Max. Vx	14	27.3213	-6.6293	-1666.4277
			Max. Torque	13			-1.0497

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L37	28.25 - 23.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-80.8835	7.8713	-3.4958
			Max. Mx	20	-38.5622	1776.5116	13.1401
			Max. My	14	-38.5497	-7.0629	-1804.1724
			Max. Vy	20	-27.2552	1776.5116	13.1401
			Max. Vx	14	27.7640	-7.0629	-1804.1724
			Max. Torque	13			-1.3199
L38	23.25 - 23	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-81.0511	7.9194	-3.5231
			Max. Mx	20	-38.6885	1783.3303	13.1847
			Max. My	14	-38.6763	-7.0845	-1811.1161
			Max. Vy	20	-27.2677	1783.3303	13.1847
			Max. Vx	14	27.7763	-7.0845	-1811.1161
			Max. Torque	13			-1.3331
L39	23 - 21.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-82.0555	8.2003	-3.6857
			Max. Mx	20	-39.3981	1824.3542	13.4521
			Max. My	14	-39.3864	-7.2141	-1852.8894
			Max. Vy	20	-27.4079	1824.3542	13.4521
			Max. Vx	14	27.9164	-7.2141	-1852.8894
			Max. Torque	13			-1.4118
L40	21.5 - 21.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-82.2089	8.2478	-3.7128
			Max. Mx	20	-39.5139	1831.2098	13.4967
			Max. My	14	-39.5027	-7.2358	-1859.8699
			Max. Vy	20	-27.4149	1831.2098	13.4967
			Max. Vx	14	27.9231	-7.2358	-1859.8699
			Max. Torque	13			-1.4248
L41	21.25 - 19	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-83.5859	8.6648	-3.9539
			Max. Mx	20	-40.4679	1893.1263	13.8972
			Max. My	14	-40.4577	-7.4298	-1922.9091
			Max. Vy	20	-27.5982	1893.1263	13.8972
			Max. Vx	14	28.1059	-7.4298	-1922.9091
			Max. Torque	13			-1.5402
L42	19 - 18.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-83.7522	8.7116	-3.9806
			Max. Mx	20	-40.5963	1900.0297	13.9417
			Max. My	14	-40.5866	-7.4514	-1929.9372
			Max. Vy	20	-27.6058	1900.0297	13.9417
			Max. Vx	14	28.1132	-7.4514	-1929.9372
			Max. Torque	13			-1.5529
L43	18.75 - 18.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-83.9185	8.7576	-4.0071
			Max. Mx	20	-40.7165	1906.9380	13.9862
			Max. My	14	-40.7069	-7.4729	-1936.9702
			Max. Vy	20	-27.6253	1906.9380	13.9862
			Max. Vx	14	28.1326	-7.4729	-1936.9702
			Max. Torque	13			-1.5655
L44	18.5 - 18.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-84.0761	8.8035	-4.0336
			Max. Mx	20	-40.8281	1913.8511	14.0306
			Max. My	14	-40.8186	-7.4945	-1944.0079

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-27.6444	1913.8511	14.0306
			Max. Vx	14	28.1516	-7.4945	-1944.0079
			Max. Torque	13			-1.5781
L45	18.25 - 13.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-87.2080	9.7042	-4.5541
			Max. Mx	20	-43.0599	2053.0489	14.9170
			Max. My	14	-43.0531	-7.9236	-2085.6934
			Max. Vy	20	-28.0066	2053.0489	14.9170
			Max. Vx	14	28.5122	-7.9236	-2085.6934
			Max. Torque	13			-1.8218
L46	13.25 - 12.7	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-87.5499	9.8012	-4.6100
			Max. Mx	20	-43.3107	2068.4664	15.0142
			Max. My	14	-43.3044	-7.9707	-2101.3840
			Max. Vy	20	-28.0372	2068.4664	15.0142
			Max. Vx	14	28.5425	-7.9707	-2101.3840
			Max. Torque	13			-1.8484
L47	12.7 - 12.45	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-87.7057	9.8453	-4.6353
			Max. Mx	20	-43.4263	2075.4811	15.0584
			Max. My	14	-43.4202	-7.9921	-2108.5227
			Max. Vy	20	-28.0497	2075.4811	15.0584
			Max. Vx	14	28.5548	-7.9921	-2108.5227
			Max. Torque	13			-1.8605
L48	12.45 - 11.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.2965	10.0107	-4.7310
			Max. Mx	20	-43.8486	2102.1739	15.2262
			Max. My	14	-43.8429	-8.0732	-2135.6868
			Max. Vy	20	-28.1220	2102.1739	15.2262
			Max. Vx	14	28.6269	-8.0732	-2135.6868
			Max. Torque	13			-1.9064
L49	11.5 - 11.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.4606	10.0543	-4.7560
			Max. Mx	20	-43.9771	2109.2080	15.2703
			Max. My	14	-43.9718	-8.0947	-2142.8450
			Max. Vy	20	-28.1279	2109.2080	15.2703
			Max. Vx	14	28.6325	-8.0947	-2142.8450
			Max. Torque	13			-1.9184
L50	11.25 - 10.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.9521	10.1833	-4.8307
			Max. Mx	20	-44.3381	2130.3347	15.4026
			Max. My	14	-44.3331	-8.1587	-2164.3434
			Max. Vy	20	-28.1837	2130.3347	15.4026
			Max. Vx	14	28.6881	-8.1587	-2164.3434
			Max. Torque	13			-1.9547
L51	10.5 - 10.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-89.1310	10.2266	-4.8554
			Max. Mx	20	-44.4795	2137.3852	15.4467
			Max. My	14	-44.4748	-8.1801	-2171.5177
			Max. Vy	20	-28.1933	2137.3852	15.4467
			Max. Vx	14	28.6975	-8.1801	-2171.5177
			Max. Torque	13			-1.9668
L52	10.25 - 7.5	Pole	Max Tension	1	0.0000	0.0000	0.0000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-91.0887	10.6887	-5.1225
			Max. Mx	20	-45.9668	2215.2396	15.9307
			Max. My	14	-45.9631	-8.4140	-2250.7332
			Max. Vy	20	-28.4041	2215.2396	15.9307
			Max. Vx	14	28.9077	-8.4140	-2250.7332
			Max. Torque	13			-2.0997
L53	7.5 - 7.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-91.2705	10.7301	-5.1462
			Max. Mx	20	-46.1157	2222.3441	15.9747
			Max. My	14	-46.1125	-8.4354	-2257.9613
			Max. Vy	20	-28.4090	2222.3441	15.9747
			Max. Vx	14	28.9123	-8.4354	-2257.9613
			Max. Torque	13			-2.1117
L54	7.25 - 6.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-91.9960	10.8926	-5.2402
			Max. Mx	20	-46.6739	2250.8068	16.1504
			Max. My	14	-46.6709	-8.5202	-2286.9183
			Max. Vy	20	-28.4889	2250.8068	16.1504
			Max. Vx	14	28.9919	-8.5202	-2286.9183
			Max. Torque	13			-2.1601
L55	6.25 - 6	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-92.1768	10.9330	-5.2634
			Max. Mx	20	-46.8199	2257.9336	16.1944
			Max. My	14	-46.8173	-8.5416	-2294.1686
			Max. Vy	20	-28.4981	2257.9336	16.1944
			Max. Vx	14	29.0010	-8.5416	-2294.1686
			Max. Torque	13			-2.1721
L56	6 - 3.73	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-93.8673	11.2875	-5.4682
			Max. Mx	20	-48.1494	2322.8556	16.5925
			Max. My	14	-48.1474	-8.7339	-2360.2112
			Max. Vy	20	-28.6741	2322.8556	16.5925
			Max. Vx	14	29.1764	-8.7339	-2360.2112
			Max. Torque	13			-2.2818
L57	3.73 - 3.48	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-94.0518	11.3253	-5.4899
			Max. Mx	20	-48.3017	2330.0287	16.6364
			Max. My	14	-48.3001	-8.7552	-2367.5077
			Max. Vy	20	-28.6834	2330.0287	16.6364
			Max. Vx	14	29.1855	-8.7552	-2367.5077
			Max. Torque	13			-2.2939
L58	3.48 - 2.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-94.5886	11.4331	-5.5522
			Max. Mx	20	-48.7282	2351.0002	16.7643
			Max. My	14	-48.7268	-8.8169	-2388.8392
			Max. Vy	20	-28.7413	2351.0002	16.7643
			Max. Vx	14	29.2432	-8.8169	-2388.8392
			Max. Torque	13			-2.3292
L59	2.75 - 2.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-94.7593	11.4694	-5.5731
			Max. Mx	20	-48.8661	2358.1911	16.8081
			Max. My	14	-48.8648	-8.8381	-2396.1533
			Max. Vy	20	-28.7543	2358.1911	16.8081
			Max. Vx	14	29.2561	-8.8381	-

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
							2396.1533
			Max. Torque	13			-2.3413
L60	2.5 - 2	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-95.0992	11.5403	-5.6141
			Max. Mx	20	-49.1344	2372.5862	16.8956
			Max. My	14	-49.1332	-8.8804	-2410.7948
			Max. Vy	20	-28.7927	2372.5862	16.8956
			Max. Vx	14	29.2943	-8.8804	-2410.7948
			Max. Torque	13			-2.3655
L61	2 - 1.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-95.2545	11.5750	-5.6342
			Max. Mx	20	-49.2574	2379.7903	16.9394
			Max. My	14	-49.2564	-8.9016	-2418.1221
			Max. Vy	20	-28.8073	2379.7903	16.9394
			Max. Vx	14	29.3088	-8.9016	-2418.1221
			Max. Torque	13			-2.3775
L62	1.75 - 0	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-96.3163	11.7952	-5.7614
			Max. Mx	20	-50.0982	2430.3367	17.2452
			Max. My	14	-50.0978	-9.0492	-2469.5300
			Max. Vy	20	-28.9438	2430.3367	17.2452
			Max. Vx	14	29.4448	-9.0492	-2469.5300
			Max. Torque	13			-2.4621

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	33	96.3163	-0.0194	-8.5963
	Max. H_x	20	50.1113	28.9211	0.1865
	Max. H_z	2	50.1113	0.2473	29.3875
	Max. M_x	2	2467.0820	0.2473	29.3875
	Max. M_z	8	2423.0365	-28.8629	-0.0880
	Max. Torsion	25	2.4139	14.6580	25.4501
	Min. Vert	7	37.5835	-24.9658	14.5652
	Min. H_x	8	50.1113	-28.8629	-0.0880
	Min. H_z	14	50.1113	-0.1049	-29.4218
	Min. M_x	14	-2469.5300	-0.1049	-29.4218
	Min. M_z	20	-2430.3367	28.9211	0.1865
	Min. Torsion	13	-2.4621	-14.4744	-25.5815

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	41.7594	0.0000	0.0000	0.4941	0.6533	0.0000
1.2 Dead+1.0 Wind 0 deg - No Ice	50.1113	-0.2473	-29.3875	-2467.0820	24.6779	-2.1965
0.9 Dead+1.0 Wind 0 deg - No Ice	37.5835	-0.2473	-29.3875	-2447.0025	24.2798	-2.2040
1.2 Dead+1.0 Wind 30 deg - No Ice	50.1113	14.3651	-25.3088	-2123.3908	-1204.0852	-1.4144
0.9 Dead+1.0 Wind 30 deg -	37.5835	14.3651	-25.3088	-2106.1286	-1194.3834	-1.4201

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice						
1.2 Dead+1.0 Wind 60 deg - No Ice	50.1113	24.9658	-14.5652	-1221.3319	-2094.9092	-0.0887
0.9 Dead+1.0 Wind 60 deg - No Ice	37.5835	24.9658	-14.5652	-1211.4652	-2077.8842	-0.0912
1.2 Dead+1.0 Wind 90 deg - No Ice	50.1113	28.8629	0.0880	8.8116	-2423.0365	1.2671
0.9 Dead+1.0 Wind 90 deg - No Ice	37.5835	28.8629	0.0880	8.5925	-2403.3108	1.2684
1.2 Dead+1.0 Wind 120 deg - No Ice	50.1113	25.0489	14.9609	1255.5481	-2103.4830	2.1712
0.9 Dead+1.0 Wind 120 deg - No Ice	37.5835	25.0489	14.9609	1245.1355	-2086.3818	2.1761
1.2 Dead+1.0 Wind 150 deg - No Ice	50.1113	14.4744	25.5815	2147.6022	-1215.7622	2.4550
0.9 Dead+1.0 Wind 150 deg - No Ice	37.5835	14.4744	25.5815	2129.8654	-1205.9539	2.4621
1.2 Dead+1.0 Wind 180 deg - No Ice	50.1113	0.1049	29.4218	2469.5300	-9.0495	2.0478
0.9 Dead+1.0 Wind 180 deg - No Ice	37.5835	0.1049	29.4218	2449.1517	-9.1618	2.0553
1.2 Dead+1.0 Wind 210 deg - No Ice	50.1113	-14.2899	25.4449	2134.6608	1200.0268	1.1242
0.9 Dead+1.0 Wind 210 deg - No Ice	37.5835	-14.2899	25.4449	2117.0316	1189.9740	1.1301
1.2 Dead+1.0 Wind 240 deg - No Ice	50.1113	-25.0444	14.6728	1228.0107	2105.1432	0.0255
0.9 Dead+1.0 Wind 240 deg - No Ice	37.5835	-25.0444	14.6728	1217.8306	2087.6485	0.0281
1.2 Dead+1.0 Wind 270 deg - No Ice	50.1113	-28.9211	-0.1865	-17.2454	2430.3367	-1.0250
0.9 Dead+1.0 Wind 270 deg - No Ice	37.5835	-28.9211	-0.1865	-17.2463	2410.1737	-1.0264
1.2 Dead+1.0 Wind 300 deg - No Ice	50.1113	-25.1396	-14.7867	-1242.2684	2113.0734	-1.9590
0.9 Dead+1.0 Wind 300 deg - No Ice	37.5835	-25.1396	-14.7867	-1232.2273	2095.5217	-1.9640
1.2 Dead+1.0 Wind 330 deg - No Ice	50.1113	-14.6580	-25.4501	-2136.7823	1233.6411	-2.4066
0.9 Dead+1.0 Wind 330 deg - No Ice	37.5835	-14.6580	-25.4501	-2119.4085	1223.3162	-2.4139
1.2 Dead+1.0 Ice+1.0 Temp	96.3163	-0.0000	0.0000	5.7614	11.7952	0.0002
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	96.3163	-0.0537	-8.5911	-711.7566	17.4644	-1.2250
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	96.3163	4.2376	-7.4098	-612.6426	-341.4616	-0.7328
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	96.3163	7.3557	-4.2701	-350.4728	-601.9519	-0.0104
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	96.3163	8.4997	0.0154	7.3269	-697.6837	0.7144
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	96.3163	7.3711	4.3480	368.8790	-603.6736	1.2210
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	96.3163	4.2563	7.4649	629.1461	-343.6527	1.3933
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	96.3163	0.0194	8.5963	723.4379	10.0334	1.1903
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	96.3163	-4.2221	7.4378	626.4251	364.1621	0.6758
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	96.3163	-7.3759	4.2888	362.8677	628.1907	0.0049
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	96.3163	-8.5137	-0.0390	1.8524	723.0599	-0.6561
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	96.3163	-7.3917	-4.3133	-354.8029	629.5188	-1.1792
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	96.3163	-4.2980	-7.4379	-615.4806	371.5019	-1.3932
Dead+Wind 0 deg - Service	41.7594	-0.0537	-6.3770	-532.4083	5.8097	-0.4776
Dead+Wind 30 deg - Service	41.7594	3.1172	-5.4919	-458.1808	-259.5418	-0.3063
Dead+Wind 60 deg - Service	41.7594	5.4175	-3.1606	-263.3775	-451.9123	-0.0187

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 90 deg - Service	41.7594	6.2632	0.0191	2.2731	-522.7701	0.2746
Dead+Wind 120 deg - Service	41.7594	5.4355	3.2465	271.5133	-453.7689	0.4707
Dead+Wind 150 deg - Service	41.7594	3.1409	5.5511	464.1578	-262.0659	0.5330
Dead+Wind 180 deg - Service	41.7594	0.0228	6.3844	533.6785	-1.4729	0.4459
Dead+Wind 210 deg - Service	41.7594	-3.1009	5.5215	461.3580	259.6275	0.2459
Dead+Wind 240 deg - Service	41.7594	-5.4346	3.1840	265.5652	455.0859	0.0069
Dead+Wind 270 deg - Service	41.7594	-6.2758	-0.0405	-3.3536	525.3105	-0.2228
Dead+Wind 300 deg - Service	41.7594	-5.4552	-3.2087	-267.9022	456.8035	-0.4272
Dead+Wind 330 deg - Service	41.7594	-3.1807	-5.5226	-461.0793	266.8903	-0.5244

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.0000	-41.7594	0.0000	0.0000	41.7594	0.0000	0.000%
2	-0.2473	-50.1113	-29.3875	0.2473	50.1113	29.3875	0.000%
3	-0.2473	-37.5835	-29.3875	0.2473	37.5835	29.3875	0.000%
4	14.3651	-50.1113	-25.3088	-14.3651	50.1113	25.3088	0.000%
5	14.3651	-37.5835	-25.3088	-14.3651	37.5835	25.3088	0.000%
6	24.9658	-50.1113	-14.5652	-24.9658	50.1113	14.5652	0.000%
7	24.9658	-37.5835	-14.5652	-24.9658	37.5835	14.5652	0.000%
8	28.8629	-50.1113	0.0880	-28.8629	50.1113	-0.0880	0.000%
9	28.8629	-37.5835	0.0880	-28.8629	37.5835	-0.0880	0.000%
10	25.0489	-50.1113	14.9609	-25.0489	50.1113	-14.9609	0.000%
11	25.0489	-37.5835	14.9609	-25.0489	37.5835	-14.9609	0.000%
12	14.4744	-50.1113	25.5815	-14.4744	50.1113	-25.5815	0.000%
13	14.4744	-37.5835	25.5815	-14.4744	37.5835	-25.5815	0.000%
14	0.1049	-50.1113	29.4218	-0.1049	50.1113	-29.4218	0.000%
15	0.1049	-37.5835	29.4218	-0.1049	37.5835	-29.4218	0.000%
16	-14.2899	-50.1113	25.4449	14.2899	50.1113	-25.4449	0.000%
17	-14.2899	-37.5835	25.4449	14.2899	37.5835	-25.4449	0.000%
18	-25.0444	-50.1113	14.6728	25.0444	50.1113	-14.6728	0.000%
19	-25.0444	-37.5835	14.6728	25.0444	37.5835	-14.6728	0.000%
20	-28.9211	-50.1113	-0.1865	28.9211	50.1113	0.1865	0.000%
21	-28.9211	-37.5835	-0.1865	28.9211	37.5835	0.1865	0.000%
22	-25.1396	-50.1113	-14.7867	25.1396	50.1113	14.7867	0.000%
23	-25.1396	-37.5835	-14.7867	25.1396	37.5835	14.7867	0.000%
24	-14.6580	-50.1113	-25.4501	14.6580	50.1113	25.4501	0.000%
25	-14.6580	-37.5835	-25.4501	14.6580	37.5835	25.4501	0.000%
26	0.0000	-96.3163	0.0000	0.0000	96.3163	-0.0000	0.000%
27	-0.0537	-96.3163	-8.5911	0.0537	96.3163	8.5911	0.000%
28	4.2376	-96.3163	-7.4098	-4.2376	96.3163	7.4098	0.000%
29	7.3557	-96.3163	-4.2701	-7.3557	96.3163	4.2701	0.000%
30	8.4997	-96.3163	0.0154	-8.4997	96.3163	-0.0154	0.000%
31	7.3711	-96.3163	4.3480	-7.3711	96.3163	-4.3480	0.000%
32	4.2563	-96.3163	7.4649	-4.2563	96.3163	-7.4649	0.000%
33	0.0194	-96.3163	8.5963	-0.0194	96.3163	-8.5963	0.000%
34	-4.2221	-96.3163	7.4378	4.2221	96.3163	-7.4378	0.000%
35	-7.3759	-96.3163	4.2888	7.3759	96.3163	-4.2888	0.000%
36	-8.5137	-96.3163	-0.0390	8.5137	96.3163	0.0390	0.000%
37	-7.3917	-96.3163	-4.3133	7.3917	96.3163	4.3133	0.000%
38	-4.2980	-96.3163	-7.4379	4.2980	96.3163	7.4379	0.000%
39	-0.0537	-41.7594	-6.3770	0.0537	41.7594	6.3770	0.000%
40	3.1172	-41.7594	-5.4919	-3.1172	41.7594	5.4919	0.000%
41	5.4175	-41.7594	-3.1606	-5.4175	41.7594	3.1606	0.000%
42	6.2632	-41.7594	0.0191	-6.2632	41.7594	-0.0191	0.000%
43	5.4355	-41.7594	3.2465	-5.4355	41.7594	-3.2465	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
44	3.1409	-41.7594	5.5511	-3.1409	41.7594	-5.5511	0.000%
45	0.0228	-41.7594	6.3844	-0.0228	41.7594	-6.3844	0.000%
46	-3.1009	-41.7594	5.5215	3.1009	41.7594	-5.5215	0.000%
47	-5.4346	-41.7594	3.1840	5.4346	41.7594	-3.1840	0.000%
48	-6.2758	-41.7594	-0.0405	6.2758	41.7594	0.0405	0.000%
49	-5.4552	-41.7594	-3.2087	5.4552	41.7594	3.2087	0.000%
50	-3.1807	-41.7594	-5.5226	3.1807	41.7594	5.5226	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00017108
3	Yes	5	0.00000001	0.00007960
4	Yes	6	0.00000001	0.00012921
5	Yes	6	0.00000001	0.00004363
6	Yes	6	0.00000001	0.00013088
7	Yes	6	0.00000001	0.00004429
8	Yes	5	0.00000001	0.00009981
9	Yes	5	0.00000001	0.00004329
10	Yes	6	0.00000001	0.00013579
11	Yes	6	0.00000001	0.00004582
12	Yes	6	0.00000001	0.00013202
13	Yes	6	0.00000001	0.00004442
14	Yes	5	0.00000001	0.00009646
15	Yes	5	0.00000001	0.00004156
16	Yes	6	0.00000001	0.00013084
17	Yes	6	0.00000001	0.00004422
18	Yes	6	0.00000001	0.00013148
19	Yes	6	0.00000001	0.00004443
20	Yes	5	0.00000001	0.00009523
21	Yes	5	0.00000001	0.00004049
22	Yes	6	0.00000001	0.00013341
23	Yes	6	0.00000001	0.00004496
24	Yes	6	0.00000001	0.00013572
25	Yes	6	0.00000001	0.00004574
26	Yes	4	0.00000001	0.00037009
27	Yes	6	0.00000001	0.00054695
28	Yes	6	0.00000001	0.00059282
29	Yes	6	0.00000001	0.00059190
30	Yes	6	0.00000001	0.00053794
31	Yes	6	0.00000001	0.00060150
32	Yes	6	0.00000001	0.00060001
33	Yes	6	0.00000001	0.00054830
34	Yes	6	0.00000001	0.00060606
35	Yes	6	0.00000001	0.00060596
36	Yes	6	0.00000001	0.00054811
37	Yes	6	0.00000001	0.00060677
38	Yes	6	0.00000001	0.00061098
39	Yes	4	0.00000001	0.00033624
40	Yes	5	0.00000001	0.00003856
41	Yes	5	0.00000001	0.00003965
42	Yes	4	0.00000001	0.00031397
43	Yes	5	0.00000001	0.00004201
44	Yes	5	0.00000001	0.00003971
45	Yes	4	0.00000001	0.00032367
46	Yes	5	0.00000001	0.00003980
47	Yes	5	0.00000001	0.00003966
48	Yes	4	0.00000001	0.00030991
49	Yes	5	0.00000001	0.00004023
50	Yes	5	0.00000001	0.00004202

