1 Industrial Ave,
Suite 3
Mahwah NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

Transcend Wireless

June 17, 2022

Members of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
36 Toomey Road, Cornwall, CT 06759 (aka Mohawk Mountain)
Latitude: 41.82130278
Longitude: -73.29644167
T-Mobile Site#: CTNH545A - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 56' level of the 65' tower located at 36 Toomey Road in Cornwall, CT. The tower and property is owned by American Tower. T-Mobile now intends to replace three (3) of its existing antennas with three (3) N600/L600/L700 antennas and add (3) new antennas. The new antennas would be installed at the same 56' level of the tower. The new antennas support 5G services.

Planned Modifications:
Tower:
Install New:
(3) Ericsson AIR6419 B41 Antennas
(3) Commscope VV-65A-R1 Antennas
(3) Radio 4460 B2 B25
(1) 6x24 HCS

To Be Removed:
(3) APX16DWV Antennas
(3) RRUs11 B2
(3) RRUs11 B4

To Remain:
(3) APXVAALL24 Antennas
(3) Radio 4449 B71 B85A

(3) 6x12 HCS

Ground Work:
Install (1) 6160 Cabinet and (1) B160 Battery Cabinet. **Remove** (1) RBS 6102 Cabinet.

This tower was not originally approved by the Connecticut Siting Council and the Town of Cornwall was unable to find an initial zoning decision in previous filings. There will be no expansion of height or ground space.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to First Selectman Gordon Ridgway, Elected Official, and Anna Timell of the Planning and Zoning Commission, as well as the property and tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S;A. § 16-50j-72(b)(2).

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

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

3. The proposed modifications 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 Communications 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 referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Eric Breun
Transcend Wireless
Cell: 201-658-7728
Email: ebreun@transcendwireless.com

Attachments
cc: Gordon Ridgway - First Selectman of Cornwall
Anna Timell - Planning and Zoning Commission
American Towers - Tower Owner

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
FIRST SELECTMAN
GORDON RIDGEWAY
24 PINE STREET
CORNWALL CT 06753

CT 067 9-02

UPS GROUND

TRACKING #: 1Z V25 742 03 9886 8589

BILLING: P/P

Reference #1: CTNH545A

XOL 22.05.57 NV45 25.0A 06/2022*

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801

MA 018 9-04

UPS GROUND

TRACKING #: 1Z V25 742 03 9136 1110

BILLING: P/P

Reference #1: CTNH545A

XOL 22.05.57 NV45 25.0A 06/2022*


ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495
1 LBS
1 OF 1
SHIP TO:
PLANNING AND ZONING
ANNA TIMELL
24 PINE STREET
CORNWALL CT 06753
CT 067 9-02
UPS GROUND
TRACKING #: 1Z V25 742 03 9605 8592
BILLING: P/P
Reference #1: CTNH545A
XOL 22.05.57 NV45 25.0A 06/2022*

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/15/2022

Delivery Time: 11:26 AM

Signed by: LONG

TRANSCEND WIRELESS

Tracking Number:	1ZV257420391361110
Ship To:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTNH545A

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/15/2022

Delivery Time: 2:24 PM

Signed by: V DINNEEN

TRANSCEND WIRELESS

Tracking Number:	1ZV257420398868589
Ship To:	GORDON RIDGEWAY 24 PINE STREET CORNWALL, CT 06753 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTNH545A

Hello, your package has been delivered.