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	12.2627	44	0.9229	0.0008
L2	113 - 108	11.2964	44	0.9224	0.0008
L3	108 - 103	10.3325	44	0.9180	0.0007
L4	103 - 98	9.3766	44	0.9060	0.0007
L5	98 - 93	8.4388	44	0.8834	0.0007
L6	93 - 90	7.5313	44	0.8472	0.0006
L7	90 - 85	7.0081	44	0.8176	0.0005
L8	85 - 80	6.1737	45	0.7750	0.0004
L9	80 - 76.5	5.3914	45	0.7180	0.0002
L10	76.5 - 76.25	4.8831	45	0.6684	0.0001
L11	76.25 - 74	4.8482	45	0.6659	0.0001
L12	74 - 73.75	4.5401	45	0.6419	0.0001
L13	73.75 - 68.88	4.5066	45	0.6400	0.0001
L14	68.88 - 68.63	3.8741	45	0.5992	0.0002
L15	68.63 - 64.5	3.8429	45	0.5958	0.0002
L16	64.5 - 64.25	3.3535	45	0.5344	0.0002
L17	64.25 - 63	3.3256	45	0.5321	0.0003
L18	63 - 62.75	3.1878	45	0.5203	0.0003
L19	62.75 - 60	3.1606	45	0.5178	0.0003
L20	60 - 59.75	2.8707	45	0.4888	0.0003
L21	59.75 - 54.75	2.8451	45	0.4868	0.0003
L22	54.75 - 49.75	2.3569	45	0.4446	0.0003
L23	49.75 - 49.25	1.9160	45	0.3967	0.0003
L24	49.25 - 49	1.8747	45	0.3916	0.0003
L25	49 - 44	1.8542	45	0.3896	0.0003
L26	44 - 42	1.4683	45	0.3467	0.0003
L27	42 - 41.75	1.3270	45	0.3282	0.0003
L28	41.75 - 36.75	1.3098	45	0.3261	0.0003
L29	36.75 - 34.5	0.9910	45	0.2821	0.0003
L30	34.5 - 34.25	0.8630	45	0.2610	0.0003
L31	34.25 - 34	0.8494	45	0.2587	0.0003
L32	34 - 33.75	0.8359	45	0.2564	0.0003
L33	33.75 - 30	0.8225	45	0.2538	0.0003
L34	30 - 29.75	0.6385	45	0.2144	0.0002
L35	29.75 - 28.5	0.6273	45	0.2123	0.0002
L36	28.5 - 28.25	0.5731	45	0.2019	0.0002
L37	28.25 - 23.25	0.5626	45	0.2001	0.0002
L38	23.25 - 23	0.3722	45	0.1629	0.0002
L39	23 - 21.5	0.3638	45	0.1612	0.0002
L40	21.5 - 21.25	0.3147	45	0.1510	0.0002
L41	21.25 - 19	0.3069	45	0.1490	0.0002
L42	19 - 18.75	0.2410	45	0.1304	0.0002
L43	18.75 - 18.5	0.2342	45	0.1286	0.0002
L44	18.5 - 18.25	0.2275	45	0.1268	0.0001
L45	18.25 - 13.25	0.2209	45	0.1249	0.0001
L46	13.25 - 12.7	0.1105	45	0.0855	0.0001
L47	12.7 - 12.45	0.1009	45	0.0810	0.0001
L48	12.45 - 11.5	0.0968	45	0.0789	0.0001
L49	11.5 - 11.25	0.0819	45	0.0708	0.0001
L50	11.25 - 10.5	0.0782	45	0.0686	0.0001
L51	10.5 - 10.25	0.0680	45	0.0621	0.0001
L52	10.25 - 7.5	0.0647	45	0.0606	0.0001
L53	7.5 - 7.25	0.0348	45	0.0434	0.0001
L54	7.25 - 6.25	0.0325	45	0.0419	0.0001
L55	6.25 - 6	0.0244	45	0.0357	0.0000
L56	6 - 3.73	0.0226	45	0.0342	0.0000
L57	3.73 - 3.48	0.0091	45	0.0223	0.0000
L58	3.48 - 2.75	0.0080	45	0.0210	0.0000
L59	2.75 - 2.5	0.0051	45	0.0171	0.0000
L60	2.5 - 2	0.0042	45	0.0157	0.0000
L61	2 - 1.75	0.0027	45	0.0130	0.0000
L62	1.75 - 0	0.0021	45	0.0113	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.0000	VHLP1-23	44	11.8761	0.9229	0.0011	126384
114.0000	APXVSPP18-C-A20 w/ Mount Pipe	44	11.4896	0.9227	0.0011	126384
108.0000	AIR6449 B41_T-MOBILE	44	10.3325	0.9180	0.0010	37036
98.0000	HPA-65R-BUU-H6 w/ Mount Pipe	44	8.4388	0.8834	0.0008	9833
90.0000	Bridge Stiffener (84" x 9" x 1.25")	44	7.0081	0.8176	0.0005	6400
85.0000	(2) HBXX-6517DS-A2M w/ Mount Pipe	45	6.1737	0.7750	0.0004	5774
80.0000	KS24019-L112A	45	5.3914	0.7180	0.0002	4476
73.0000	VHLP1-23	45	4.4065	0.6348	0.0002	6187
72.0000	A-ANT-18G-2-C	45	4.2746	0.6282	0.0002	6251
60.0000	Bridge Stiffener (84" x 14.5" x 1.25")	45	2.8707	0.4888	0.0003	6128
30.0000	Bridge Stiffener (84" x 14.5" x 1.25")	45	0.6385	0.2144	0.0002	6254

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	56.8322	24	4.2808	0.0040
L2	113 - 108	52.3569	24	4.2789	0.0039
L3	108 - 103	47.8917	24	4.2595	0.0038
L4	103 - 98	43.4626	24	4.2049	0.0037
L5	98 - 93	39.1163	24	4.1003	0.0035
L6	93 - 90	34.9099	24	3.9324	0.0029
L7	90 - 85	32.4841	24	3.7952	0.0025
L8	85 - 80	28.6132	24	3.5976	0.0020
L9	80 - 76.5	24.9843	14	3.3321	0.0011
L10	76.5 - 76.25	22.6278	14	3.1015	0.0012
L11	76.25 - 74	22.4659	14	3.0897	0.0012
L12	74 - 73.75	21.0376	14	2.9784	0.0012
L13	73.75 - 68.88	20.8821	14	2.9696	0.0012
L14	68.88 - 68.63	17.9502	14	2.7799	0.0013
L15	68.63 - 64.5	17.8052	14	2.7638	0.0013
L16	64.5 - 64.25	15.5369	14	2.4786	0.0013
L17	64.25 - 63	15.4075	14	2.4678	0.0013
L18	63 - 62.75	14.7689	14	2.4128	0.0013
L19	62.75 - 60	14.6430	14	2.4011	0.0013
L20	60 - 59.75	13.2990	14	2.2662	0.0014
L21	59.75 - 54.75	13.1806	14	2.2571	0.0014
L22	54.75 - 49.75	10.9182	14	2.0608	0.0014
L23	49.75 - 49.25	8.8746	14	1.8385	0.0015
L24	49.25 - 49	8.6834	14	1.8149	0.0015
L25	49 - 44	8.5886	14	1.8055	0.0015
L26	44 - 42	6.8006	14	1.6064	0.0014
L27	42 - 41.75	6.1456	14	1.5208	0.0014
L28	41.75 - 36.75	6.0663	14	1.5111	0.0014
L29	36.75 - 34.5	4.5892	14	1.3071	0.0013
L30	34.5 - 34.25	3.9962	14	1.2090	0.0012
L31	34.25 - 34	3.9332	14	1.1983	0.0012
L32	34 - 33.75	3.8707	14	1.1876	0.0012
L33	33.75 - 30	3.8089	14	1.1758	0.0012
L34	30 - 29.75	2.9565	14	0.9930	0.0011
L35	29.75 - 28.5	2.9047	14	0.9835	0.0011
L36	28.5 - 28.25	2.6536	14	0.9352	0.0010
L37	28.25 - 23.25	2.6048	14	0.9269	0.0010
L38	23.25 - 23	1.7234	14	0.7544	0.0009

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L39	23 - 21.5	1.6841	14	0.7466	0.0008
L40	21.5 - 21.25	1.4570	14	0.6991	0.0008
L41	21.25 - 19	1.4206	14	0.6897	0.0008
L42	19 - 18.75	1.1157	14	0.6039	0.0007
L43	18.75 - 18.5	1.0843	14	0.5956	0.0007
L44	18.5 - 18.25	1.0533	14	0.5872	0.0007
L45	18.25 - 13.25	1.0228	14	0.5784	0.0007
L46	13.25 - 12.7	0.5116	14	0.3957	0.0005
L47	12.7 - 12.45	0.4672	14	0.3748	0.0005
L48	12.45 - 11.5	0.4479	14	0.3650	0.0004
L49	11.5 - 11.25	0.3790	14	0.3275	0.0004
L50	11.25 - 10.5	0.3621	14	0.3176	0.0004
L51	10.5 - 10.25	0.3145	14	0.2875	0.0004
L52	10.25 - 7.5	0.2997	14	0.2804	0.0003
L53	7.5 - 7.25	0.1609	14	0.2008	0.0003
L54	7.25 - 6.25	0.1506	14	0.1938	0.0002
L55	6.25 - 6	0.1130	14	0.1654	0.0002
L56	6 - 3.73	0.1045	14	0.1583	0.0002
L57	3.73 - 3.48	0.0423	14	0.1033	0.0001
L58	3.48 - 2.75	0.0370	14	0.0972	0.0001
L59	2.75 - 2.5	0.0235	14	0.0791	0.0001
L60	2.5 - 2	0.0195	14	0.0728	0.0001
L61	2 - 1.75	0.0126	14	0.0599	0.0001
L62	1.75 - 0	0.0097	14	0.0525	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.0000	VHLP1-23	24	55.0417	4.2811	0.0051	29202
114.0000	APXVSPP18-C-A20 w/ Mount Pipe	24	53.2517	4.2802	0.0050	29202
108.0000	AIR6449 B41_T-MOBILE	24	47.8917	4.2595	0.0046	8253
98.0000	HPA-65R-BUU-H6 w/ Mount Pipe	24	39.1163	4.1003	0.0038	2155
90.0000	Bridge Stiffener (84" x 9" x 1.25")	24	32.4841	3.7952	0.0025	1396
85.0000	(2) HBXX-6517DS-A2M w/ Mount Pipe	24	28.6132	3.5976	0.0020	1256
80.0000	KS24019-L112A	14	24.9843	3.3321	0.0011	971
73.0000	VHLP1-23	14	20.4183	2.9454	0.0012	1339
72.0000	A-ANT-18G-2-C	14	19.8065	2.9144	0.0012	1353
60.0000	Bridge Stiffener (84" x 14.5" x 1.25")	14	13.2990	2.2662	0.0014	1324
30.0000	Bridge Stiffener (84" x 14.5" x 1.25")	14	2.9565	0.9930	0.0011	1350

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	118 - 113 (1)	P24x0.25	5.0000	0.0000	0.0	18.6532	-3.0474	662.2650	0.005
L2	113 - 108 (2)	P24x0.25	5.0000	0.0000	0.0	18.6532	-3.4334	662.2650	0.005

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L3	108 - 103 (3)	P24x0.25	5.0000	0.0000	0.0	18.6532	-7.6671	662.2650	0.012
L4	103 - 98 (4)	P24x0.25	5.0000	0.0000	0.0	18.6532	-8.0950	662.2650	0.012
L5	98 - 93 (5)	P24x0.25	5.0000	0.0000	0.0	18.6532	-11.2052	662.2650	0.017
L6	93 - 90 (6)	P24x0.25	3.0000	0.0000	0.0	18.6532	-11.5068	662.2650	0.017
L7	90 - 85 (7)	P24x0.375	5.0000	0.0000	0.0	27.8325	-13.1394	1052.0700	0.012
L8	85 - 80 (8)	P24x0.375	5.0000	0.0000	0.0	27.8325	-16.4749	1052.0700	0.016
L9	80 - 76.5 (9)	P24x0.375	3.5000	0.0000	0.0	27.8325	-17.1245	1052.0700	0.016
L10	76.5 - 76.25 (10)	P24x0.5875	0.2500	0.0000	0.0	43.2121	-17.1904	1633.4200	0.011
L11	76.25 - 74 (11)	P24x0.5875	2.2500	0.0000	0.0	43.2121	-17.6623	1633.4200	0.011
L12	74 - 73.75 (12)	P24x0.9	0.2500	0.0000	0.0	65.3137	-17.7437	2468.8600	0.007
L13	73.75 - 68.88 (13)	P24x0.9	4.8700	0.0000	0.0	65.3137	-19.8170	2468.8600	0.008
L14	68.88 - 68.63 (14)	P24x0.575	0.2500	0.0000	0.0	42.3153	-19.8801	1599.5200	0.012
L15	68.63 - 64.5 (15)	P24x0.575	4.1300	0.0000	0.0	42.3153	-20.8054	1599.5200	0.013
L16	64.5 - 64.25 (16)	P24x1.05	0.2500	0.0000	0.0	75.7045	-20.9021	2861.6300	0.007
L17	64.25 - 63 (17)	P24x1.05	1.2500	0.0000	0.0	75.7045	-21.3126	2861.6300	0.007
L18	63 - 62.75 (18)	P24x1	0.2500	0.0000	0.0	72.2566	-21.4034	2731.3000	0.008
L19	62.75 - 60 (19)	P24x1	2.7500	0.0000	0.0	72.2566	-22.2960	2731.3000	0.008
L20	60 - 59.75 (20)	P30x0.675	0.2500	0.0000	0.0	62.1859	-23.9123	2350.6300	0.010
L21	59.75 - 54.75 (21)	P30x0.675	5.0000	0.0000	0.0	62.1859	-25.4588	2350.6300	0.011
L22	54.75 - 49.75 (22)	P30x0.675	5.0000	0.0000	0.0	62.1859	-27.0262	2350.6300	0.011
L23	49.75 - 49.25 (23)	P30x0.675	0.5000	0.0000	0.0	62.1859	-27.1889	2350.6300	0.012
L24	49.25 - 49 (24)	P30x0.875	0.2500	0.0000	0.0	80.0615	-27.2759	3026.3300	0.009
L25	49 - 44 (25)	P30x0.875	5.0000	0.0000	0.0	80.0615	-28.9535	3026.3300	0.010
L26	44 - 42 (26)	P30x0.875	2.0000	0.0000	0.0	80.0615	-29.6308	3026.3300	0.010
L27	42 - 41.75 (27)	P30x1	0.2500	0.0000	0.0	91.1062	-29.7318	3443.8100	0.009
L28	41.75 - 36.75 (28)	P30x1	5.0000	0.0000	0.0	91.1062	-31.6006	3443.8100	0.009
L29	36.75 - 34.5 (29)	P30x1	2.2500	0.0000	0.0	91.1062	-32.4473	3443.8100	0.009
L30	34.5 - 34.25 (30)	P30x1.05	0.2500	0.0000	0.0	95.4966	-32.5583	3609.7700	0.009
L31	34.25 - 34 (31)	P30x1.05	0.2500	0.0000	0.0	95.4966	-32.6617	3609.7700	0.009
L32	34 - 33.75 (32)	P30x0.95	0.2500	0.0000	0.0	86.7001	-32.7562	3277.2600	0.010
L33	33.75 - 30 (33)	P30x0.95	3.7500	0.0000	0.0	86.7001	-34.1696	3277.2600	0.010
L34	30 - 29.75 (34)	P36x0.7	0.2500	0.0000	0.0	77.6288	-35.8165	2934.3700	0.012
L35	29.75 - 28.5 (35)	P36x0.7	1.2500	0.0000	0.0	77.6288	-36.2800	2934.3700	0.012
L36	28.5 - 28.25 (36)	P36x0.8375	0.2500	0.0000	0.0	92.5155	-36.3973	3497.0900	0.010
L37	28.25 - 23.25	P36x0.8375	5.0000	0.0000	0.0	92.515	-38.5497	3497.0900	0.011