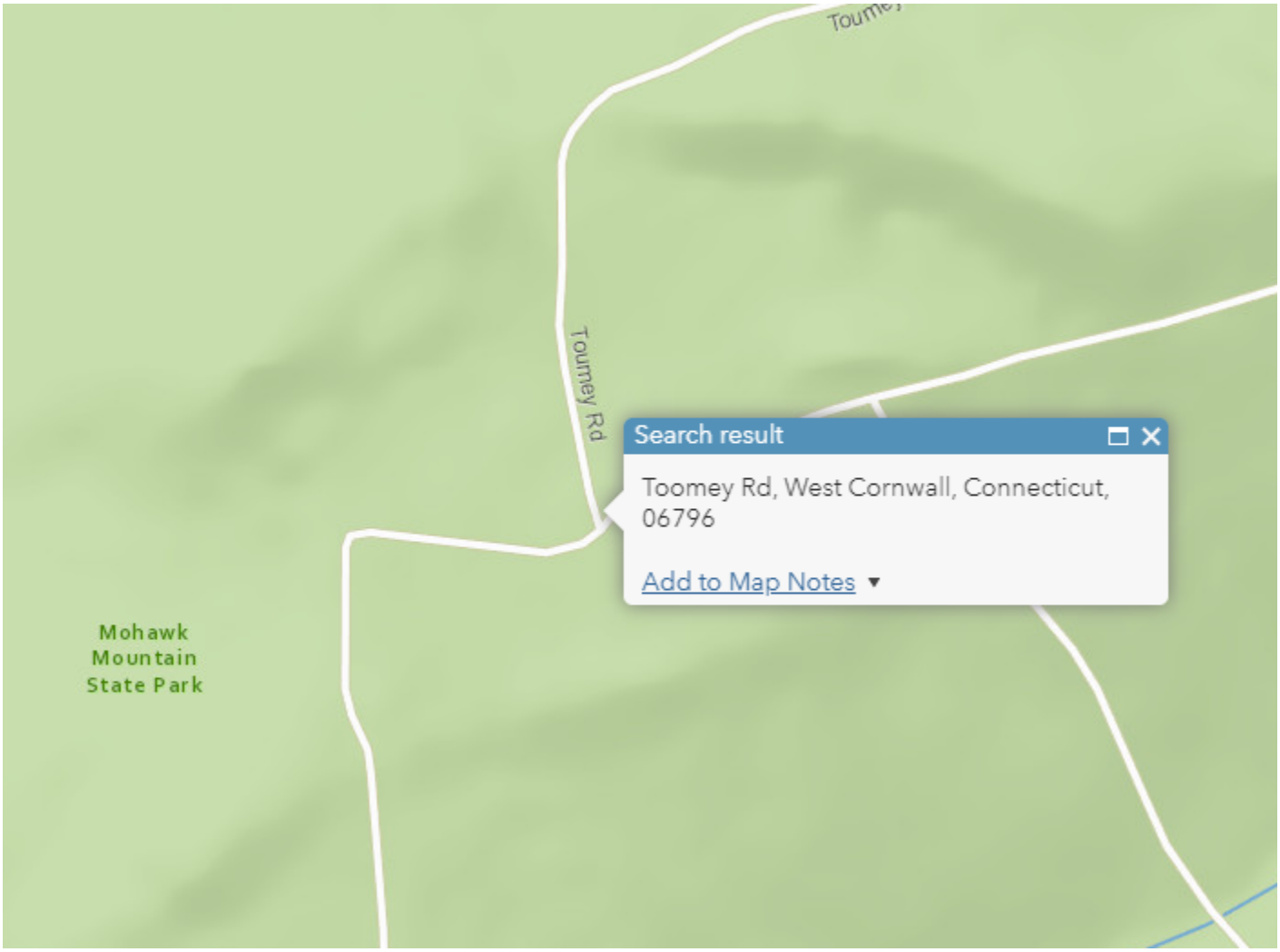
Delivery Date: Wednesday, 06/15/2022

Delivery Time: 2:24 PM

Signed by: V DINNEEN

TRANSCEND WIRELESS

Tracking Number:	1ZV257420396058592
Ship To:	ANNA TIMELL 24 PINE STREET CORNWALL, CT 06753 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CTNH545A


Toumey Rd
Search result
Toomey Rd, West Cornwall, Connecticut, 06796
Add to Map Notes
Mohawk Mountain State Park

Property Location: 036 TOOMEY RD **MAP ID:** F04/ 01/ / / **Bldg Name:** **State Use:** 2-1

Vision ID: 10 **Account #** 98100011 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 02/17/2021 11:15

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
AMERICAN TOWER MGMT INC				
PO BOX 723597				
ATLANTA, GA 31139				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:
CENSUS TRAC 2632
SURVEY # 662

GIS ID: ASSOC PID#

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
COM OUTBL	2-5	76,800	53,800
		Total	76,800	53,800

6031
CORNWALL, CT

VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
AMERICAN TOWER MGMT INC	088/811	04/03/2000	Q		221,229	QC

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2020	2-5	53,800	2019	2-5	53,800	2018	2-5	53,800
	Total:	53,800		Total:	53,800		Total:	53,800

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	76,800
Appraised Land Value (Bldg)	0
Special Land Value	0
Total Appraised Parcel Value	76,800
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	76,800

NOTES

BLDGS ONLY ON STATE LAND (E6-3-6)
POLE ON PERSONAL PROPERTY
2016 PRICE 2014 IMPROVEMENTS
2017 CHANGED ADDRESS TO TOOMEY RD
PREVIOUSLY MOHAWK MOUNTAIN RD

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
11128	10/06/2014	RE	Remodel	25,000		0		UPGRADE EQUIPMEN

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing Spec Use	Special Pricing Spec Calc	S Adj Fact	Adj. Unit Price	Land Value
1	2-1V	COMM LND MDL-00					0	SF	0.00	1.0000	0	1.0000	1.00		0.00				.00		0

Total Card Land Units: 0.00 AC Parcel Total Land Area: 0 AC Total Land Value: 0

Property Location: 036 TOOMEY RD **MAP ID:** F04/ 01/ / / **Bldg Name:** **State Use:** 2-1

Vision ID: 10 **Account #** 98100011 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 02/17/2021 11:15

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Model	00		Vacant

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
2-1V	COMM LND MDL-00	100

COST/MARKET VALUATION

Adj. Base Rate:	0.00
Replace Cost	0
AYB	
EYB	0
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Condition	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

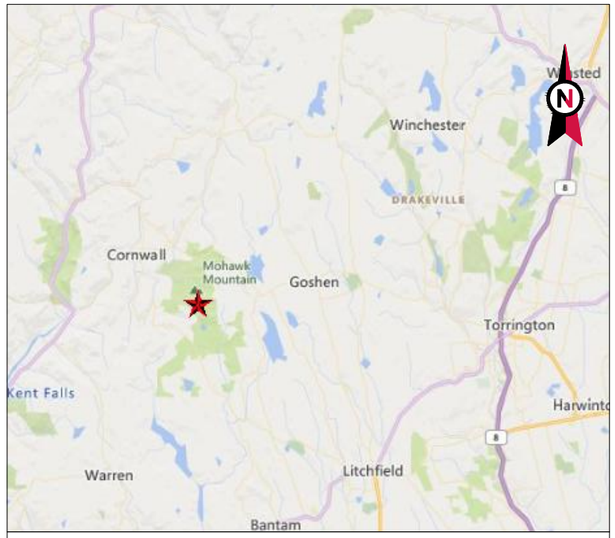
OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
FGR1	GARAGE-AVE			L	946	25.00	0		0		100	23,700
SHP2	WORK SHOP			L	936	30.00	0		0		100	28,100
	TOWER EQUI			L	1	25,000.00	2015				Null	25,000