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(37)					5			
L38	23.25 - 23 (38)	P36x0.975	0.2500	0.0000	0.0	107.28 30	-38.6763	4055.3100	0.010
L39	23 - 21.5 (39)	P36x0.975	1.5000	0.0000	0.0	107.28 30	-39.3864	4055.3100	0.010
L40	21.5 - 21.25 (40)	P36x0.825	0.2500	0.0000	0.0	91.167 1	-39.5027	3446.1100	0.011
L41	21.25 - 19 (41)	P36x0.825	2.2500	0.0000	0.0	91.167 1	-40.4577	3446.1100	0.012
L42	19 - 18.75 (42)	P36x0.975	0.2500	0.0000	0.0	107.28 30	-40.5866	4055.3100	0.010
L43	18.75 - 18.5 (43)	P36x0.975	0.2500	0.0000	0.0	107.28 30	-40.7069	4055.3100	0.010
L44	18.5 - 18.25 (44)	P36x0.925	0.2500	0.0000	0.0	101.92 70	-40.8186	3852.8400	0.011
L45	18.25 - 13.25 (45)	P36x0.925	5.0000	0.0000	0.0	101.92 70	-43.0531	3852.8400	0.011
L46	13.25 - 12.7 (46)	P36x0.925	0.5500	0.0000	0.0	101.92 70	-43.3044	3852.8400	0.011
L47	12.7 - 12.45 (47)	P36x0.9	0.2500	0.0000	0.0	99.242 9	-43.4202	3751.3800	0.012
L48	12.45 - 11.5 (48)	P36x0.9	0.9500	0.0000	0.0	99.242 9	-43.8429	3751.3800	0.012
L49	11.5 - 11.25 (49)	P36x0.9	0.2500	0.0000	0.0	99.242 9	-43.9718	3751.3800	0.012
L50	11.25 - 10.5 (50)	P36x0.9	0.7500	0.0000	0.0	99.242 9	-44.3331	3751.3800	0.012
L51	10.5 - 10.25 (51)	P36x1.325	0.2500	0.0000	0.0	144.33 90	-44.4748	5456.0000	0.008
L52	10.25 - 7.5 (52)	P36x1.325	2.7500	0.0000	0.0	144.33 90	-45.9631	5456.0000	0.008
L53	7.5 - 7.25 (53)	P36x1.4	0.2500	0.0000	0.0	152.17 90	-46.1125	5752.3600	0.008
L54	7.25 - 6.25 (54)	P36x1.4	1.0000	0.0000	0.0	152.17 90	-46.6709	5752.3600	0.008
L55	6.25 - 6 (55)	P36x1.4	0.2500	0.0000	0.0	152.17 90	-46.8173	5752.3600	0.008
L56	6 - 3.73 (56)	P36x1.725	2.2700	0.0000	0.0	185.74 50	-48.1474	7021.1500	0.007
L57	3.73 - 3.48 (57)	P36x1.725	0.2500	0.0000	0.0	185.74 50	-48.3001	7021.1500	0.007
L58	3.48 - 2.75 (58)	P36x1.725	0.7300	0.0000	0.0	185.74 50	-48.7268	7021.1500	0.007
L59	2.75 - 2.5 (59)	P36x1.675	0.2500	0.0000	0.0	180.62 40	-48.8648	6827.5800	0.007
L60	2.5 - 2 (60)	P36x1.675	0.5000	0.0000	0.0	180.62 40	-49.1332	6827.5800	0.007
L61	2 - 1.75 (61)	P36x1.425	0.2500	0.0000	0.0	154.78 40	-49.2564	5850.8500	0.008
L62	1.75 - 0 (62)	P36x1.425	1.7500	0.0000	0.0	154.78 40	-50.0978	5850.8500	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	118 - 113 (1)	P24x0.25	8.8256	396.6833	0.022	0.0000	396.6833	0.000
L2	113 - 108 (2)	P24x0.25	28.3011	396.6833	0.071	0.0000	396.6833	0.000
L3	108 - 103 (3)	P24x0.25	73.6813	396.6833	0.186	0.0000	396.6833	0.000
L4	103 - 98 (4)	P24x0.25	120.7350	396.6833	0.304	0.0000	396.6833	0.000
L5	98 - 93 (5)	P24x0.25	190.6658	396.6833	0.481	0.0000	396.6833	0.000
L6	93 - 90 (6)	P24x0.25	233.3700	396.6833	0.588	0.0000	396.6833	0.000
L7	90 - 85 (7)	P24x0.375	307.8800	623.7167	0.494	0.0000	623.7167	0.000
L8	85 - 80 (8)	P24x0.375	413.5667	623.7167	0.663	0.0000	623.7167	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L9	80 - 76.5 (9)	P24x0.375	486.3267	623.7167	0.780	0.0000	623.7167	0.000
L10	76.5 - 76.25 (10)	P24x0.5875	491.5550	1014.6250	0.484	0.0000	1014.6250	0.000
L11	76.25 - 74 (11)	P24x0.5875	538.8542	1014.6250	0.531	0.0000	1014.6250	0.000
L12	74 - 73.75 (12)	P24x0.9	544.1367	1513.5500	0.360	0.0000	1513.5500	0.000
L13	73.75 - 68.88 (13)	P24x0.9	652.2625	1513.5500	0.431	0.0000	1513.5500	0.000
L14	68.88 - 68.63 (14)	P24x0.575	657.9350	994.0917	0.662	0.0000	994.0917	0.000
L15	68.63 - 64.5 (15)	P24x0.575	752.3883	994.0917	0.757	0.0000	994.0917	0.000
L16	64.5 - 64.25 (16)	P24x1.05	758.1508	1743.2833	0.435	0.0000	1743.2833	0.000
L17	64.25 - 63 (17)	P24x1.05	787.0492	1743.2833	0.451	0.0000	1743.2833	0.000
L18	63 - 62.75 (18)	P24x1	792.8458	1667.4000	0.475	0.0000	1667.4000	0.000
L19	62.75 - 60 (19)	P24x1	856.9833	1667.4000	0.514	0.0000	1667.4000	0.000
L20	60 - 59.75 (20)	P30x0.675	862.9917	1828.8000	0.472	0.0000	1828.8000	0.000
L21	59.75 - 54.75 (21)	P30x0.675	984.3833	1828.8000	0.538	0.0000	1828.8000	0.000
L22	54.75 - 49.75 (22)	P30x0.675	1108.1000	1828.8000	0.606	0.0000	1828.8000	0.000
L23	49.75 - 49.25 (23)	P30x0.675	1120.5917	1828.8000	0.613	0.0000	1828.8000	0.000
L24	49.25 - 49 (24)	P30x0.875	1126.8500	2338.7333	0.482	0.0000	2338.7333	0.000
L25	49 - 44 (25)	P30x0.875	1253.1833	2338.7333	0.536	0.0000	2338.7333	0.000
L26	44 - 42 (26)	P30x0.875	1304.3583	2338.7333	0.558	0.0000	2338.7333	0.000
L27	42 - 41.75 (27)	P30x1	1310.7750	2650.2000	0.495	0.0000	2650.2000	0.000
L28	41.75 - 36.75 (28)	P30x1	1440.3333	2650.2000	0.543	0.0000	2650.2000	0.000
L29	36.75 - 34.5 (29)	P30x1	1499.3167	2650.2000	0.566	0.0000	2650.2000	0.000
L30	34.5 - 34.25 (30)	P30x1.05	1505.9083	2773.2417	0.543	0.0000	2773.2417	0.000
L31	34.25 - 34 (31)	P30x1.05	1512.5083	2773.2417	0.545	0.0000	2773.2417	0.000
L32	34 - 33.75 (32)	P30x0.95	1519.1083	2526.2750	0.601	0.0000	2526.2750	0.000
L33	33.75 - 30 (33)	P30x0.95	1618.7500	2526.2750	0.641	0.0000	2526.2750	0.000
L34	30 - 29.75 (34)	P36x0.7	1625.5417	2705.1667	0.601	0.0000	2705.1667	0.000
L35	29.75 - 28.5 (35)	P36x0.7	1659.6083	2705.1667	0.613	0.0000	2705.1667	0.000
L36	28.5 - 28.25 (36)	P36x0.8375	1666.4417	3262.4000	0.511	0.0000	3262.4000	0.000
L37	28.25 - 23.25 (37)	P36x0.8375	1804.1833	3262.4000	0.553	0.0000	3262.4000	0.000
L38	23.25 - 23 (38)	P36x0.975	1811.1333	3768.6333	0.481	0.0000	3768.6333	0.000
L39	23 - 21.5 (39)	P36x0.975	1852.9000	3768.6333	0.492	0.0000	3768.6333	0.000
L40	21.5 - 21.25 (40)	P36x0.825	1859.8833	3215.9750	0.578	0.0000	3215.9750	0.000
L41	21.25 - 19 (41)	P36x0.825	1922.9250	3215.9750	0.598	0.0000	3215.9750	0.000
L42	19 - 18.75 (42)	P36x0.975	1929.9500	3768.6333	0.512	0.0000	3768.6333	0.000
L43	18.75 - 18.5 (43)	P36x0.975	1936.9833	3768.6333	0.514	0.0000	3768.6333	0.000
L44	18.5 - 18.25 (44)	P36x0.925	1944.0250	3585.4917	0.542	0.0000	3585.4917	0.000
L45	18.25 - 13.25	P36x0.925	2085.7083	3585.4917	0.582	0.0000	3585.4917	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	(45)							
L46	13.25 - 12.7 (46)	P36x0.925	2101.4000	3585.4917	0.586	0.0000	3585.4917	0.000
L47	12.7 - 12.45 (47)	P36x0.9	2108.5417	3493.5167	0.604	0.0000	3493.5167	0.000
L48	12.45 - 11.5 (48)	P36x0.9	2135.7000	3493.5167	0.611	0.0000	3493.5167	0.000
L49	11.5 - 11.25 (49)	P36x0.9	2142.8583	3493.5167	0.613	0.0000	3493.5167	0.000
L50	11.25 - 10.5 (50)	P36x0.9	2164.3583	3493.5167	0.620	0.0000	3493.5167	0.000
L51	10.5 - 10.25 (51)	P36x1.325	2171.5333	5020.7750	0.433	0.0000	5020.7750	0.000
L52	10.25 - 7.5 (52)	P36x1.325	2250.7500	5020.7750	0.448	0.0000	5020.7750	0.000
L53	7.5 - 7.25 (53)	P36x1.4	2257.9750	5282.3583	0.427	0.0000	5282.3583	0.000
L54	7.25 - 6.25 (54)	P36x1.4	2286.9333	5282.3583	0.433	0.0000	5282.3583	0.000
L55	6.25 - 6 (55)	P36x1.4	2294.1833	5282.3583	0.434	0.0000	5282.3583	0.000
L56	6 - 3.73 (56)	P36x1.725	2360.2250	6388.8247	0.369	0.0000	6388.8247	0.000
L57	3.73 - 3.48 (57)	P36x1.725	2367.5250	6388.8247	0.371	0.0000	6388.8247	0.000
L58	3.48 - 2.75 (58)	P36x1.725	2388.8583	6388.8247	0.374	0.0000	6388.8247	0.000
L59	2.75 - 2.5 (59)	P36x1.675	2396.1667	6221.4413	0.385	0.0000	6221.4413	0.000
L60	2.5 - 2 (60)	P36x1.675	2410.8083	6221.4413	0.387	0.0000	6221.4413	0.000
L61	2 - 1.75 (61)	P36x1.425	2418.1417	5369.0250	0.450	0.0000	5369.0250	0.000
L62	1.75 - 0 (62)	P36x1.425	2469.5500	5369.0250	0.460	0.0000	5369.0250	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	118 - 113 (1)	P24x0.25	3.7289	201.8610	0.018	0.0019	324.2292	0.000
L2	113 - 108 (2)	P24x0.25	4.0614	201.8610	0.020	0.0019	324.2292	0.000
L3	108 - 103 (3)	P24x0.25	9.2392	201.8610	0.046	0.0019	324.2292	0.000
L4	103 - 98 (4)	P24x0.25	9.5872	201.8610	0.047	0.0011	324.2292	0.000
L5	98 - 93 (5)	P24x0.25	14.1550	201.8610	0.070	0.4220	324.2292	0.001
L6	93 - 90 (6)	P24x0.25	14.3225	201.8610	0.071	0.4219	324.2292	0.001
L7	90 - 85 (7)	P24x0.375	15.0491	315.6210	0.048	0.4218	655.5675	0.001
L8	85 - 80 (8)	P24x0.375	20.5752	315.6210	0.065	0.9376	655.5675	0.001
L9	80 - 76.5 (9)	P24x0.375	20.9179	315.6210	0.066	0.8674	655.5675	0.001
L10	76.5 - 76.25 (10)	P24x0.5875	20.9292	490.0250	0.043	0.8366	1008.6667	0.001
L11	76.25 - 74 (11)	P24x0.5875	21.1260	490.0250	0.043	0.7916	1008.6667	0.001
L12	74 - 73.75 (12)	P24x0.9	21.1435	740.6580	0.029	0.7543	1504.2083	0.001
L13	73.75 - 68.88 (13)	P24x0.9	22.6876	740.6580	0.031	0.9171	1504.2083	0.001
L14	68.88 - 68.63 (14)	P24x0.575	22.7034	479.8550	0.047	0.8680	988.2583	0.001
L15	68.63 - 64.5 (15)	P24x0.575	23.0503	479.8550	0.048	0.7270	988.2583	0.001
L16	64.5 - 64.25 (16)	P24x1.05	23.0628	858.4890	0.027	0.6835	1732.2000	0.000
L17	64.25 - 63 (17)	P24x1.05	23.1871	858.4890	0.027	0.6731	1732.2000	0.000
L18	63 - 62.75 (18)	P24x1	23.2024	819.3900	0.028	0.6209	1656.9083	0.000
L19	62.75 - 60 (19)	P24x1	23.4582	819.3900	0.029	0.5536	1656.9083	0.000
L20	60 - 59.75 (20)	P30x0.675	24.0404	705.1880	0.034	0.4967	1818.1167	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L21	59.75 - 54.75 (21)	P30x0.675	24.5256	705.1880	0.035	0.3093	1818.1167	0.000
L22	54.75 - 49.75 (22)	P30x0.675	24.9764	705.1880	0.035	0.0895	1818.1167	0.000
L23	49.75 - 49.25 (23)	P30x0.675	25.0165	705.1880	0.035	0.0456	1818.1167	0.000
L24	49.25 - 49 (24)	P30x0.875	25.0375	907.8980	0.028	0.0208	2324.7833	0.000
L25	49 - 44 (25)	P30x0.875	25.5075	907.8980	0.028	0.2355	2324.7833	0.000
L26	44 - 42 (26)	P30x0.875	25.6834	907.8980	0.028	0.3315	2324.7833	0.000
L27	42 - 41.75 (27)	P30x1	25.6974	1033.1400	0.025	0.3434	2634.1417	0.000
L28	41.75 - 36.75 (28)	P30x1	26.1353	1033.1400	0.025	0.5788	2634.1417	0.000
L29	36.75 - 34.5 (29)	P30x1	26.3200	1033.1400	0.025	0.6847	2634.1417	0.000
L30	34.5 - 34.25 (30)	P30x1.05	26.3826	1082.9300	0.024	0.5669	2756.3167	0.000
L31	34.25 - 34 (31)	P30x1.05	26.4030	1082.9300	0.024	0.5772	2756.3167	0.000
L32	34 - 33.75 (32)	P30x0.95	26.4228	983.1790	0.027	0.5876	2511.0667	0.000
L33	33.75 - 30 (33)	P30x0.95	26.7173	983.1790	0.027	0.7405	2511.0667	0.000
L34	30 - 29.75 (34)	P36x0.7	27.1896	880.3100	0.031	0.7526	2732.0583	0.000
L35	29.75 - 28.5 (35)	P36x0.7	27.3111	880.3100	0.031	0.8126	2732.0583	0.000
L36	28.5 - 28.25 (36)	P36x0.8375	27.3215	1049.1300	0.026	0.8246	3243.3000	0.000
L37	28.25 - 23.25 (37)	P36x0.8375	27.7642	1049.1300	0.026	1.0586	3243.3000	0.000
L38	23.25 - 23 (38)	P36x0.975	27.7765	1216.5900	0.023	1.0700	3746.3083	0.000
L39	23 - 21.5 (39)	P36x0.975	27.9166	1216.5900	0.023	1.1382	3746.3083	0.000
L40	21.5 - 21.25 (40)	P36x0.825	27.9233	1033.8300	0.027	1.1494	3197.1667	0.000
L41	21.25 - 19 (41)	P36x0.825	28.1061	1033.8300	0.027	1.2494	3197.1667	0.000
L42	19 - 18.75 (42)	P36x0.975	28.1134	1216.5900	0.023	1.2604	3746.3083	0.000
L43	18.75 - 18.5 (43)	P36x0.975	28.1328	1216.5900	0.023	1.2713	3746.3083	0.000
L44	18.5 - 18.25 (44)	P36x0.925	28.1518	1155.8500	0.024	1.2822	3564.3417	0.000
L45	18.25 - 13.25 (45)	P36x0.925	28.5124	1155.8500	0.025	1.4933	3564.3417	0.000
L46	13.25 - 12.7 (46)	P36x0.925	28.5427	1155.8500	0.025	1.5163	3564.3417	0.000
L47	12.7 - 12.45 (47)	P36x0.9	28.5550	1125.4100	0.025	1.5267	3472.9583	0.000
L48	12.45 - 11.5 (48)	P36x0.9	28.6271	1125.4100	0.025	1.5665	3472.9583	0.000
L49	11.5 - 11.25 (49)	P36x0.9	28.6327	1125.4100	0.025	1.5769	3472.9583	0.000
L50	11.25 - 10.5 (50)	P36x0.9	28.6883	1125.4100	0.025	1.6083	3472.9583	0.000
L51	10.5 - 10.25 (51)	P36x1.325	28.6977	1636.8000	0.018	1.6188	4989.8917	0.000
L52	10.25 - 7.5 (52)	P36x1.325	28.9079	1636.8000	0.018	1.7339	4989.8917	0.000
L53	7.5 - 7.25 (53)	P36x1.4	28.9125	1725.7100	0.017	1.7443	5249.5583	0.000
L54	7.25 - 6.25 (54)	P36x1.4	28.9921	1725.7100	0.017	1.7862	5249.5583	0.000
L55	6.25 - 6 (55)	P36x1.4	29.0012	1725.7100	0.017	1.7967	5249.5583	0.000
L56	6 - 3.73 (56)	P36x1.725	29.1766	2106.3500	0.014	1.8917	6347.2667	0.000
L57	3.73 - 3.48 (57)	P36x1.725	29.1857	2106.3500	0.014	1.9021	6347.2667	0.000
L58	3.48 - 2.75	P36x1.725	29.2434	2106.3500	0.014	1.9327	6347.2667	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
	(58)							
L59	2.75 - 2.5 (59)	P36x1.675	29.2563	2048.2800	0.014	1.9431	6181.2833	0.000
L60	2.5 - 2 (60)	P36x1.675	29.2945	2048.2800	0.014	1.9641	6181.2833	0.000
L61	2 - 1.75 (61)	P36x1.425	29.3090	1755.2500	0.017	1.9745	5335.5833	0.000
L62	1.75 - 0 (62)	P36x1.425	29.4450	1755.2500	0.017	2.0478	5335.5833	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	118 - 113 (1)	0.005	0.022	0.000	0.018	0.000	0.027	1.050	4.8.2
L2	113 - 108 (2)	0.005	0.071	0.000	0.020	0.000	0.077	1.050	4.8.2
L3	108 - 103 (3)	0.012	0.186	0.000	0.046	0.000	0.199	1.050	4.8.2
L4	103 - 98 (4)	0.012	0.304	0.000	0.047	0.000	0.319	1.050	4.8.2
L5	98 - 93 (5)	0.017	0.481	0.000	0.070	0.001	0.503	1.050	4.8.2
L6	93 - 90 (6)	0.017	0.588	0.000	0.071	0.001	0.611	1.050	4.8.2
L7	90 - 85 (7)	0.012	0.494	0.000	0.048	0.001	0.508	1.050	4.8.2
L8	85 - 80 (8)	0.016	0.663	0.000	0.065	0.001	0.683	1.050	4.8.2
L9	80 - 76.5 (9)	0.016	0.780	0.000	0.066	0.001	0.801	1.050	4.8.2
L10	76.5 - 76.25 (10)	0.011	0.484	0.000	0.043	0.001	0.497	1.050	4.8.2
L11	76.25 - 74 (11)	0.011	0.531	0.000	0.043	0.001	0.544	1.050	4.8.2
L12	74 - 73.75 (12)	0.007	0.360	0.000	0.029	0.001	0.368	1.050	4.8.2
L13	73.75 - 68.88 (13)	0.008	0.431	0.000	0.031	0.001	0.440	1.050	4.8.2
L14	68.88 - 68.63 (14)	0.012	0.662	0.000	0.047	0.001	0.677	1.050	4.8.2
L15	68.63 - 64.5 (15)	0.013	0.757	0.000	0.048	0.001	0.772	1.050	4.8.2
L16	64.5 - 64.25 (16)	0.007	0.435	0.000	0.027	0.000	0.443	1.050	4.8.2
L17	64.25 - 63 (17)	0.007	0.451	0.000	0.027	0.000	0.460	1.050	4.8.2
L18	63 - 62.75 (18)	0.008	0.475	0.000	0.028	0.000	0.484	1.050	4.8.2
L19	62.75 - 60 (19)	0.008	0.514	0.000	0.029	0.000	0.523	1.050	4.8.2
L20	60 - 59.75 (20)	0.010	0.472	0.000	0.034	0.000	0.483	1.050	4.8.2
L21	59.75 - 54.75 (21)	0.011	0.538	0.000	0.035	0.000	0.550	1.050	4.8.2
L22	54.75 - 49.75 (22)	0.011	0.606	0.000	0.035	0.000	0.619	1.050	4.8.2
L23	49.75 - 49.25 (23)	0.012	0.613	0.000	0.035	0.000	0.626	1.050	4.8.2
L24	49.25 - 49 (24)	0.009	0.482	0.000	0.028	0.000	0.492	1.050	4.8.2
L25	49 - 44 (25)	0.010	0.536	0.000	0.028	0.000	0.546	1.050	4.8.2
L26	44 - 42 (26)	0.010	0.558	0.000	0.028	0.000	0.568	1.050	4.8.2
L27	42 - 41.75 (27)	0.009	0.495	0.000	0.025	0.000	0.504	1.050	4.8.2
L28	41.75 - 36.75 (28)	0.009	0.543	0.000	0.025	0.000	0.553	1.050	4.8.2
L29	36.75 - 34.5 (29)	0.009	0.566	0.000	0.025	0.000	0.576	1.050	4.8.2
L30	34.5 - 34.25 (30)	0.009	0.543	0.000	0.024	0.000	0.553	1.050	4.8.2
L31	34.25 - 34 (31)	0.009	0.545	0.000	0.024	0.000	0.555	1.050	4.8.2
L32	34 - 33.75	0.010	0.601	0.000	0.027	0.000	0.612	1.050	4.8.2

Section No.	Elevation ft	Ratio $P_u / \phi P_n$	Ratio $M_{ux} / \phi M_{nx}$	Ratio $M_{uy} / \phi M_{ny}$	Ratio $V_u / \phi V_n$	Ratio $T_u / \phi T_n$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(32)								
L33	33.75 - 30 (33)	0.010	0.641	0.000	0.027	0.000	0.652	1.050	4.8.2
L34	30 - 29.75 (34)	0.012	0.601	0.000	0.031	0.000	0.614	1.050	4.8.2
L35	29.75 - 28.5 (35)	0.012	0.613	0.000	0.031	0.000	0.627	1.050	4.8.2
L36	28.5 - 28.25 (36)	0.010	0.511	0.000	0.026	0.000	0.522	1.050	4.8.2
L37	28.25 - 23.25 (37)	0.011	0.553	0.000	0.026	0.000	0.565	1.050	4.8.2
L38	23.25 - 23 (38)	0.010	0.481	0.000	0.023	0.000	0.491	1.050	4.8.2
L39	23 - 21.5 (39)	0.010	0.492	0.000	0.023	0.000	0.502	1.050	4.8.2
L40	21.5 - 21.25 (40)	0.011	0.578	0.000	0.027	0.000	0.591	1.050	4.8.2
L41	21.25 - 19 (41)	0.012	0.598	0.000	0.027	0.000	0.610	1.050	4.8.2
L42	19 - 18.75 (42)	0.010	0.512	0.000	0.023	0.000	0.523	1.050	4.8.2
L43	18.75 - 18.5 (43)	0.010	0.514	0.000	0.023	0.000	0.525	1.050	4.8.2
L44	18.5 - 18.25 (44)	0.011	0.542	0.000	0.024	0.000	0.553	1.050	4.8.2
L45	18.25 - 13.25 (45)	0.011	0.582	0.000	0.025	0.000	0.594	1.050	4.8.2
L46	13.25 - 12.7 (46)	0.011	0.586	0.000	0.025	0.000	0.598	1.050	4.8.2
L47	12.7 - 12.45 (47)	0.012	0.604	0.000	0.025	0.000	0.616	1.050	4.8.2
L48	12.45 - 11.5 (48)	0.012	0.611	0.000	0.025	0.000	0.624	1.050	4.8.2
L49	11.5 - 11.25 (49)	0.012	0.613	0.000	0.025	0.000	0.626	1.050	4.8.2
L50	11.25 - 10.5 (50)	0.012	0.620	0.000	0.025	0.000	0.632	1.050	4.8.2
L51	10.5 - 10.25 (51)	0.008	0.433	0.000	0.018	0.000	0.441	1.050	4.8.2
L52	10.25 - 7.5 (52)	0.008	0.448	0.000	0.018	0.000	0.457	1.050	4.8.2
L53	7.5 - 7.25 (53)	0.008	0.427	0.000	0.017	0.000	0.436	1.050	4.8.2
L54	7.25 - 6.25 (54)	0.008	0.433	0.000	0.017	0.000	0.441	1.050	4.8.2
L55	6.25 - 6 (55)	0.008	0.434	0.000	0.017	0.000	0.443	1.050	4.8.2
L56	6 - 3.73 (56)	0.007	0.369	0.000	0.014	0.000	0.376	1.050	4.8.2
L57	3.73 - 3.48 (57)	0.007	0.371	0.000	0.014	0.000	0.378	1.050	4.8.2
L58	3.48 - 2.75 (58)	0.007	0.374	0.000	0.014	0.000	0.381	1.050	4.8.2
L59	2.75 - 2.5 (59)	0.007	0.385	0.000	0.014	0.000	0.393	1.050	4.8.2
L60	2.5 - 2 (60)	0.007	0.387	0.000	0.014	0.000	0.395	1.050	4.8.2
L61	2 - 1.75 (61)	0.008	0.450	0.000	0.017	0.000	0.459	1.050	4.8.2
L62	1.75 - 0 (62)	0.009	0.460	0.000	0.017	0.000	0.469	1.050	4.8.2

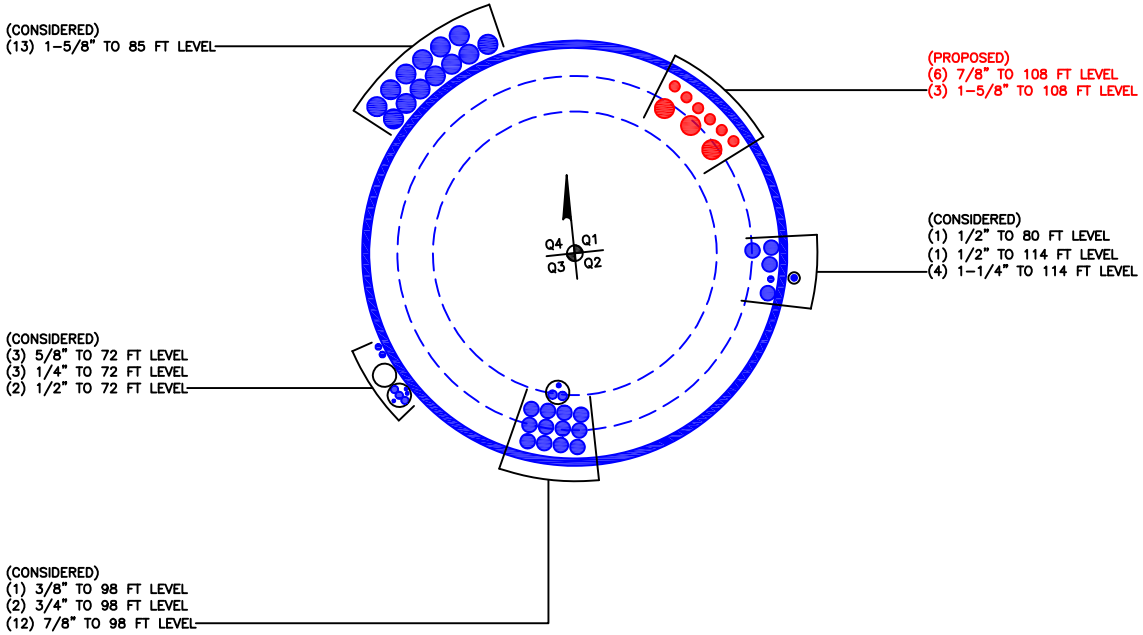
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	118 - 113	Pole	P24x0.25	1	-3.0474	695.3782	2.6	Pass
L2	113 - 108	Pole	P24x0.25	2	-3.4334	695.3782	7.3	Pass
L3	108 - 103	Pole	P24x0.25	3	-7.6671	695.3782	19.0	Pass
L4	103 - 98	Pole	P24x0.25	4	-8.0950	695.3782	30.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L5	98 - 93	Pole	P24x0.25	5	-11.2052	695.3782	47.9	Pass
L6	93 - 90	Pole	P24x0.25	6	-11.5068	695.3782	58.2	Pass
L7	90 - 85	Pole	P24x0.375	7	-13.1394	1104.6734	48.4	Pass
L8	85 - 80	Pole	P24x0.375	8	-16.4749	1104.6734	65.1	Pass
L9	80 - 76.5	Pole	P24x0.375	9	-17.1245	1104.6734	76.2	Pass
L10	76.5 - 76.25	Pole	P24x0.5875	10	-17.1904	1715.0909	47.3	Pass
L11	76.25 - 74	Pole	P24x0.5875	11	-17.6623	1715.0909	51.8	Pass
L12	74 - 73.75	Pole	P24x0.9	12	-17.7437	2592.3029	35.0	Pass
L13	73.75 - 68.88	Pole	P24x0.9	13	-19.8170	2592.3029	41.9	Pass
L14	68.88 - 68.63	Pole	P24x0.575	14	-19.8801	1679.4959	64.4	Pass
L15	68.63 - 64.5	Pole	P24x0.575	15	-20.8054	1679.4959	73.5	Pass
L16	64.5 - 64.25	Pole	P24x1.05	16	-20.9021	3004.7114	42.2	Pass
L17	64.25 - 63	Pole	P24x1.05	17	-21.3126	3004.7114	43.8	Pass
L18	63 - 62.75	Pole	P24x1	18	-21.4034	2867.8649	46.1	Pass
L19	62.75 - 60	Pole	P24x1	19	-22.2960	2867.8649	49.8	Pass
L20	60 - 59.75	Pole	P30x0.675	20	-23.9123	2468.1614	46.0	Pass
L21	59.75 - 54.75	Pole	P30x0.675	21	-25.4588	2468.1614	52.4	Pass
L22	54.75 - 49.75	Pole	P30x0.675	22	-27.0262	2468.1614	58.9	Pass
L23	49.75 - 49.25	Pole	P30x0.675	23	-27.1889	2468.1614	59.6	Pass
L24	49.25 - 49	Pole	P30x0.875	24	-27.2759	3177.6464	46.8	Pass
L25	49 - 44	Pole	P30x0.875	25	-28.9535	3177.6464	52.0	Pass
L26	44 - 42	Pole	P30x0.875	26	-29.6308	3177.6464	54.1	Pass
L27	42 - 41.75	Pole	P30x1	27	-29.7318	3616.0003	48.0	Pass
L28	41.75 - 36.75	Pole	P30x1	28	-31.6006	3616.0003	52.7	Pass
L29	36.75 - 34.5	Pole	P30x1	29	-32.4473	3616.0003	54.8	Pass
L30	34.5 - 34.25	Pole	P30x1.05	30	-32.5583	3790.2583	52.6	Pass
L31	34.25 - 34	Pole	P30x1.05	31	-32.6617	3790.2583	52.9	Pass
L32	34 - 33.75	Pole	P30x0.95	32	-32.7562	3441.1228	58.3	Pass
L33	33.75 - 30	Pole	P30x0.95	33	-34.1696	3441.1228	62.1	Pass
L34	30 - 29.75	Pole	P36x0.7	34	-35.8165	3081.0884	58.5	Pass
L35	29.75 - 28.5	Pole	P36x0.7	35	-36.2800	3081.0884	59.7	Pass
L36	28.5 - 28.25	Pole	P36x0.8375	36	-36.3973	3671.9443	49.7	Pass
L37	28.25 - 23.25	Pole	P36x0.8375	37	-38.5497	3671.9443	53.8	Pass
L38	23.25 - 23	Pole	P36x0.975	38	-38.6763	4258.0753	46.7	Pass
L39	23 - 21.5	Pole	P36x0.975	39	-39.3864	4258.0753	47.8	Pass
L40	21.5 - 21.25	Pole	P36x0.825	40	-39.5027	3618.4153	56.2	Pass
L41	21.25 - 19	Pole	P36x0.825	41	-40.4577	3618.4153	58.1	Pass
L42	19 - 18.75	Pole	P36x0.975	42	-40.5866	4258.0753	49.8	Pass
L43	18.75 - 18.5	Pole	P36x0.975	43	-40.7069	4258.0753	50.0	Pass
L44	18.5 - 18.25	Pole	P36x0.925	44	-40.8186	4045.4818	52.7	Pass
L45	18.25 - 13.25	Pole	P36x0.925	45	-43.0531	4045.4818	56.5	Pass
L46	13.25 - 12.7	Pole	P36x0.925	46	-43.3044	4045.4818	56.9	Pass
L47	12.7 - 12.45	Pole	P36x0.9	47	-43.4202	3938.9488	58.6	Pass
L48	12.45 - 11.5	Pole	P36x0.9	48	-43.8429	3938.9488	59.4	Pass
L49	11.5 - 11.25	Pole	P36x0.9	49	-43.9718	3938.9488	59.6	Pass
L50	11.25 - 10.5	Pole	P36x0.9	50	-44.3331	3938.9488	60.2	Pass
L51	10.5 - 10.25	Pole	P36x1.325	51	-44.4748	5728.7997	42.0	Pass
L52	10.25 - 7.5	Pole	P36x1.325	52	-45.9631	5728.7997	43.5	Pass
L53	7.5 - 7.25	Pole	P36x1.4	53	-46.1125	6039.9777	41.5	Pass
L54	7.25 - 6.25	Pole	P36x1.4	54	-46.6709	6039.9777	42.0	Pass
L55	6.25 - 6	Pole	P36x1.4	55	-46.8173	6039.9777	42.2	Pass
L56	6 - 3.73	Pole	P36x1.725	56	-48.1474	7372.2072	35.9	Pass
L57	3.73 - 3.48	Pole	P36x1.725	57	-48.3001	7372.2072	36.0	Pass
L58	3.48 - 2.75	Pole	P36x1.725	58	-48.7268	7372.2072	36.3	Pass
L59	2.75 - 2.5	Pole	P36x1.675	59	-48.8648	7168.9587	37.4	Pass
L60	2.5 - 2	Pole	P36x1.675	60	-49.1332	7168.9587	37.6	Pass
L61	2 - 1.75	Pole	P36x1.425	61	-49.2564	6143.3922	43.7	Pass
L62	1.75 - 0	Pole	P36x1.425	62	-50.0978	6143.3922	44.6	Pass
							Summary	
						Pole (L9)	76.2	Pass
						RATING =	**76.2**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(CONSIDERED)
(13) 1-5/8" TO 85 FT LEVEL
(PROPOSED)
(6) 7/8" TO 108 FT LEVEL
(3) 1-5/8" TO 108 FT LEVEL
(CONSIDERED)
(1) 1/2" TO 80 FT LEVEL
(1) 1/2" TO 114 FT LEVEL
(4) 1-1/4" TO 114 FT LEVEL
Q4
Q1
Q3
Q2
(CONSIDERED)
(3) 5/8" TO 72 FT LEVEL
(3) 1/4" TO 72 FT LEVEL
(2) 1/2" TO 72 FT LEVEL
(CONSIDERED)
(1) 3/8" TO 98 FT LEVEL
(2) 3/4" TO 98 FT LEVEL
(12) 7/8" TO 98 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876331

Work Order: 1890934

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	118	28		0	24	24	0.25		A572-42
2	90	30		0	24.00	24	0.375		A572-42
3	60	30		0	30.00	30	0.375		A572-42
4	30	30		0	36.00	36	0.375		A572-42

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	3.83	30	plate	A	3	0	135	225															
2	30	60	plate	B	3				0	135	225												
3	60	74	plate	C	3							0	135	225									
4	2	19	plate	MS-450 (1.1875")	2										65	295							
5	2	7.5	plate	MS-450 (1.1875")	1												180						
6	7.5	12.7	plate	FP 1.25x4	1													200					
7	12.7	19	plate	MS-450 (1.1875")	1														180				
8	30	34.5	plate	MS-400 (1.1875")	3															45	180	295	
9	60	64.5	plate	MS-400 (1.1875")	3	65	180	295															
10	2.75	23.25	plate	CCI-AFP-060100	2				30	310													
11	34	42	plate	CCI-SFP-040075	3						75	205	320										
12	60	63	plate	FP 3.75x1 (1.1875)	3									90	195	320							
13	63	68.88	plate	CCI-SFP-045100	3												90	195	320				
14	0	3.75	plate	FP 1.25x7.25	3															34	214	304	
15	0	3.75	plate	FP 1.25x7	1																		124
16	21.5	28.5	plate	CCI-SFP-045100	3	90	200	330															
17	30	49.25	plate	CCI-SFP-040075	2				100	270													
18	68.88	76.5	plate	CCI-SFP-045100	3						40	160	275										
19	18.5	30	plate	FP 4x1 (1.1875)	1									50									
20	18.5	30	plate	CCI-SFP-045100	1										253								
21	0	10.5	plate	FP 1.25x5.5	2											106	350						
22	0	6.25	plate	FP 1.25x9.25	1													169					
23	6.25	11.5	plate	FP 1.25x7	1														160				
24	0	10.5	plate	FP 1.25x8	1															282			
25	0	7.5	solid round	1.75" Williams R71	2																106	350	
26																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	9.675987649	1.01526308	9.823673023	0.50763154	n/a	n/a	24.000	8.555	1.1875	A572-65
2	9.675987649	1.01526308	9.823673023	0.50763154	n/a	n/a	24.000	8.555	1.1875	A572-65
3	8.734004699	0.761485287	6.650816075	0.380742644	n/a	n/a	24.000	5.699	1.1875	A572-65
4	4.5	1	4.5	0.5	18.000	18.000	20.625	3.250	1.1875	A572-65
5	4.5	1	4.5	0.5	18.000	18.000	20.625	3.250	1.1875	A572-65
6	1.25	4	5	2	n/a	n/a	20.625	5.000	0.0000	A572-65
7	4.5	1	4.5	0.5	18.000	18.000	20.625	3.250	1.1875	A572-65
8	4	0.75	3	0.375	12.000	12.000	16.875	2.063	1.1875	A572-65
9	4	0.75	3	0.375	12.000	12.000	16.875	2.063	1.1875	A572-65
10	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65
11	4	0.75	3	0.375	12.000	12.000	16.000	2.063	1.1875	A572-65
12	3.75	1	3.75	0.5	n/a	n/a	16.000	2.500	1.1875	A572-65
13	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
14	1.25	7.25	9.0625	3.625	n/a	n/a	0.000	9.063	0.0000	A572-65
15	1.25	7	8.75	3.5	n/a	n/a	0.000	8.750	0.0000	A572-65
16	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
17	4	0.75	3	0.375	12.000	12.000	16.000	2.063	1.1875	A572-65
18	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
19	4	1	4	0.5	n/a	n/a	20.000	2.750	1.1875	A572-65
20	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
21	1.25	5.5	6.875	2.75	n/a	n/a	0.000	6.875	0.0000	A572-65
22	1.25	9.25	11.5625	4.625	n/a	n/a	0.000	11.563	0.0000	A572-65
23	1.25	7	8.75	3.5	n/a	n/a	0.000	8.750	0.0000	A572-65
24	1.25	8	10	4	n/a	n/a	27.000	10.000	0.0000	A572-65
25	-	-	2.662999375	9.625	n/a	n/a	6.000	2.663	0.0000	A722-07

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	118 - 113	5		0	24.000	24.000	0.25	A572-42	1.000
2	113 - 108	5		0	24.000	24.000	0.25	A572-42	1.000
3	108 - 103	5		0	24.000	24.000	0.25	A572-42	1.000
4	103 - 98	5		0	24.000	24.000	0.25	A572-42	1.000
5	98 - 93	5		0	24.000	24.000	0.25	A572-42	1.000
6	93 - 90	3	0	0	24.000	24.000	0.25	A572-42	1.000
7	90 - 85	5		0	24.000	24.000	0.375	A572-42	1.000
8	85 - 80	5		0	24.000	24.000	0.375	A572-42	1.000
9	80 - 76.5	3.5		0	24.000	24.000	0.375	A572-42	1.000
10	76.5 - 76.25	0.25		0	24.000	24.000	0.5875	A572-42	0.957
11	76.25 - 74	2.25		0	24.000	24.000	0.5875	A572-42	0.957
12	74 - 73.75	0.25		0	24.000	24.000	0.9	A572-42	0.938
13	73.75 - 68.88	4.87		0	24.000	24.000	0.9	A572-42	0.938
14	68.88 - 68.63	0.25		0	24.000	24.000	0.575	A572-42	0.977
15	68.63 - 64.5	4.13		0	24.000	24.000	0.575	A572-42	0.977
16	64.5 - 64.25	0.25		0	24.000	24.000	1.05	A572-42	0.928
17	64.25 - 63	1.25		0	24.000	24.000	1.05	A572-42	0.928
18	63 - 62.75	0.25		0	24.000	24.000	1	A572-42	0.942
19	62.75 - 60	2.75	0	0	24.000	24.000	1	A572-42	0.942
20	60 - 59.75	0.25		0	30.000	30.000	0.675	A572-42	1.035
21	59.75 - 54.75	5		0	30.000	30.000	0.675	A572-42	1.035
22	54.75 - 49.75	5		0	30.000	30.000	0.675	A572-42	1.035
23	49.75 - 49.25	0.5		0	30.000	30.000	0.675	A572-42	1.035
24	49.25 - 49	0.25		0	30.000	30.000	0.875	A572-42	0.879
25	49 - 44	5		0	30.000	30.000	0.875	A572-42	0.879
26	44 - 42	2		0	30.000	30.000	0.875	A572-42	0.879
27	42 - 41.75	0.25		0	30.000	30.000	1	A572-42	0.871
28	41.75 - 36.75	5		0	30.000	30.000	1	A572-42	0.871
29	36.75 - 34.5	2.25		0	30.000	30.000	1	A572-42	0.871
30	34.5 - 34.25	0.25		0	30.000	30.000	1.05	A572-42	0.925
31	34.25 - 34	0.25		0	30.000	30.000	1.05	A572-42	0.925
32	34 - 33.75	0.25		0	30.000	30.000	0.95	A572-42	0.915
33	33.75 - 30	3.75	0	0	30.000	30.000	0.95	A572-42	0.915
34	30 - 29.75	0.25		0	36.000	36.000	0.7	A572-42	1.030
35	29.75 - 28.5	1.25		0	36.000	36.000	0.7	A572-42	1.030
36	28.5 - 28.25	0.25		0	36.000	36.000	0.8375	A572-42	1.010
37	28.25 - 23.25	5		0	36.000	36.000	0.8375	A572-42	1.010
38	23.25 - 23	0.25		0	36.000	36.000	0.975	A572-42	0.983
39	23 - 21.5	1.5		0	36.000	36.000	0.975	A572-42	0.983
40	21.5 - 21.25	0.25		0	36.000	36.000	0.825	A572-42	1.008
41	21.25 - 19	2.25		0	36.000	36.000	0.825	A572-42	1.008
42	19 - 18.75	0.25		0	36.000	36.000	0.975	A572-42	0.983
43	18.75 - 18.5	0.25		0	36.000	36.000	0.975	A572-42	0.983
44	18.5 - 18.25	0.25		0	36.000	36.000	0.925	A572-42	0.951
45	18.25 - 13.25	5		0	36.000	36.000	0.925	A572-42	0.951
46	13.25 - 12.7	0.55		0	36.000	36.000	0.925	A572-42	0.951
47	12.7 - 12.45	0.25		0	36.000	36.000	0.9	A572-42	0.982
48	12.45 - 11.5	0.95		0	36.000	36.000	0.9	A572-42	0.982
49	11.5 - 11.25	0.25		0	36.000	36.000	0.9	A572-42	1.070
50	11.25 - 10.5	0.75		0	36.000	36.000	0.9	A572-42	1.070
51	10.5 - 10.25	0.25		0	36.000	36.000	1.325	A572-42	0.840
52	10.25 - 7.5	2.75		0	36.000	36.000	1.325	A572-42	0.840
53	7.5 - 7.25	0.25		0	36.000	36.000	1.4	A572-42	0.828
54	7.25 - 6.25	1		0	36.000	36.000	1.4	A572-42	0.828
55	6.25 - 6	0.25		0	36.000	36.000	1.4	A572-42	0.828
56	6 - 3.73	2.27		0	36.000	36.000	1.725	A572-42	0.713
57	3.73 - 3.48	0.25		0	36.000	36.000	1.725	A572-42	0.713
58	3.48 - 2.75	0.73		0	36.000	36.000	1.725	A572-42	0.713
59	2.75 - 2.5	0.25		0	36.000	36.000	1.675	A572-42	0.667
60	2.5 - 2	0.5		0	36.000	36.000	1.675	A572-42	0.667
61	2 - 1.75	0.25		0	36.000	36.000	1.425	A572-42	0.691
62	1.75 - 0	1.75		0	36.000	36.000	1.425	A572-42	0.691