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
	Ttl. Gross Liv/Lease Area:	0	0			

No Photo On Record



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: CORNWALL CT
ATC SITE NUMBER: 88009
T-MOBILE SITE NAME: CTNH545A
T-MOBILE SITE NUMBER: CTNH545A
SITE ADDRESS: 36 TOOMEY RD.
CORNWALL, CT 06759

LOCATION MAP

T-MOBILE ANCHOR AMENDMENT PLAN
67D5D998E 6160 CONFIGURATION

COMPLIANCE CODE

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

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: EVERSOURCE ENERGY/56002
PHONE: 888.783.6617

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: 800-376-6843

811 Know what's below. Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

36 TOOMEY RD.

CORNWALL, CT 06759
COUNTY: LITCHFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.82133837
LONGITUDE: -73.29644928
GROUND ELEVATION: 1678' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

T-MOBILE

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

PN LL NO VENDOR
36 TOOMEY RD.

CORNWALL, CT 06759

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:
TOWER WORK:
REMOVE (3) ANTENNA(s) AND (6) RRU(s)

INSTALL (6) ANTENNA(s), (3) RRU(s), AND (1) HYBRID TRUNK 6/24 4AWG CABLE(s)

EXISTING (3) ANTENNA(s), (3) RRU(s), AND (3) ERICSSON 6X12 HCS CABLE(s) TO REMAIN

GROUND WORK:
REMOVE (1) RBS 6102 CABINET

INSTALL (1) 6160 CABINET AND (1) B160 BATTERY CABINET

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

FROM HARTFORD, CT TAKE I-84 WEST TO RT 4 WEST. FOLLOW RT 4 TO GOSHEN, CT. GO PAST THE GOSHEN MOTEL AND TAKE A LEFT ONTO ALLYN ROAD. ALLYN ROAD WILL TURN INTO MOWHAWK MOUNTAIN ROAD WHERE THE STATE FOREST BEGINS. FOLLOW THIS TO THE TOP OF THE MOUNTAIN. ATC TOWER IS THE FIRST ONE ON THE LEFT AT THE TOP.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	06/13/22	JD
G-002	GENERAL NOTES	0	06/13/22	JD
C-101	DETAILED SITE PLAN	0	06/13/22	JD
C-102	DETAILED EQUIPMENT PLAN	0	06/13/22	JD
C-201	TOWER ELEVATION	0	06/13/22	JD
C-401	ANTENNA INFORMATION & SCHEDULE	0	06/13/22	JD
C-501	CONSTRUCTION DETAILS	0	06/13/22	JD
E-501	GROUNDING DETAILS	0	06/13/22	JD
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			
R-604	SUPPLEMENTAL			
R-605	SUPPLEMENTAL			
R-606	SUPPLEMENTAL			
R-607	SUPPLEMENTAL			
R-608	SUPPLEMENTAL			

Authorized by "EOR"
14 Jun 2022 03:12:05

cosign

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JD	06/13/22

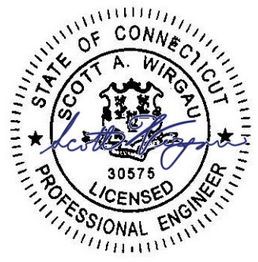
ATC SITE NUMBER:
88009

ATC SITE NAME:
CORNWALL CT

T-MOBILE SITE NAME:
CTNH545A

SITE ADDRESS:
36 TOOMEY RD.
CORNWALL, CT 06759

SEAL:



T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
   - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
   - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
   - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
   - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

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ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JD	06/13/22

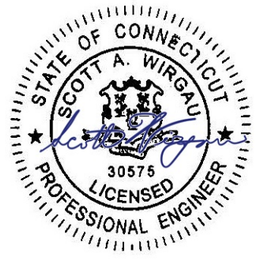
ATC SITE NUMBER:
88009

ATC SITE NAME:
CORNWALL CT

T-MOBILE SITE NAME:
CTNH545A

SITE ADDRESS:
36 TOOMEY RD.
CORNWALL, CT 06759

SEAL:



T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

GENERAL NOTES

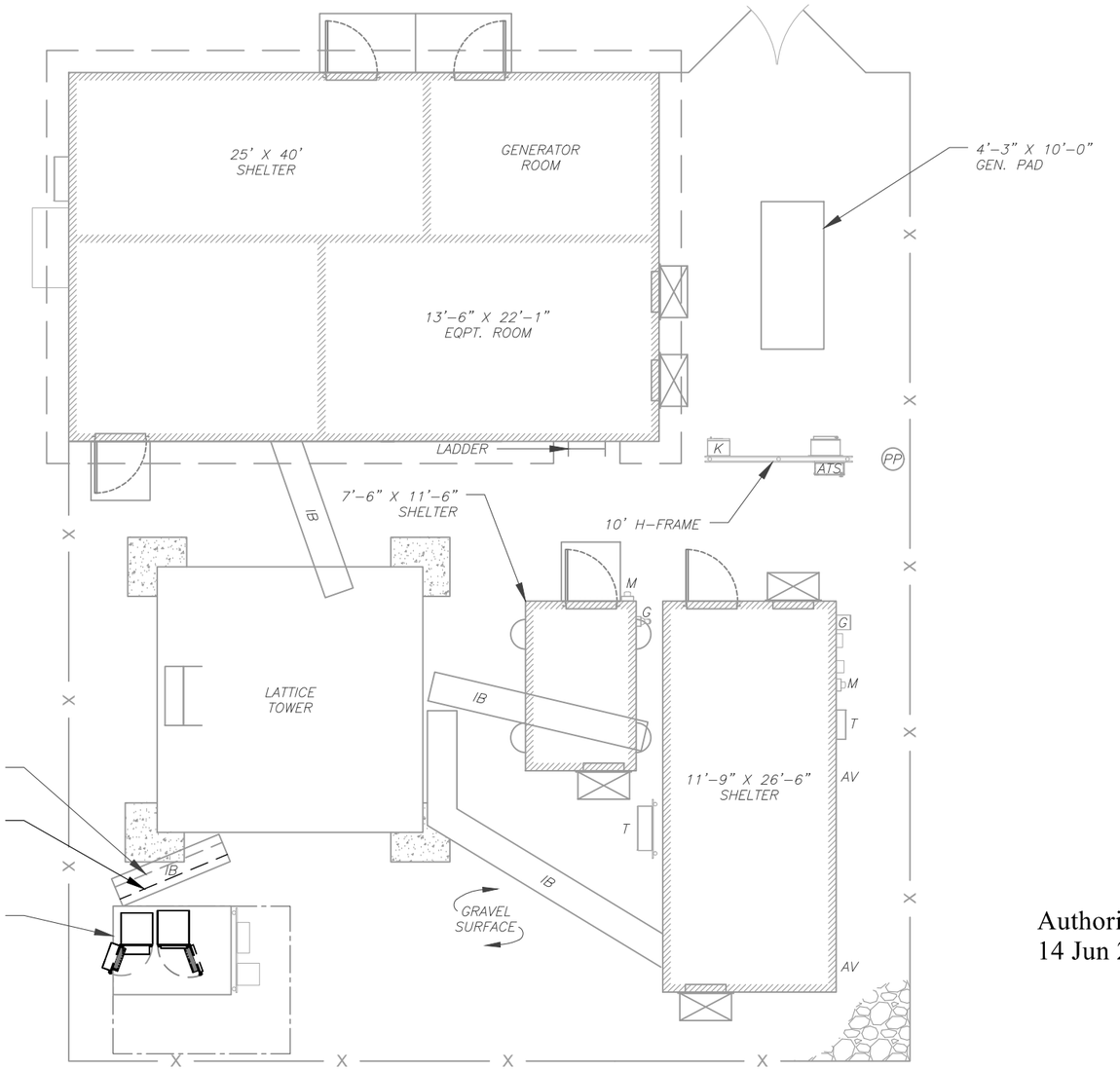
SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
———	CHAINLINK FENCE



EXISTING (3) ERICSSON 6X12 HCS (TO REMAIN)

PROPOSED (1) HYBRID TRUNK 6/24 4AWG (ROUTED PER PROPOSED CABLE LENGTH NOTE 2) (REFER TO PROPOSED CABLE LENGTH NOTE ON THIS PAGE)

EXISTING T-MOBILE EQUIPMENT ON A 6' X 8' CONCRETE PAD WITHIN A 10' X 12' GROUND SPACE (MODIFIED AS REQUIRED FOR UPGRADE FROM 67D07C 6102 MUAC TO 67D5D998E 6160 CONFIGURATION)

4 E-501 | 2 C-102 | 1 R-601

PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **76'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

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0	FOR CONSTRUCTION	JD	06/13/22

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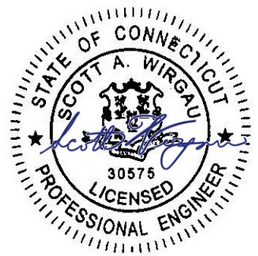
T-MOBILE SITE NAME:
CTNH545A

SITE ADDRESS:
36 TOOMEY RD.
CORNWALL, CT 06759

SEAL:



T-Mobile

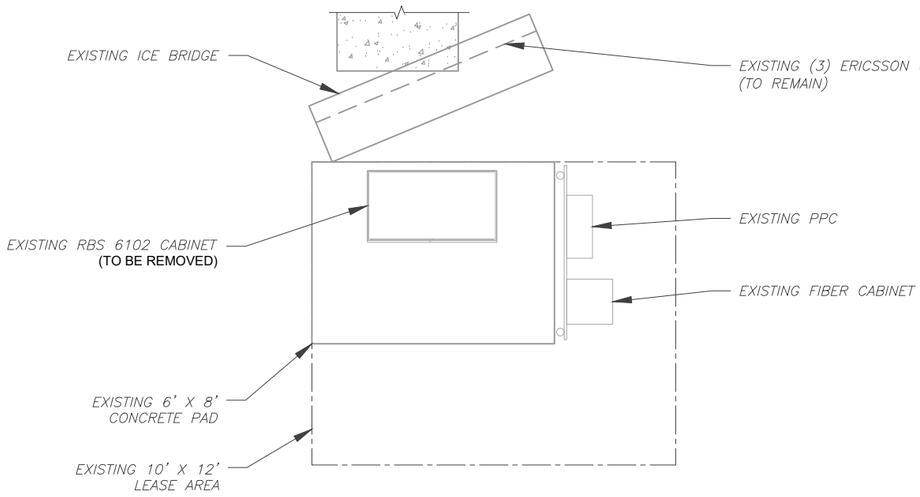
DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
3. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.