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	118 - 113	3.05	8.83	3.73
2	113 - 108	3.43	28.30	4.06
3	108 - 103	7.67	73.68	9.24
4	103 - 98	8.09	120.73	9.59
5	98 - 93	11.21	190.67	14.15
6	93 - 90	11.51	233.37	14.32
7	90 - 85	13.14	307.88	15.05
8	85 - 80	16.47	413.57	20.58
9	80 - 76.5	17.12	486.33	20.92
10	76.5 - 76.25	17.19	491.56	20.93
11	76.25 - 74	17.66	538.85	21.13
12	74 - 73.75	17.74	544.14	21.14
13	73.75 - 68.88	19.82	652.26	22.69
14	68.88 - 68.63	19.88	657.93	22.70
15	68.63 - 64.5	20.81	752.39	23.05
16	64.5 - 64.25	20.90	758.15	23.06
17	64.25 - 63	21.31	787.05	23.19
18	63 - 62.75	21.40	792.85	23.20
19	62.75 - 60	22.30	856.98	23.46
20	60 - 59.75	23.91	862.99	24.04
21	59.75 - 54.75	25.46	984.38	24.53
22	54.75 - 49.75	27.03	1108.10	24.98
23	49.75 - 49.25	27.19	1120.59	25.02
24	49.25 - 49	27.28	1126.85	25.04
25	49 - 44	28.95	1253.19	25.51
26	44 - 42	29.63	1304.36	25.68
27	42 - 41.75	29.73	1310.78	25.70
28	41.75 - 36.75	31.60	1440.33	26.14
29	36.75 - 34.5	32.45	1499.32	26.32
30	34.5 - 34.25	32.56	1505.91	26.38
31	34.25 - 34	32.66	1512.51	26.40
32	34 - 33.75	32.76	1519.11	26.42
33	33.75 - 30	34.17	1618.75	26.72
34	30 - 29.75	35.82	1625.54	27.19
35	29.75 - 28.5	36.28	1659.61	27.31
36	28.5 - 28.25	36.40	1666.44	27.32
37	28.25 - 23.25	38.55	1804.19	27.76
38	23.25 - 23	38.68	1811.13	27.78
39	23 - 21.5	39.39	1852.90	27.92
40	21.5 - 21.25	39.50	1859.88	27.92
41	21.25 - 19	40.46	1922.92	28.11
42	19 - 18.75	40.59	1929.95	28.11
43	18.75 - 18.5	40.71	1936.98	28.13
44	18.5 - 18.25	40.82	1944.02	28.15
45	18.25 - 13.25	43.05	2085.71	28.51
46	13.25 - 12.7	43.30	2101.40	28.54
47	12.7 - 12.45	43.42	2108.54	28.56
48	12.45 - 11.5	43.84	2135.70	28.63
49	11.5 - 11.25	43.97	2142.86	28.63
50	11.25 - 10.5	44.33	2164.36	28.69
51	10.5 - 10.25	44.47	2171.53	28.70
52	10.25 - 7.5	45.96	2250.75	28.91
53	7.5 - 7.25	46.11	2257.98	28.91
54	7.25 - 6.25	46.67	2286.93	28.99
55	6.25 - 6	46.82	2294.18	29.00
56	6 - 3.73	48.15	2360.23	29.18
57	3.73 - 3.48	48.30	2367.52	29.19
58	3.48 - 2.75	48.73	2388.86	29.24
59	2.75 - 2.5	48.86	2396.17	29.26
60	2.5 - 2	49.13	2410.81	29.29
61	2 - 1.75	49.26	2418.14	29.31
62	1.75 - 0	50.10	2469.55	29.45

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
118 - 113	Pole	TP24x24x0.25	Pole	2.6%	Pass
113 - 108	Pole	TP24x24x0.25	Pole	7.3%	Pass
108 - 103	Pole	TP24x24x0.25	Pole	18.9%	Pass
103 - 98	Pole	TP24x24x0.25	Pole	30.2%	Pass
98 - 93	Pole	TP24x24x0.25	Pole	47.6%	Pass
93 - 90	Pole	TP24x24x0.25	Pole	57.9%	Pass
90 - 85	Pole	TP24x24x0.375	Pole	48.3%	Pass
85 - 80	Pole	TP24x24x0.375	Pole	64.8%	Pass
80 - 76.5	Pole	TP24x24x0.375	Pole	76.0%	Pass
76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	55.4%	Pass
76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	60.6%	Pass
74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	60.1%	Pass
73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	72.0%	Pass
68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	74.2%	Pass
68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	84.8%	Pass
64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	73.5%	Pass
64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	76.3%	Pass
63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	79.2%	Pass
62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	85.6%	Pass
60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	54.2%	Pass
59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	61.7%	Pass
54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	69.4%	Pass
49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	70.2%	Pass
49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	64.6%	Pass
49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	71.8%	Pass
44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	74.7%	Pass
42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	66.0%	Pass
41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	72.5%	Pass
36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	75.5%	Pass
34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.4%	Pass
34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.7%	Pass
34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	76.2%	Pass
33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	81.2%	Pass
30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	73.5%	Pass
29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	75.0%	Pass
28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	62.2%	Pass
28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	67.3%	Pass
23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	63.3%	Pass
23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	64.7%	Pass
21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	77.7%	Pass
21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	80.3%	Pass
19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.0%	Pass
18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.3%	Pass
18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	70.0%	Pass
18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	75.1%	Pass
13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	75.7%	Pass
12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	78.9%	Pass
12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	79.9%	Pass
11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	70.6%	Pass
11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	71.3%	Pass
10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	67.2%	Pass
10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	69.7%	Pass
7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	67.6%	Pass
7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	68.4%	Pass
6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	68.6%	Pass
6 - 3.73	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	58.9%	Pass
3.73 - 3.48	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	59.1%	Pass
3.48 - 2.75	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	59.6%	Pass
2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	64.0%	Pass
2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	64.3%	Pass
2 - 1.75	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	71.7%	Pass
1.75 - 0	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	73.2%	Pass
				Summary	
			Pole	79.3%	Pass
			Reinforcement	85.6%	Pass
			Overall	85.6%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*																								
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25
118 - 113	1315	n/a	1315	18.65	n/a	18.65	2.6%																									
113 - 108	1315	n/a	1315	18.65	n/a	18.65	7.3%																									
108 - 103	1315	n/a	1315	18.65	n/a	18.65	18.9%																									
103 - 98	1315	n/a	1315	18.65	n/a	18.65	30.2%																									
98 - 93	1315	n/a	1315	18.65	n/a	18.65	47.6%																									
93 - 90	1315	n/a	1315	18.65	n/a	18.65	57.9%																									
90 - 85	1942	n/a	1942	27.83	n/a	27.83	48.3%																									
85 - 80	1942	n/a	1942	27.83	n/a	27.83	64.8%																									
80 - 76.5	1942	n/a	1942	27.83	n/a	27.83	76.0%																									
76.5 - 76.25	1943	1016	2959	27.83	13.50	41.33	50.8%																		55.4%							
76.25 - 74	1943	1016	2959	27.83	13.50	41.33	55.6%																		60.6%							
74 - 73.75	1946	2432	4377	27.83	33.45	61.28	38.7%			60.1%															44.4%							
73.75 - 68.88	1946	2432	4377	27.83	33.45	61.28	46.4%			72.0%															53.2%							
68.88 - 68.63	1944	966	2909	27.83	13.50	41.33	69.5%													74.2%												
68.63 - 64.5	1944	966	2909	27.83	13.50	41.33	79.3%													84.8%												
64.5 - 64.25	1946	3035	4980	27.83	42.45	70.28	47.3%			73.5%						66.1%				52.2%												
64.25 - 63	1946	3035	4980	27.83	42.45	70.28	49.0%			76.3%						58.3%				54.2%												
63 - 62.75	1946	2881	4827	27.83	40.20	68.03	51.0%			79.2%						60.7%			61.3%													
62.75 - 60	1946	2881	4827	27.83	40.20	68.03	55.1%			85.6%						65.6%			66.2%													
60 - 59.75	3835	2908	6743	34.90	29.47	64.37	51.6%		54.2%																							
59.75 - 54.75	3835	2908	6743	34.90	29.47	64.37	58.7%		61.7%																							
54.75 - 49.75	3835	2908	6743	34.90	29.47	64.37	66.0%		69.4%																							
49.75 - 49.25	3835	2908	6743	34.90	29.47	64.37	66.8%		70.2%																							
49.25 - 49	3865	4725	8590	34.90	35.47	70.37	54.9%		64.6%															62.9%								
49 - 44	3865	4725	8590	34.90	35.47	70.37	61.0%		71.8%															69.9%								
44 - 42	3865	4725	8590	34.90	35.47	70.37	63.4%		74.7%															72.8%								
42 - 41.75	3853	5807	9660	34.90	44.47	79.37	56.0%		66.0%									65.0%						63.9%								
41.75 - 36.75	3853	5807	9660	34.90	44.47	79.37	61.5%		72.5%									71.4%						70.2%								
36.75 - 34.5	3853	5807	9660	34.90	44.47	79.37	64.0%		75.5%									74.3%						73.0%								
34.5 - 34.25	3830	6099	9929	34.90	53.47	88.37	59.8%		66.8%						67.4%			67.3%						66.8%								
34.25 - 34	3830	6099	9929	34.90	53.47	88.37	60.1%		67.1%						67.7%			67.6%						67.0%								
34 - 33.75	3843	5260	9103	34.90	44.47	79.37	67.9%		75.4%						76.2%									75.4%								
33.75 - 30	3843	5260	9103	34.90	44.47	79.37	72.3%		80.3%						81.2%									80.3%								
30 - 29.75	6661	5382	12043	41.97	37.97	79.94	65.8%	73.5%																		62.6%	61.6%					
29.75 - 28.5	6661	5382	12043	41.97	37.97	79.94	67.2%	75.0%																		63.9%	62.9%					
28.5 - 28.25	6662	7690	14352	41.97	51.47	93.44	56.8%	62.2%															57.5%			55.2%	54.7%					
28.25 - 23.25	6662	7690	14352	41.97	51.47	93.44	61.5%	67.3%															62.2%			59.8%	59.1%					
23.25 - 23	6697	9842	16539	41.97	63.47	105.44	55.5%	63.3%									47.7%						56.9%			52.2%	53.2%					
23 - 21.5	6697	9842	16539	41.97	63.47	105.44	56.8%	64.7%									48.8%						58.2%			53.4%	54.4%					
21.5 - 21.25	6724	7313	14037	41.97	49.97	91.94	68.2%	77.7%									56.6%									61.1%	61.9%					
21.25 - 19	6724	7313	14037	41.97	49.97	91.94	70.5%	80.3%									58.5%									63.2%	64.0%					
19 - 18.75	6701	9731	16433	41.97	63.47	105.44	59.7%	68.0%			56.9%			55.5%			50.6%									54.8%	54.8%					
18.75 - 18.5	6701	9731	16433	41.97	63.47	105.44	59.9%	68.3%			57.1%			55.7%			50.8%									55.0%	55.0%					
18.5 - 18.25	6681	8998	15679	41.97	54.97	96.94	62.1%	70.0%			65.8%			56.9%			54.3%															
18.25 - 13.25	6681	8998	15679	41.97	54.97	96.94	66.6%	75.1%			70.6%			61.0%			58.3%															
13.25 - 12.7	6681	8998	15679	41.97	54.97	96.94	67.1%	75.7%			71.1%			61.5%			58.7%															
12.7 - 12.45	6696	8570	15266	41.97	55.47	97.44	69.9%	78.9%			70.3%		64.5%				59.5%															
12.45 - 11.5	6696	8570	15266	41.97	55.47	97.44	70.8%	79.9%			71.2%		65.4%				60.3%															
11.5 - 11.25	6664	8760	15424	41.97	64.22	106.19	68.2%	69.0%			70.6%		57.6%				56.8%													42.2%		
11.25 - 10.5	6664	8760	15424	41.97	64.22	106.19	68.9%	69.7%			71.3%		58.1%				57.4%													42.7%		
10.5 - 10.25	6738	15243	21981	41.97	79.22	121.19	51.4%	61.2%			54.1%		61.5%				47.3%											43.2%		67.2%		
10.25 - 7.5	6738	15243	21981	41.97	79.22	121.19	53.3%	63.5%			56.1%		63.7%				49.1%											44.8%		69.7%		
7.5 - 7.25	6661	16114	22775	41.97	84.05	126.02	48.4%	65.9%			52.3%	57.0%					46.5%											39.2%		67.6%		27.4%
7.25 - 6.25	6661	16114	22775	41.97	84.05	126.02	49.0%	66.7%			53.0%	57.7%					47.1%											39.7%		68.4%		27.8%
6.25 - 6	6661	16114	22775	41.97	84.05	126.02	49.2%	67.0%			53.1%	57.9%					47.2%											39.8%		68.6%		27.9%
6 - 3.73	6660	20955	27615	41.97	90.51	132.48	42.1%				45.5%	57.4%					42.4%				49.2%	38.1%						35.2%		58.9%		25.9%
3.73 - 3.48	6660	20955	27615	41.97	90.51	132.48	42.2%				45.7%	57.6%					42.6%				49.4%	38.2%						35.3%		59.1%		26.0%
3.48 - 2.75	6660	20955	27615	41.97	90.51	132.48	42.6%				46.1%	58.1%					43.0%				49.8%	38.5%						35.7%		59.6%		26.2%
2.75 - 2.5	6662	19845	26507	41.97	78.51	120.48	45.1%				51.2%	60.0%									52.3%	39.6%						41.1%		64.0%		29.8%
2.5 - 2	6662	19845	26507	41.97	78.51	120.48	45.3%				51.5%	60.4%									52.6%	39.8%						41.3%		64.3%		29.9%
2 - 1.75	6660	16709	23368	41.97	65.01	106.98	51.4%														60.0%	44.4%						45.5%		71.7%		33.2%
1.75 - 0	6660	16709	23368	41.97	65.01	106.98	52.4%														61.2%	45.4%						46.4%		73.2%		33.9%

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

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data

BU#: *876331*
Site Name: *NEW BRITAIN GRAVEL PIT*
Order #: *529723 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	233.3699112	ft-kips
Axial:	11.50675331	kips
Shear:	14.3225194	kips

Elevation:	90	ft

Splice Bolt Data		
Quantity:	20	
Bolt Diameter:	1	in
Bolt Circle:	28	in

Pole Data		
Upper Diam:	24	in
Upper Thickness	0.25	in
Lower Diam:	24	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	3	
Total Length:	60.0	in
Plate Thickness:	1.250	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	39	in
Upper Weld, C:	3.5962	Table 8-4
Upper Plate Width:	4.5	in
Lower Weld Length:	18.7	in
Lower Weld, C:	3.5962	Table 8-4
Lower Plate Width:	4.5	in
Gap PL Length:	2.3	in
Gap PL Width:	4.5	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	21.1%	
Maximum Compression:	69.0	kips
Allowable Compression:	327.8	kips
Compression Stress Ratio:	21.1%	
Maximum Tension:	69.0	kips
Allowable Tension:	329.1	kips
Tension Stress Ratio:	21.0%	
Maximum Flexure:	155.3	in.kips
Allowable Flexure:	4261.8	in.kips
Bending&Shear Stress Ratio:	3.1%	

Weld Results	22.8%	
Upper Weld Eccentric Load:	69.01	kip
Allowable Weld Strength:	631.13	kip
Upper Weld Strength Ratio:	10.9%	
Upper Weld Eccentric Load:	69.01	kip
Allowable Weld Strength:	302.62	kip
Lower Weld Strength Ratio:	22.8%	

Pole Results	9.4%	
Punching Shear Stress:	2.66	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	9.4%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	110	ft.kips
Axial:	11.5	kips
Shear:	14.3	kips

Analysis Date: 11/4/2020

Monopole Flange Plate Connection

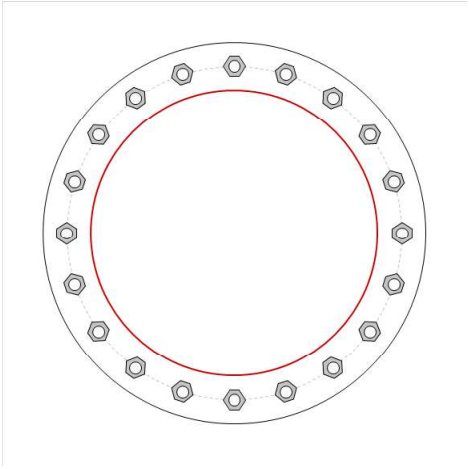
Elevation = 90 ft.

BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	529723 Rev. 0
TIA-222 Revision	H

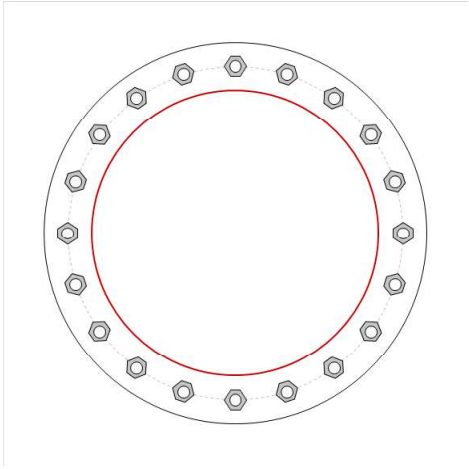
Applied Loads	
Moment (kip-ft)	110.00
Axial Force (kips)	11.51
Shear Force (kips)	14.32

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 28" BC

Top Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.25" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	8.85	
Allowable (kips)	54.53	
Stress Rating:	**15.5%**	Pass

Top Plate Capacity

Max Stress (ksi):	5.56	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**16.3%**	Pass
Tension Side Stress Rating:	**6.6%**	Pass

Bottom Plate Capacity

Max Stress (ksi):	5.56	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**16.3%**	Pass
Tension Side Stress Rating:	**6.6%**	Pass

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data

BU#: *876331*
Site Name: *NEW BRITAIN GRAVEL PIT*
Order #: *529723 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	856.9835611	ft-kips
Axial:	22.2960221	kips
Shear:	23.45816096	kips

Elevation:	60	ft

Splice Bolt Data		
Quantity:	12	
Bolt Diameter:	1.5	in
Bolt Circle:	35.5	in

Pole Data		
Upper Diam:	24	in
Upper Thickness	0.375	in
Lower Diam:	30	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	6	
Total Length:	60.0	in
Plate Thickness:	1.000	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	23.25	in
Upper Weld, C:	2.469	Table 8-4
Upper Plate Width:	3	in
Lower Weld Length:	20	in
Lower Weld, C:	2.7675	Table 8-4
Lower Plate Width:	3	in
Gap PL Length:	16.8	in
Gap PL Width:	3	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	65.6%	
Maximum Compression:	83.6	kips
Allowable Compression:	127.4	kips
Compression Stress Ratio:	65.6%	
Maximum Tension:	83.6	kips
Allowable Tension:	175.5	kips
Tension Stress Ratio:	47.6%	
Maximum Flexure:	125.4	in.kips
Allowable Flexure:	5270.5	in.kips
Bending&Shear Stress Ratio:	2.6%	

Weld Results	33.6%	
Upper Weld Eccentric Load:	83.62	kip
Allowable Weld Strength:	258.32	kip
Upper Weld Strength Ratio:	32.4%	
Upper Weld Eccentric Load:	83.62	kip
Allowable Weld Strength:	249.08	kip
Lower Weld Strength Ratio:	33.6%	

Pole Results	4.9%	
Punching Shear Stress:	1.39	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	4.9%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	575	ft.kips
Axial:	22.3	kips
Shear:	23.5	kips

Analysis Date: 11/4/2020

Monopole Flange Plate Connection

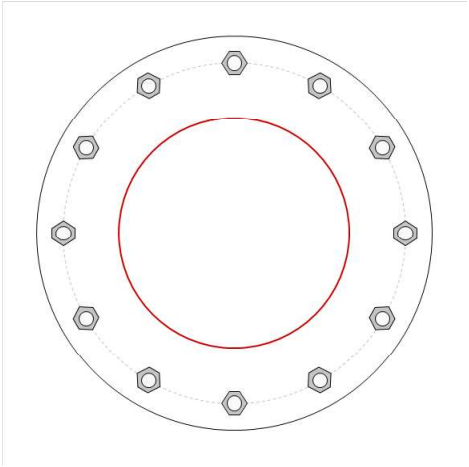
Elevation = 60 ft.

BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	529723 Rev. 0
TIA-222 Revision	H

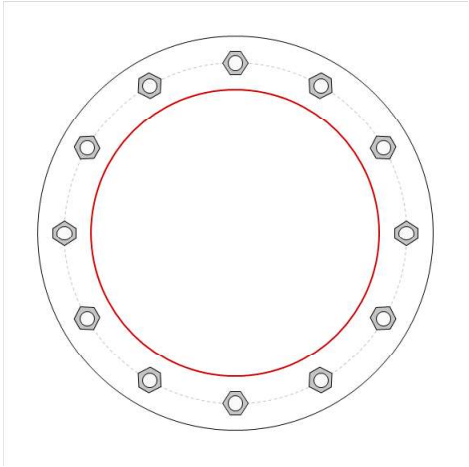
Applied Loads	
Moment (kip-ft)	575.00
Axial Force (kips)	22.30
Shear Force (kips)	23.46

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(12) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 35.5" BC

Top Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	62.88	
Allowable (kips)	110.99	
Stress Rating:	**54.0%**	Pass

Top Plate Capacity

Max Stress (ksi):	29.57	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**86.9%**	Pass
Tension Side Stress Rating:	**52.1%**	Pass

Bottom Plate Capacity

Max Stress (ksi):	14.56	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**42.8%**	Pass
Tension Side Stress Rating:	**16.2%**	Pass

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data

BU#: *876331*
Site Name: *NEW BRITAIN GRAVEL PIT*
Order #: *529723 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	1618.747992	ft-kips
Axial:	34.16957513	kips
Shear:	26.71728983	kips

Elevation:	30	ft

Splice Bolt Data		
Quantity:	16	
Bolt Diameter:	1.5	in
Bolt Circle:	41.5	in

Pole Data		
Upper Diam:	30	in
Upper Thickness	0.375	in
Lower Diam:	36	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	6	
Total Length:	60.0	in
Plate Thickness:	1.000	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	32.25	in
Upper Weld, C:	2.8133	Table 8-4
Upper Plate Width:	5.5	in
Lower Weld Length:	28.25	in
Lower Weld, C:	3.0481	Table 8-4
Lower Plate Width:	5.5	in
Gap PL Length:	-0.5	in
Gap PL Width:	5.5	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	52.2%	
Maximum Compression:	168.0	kips
Allowable Compression:	321.7	kips
Compression Stress Ratio:	52.2%	
Maximum Tension:	168.0	kips
Allowable Tension:	321.8	kips
Tension Stress Ratio:	52.2%	
Maximum Flexure:	462.1	in.kips
Allowable Flexure:	10140.6	in.kips
Bending&Shear Stress Ratio:	5.3%	

Weld Results	43.4%	
Upper Weld Eccentric Load:	168.04	kip
Allowable Weld Strength:	408.28	kip
Upper Weld Strength Ratio:	41.2%	
Upper Weld Eccentric Load:	168.04	kip
Allowable Weld Strength:	387.49	kip
Lower Weld Strength Ratio:	43.4%	

Pole Results	9.4%	
Punching Shear Stress:	2.67	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	9.4%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	873	ft.kips
Axial:	34.2	kips
Shear:	26.7	kips

Analysis Date: 11/4/2020

Monopole Flange Plate Connection

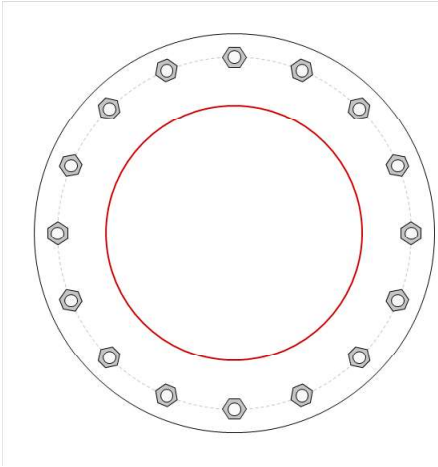
Elevation = 30 ft.

BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	529723 Rev. 0
TIA-222 Revision	H

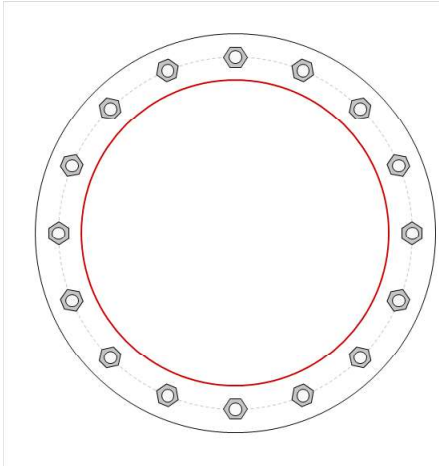
Applied Loads	
Moment (kip-ft)	873.00
Axial Force (kips)	34.17
Shear Force (kips)	26.72

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(16) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=105 ksi) on 41.5" BC

Top Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	60.94	
Allowable (kips)	111.01	
Stress Rating:	**52.3%**	Pass

Top Plate Capacity

Max Stress (ksi):	32.46	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**95.4%**	Pass
Tension Side Stress Rating:	**54.3%**	Pass

Bottom Plate Capacity

Max Stress (ksi):	15.54	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**45.7%**	Pass
Tension Side Stress Rating:	**17.7%**	Pass

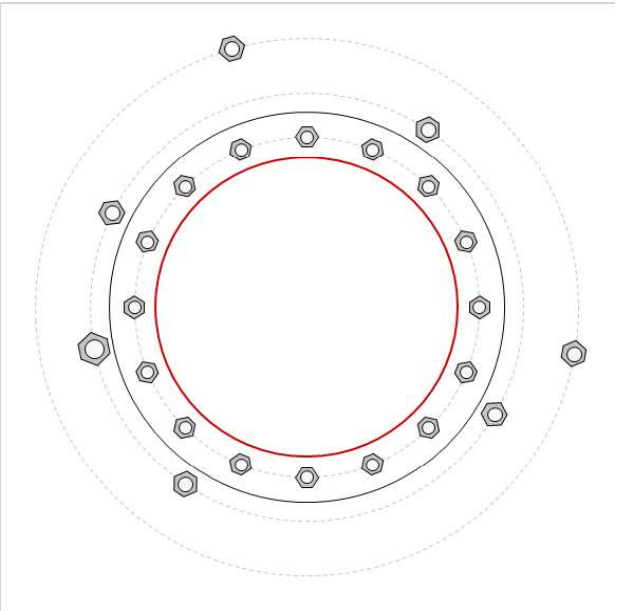
Monopole Base Plate Connection

Site Info	
BU #	876331
Site Name	EW BRITAIN GRAVEL PI
Order #	529723 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.5

Applied Loads	
Moment (kip-ft)	2469.55
Axial Force (kips)	50.10
Shear Force (kips)	29.45

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (16) 1-1/2" ø bolts (A354-BC N; Fy=109 ksi, Fu=125 ksi) on 41" BC

GROUP 2: (4) 1-3/4" ø bolts (Williams R71 N; Fy=127.7 ksi, Fu=125 ksi) on 51.5" BC

pos. (deg): 56, 154, 236, 330

GROUP 3: (1) 2-1/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 51.5" BC

pos. (deg): 191.3

GROUP 4: (2) 1-3/4" ø bolts (Williams R71 N; Fy=127.7 ksi, Fu=125 ksi) on 64.5" BC

pos. (deg): 106, 350

Base Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

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

GROUP 1:		
Pu_c = 90.78	ϕPn_c = 173.36	**Stress Rating**
Vu = 1.84	ϕVn = 78.01	**49.9%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_c = 204.02	ϕPn_c = 311.46	**Stress Rating**
Vu = 0	ϕVn = 140.16	**62.4%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_c = 198.85	ϕPn_c = 375.74	**Stress Rating**
Vu = 0	ϕVn = 169.08	**50.4%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 4:		
Pu_t = 173.61	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**90.5%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	19.63	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**57.7%**	**Pass**

Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	529723 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	50	kips
Base Shear, Vu_comp:	29	kips
Moment, M_u:	2470	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
*Pad Flexure (kip*ft)*	4029.63	1712.09	**40.5%**	**Pass**
Pad Shear - 1-way (kips)	1064.77	314.96	**28.2%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	8059.26	0.00	**0.0%**	**Pass**

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

Structural Rating*:	**40.5%**

Pad Properties

Depth, **D**:	4	ft
Pad Width, **W**:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom), **Sp**:	8	
Pad Rebar Quantity (Bottom), **mp**:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

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

Soil Properties

Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	529723 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	50	kips
Base Shear, Vu_comp:	29	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating***	**Check**
Lateral (Sliding) (kips)	1029.49	29.00	**2.7%**	**Pass**
Bearing Pressure (ksf)	22.50	1.41	**6.0%**	**Pass**
*Overturning (kip*ft)*	1918.89	177.63	**9.3%**	**Pass**

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

Soil Rating*:	**9.3%**

Pad Properties		
Depth, **D**:	4	ft
Pad Width, **W**:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom), **Sp**:	8	
Pad Rebar Quantity (Bottom), **mp**:	17	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Pile Foundation

Checks the capacity of pile foundation configurations for monopoles or self-support towers with individual foundations in Rev. F, G, and H.

BU #:	876331
Site Name:	NEW BRITAIN GRAVEL PIT
Order:	529723 Rev. 0

Tower Type:	Monopole
TIA Revision:	H

Top & Bot. Pad Rein. Different?: ☐

Factored Design Reactions At Base		
Moment, M:	2470	ft-kips
Axial, Pu:	0	kips
Shear, Sc:	0	kips
Load Eccentricity, Ecc:	0	in
Bolt Circle / Bearing Plate Width, BC:	41	in

Pile Properties		
Pile Shape:	Round	
Pile Material:	Steel	
Length of Pile, Lpile:	33	ft
Pile Diameter:	1.375	in
Pile (Soil) Capacity Given?	Yes	
Steel Grade, Fy:	150	ksi

Pile Group		
Group Configuration:	Asymmetric	
Orientation of Neutral Axis, θ:	0	deg
Group Efficiency Given in Geotech?	No	

Program Calculated Group Efficiency, Eg: 1.00

Pile Cap		
Cap Type:	Block	
Depth to Bottom of Block, D:	4.00	ft
Thickness of Block, T:	6.00	ft
Block Width, Wx:	16.00	ft
Block Length, Wy:	16.00	ft
Pad Rebar Size (Bot.), Spad:	8	
Pad Rebar Quantity (X-direction) (Bot.), Mpad:	17	
Pad Rebar Quantity (Y-direction) (Bot.), Mpad $_y$:	17	

Material Properties		
Rebar Grade, Fy:	60	ksi
Concrete Strength, Fc:	3	ksi
Clear Cover, cc:	3	in

Soil Properties		
Groundwater Depth, GW:	100.00	ft
Soil Unit Weight:	150	pcf
Cohesion, Co:	10	ksf
Friction Angle, ϕ:	0	deg
Neglected Depth, ND:	1	ft
Negative Friction Force (per pile), Sw:		kips
SPT Blow Count, N_{blows}:		

Design Checks				
	Capacity	*Demand*	*Rating**	*Check*
PILE CHECKS				
Pile Tensile Strength (kips):	178.19	180.85	**96.7%**	**Pass**
PAD CHECKS				

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

Structural Rating:	**96.7%**

Click here to enter group information and pile coordinates

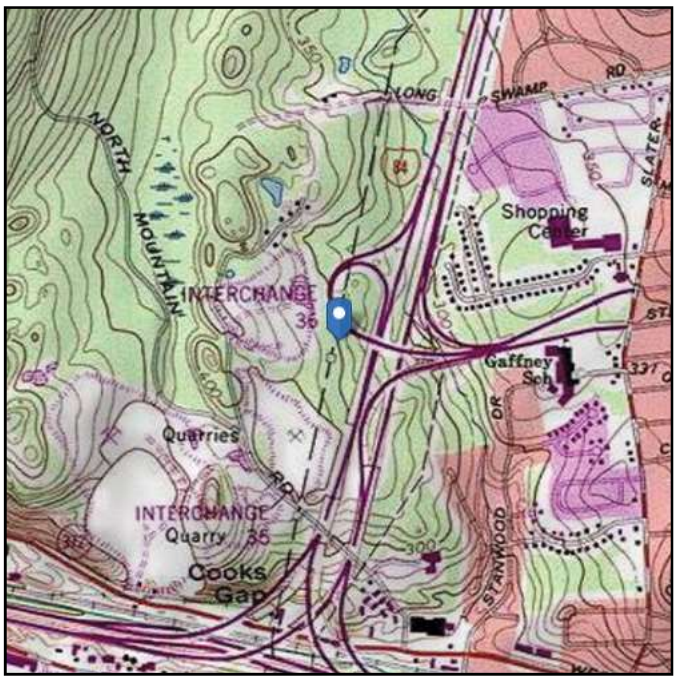
Ultimate Pile Capacities		
Ultimate Compression, Cn:	170	kips
Ultimate Tension, Tn:	170	kips

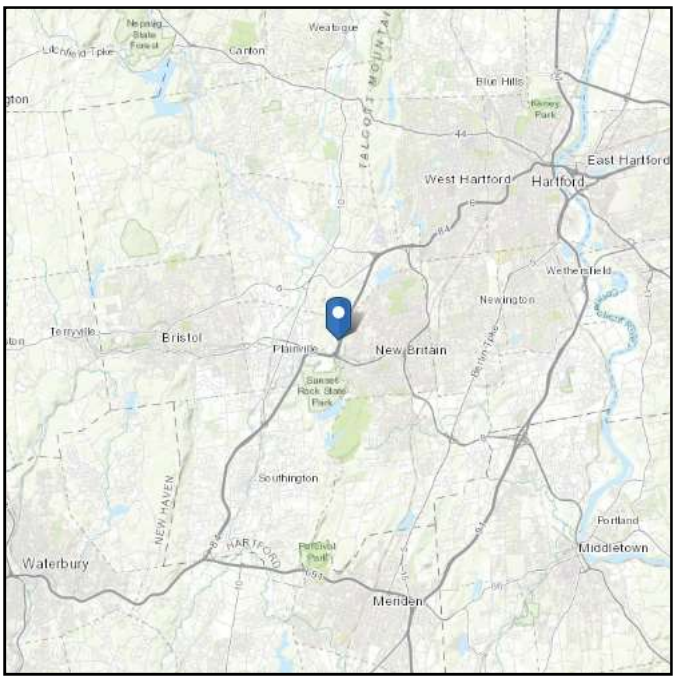
Per CCIsites Doc. # 2268906

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	350.25 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.676589
Soil Class:	D - Stiff Soil	**Longitude:**	-72.821414





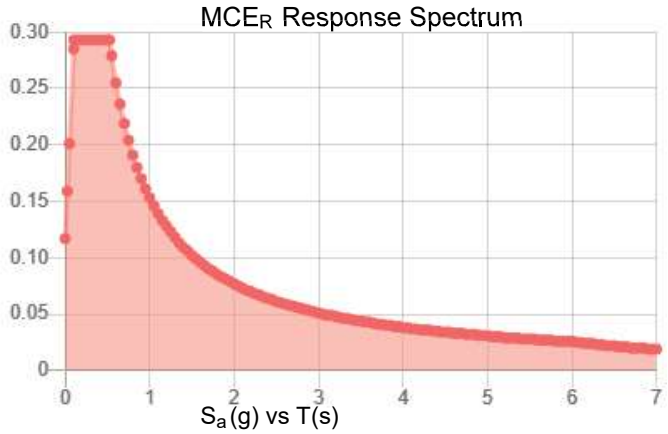
Seismic

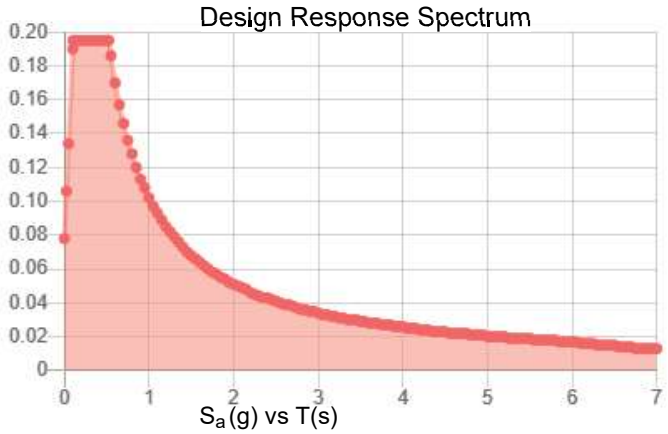
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.183	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.293	PGA_M :	0.149
S_{M1} :	0.153	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Oct 29 2020

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

Ice

Results:

Ice Thickness:	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:	Thu Oct 29 2020

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

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

Exhibit E

Mount Analysis

Date: **October 27, 2020**

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Darcy Tarr
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Charlotte, NC 28277
(704) 405-6589

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

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**T-Mobile Anchor**	
	Carrier Site Number:	CT11423
	Carrier Site Name:	I-84/NEW BRITAIN
Crown Castle Designation:	**Crown Castle BU Number:**	876331
	Crown Castle Site Name:	NEW BRITAIN GRAVEL PIT
	Crown Castle JDE Job Number:	620155
	Crown Castle Order Number:	529723 Rev. 0
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:** 1039-Z0001-B	
Site Data:	**115 North Mountain Road**, **New Britain**, **Hartford County**, **CT**, **06053** **Latitude 41°40'35.72", Longitude -72°49'17.09"**	
Structure Information:	**Tower Height & Type:**	**118.0 ft Monopole**
	Mount Elevation:	**108.0 ft**
	Mount Type:	**12.5 ft Platform**

Dear Darcy Tarr,

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

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

Platform **Sufficient - 51.1%**
***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code and Appendix N based upon an ultimate 3-second gust wind speed of 125 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Jacques S. Grimaldi, M.S., P.E.

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

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 3 sector 12.5 ft Platform, designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC / 2018 Connecticut State Building Code and Appendix N
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	125 mph
Exposure Category:	C
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:	0.183
Seismic S_1:	0.064
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
108.0	108.0	3	Ericsson	AIR 32 B2A/B66AA	12.5 ft Platform [RMQP-496-HK]
		3	Ericsson	AIR6449 B41_T-MOBILE	
		3	RFS/Celwave	APXVAARR24_43-U-NA20	
		3	Commscope	SDX1926Q-43	
		3	Ericsson	KRY 112 144/1	
		3	Ericsson	RADIO 4449 B71 B85A_ T-MOBILE	
		3	Ericsson	RRUS 4415 B25	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	529723 Rev. 0	CCI Sites
Loading Document	T-Mobile	RFDS Version: 5	TSA
Mount Manufacturer Drawings	Site Pro 1	Part No. RMQP-496-HK	Infinigy

3.1) Analysis Method

RISA-3D (Version 18.0.5), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

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

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

3.2) Assumptions

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

Channel, Solid Round, Angle, Plate	Q345 (GR 36)
HSS (Rectangular)	Q235-GB (GR 35)
Pipe	Q235-GB (GR 35)
Connection Bolts	ASTM A325

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1, 2	Mount Pipe(s)	MP6	108.0	51.1	Pass
	Horizontal(s)	M53		15.7	Pass
	Standoff(s)	M17		30.1	Pass
	Handrail(s)	M72		34.0	Pass
	Kicker(s)	M13		16.9	Pass
	Mount Connection(s)	-		14.1	Pass

Structure Rating (max from all components) =	51.1%

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

4.1) Recommendations

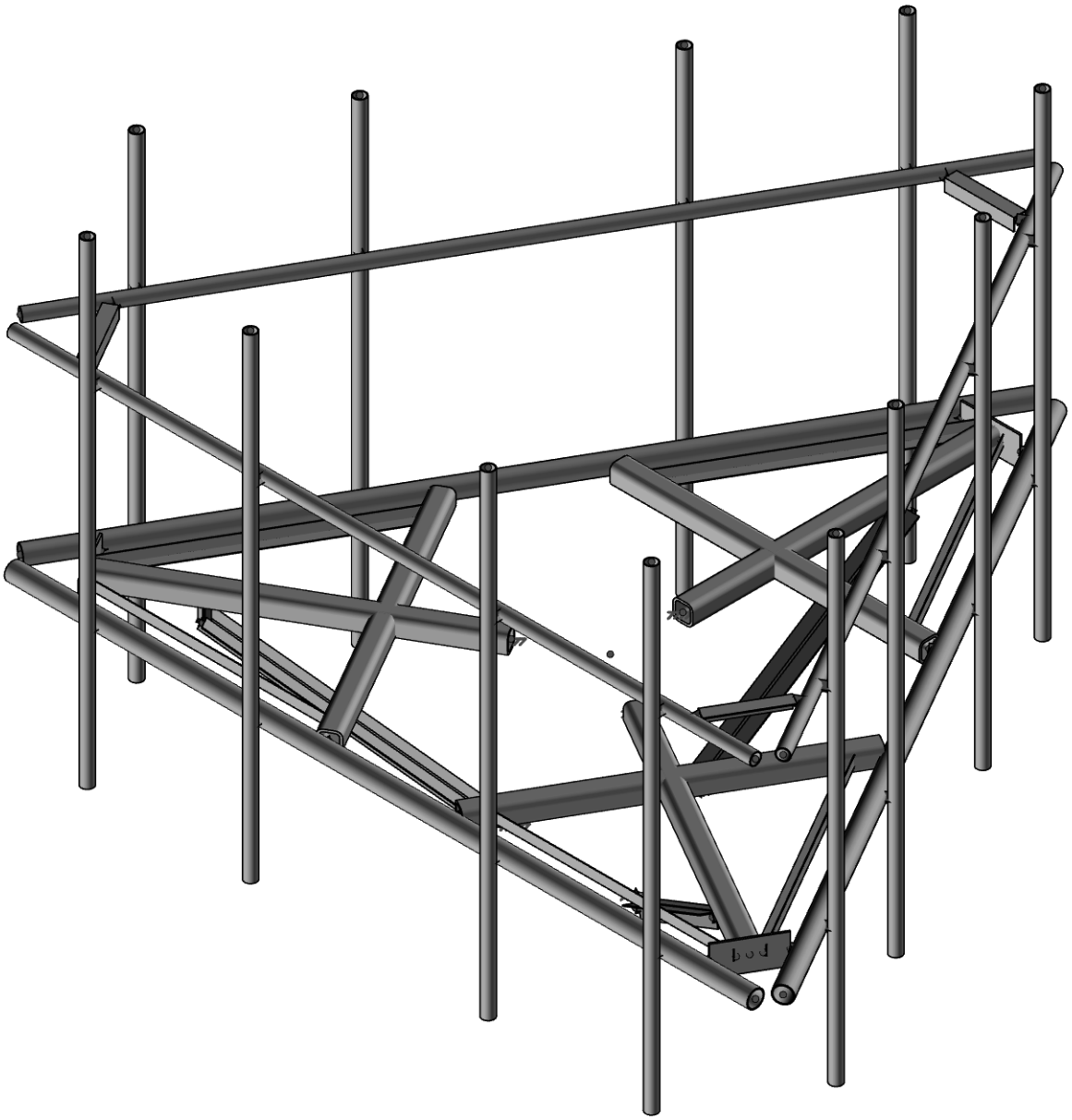
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