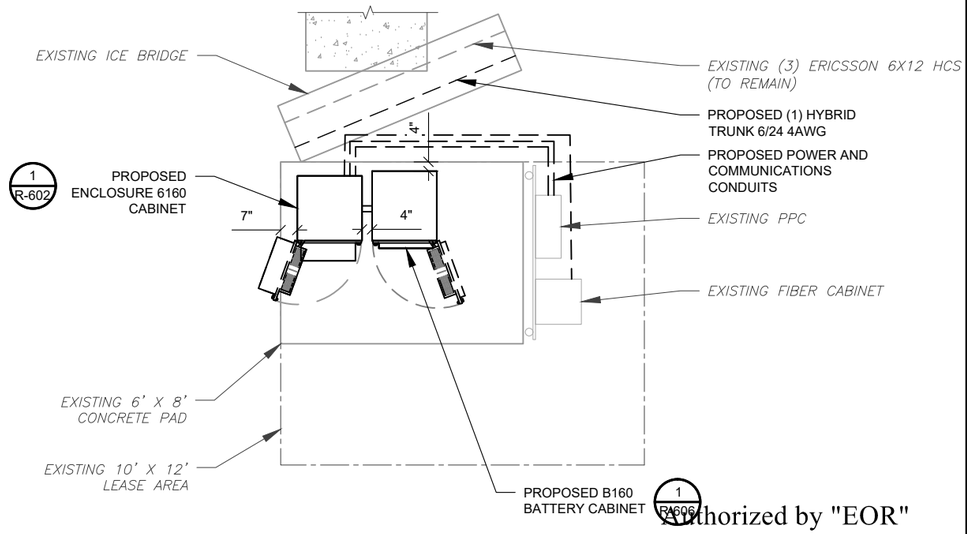
1 EXISTING GROUND EQUIPMENT LAYOUT

GRAPHIC SCALE

5 0 2.5 5

(IN FEET)
1 UNIT = 5 FEET

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS.



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2 PROPOSED GROUND EQUIPMENT LAYOUT

GRAPHIC SCALE

5 0 2.5 5

(IN FEET)
1 UNIT = 5 FEET

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JD	06/13/22

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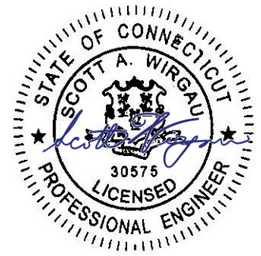
ATC SITE NAME:
CORNWALL CT

T-MOBILE SITE NAME:
CTNH545A

SITE ADDRESS:
36 TOOMEY RD.
CORNWALL, CT 06759

SEAL:



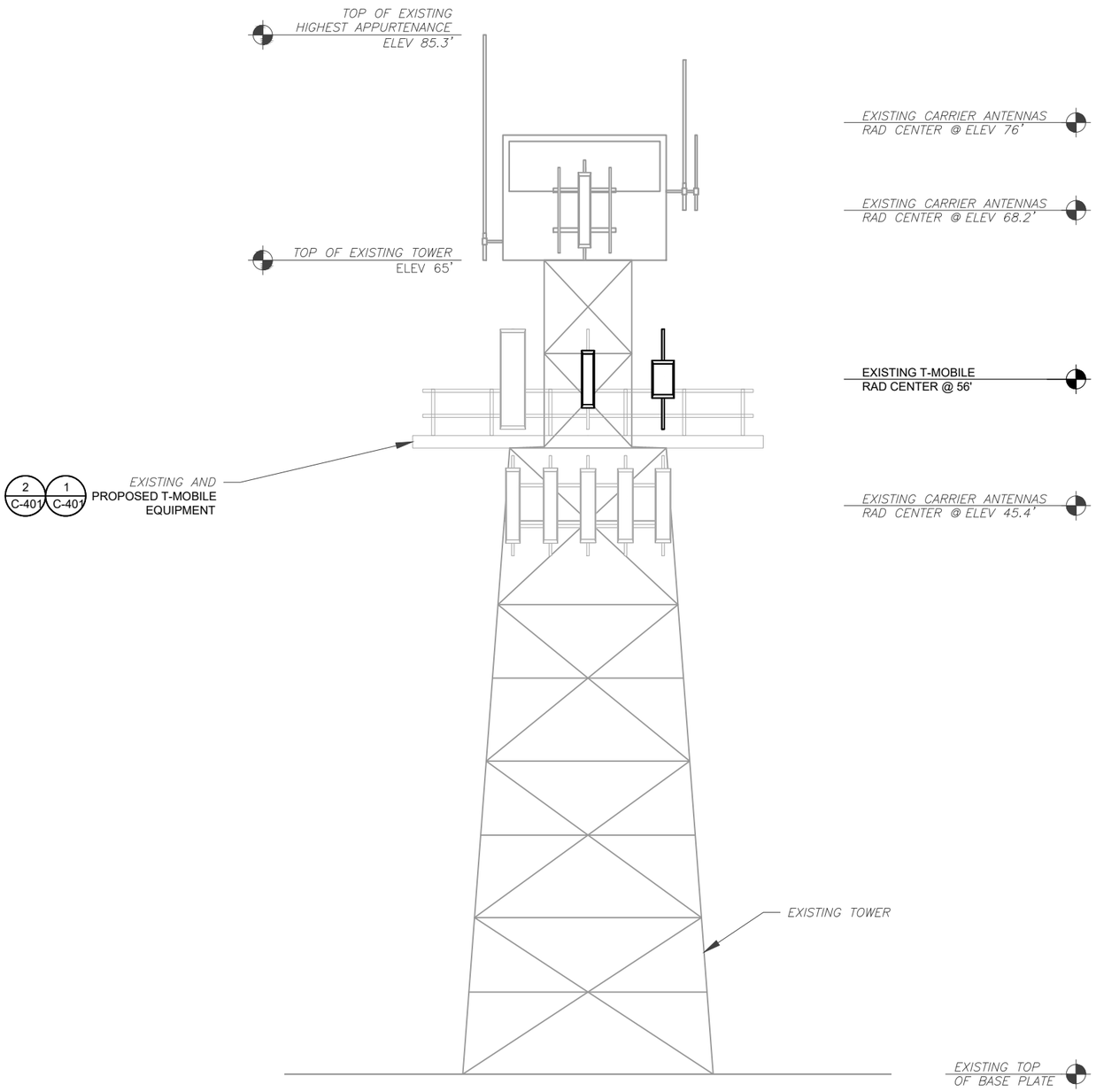
T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