1. Site Pro 1 RMQP-496-HK.

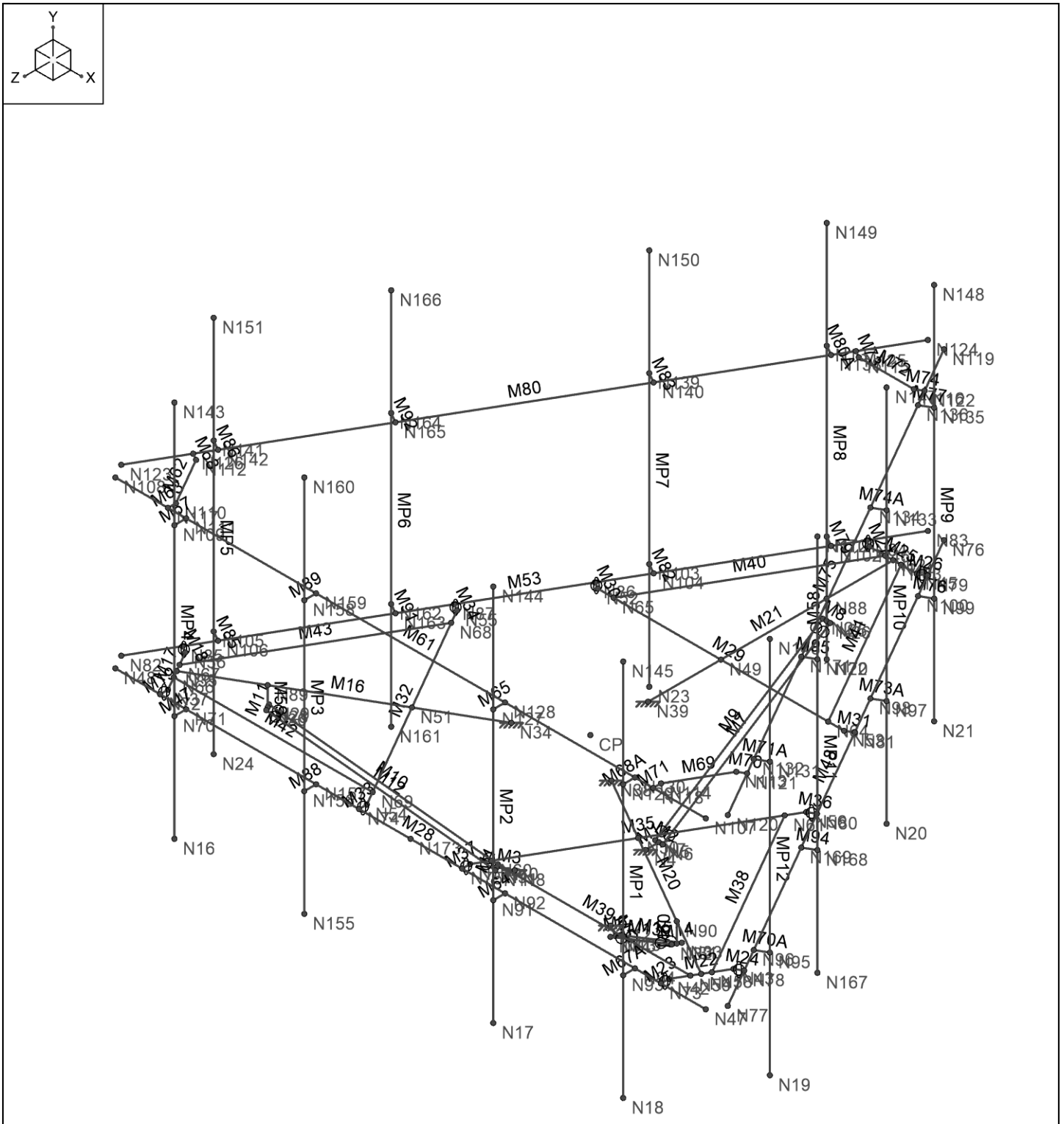
No structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Infinigy Engineering, PLLC	876331	Render
JG		Oct 27, 2020
1039-Z0001-B		876331_loaded.r3d



Infinigy Engineering, PLLC	876331	Wireframe
JG		Oct 27, 2020
1039-Z0001-B		876331_loaded.r3d

APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	Jacques Grimaldi

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil	
Ground Elevation:	350.25	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	108.0	ft
Tower Height AGL:	118.0	ft

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

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

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

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	125	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	2.0	in
Flat Pressure:	96.53	psf
Round Pressure:	57.92	psf
Ice Wind Pressure:	9.27	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.183	g
1-Second Accel. (S_1):	0.064	g
Short-Period Design (S_{DS}):	0.20	
1-Second Design (S_{D1}):	0.10	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	

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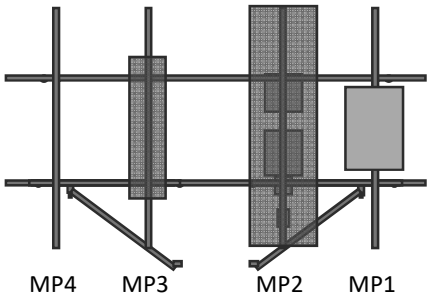
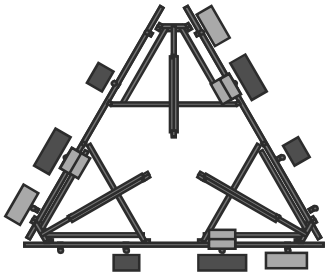
Infinigy Load Calculator V2.1.4

Program Inputs

ELEVATION VIEW



PLAN VIEW



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Infinigy Load Calculator V2.1.4

APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
ERICSSON AIR 32 B2A/B66AA	108.0	3	0.90	48.26	6.51	4.71	282.77	204.69	132.20	12.90	MP3
ERICSSON AIR6449 B41_T-MOBILE	108.0	3	0.90	48.26	5.66	2.48	245.81	107.57	114.63	11.19	MP1
RFS/CELWAVE APXVAARR24_43-U-NA20	108.0	3	0.90	48.26	14.69	6.87	638.24	298.56	128.00	12.49	MP2
COMMSCOPE SDX1926Q-43	108.0	3	0.90	48.26	0.24	0.17	10.46	7.30	6.17	0.60	MP2
ERICSSON TME-KRY 112 144/1	108.0	3	0.90	48.26	0.35	0.18	15.20	7.60	11.00	1.07	MP2
ERICSSON RADIO 4449 B71 B85A_T-MOBILE	108.0	3	0.90	48.26	1.97	1.59	85.58	68.91	73.21	7.15	MP2
ERICSSON RRUS 4415 B25	108.0	3	0.90	48.26	1.64	0.68	71.43	29.49	44.00	4.29	MP2

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N4	N5		RIGID	None	None	RIGID	Typical
2	M2	N7	N6		RIGID	None	None	RIGID	Typical
3	M3	N8	N9		RIGID	None	None	RIGID	Typical
4	M4	N11	N10		RIGID	None	None	RIGID	Typical
5	M5	N12	N13		RIGID	None	None	RIGID	Typical
6	M6	N15	N14		RIGID	None	None	RIGID	Typical
7	M7	N26	N6	180	Kicker Angle	None	None	Q345	Typical
8	M8	N27	N26		RIGID	None	None	RIGID	Typical
9	M9	N27	N7	90	Kicker Angle	None	None	Q345	Typical
10	M10	N29	N10	180	Kicker Angle	None	None	Q345	Typical
11	M11	N30	N29		RIGID	None	None	RIGID	Typical
12	M12	N30	N11	90	Kicker Angle	None	None	Q345	Typical
13	M13	N32	N14	180	Kicker Angle	None	None	Q345	Typical
14	M14	N33	N32		RIGID	None	None	RIGID	Typical
15	M15	N33	N15	90	Kicker Angle	None	None	Q345	Typical
16	M16	N34	N35		Stand Off HSS	None	None	Q235-GB	Typical
17	M17	N36	N37		Corner Plate	None	None	Q345	Typical
18	M18	N36	N85		RIGID	None	None	RIGID	Typical
19	M19	N37	N72		RIGID	None	None	RIGID	Typical
20	M20	N38	N41		Stand Off HSS	None	None	Q235-GB	Typical
21	M21	N39	N44		Stand Off HSS	None	None	Q235-GB	Typical
22	M22	N42	N43		Corner Plate	None	None	Q345	Typical
23	M23	N42	N73		RIGID	None	None	RIGID	Typical
24	M24	N43	N78		RIGID	None	None	RIGID	Typical
25	M25	N45	N46		Corner Plate	None	None	Q345	Typical
26	M26	N45	N79		RIGID	None	None	RIGID	Typical
27	M27	N46	N84		RIGID	None	None	RIGID	Typical
28	M28	N48	N47		Face Horizontal	None	None	Q235-GB	Typical
29	M29	N52	N53		Stand Off HSS	None	None	Q235-GB	Typical
30	M30	N52	N86		RIGID	None	None	RIGID	Typical
31	M31	N53	N81		RIGID	None	None	RIGID	Typical
32	M32	N54	N55		Stand Off HSS	None	None	Q235-GB	Typical
33	M33	N54	N74		RIGID	None	None	RIGID	Typical
34	M34	N55	N87		RIGID	None	None	RIGID	Typical
35	M35	N56	N57		Stand Off HSS	None	None	Q235-GB	Typical
36	M36	N56	N80		RIGID	None	None	RIGID	Typical
37	M37	N57	N75		RIGID	None	None	RIGID	Typical
38	M38	N58	N61	270	Grating Support Angle	None	None	Q345	Typical
39	M39	N59	N60		Grating Support Angle	None	None	Q345	Typical
40	M40	N62	N65	270	Grating Support Angle	None	None	Q345	Typical
41	M41	N63	N64		Grating Support Angle	None	None	Q345	Typical
42	M42	N66	N69	270	Grating Support Angle	None	None	Q345	Typical
43	M43	N67	N68		Grating Support Angle	None	None	Q345	Typical
44	M47	N71	N70		RIGID	None	None	RIGID	Typical
45	M48	N77	N76		Face Horizontal	None	None	Q235-GB	Typical
46	M53	N83	N82		Face Horizontal	None	None	Q235-GB	Typical
47	M58	N88	N25		RIGID	None	None	RIGID	Typical
48	M59	N89	N28	240	RIGID	None	None	RIGID	Typical
49	M60	N90	N31	120	RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
50	M61	N108	N107		Support Rail	None	None	Q235-GB	Typical
51	M62	N110	N112	180	Support Rail Corner Angle	None	None	Q345	Typical
52	M63	N110	N117		RIGID	None	None	RIGID	Typical
53	M67	N111	N109		RIGID	None	None	RIGID	Typical
54	M68	N112	N126		RIGID	None	None	RIGID	Typical
55	M69	N113	N114	180	Support Rail Corner Angle	None	None	Q345	Typical
56	M70	N113	N121		RIGID	None	None	RIGID	Typical
57	M71	N114	N118		RIGID	None	None	RIGID	Typical
58	M72	N115	N116	180	Support Rail Corner Angle	None	None	Q345	Typical
59	M73	N115	N125		RIGID	None	None	RIGID	Typical
60	M74	N116	N122		RIGID	None	None	RIGID	Typical
61	M75	N120	N119		Support Rail	None	None	Q235-GB	Typical
62	M80	N124	N123		Support Rail	None	None	Q235-GB	Typical
63	MP4	N143	N16		Mount Pipe	None	None	Q235-GB	Typical
64	M64	N92	N91		RIGID	None	None	RIGID	Typical
65	M65	N128	N127		RIGID	None	None	RIGID	Typical
66	MP2	N144	N17		Mount Pipe	None	None	Q235-GB	Typical
67	M67A	N94	N93		RIGID	None	None	RIGID	Typical
68	M68A	N130	N129		RIGID	None	None	RIGID	Typical
69	MP1	N145	N18		Mount Pipe	None	None	Q235-GB	Typical
70	M70A	N96	N95		RIGID	None	None	RIGID	Typical
71	M71A	N132	N131		RIGID	None	None	RIGID	Typical
72	MP12	N146	N19		Mount Pipe	None	None	Q235-GB	Typical
73	M73A	N98	N97		RIGID	None	None	RIGID	Typical
74	M74A	N134	N133		RIGID	None	None	RIGID	Typical
75	MP10	N147	N20		Mount Pipe	None	None	Q235-GB	Typical
76	M76	N100	N99		RIGID	None	None	RIGID	Typical
77	M77	N136	N135		RIGID	None	None	RIGID	Typical
78	MP9	N148	N21		Mount Pipe	None	None	Q235-GB	Typical
79	M79	N102	N101		RIGID	None	None	RIGID	Typical
80	M80A	N138	N137		RIGID	None	None	RIGID	Typical
81	MP8	N149	N22	30	Mount Pipe	None	None	Q235-GB	Typical
82	M82	N104	N103		RIGID	None	None	RIGID	Typical
83	M83	N140	N139		RIGID	None	None	RIGID	Typical
84	MP7	N150	N23	30	Mount Pipe	None	None	Q235-GB	Typical
85	M85	N106	N105		RIGID	None	None	RIGID	Typical
86	M86	N142	N141		RIGID	None	None	RIGID	Typical
87	MP5	N151	N24	30	Mount Pipe	None	None	Q235-GB	Typical
88	M88	N157	N156		RIGID	None	None	RIGID	Typical
89	M89	N159	N158		RIGID	None	None	RIGID	Typical
90	MP3	N160	N155		Mount Pipe	None	None	Q235-GB	Typical
91	M91	N163	N162		RIGID	None	None	RIGID	Typical
92	M92	N165	N164		RIGID	None	None	RIGID	Typical
93	MP6	N166	N161	30	Mount Pipe	None	None	Q235-GB	Typical
94	M94	N169	N168		RIGID	None	None	RIGID	Typical
95	M95	N171	N170		RIGID	None	None	RIGID	Typical
96	MP11	N172	N167		Mount Pipe	None	None	Q235-GB	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		54	144	0
3	Total General		54	144	0
4					
5	Hot Rolled Steel				
6	Q235-GB	HSS4X4X8	6	374.3	638.974
7	Q235-GB	PIPE_3.0	3	450	264.141
8	Q235-GB	PIPE_2.0	15	1602	463.356
9	Q345	6"x0.37" Plate	3	36	22.662
10	Q345	L2.5x2.5x3	9	345.8	88.35
11	Q345	L2x2x2	6	303.1	42.203
12	Total HR Steel		42	3111.2	1519.687

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Self Weight	DL		-1			42		3
2	Wind Load AZI 0	WLZ					84		
3	Wind Load AZI 30	None					84		
4	Wind Load AZI 60	None					84		
5	Wind Load AZI 90	WLX					84		
6	Wind Load AZI 120	None					84		
7	Wind Load AZI 150	None					84		
8	Wind Load AZI 180	None					84		
9	Wind Load AZI 210	None					84		
10	Wind Load AZI 240	None					84		
11	Wind Load AZI 270	None					84		
12	Wind Load AZI 300	None					84		
13	Wind Load AZI 330	None					84		
14	Distr. Wind Load Z	WLZ						96	
15	Distr. Wind Load X	WLX						96	
16	Ice Weight	OL1					42	96	3
17	Ice Wind Load AZI 0	OL2					84		
18	Ice Wind Load AZI 30	None					84		
19	Ice Wind Load AZI 60	None					84		
20	Ice Wind Load AZI 90	OL3					84		
21	Ice Wind Load AZI 120	None					84		
22	Ice Wind Load AZI 150	None					84		
23	Ice Wind Load AZI 180	None					84		
24	Ice Wind Load AZI 210	None					84		
25	Ice Wind Load AZI 240	None					84		
26	Ice Wind Load AZI 270	None					84		
27	Ice Wind Load AZI 300	None					84		
28	Ice Wind Load AZI 330	None					84		
29	Distr. Ice Wind Load Z	OL2						96	
30	Distr. Ice Wind Load X	OL3						96	
31	Seismic Load Z	ELZ			-0.098		42		
32	Seismic Load X	ELX	-0.098				42		
33	Service Live Loads	LL				1			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
34	Maintenance Load 1	LL				2			
35	Maintenance Load 2	LL				2			
36	Maintenance Load 3	LL				2			
37	Maintenance Load 4	LL				2			
38	Maintenance Load 5	LL				2			
39	Maintenance Load 6	LL				2			
40	Maintenance Load 7	LL				2			
41	Maintenance Load 8	LL				2			
42	Maintenance Load 9	LL				2			
43	Maintenance Load 10	LL				2			
44	Maintenance Load 11	LL				2			
45	Maintenance Load 12	LL				2			
46	BLC 1 Transient Area Loads	None						60	
47	BLC 16 Transient Area Loads	None						60	

Load Combinations

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4DL	Yes	Y	1	1.4								
2	1.2DL + 1WL AZI 0	Yes	Y	1	1.2	2	1	14	1	15			
3	1.2DL + 1WL AZI 30	Yes	Y	1	1.2	3	1	14	0.866	15	0.5		
4	1.2DL + 1WL AZI 60	Yes	Y	1	1.2	4	1	14	0.5	15	0.866		
5	1.2DL + 1WL AZI 90	Yes	Y	1	1.2	5	1	14		15	1		
6	1.2DL + 1WL AZI 120	Yes	Y	1	1.2	6	1	14	-0.5	15	0.866		
7	1.2DL + 1WL AZI 150	Yes	Y	1	1.2	7	1	14	-0.866	15	0.5		
8	1.2DL + 1WL AZI 180	Yes	Y	1	1.2	8	1	14	-1	15			
9	1.2DL + 1WL AZI 210	Yes	Y	1	1.2	9	1	14	-0.866	15	-0.5		
10	1.2DL + 1WL AZI 240	Yes	Y	1	1.2	10	1	14	-0.5	15	-0.866		
11	1.2DL + 1WL AZI 270	Yes	Y	1	1.2	11	1	14		15	-1		
12	1.2DL + 1WL AZI 300	Yes	Y	1	1.2	12	1	14	0.5	15	-0.866		
13	1.2DL + 1WL AZI 330	Yes	Y	1	1.2	13	1	14	0.866	15	-0.5		
14	0.9DL + 1WL AZI 0	Yes	Y	1	0.9	2	1	14	1	15			
15	0.9DL + 1WL AZI 30	Yes	Y	1	0.9	3	1	14	0.866	15	0.5		
16	0.9DL + 1WL AZI 60	Yes	Y	1	0.9	4	1	14	0.5	15	0.866		
17	0.9DL + 1WL AZI 90	Yes	Y	1	0.9	5	1	14		15	1		
18	0.9DL + 1WL AZI 120	Yes	Y	1	0.9	6	1	14	-0.5	15	0.866		
19	0.9DL + 1WL AZI 150	Yes	Y	1	0.9	7	1	14	-0.866	15	0.5		
20	0.9DL + 1WL AZI 180	Yes	Y	1	0.9	8	1	14	-1	15			
21	0.9DL + 1WL AZI 210	Yes	Y	1	0.9	9	1	14	-0.866	15	-0.5		
22	0.9DL + 1WL AZI 240	Yes	Y	1	0.9	10	1	14	-0.5	15	-0.866		
23	0.9DL + 1WL AZI 270	Yes	Y	1	0.9	11	1	14		15	-1		
24	0.9DL + 1WL AZI 300	Yes	Y	1	0.9	12	1	14	0.5	15	-0.866		
25	0.9DL + 1WL AZI 330	Yes	Y	1	0.9	13	1	14	0.866	15	-0.5		
26	1.2D + 1.0Di	Yes	Y	1	1.2	16	1						
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y	1	1.2	16	1	17	1	29	1	30	
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y	1	1.2	16	1	18	1	29	0.866	30	0.5
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y	1	1.2	16	1	19	1	29	0.5	30	0.866
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y	1	1.2	16	1	20	1	29		30	1
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y	1	1.2	16	1	21	1	29	-0.5	30	0.866

Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y	1	1.2	16	1	22	1	29	-0.866	30	0.5
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y	1	1.2	16	1	23	1	29	-1	30	
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y	1	1.2	16	1	24	1	29	-0.866	30	-0.5
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y	1	1.2	16	1	25	1	29	-0.5	30	-0.866
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y	1	1.2	16	1	26	1	29		30	-1
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y	1	1.2	16	1	27	1	29	0.5	30	-0.866
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y	1	1.2	16	1	28	1	29	0.866	30	-0.5
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	1.239	31	1	32					
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	1.239	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	1.239	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	1.239	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	1.239	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	1.239	31	-0.866	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	1.239	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	1.239	31	-0.866	32	-0.5				
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	1.239	31	-0.5	32	-0.866				
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	1.239	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	1.239	31	0.5	32	-0.866				
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	1.239	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	0.861	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	0.861	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	0.861	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	0.861	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	0.861	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	0.861	31	-0.866	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	0.861	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	0.861	31	-0.866	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	0.861	31	-0.5	32	-0.866				
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	0.861	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	0.861	31	0.5	32	-0.866				
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	0.861	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0	Yes	Y	1	1	2	0.23	14	0.23	15		33	1.5
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30	Yes	Y	1	1	3	0.23	14	0.2	15	0.115	33	1.5
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60	Yes	Y	1	1	4	0.23	14	0.115	15	0.2	33	1.5
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90	Yes	Y	1	1	5	0.23	14		15	0.23	33	1.5
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120	Yes	Y	1	1	6	0.23	14	-0.115	15	0.2	33	1.5
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150	Yes	Y	1	1	7	0.23	14	-0.2	15	0.115	33	1.5
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180	Yes	Y	1	1	8	0.23	14	-0.23	15		33	1.5
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210	Yes	Y	1	1	9	0.23	14	-0.2	15	-0.115	33	1.5
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240	Yes	Y	1	1	10	0.23	14	-0.115	15	-0.2	33	1.5
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270	Yes	Y	1	1	11	0.23	14		15	-0.23	33	1.5
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300	Yes	Y	1	1	12	0.23	14	0.115	15	-0.2	33	1.5
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330	Yes	Y	1	1	13	0.23	14	0.2	15	-0.115	33	1.5
75	1.2DL + 1.5LL	Yes	Y	1	1.2	33	1.5						
76	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	34	1.5	2	0.058	14	0.058	15	
77	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	34	1.5	3	0.058	14	0.05	15	0.029
78	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	34	1.5	4	0.058	14	0.029	15	0.05
79	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	34	1.5	5	0.058	14		15	0.058
80	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	34	1.5	6	0.058	14	-0.029	15	0.05

Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
81	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	34	1.5	7	0.058	14	-0.05	15	0.029
82	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	34	1.5	8	0.058	14	-0.058	15	
83	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	34	1.5	9	0.058	14	-0.05	15	-0.029
84	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	34	1.5	10	0.058	14	-0.029	15	-0.05
85	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	34	1.5	11	0.058	14		15	-0.058
86	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	34	1.5	12	0.058	14	0.029	15	-0.05
87	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	34	1.5	13	0.058	14	0.05	15	-0.029
88	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	35	1.5	2	0.058	14	0.058	15	
89	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	35	1.5	3	0.058	14	0.05	15	0.029
90	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	35	1.5	4	0.058	14	0.029	15	0.05
91	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	35	1.5	5	0.058	14		15	0.058
92	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	35	1.5	6	0.058	14	-0.029	15	0.05
93	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	35	1.5	7	0.058	14	-0.05	15	0.029
94	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	35	1.5	8	0.058	14	-0.058	15	
95	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	35	1.5	9	0.058	14	-0.05	15	-0.029
96	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	35	1.5	10	0.058	14	-0.029	15	-0.05
97	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	35	1.5	11	0.058	14		15	-0.058
98	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	35	1.5	12	0.058	14	0.029	15	-0.05
99	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	35	1.5	13	0.058	14	0.05	15	-0.029
100	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	36	1.5	2	0.058	14	0.058	15	
101	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	36	1.5	3	0.058	14	0.05	15	0.029
102	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	36	1.5	4	0.058	14	0.029	15	0.05
103	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	36	1.5	5	0.058	14		15	0.058
104	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	36	1.5	6	0.058	14	-0.029	15	0.05
105	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	36	1.5	7	0.058	14	-0.05	15	0.029
106	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	36	1.5	8	0.058	14	-0.058	15	
107	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	36	1.5	9	0.058	14	-0.05	15	-0.029
108	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	36	1.5	10	0.058	14	-0.029	15	-0.05
109	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	36	1.5	11	0.058	14		15	-0.058
110	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	36	1.5	12	0.058	14	0.029	15	-0.05
111	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	36	1.5	13	0.058	14	0.05	15	-0.029
112	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	37	1.5	2	0.058	14	0.058	15	
113	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	37	1.5	3	0.058	14	0.05	15	0.029
114	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	37	1.5	4	0.058	14	0.029	15	0.05
115	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	37	1.5	5	0.058	14		15	0.058
116	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	37	1.5	6	0.058	14	-0.029	15	0.05
117	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	37	1.5	7	0.058	14	-0.05	15	0.029
118	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	37	1.5	8	0.058	14	-0.058	15	
119	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	37	1.5	9	0.058	14	-0.05	15	-0.029
120	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	37	1.5	10	0.058	14	-0.029	15	-0.05
121	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	37	1.5	11	0.058	14		15	-0.058
122	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	37	1.5	12	0.058	14	0.029	15	-0.05
123	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	37	1.5	13	0.058	14	0.05	15	-0.029
124	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	38	1.5	2	0.058	14	0.058	15	
125	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	38	1.5	3	0.058	14	0.05	15	0.029
126	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	38	1.5	4	0.058	14	0.029	15	0.05
127	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	38	1.5	5	0.058	14		15	0.058
128	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	38	1.5	6	0.058	14	-0.029	15	0.05
129	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	38	1.5	7	0.058	14	-0.05	15	0.029

Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
130	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	38	1.5	8	0.058	14	-0.058	15	
131	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	38	1.5	9	0.058	14	-0.05	15	-0.029
132	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	38	1.5	10	0.058	14	-0.029	15	-0.05
133	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	38	1.5	11	0.058	14		15	-0.058
134	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	38	1.5	12	0.058	14	0.029	15	-0.05
135	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	38	1.5	13	0.058	14	0.05	15	-0.029
136	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	39	1.5	2	0.058	14	0.058	15	
137	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	39	1.5	3	0.058	14	0.05	15	0.029
138	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	39	1.5	4	0.058	14	0.029	15	0.05
139	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	39	1.5	5	0.058	14		15	0.058
140	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	39	1.5	6	0.058	14	-0.029	15	0.05
141	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	39	1.5	7	0.058	14	-0.05	15	0.029
142	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	39	1.5	8	0.058	14	-0.058	15	
143	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	39	1.5	9	0.058	14	-0.05	15	-0.029
144	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	39	1.5	10	0.058	14	-0.029	15	-0.05
145	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	39	1.5	11	0.058	14		15	-0.058
146	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	39	1.5	12	0.058	14	0.029	15	-0.05
147	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	39	1.5	13	0.058	14	0.05	15	-0.029
148	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	40	1.5	2	0.058	14	0.058	15	
149	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	40	1.5	3	0.058	14	0.05	15	0.029
150	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	40	1.5	4	0.058	14	0.029	15	0.05
151	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	40	1.5	5	0.058	14		15	0.058
152	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	40	1.5	6	0.058	14	-0.029	15	0.05
153	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	40	1.5	7	0.058	14	-0.05	15	0.029
154	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	40	1.5	8	0.058	14	-0.058	15	
155	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	40	1.5	9	0.058	14	-0.05	15	-0.029
156	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	40	1.5	10	0.058	14	-0.029	15	-0.05
157	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	40	1.5	11	0.058	14		15	-0.058
158	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	40	1.5	12	0.058	14	0.029	15	-0.05
159	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	40	1.5	13	0.058	14	0.05	15	-0.029
160	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	41	1.5	2	0.058	14	0.058	15	
161	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	41	1.5	3	0.058	14	0.05	15	0.029
162	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	41	1.5	4	0.058	14	0.029	15	0.05
163	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	41	1.5	5	0.058	14		15	0.058
164	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	41	1.5	6	0.058	14	-0.029	15	0.05
165	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	41	1.5	7	0.058	14	-0.05	15	0.029
166	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	41	1.5	8	0.058	14	-0.058	15	
167	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	41	1.5	9	0.058	14	-0.05	15	-0.029
168	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	41	1.5	10	0.058	14	-0.029	15	-0.05
169	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	41	1.5	11	0.058	14		15	-0.058
170	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	41	1.5	12	0.058	14	0.029	15	-0.05
171	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	41	1.5	13	0.058	14	0.05	15	-0.029
172	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	42	1.5	2	0.058	14	0.058	15	
173	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	42	1.5	3	0.058	14	0.05	15	0.029
174	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	42	1.5	4	0.058	14	0.029	15	0.05
175	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	42	1.5	5	0.058	14		15	0.058
176	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	42	1.5	6	0.058	14	-0.029	15	0.05
177	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	42	1.5	7	0.058	14	-0.05	15	0.029
178	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	42	1.5	8	0.058	14	-0.058	15	

Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
179	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	42	1.5	9	0.058	14	-0.05	15	-0.029
180	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	42	1.5	10	0.058	14	-0.029	15	-0.05
181	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	42	1.5	11	0.058	14		15	-0.058
182	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	42	1.5	12	0.058	14	0.029	15	-0.05
183	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	42	1.5	13	0.058	14	0.05	15	-0.029
184	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	43	1.5	2	0.058	14	0.058	15	
185	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	43	1.5	3	0.058	14	0.05	15	0.029
186	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	43	1.5	4	0.058	14	0.029	15	0.05
187	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	43	1.5	5	0.058	14		15	0.058
188	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	43	1.5	6	0.058	14	-0.029	15	0.05
189	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	43	1.5	7	0.058	14	-0.05	15	0.029
190	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	43	1.5	8	0.058	14	-0.058	15	
191	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	43	1.5	9	0.058	14	-0.05	15	-0.029
192	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	43	1.5	10	0.058	14	-0.029	15	-0.05
193	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	43	1.5	11	0.058	14		15	-0.058
194	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	43	1.5	12	0.058	14	0.029	15	-0.05
195	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	43	1.5	13	0.058	14	0.05	15	-0.029
196	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	44	1.5	2	0.058	14	0.058	15	
197	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	44	1.5	3	0.058	14	0.05	15	0.029
198	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	44	1.5	4	0.058	14	0.029	15	0.05
199	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	44	1.5	5	0.058	14		15	0.058
200	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	44	1.5	6	0.058	14	-0.029	15	0.05
201	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	44	1.5	7	0.058	14	-0.05	15	0.029
202	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	44	1.5	8	0.058	14	-0.058	15	
203	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	44	1.5	9	0.058	14	-0.05	15	-0.029
204	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	44	1.5	10	0.058	14	-0.029	15	-0.05
205	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	44	1.5	11	0.058	14		15	-0.058
206	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	44	1.5	12	0.058	14	0.029	15	-0.05
207	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	44	1.5	13	0.058	14	0.05	15	-0.029
208	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	45	1.5	2	0.058	14	0.058	15	
209	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	45	1.5	3	0.058	14	0.05	15	0.029
210	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	45	1.5	4	0.058	14	0.029	15	0.05
211	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	45	1.5	5	0.058	14		15	0.058
212	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	45	1.5	6	0.058	14	-0.029	15	0.05
213	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	45	1.5	7	0.058	14	-0.05	15	0.029
214	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	45	1.5	8	0.058	14	-0.058	15	
215	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	45	1.5	9	0.058	14	-0.05	15	-0.029
216	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	45	1.5	10	0.058	14	-0.029	15	-0.05
217	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	45	1.5	11	0.058	14		15	-0.058
218	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	45	1.5	12	0.058	14	0.029	15	-0.05

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N39	max	1815.314	17	1513.169	32	4632.813	2	1796.733	35	2206.118	11	1150.788	11
2		min	-1817.128	11	326.346	14	-2795.444	20	392.668	18	-2201.282	17	-1042.108	17
3	N38	max	2231.328	16	1633.815	29	1862.137	15	700.016	25	1631.995	19	1455.209	38
4		min	-3826.263	10	351.026	23	-2781.085	9	-1345.816	32	-1632.918	13	-234.371	19
5	N34	max	3943.332	5	1615.108	37	1566.22	25	842.086	15	1979.574	15	155.382	21

Envelope Node Reactions (Continued)

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
6		min	-2356.886	23	314.819	19	-2494.308	7	-1150.922	9	-1985.611	9	-1812.97	28
7	N4	max	1.245	54	2468.598	27	510.045	20	694.048	27	77.297	11	50.518	11
8		min	-1.268	48	-317.03	20	-3763.69	27	-89.165	20	-70.864	17	-46.254	17
9	N8	max	424.558	24	2467.683	31	1881.553	31	49.544	24	73.23	3	70.198	24
10		min	-3257.801	31	-304.231	24	-244.989	24	-337.726	31	-63.861	21	-606.134	31
11	N12	max	3278.969	35	2483.151	35	1892.941	35	43.222	16	59.88	7	599.184	35
12		min	-427.704	16	-306.608	16	-246.913	16	-358.466	35	-52.371	25	-74.62	16
13	Totals:	max	5583.306	5	11492.689	35	5678.212	2						
14		min	-5583.306	11	2663.799	53	-5678.211	20						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	MP6	PIPE_2.0	0.511	69	10	0.111	69		4	14916.096	32130	1871.625	1871.625	1.593	H1-1b
2	MP10	PIPE_2.0	0.504	69	6	0.1	69		12	14916.096	32130	1871.625	1871.625	1.55	H1-1b
3	MP2	PIPE_2.0	0.497	69	2	0.108	69		8	14916.096	32130	1871.625	1871.625	3	H1-1b
4	MP7	PIPE_2.0	0.418	69	11	0.114	69		4	14916.096	32130	1871.625	1871.625	2.567	H1-1b
5	MP3	PIPE_2.0	0.401	69	3	0.11	69		8	14916.096	32130	1871.625	1871.625	3	H1-1b
6	MP11	PIPE_2.0	0.386	69	7	0.109	69		12	14916.096	32130	1871.625	1871.625	2.261	H1-1b
7	M72	L2.5x2.5x3	0.34	14	6	0.108	0	y	5	27513.18	29192.4	872.574	1971.83	1.5	H2-1
8	M62	L2.5x2.5x3	0.335	14	10	0.106	0	y	9	27513.18	29192.4	872.574	1971.83	1.5	H2-1
9	M69	L2.5x2.5x3	0.332	14	2	0.103	0	y	13	27513.18	29192.4	872.574	1971.83	1.5	H2-1
10	M80	PIPE_2.0	0.312	100	4	0.251	131.25		4	6295.422	32130	1871.625	1871.625	3	H3-6
11	MP5	PIPE_2.0	0.302	69	6	0.151	69		10	14916.096	32130	1871.625	1871.625	1	H1-1b
12	M17	6"x0.37" Plate	0.301	6	5	0.258	4	y	4	36689.504	71928	553.5	8991	1.439	H1-1b
13	M61	PIPE_2.0	0.301	100	8	0.247	131.25		8	6295.422	32130	1871.625	1871.625	3	H3-6
14	MP9	PIPE_2.0	0.292	69	3	0.148	69		6	14916.096	32130	1871.625	1871.625	3	H1-1b
15	M75	PIPE_2.0	0.288	100	12	0.252	135.937		5	6295.422	32130	1871.625	1871.625	3	H3-6
16	M22	6"x0.37" Plate	0.286	6	9	0.257	4	y	8	36689.504	71928	553.5	8991	1.43	H1-1b
17	MP8	PIPE_2.0	0.278	69	12	0.115	69		11	14916.096	32130	1871.625	1871.625	3	H1-1b
18	MP1	PIPE_2.0	0.277	69	10	0.145	69		2	14916.096	32130	1871.625	1871.625	3	H1-1b
19	MP12	PIPE_2.0	0.267	69	8	0.108	69		7	14916.096	32130	1871.625	1871.625	2.54	H1-1b
20	M43	L2x2x2	0.258	0	17	0.011	0	y	31	10626.185	15908.4	402.563	720.708	1.5	H2-1
21	MP4	PIPE_2.0	0.256	69	4	0.111	69		3	14916.096	32130	1871.625	1871.625	3	H1-1b
22	M25	6"x0.37" Plate	0.249	6	3	0.272	4	y	12	36689.504	71928	553.5	8991	1.341	H1-1b
23	M39	L2x2x2	0.245	0	21	0.011	0	y	35	10626.185	15908.4	402.563	720.708	1.5	H2-1
24	M38	L2x2x2	0.223	0	23	0.013	0	z	36	10626.185	15908.4	396.008	720.708	1.5	H2-1
25	M40	L2x2x2	0.222	0	3	0.013	0	z	28	10626.185	15908.4	402.563	720.708	1.5	H2-1
26	M42	L2x2x2	0.215	0	7	0.013	0	z	32	10626.185	15908.4	402.563	720.708	1.5	H2-1
27	M41	L2x2x2	0.208	0	13	0.013	0	y	38	10626.185	15908.4	402.563	720.708	1.5	H2-1
28	M13	L2.5x2.5x3	0.169	25.844	34	0.003	50.634	y	7	16329.15	29192.4	872.574	1691.134	1.136	H2-1
29	M10	L2.5x2.5x3	0.169	25.844	30	0.004	50.634	y	28	16329.15	29192.4	872.574	1691.134	1.136	H2-1
30	M7	L2.5x2.5x3	0.169	25.844	38	0.003	50.634	y	36	16329.15	29192.4	872.574	1691.134	1.136	H2-1
31	M53	PIPE_3.0	0.157	98.437	38	0.183	60.937		11	59302.836	65205	5748.75	5748.75	1	H1-1b
32	M28	PIPE_3.0	0.155	98.438	30	0.181	60.938		2	59302.836	65205	5748.75	5748.75	1	H1-1b
33	M32	HSS4X4X8	0.155	31.26	30	0.041	58.612	z	5	186016.276	189630	20212.5	20212.5	1	H1-1b
34	M9	L2.5x2.5x3	0.155	25.844	28	0.003	50.634	z	36	16329.15	29192.4	872.574	1691.134	1.136	H2-1
35	M35	HSS4X4X8	0.154	31.26	34	0.04	58.612	z	9	186016.276	189630	20212.5	20212.5	1	H1-1b
36	M12	L2.5x2.5x3	0.154	25.844	32	0.004	50.634	z	28	16329.15	29192.4	872.574	1691.134	1.136	H2-1

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
37	M15	L2.5x2.5x3	0.153	25.844	36	0.003	50.634	z	7	16329.15	29192.4	872.574	1691.134	1.136	H2-1
38	M21	HSS4X4X8	0.143	0	11	0.103	0	z	11	184744.527	189630	20212.5	20212.5	1	H1-1b
39	M29	HSS4X4X8	0.141	31.26	27	0.068	31.26	y	36	186016.276	189630	20212.5	20212.5	1	H1-1b
40	M16	HSS4X4X8	0.128	0	3	0.106	0	z	3	184744.527	189630	20212.5	20212.5	1	H1-1b
41	M20	HSS4X4X8	0.112	0	13	0.102	0	z	7	184744.527	189630	20212.5	20212.5	1	H1-1b
42	M48	PIPE_3.0	0.109	89.062	12	0.171	60.937		6	59302.836	65205	5748.75	5748.75	1	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

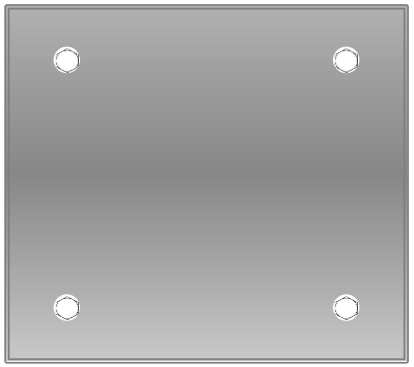
Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	NEW BRITAIN GRAVEL PIT
Site Number:	876331
Job Code:	1039-Z0001-B
Connection Description:	Standoff to Collar

APPLIED LOADS		
Bolt Tension:	2872.56	lbs
Bolt Shear:	1030.36	lbs

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

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	14.1%	
Shear Usage	7.5%	
Interaction Check	0.03	***≤1.05***
Result	Pass	



INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	NEW BRITAIN GRAVEL PIT
Site Number:	876331
Job Code:	1039-Z0001-B
Connection Description:	Kicker to Collar

APPLIED LOADS		
Bolt Tension:	0.00	lbs
Bolt Shear:	625.45	lbs

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

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	0.0%	
Shear Usage	4.5%	
Interaction Check	0.00	***≤1.05***
Result	Pass	

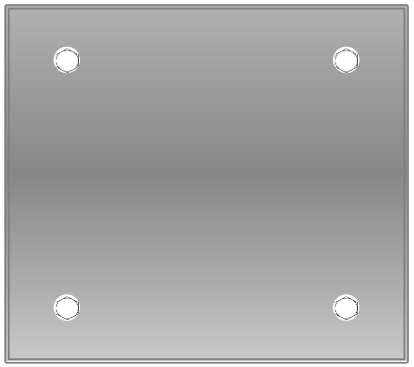


Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11423B

I-84/New Britain
125 North Mountain Road
New Britain, Connecticut 06053

November 12, 2020

EBI Project Number: 6220005861

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**43.45%**

November 12, 2020

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11423B - I-84/New Britain

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **125 North Mountain Road** in **New Britain, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 125 North Mountain Road in New Britain, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

8) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

9) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

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

12) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a

very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

13) The antenna mounting height centerline of the proposed antennas is 108 feet above ground level (AGL).

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

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	108 feet	Height (AGL):	108 feet	Height (AGL):	108 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna A1 MPE %:	**11.86%**	Antenna B1 MPE %:	**11.86%**	Antenna C1 MPE %:	**11.86%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	108 feet	Height (AGL):	108 feet	Height (AGL):	108 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,055.53	ERP (W):	11,055.53	ERP (W):	11,055.53
Antenna A2 MPE %:	**5.14%**	Antenna B2 MPE %:	**5.14%**	Antenna C2 MPE %:	**5.14%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	108 feet	Height (AGL):	108 feet	Height (AGL):	108 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A3 MPE %:	**3.96%**	Antenna B3 MPE %:	**3.96%**	Antenna C3 MPE %:	**3.96%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	20.96%
AT&T	6.68%
Clearwire	0.25%
Sprint	6.8%
Verizon	8.76%
Site Total MPE % :	43.45%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	20.96%
T-Mobile Sector B Total:	20.96%
T-Mobile Sector C Total:	20.96%
Site Total MPE % :	43.45%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE	1	19238.94	108.0	59.30	2500 MHz LTE	1000	5.93%
T-Mobile 2500 MHz NR	1	19238.94	108.0	59.30	2500 MHz NR	1000	5.93%
T-Mobile 600 MHz LTE	2	591.73	108.0	3.65	600 MHz LTE	400	0.91%
T-Mobile 600 MHz NR	1	1577.94	108.0	4.86	600 MHz NR	400	1.22%
T-Mobile 700 MHz LTE	2	648.82	108.0	4.00	700 MHz LTE	467	0.86%
T-Mobile 1900 MHz LTE	2	2203.69	108.0	13.58	1900 MHz LTE	1000	1.36%
T-Mobile 2100 MHz UMTS	2	1294.56	108.0	7.98	2100 MHz UMTS	1000	0.80%
T-Mobile 1900 MHz GSM	4	1028.30	108.0	12.68	1900 MHz GSM	1000	1.27%
T-Mobile 1900 MHz LTE	2	2056.61	108.0	12.68	1900 MHz LTE	1000	1.27%
T-Mobile 2100 MHz LTE	2	2307.55	108.0	14.22	2100 MHz LTE	1000	1.42%
						Total:	**20.96%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	20.96%
Sector B:	20.96%
Sector C:	20.96%
T-Mobile Maximum MPE % (Sector A):	20.96%
Site Total:	43.45%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **43.45%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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