DETAILED EQUIPMENT PLAN

SHEET NUMBER:	REVISION:
C-102	0

ATC IS ANALYZING THE ANTENNA MOUNT UNDER A SEPARATE PROJECT. CONSTRUCTION IS NOT TO PROCEED UNTIL THE MOUNT ANALYSIS IS COMPLETE AND INDICATES THE ADDITIONAL LOADING DOES NOT OVERSTRESS THE MOUNT.



1 TOWER ELEVATION
SCALE: N.T.S.

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. WHERE APPLICABLE, PROPOSED ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
5. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

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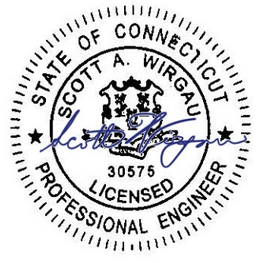
SEAL:



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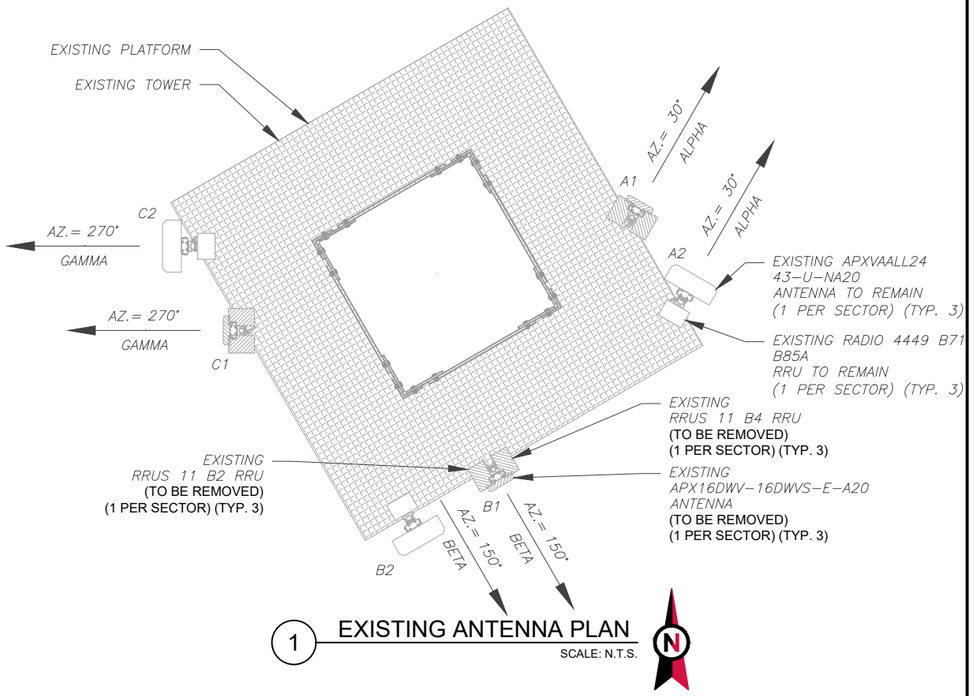
14 Jun 2022 09:19:06 cosign

T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

TOWER ELEVATION

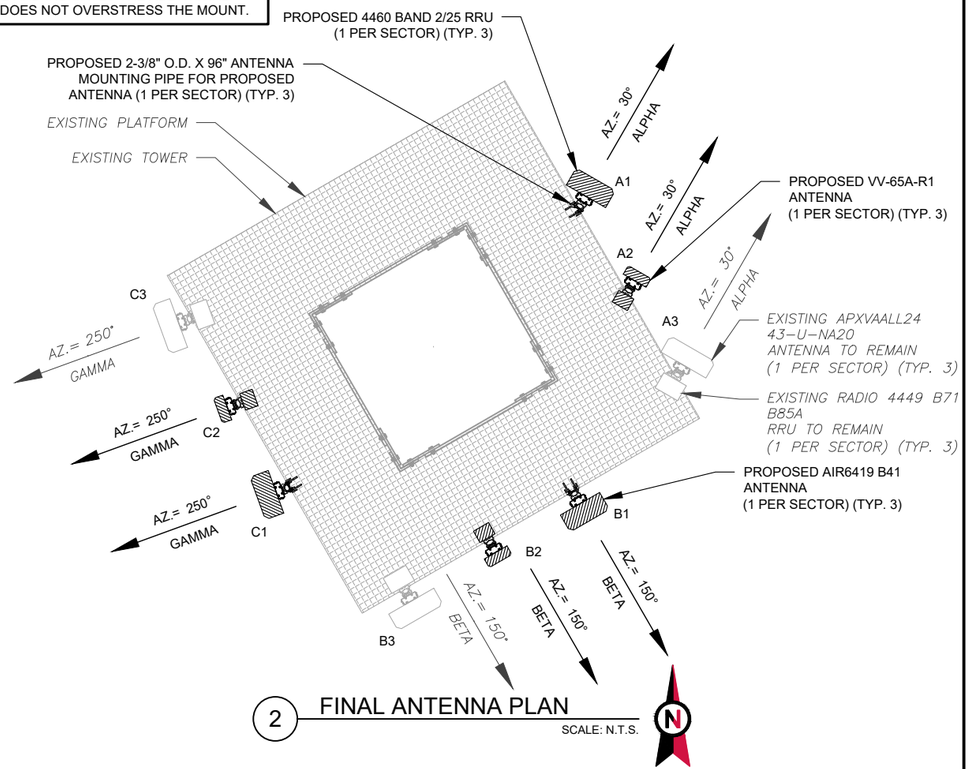
SHEET NUMBER:	REVISION:
C-201	0



1 EXISTING ANTENNA PLAN

SCALE: N.T.S.

ATC IS ANALYZING THE ANTENNA MOUNT UNDER A SEPARATE PROJECT. CONSTRUCTION IS NOT TO PROCEED UNTIL THE MOUNT ANALYSIS IS COMPLETE AND INDICATES THE ADDITIONAL LOADING DOES NOT OVERSTRESS THE MOUNT.



2 FINAL ANTENNA PLAN

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	56'	30°	A1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMV	RRUS 11 B2	RMV
								RRUS 11 B4	RMV
			A2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN
BETA	56'	150°	B1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMV	RRUS 11 B2	RMV
								RRUS 11 B4	RMV
			B2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN
GAMMA	56'	270°	C1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMV	RRUS 11 B2	RMV
								RRUS 11 B4	RMV
			C2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN

NOTES

1. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	56'	30°	A1	AIR 6419 B41	L2500/N2500	0°	ADD	-	-
			A2	VV-65A-R1	L2100/L1900/U1900	0°	ADD	4460 BAND 2/25	ADD
			A3	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN
BETA	56'	150°	B1	AIR 6419 B41	L2500/N2500	0°	ADD	-	-
			B2	VV-65A-R1	L2100/L1900/U1900	0°	ADD	4460 BAND 2/25	ADD
			B3	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN
GAMMA	56'	250°	C1	AIR 6419 B41	L2500/N2500	0°	ADD	-	-
			C2	VV-65A-R1	L2100/L1900/U1900	0°	ADD	4460 BAND 2/25	ADD
			C3	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	RMN	RADIO 4449 B71 B85A	RMN

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	–	(3) ERICSSON 6X12 HCS	RMN
–	–	----	–

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	–	(3) ERICSSON 6X12 HCS	RMN
-	-	(1) HYBRID TRUNK 6/24 4AWG	ADD

3 EQUIPMENT SCHEDULES

AMERICAN TOWER®
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REV.	DESCRIPTION	BY	DATE
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ATC SITE NUMBER:
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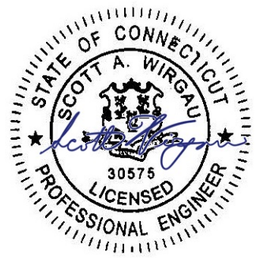

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14 Jun 2022 03:12:06
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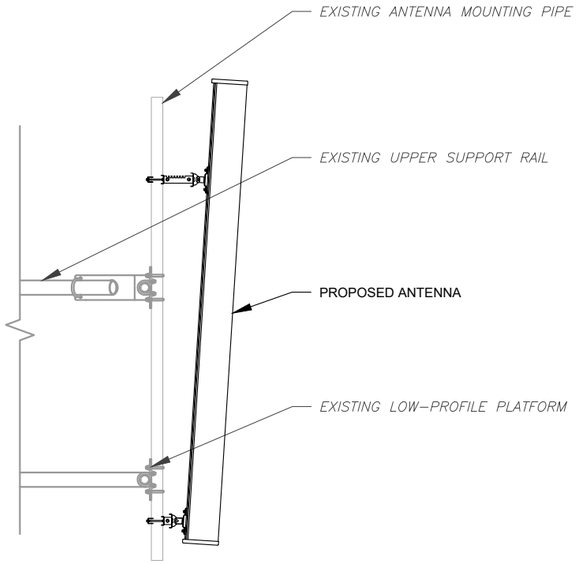
T-Mobile

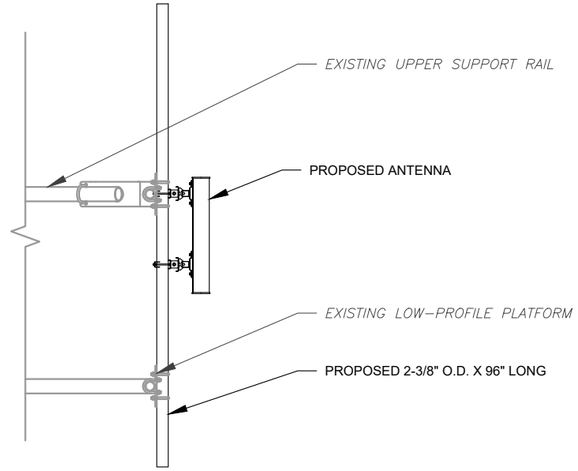
DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

ANTENNA INFORMATION & SCHEDULE

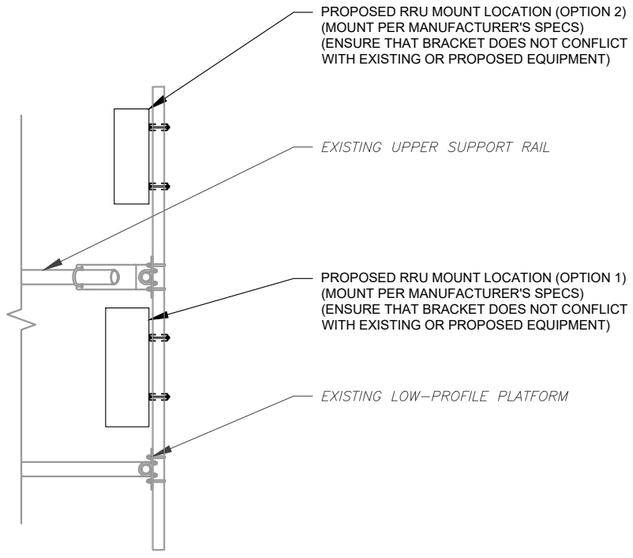
SHEET NUMBER:	REVISION:
C-401	0



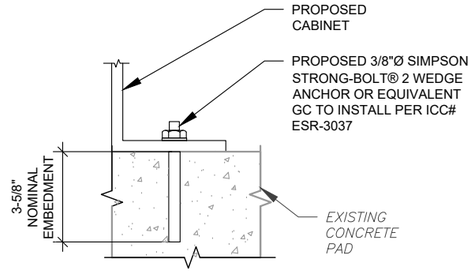
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



NOTE:

INSTALL SIMPSON STRONG-TIE® STRONG-BOLT® 2 WEDGE ANCHOR(S) STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.STRONGTIE.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

4 CABINET ATTACHMENT DETAIL
SCALE: N.T.S.

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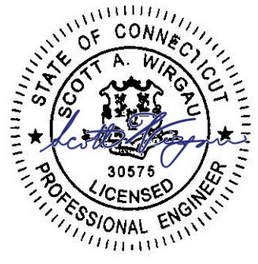
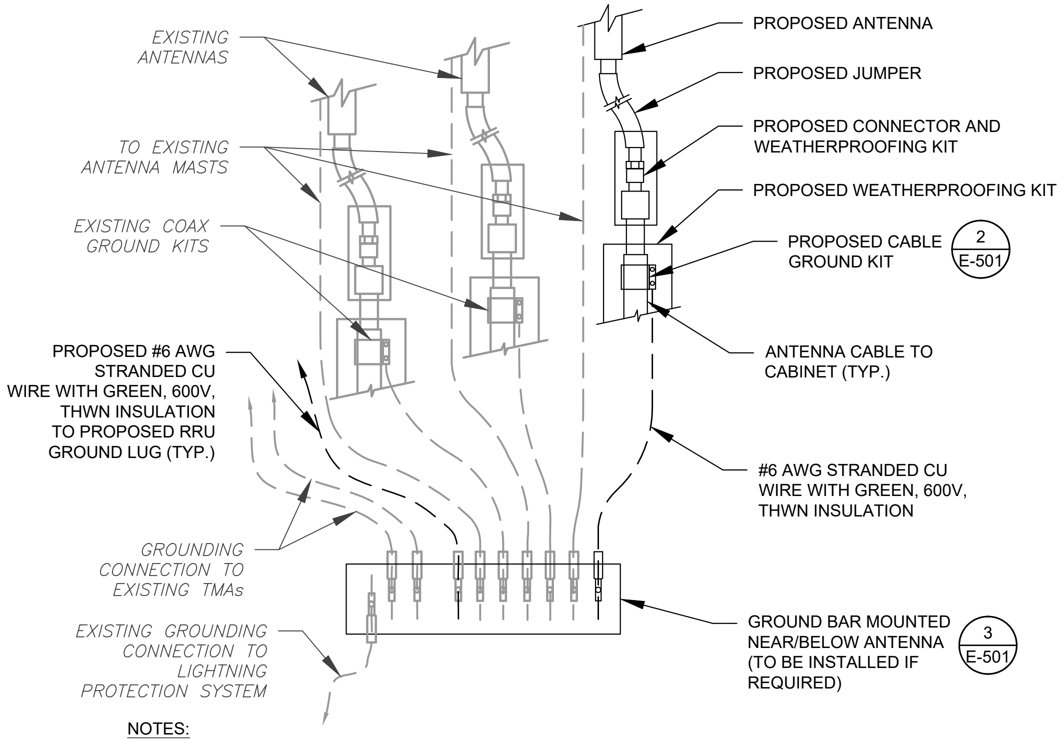


T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

CONSTRUCTION DETAILS

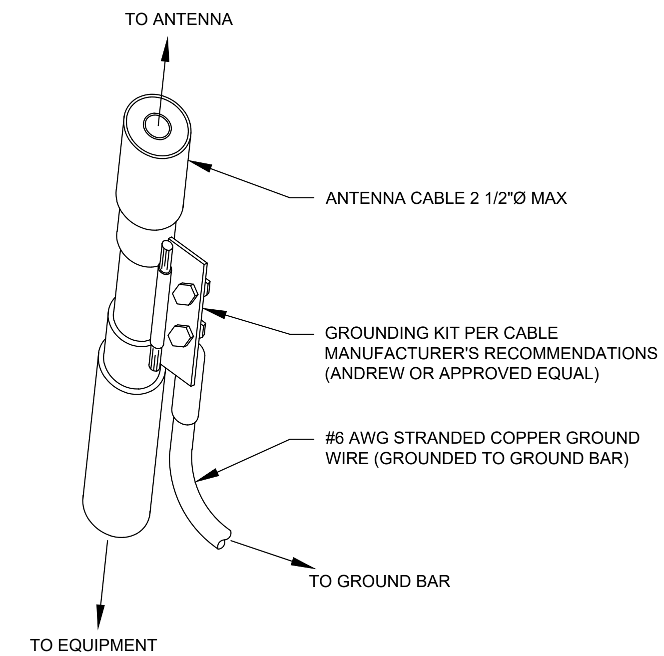
SHEET NUMBER:	REVISION:
C-501	0



NOTES:

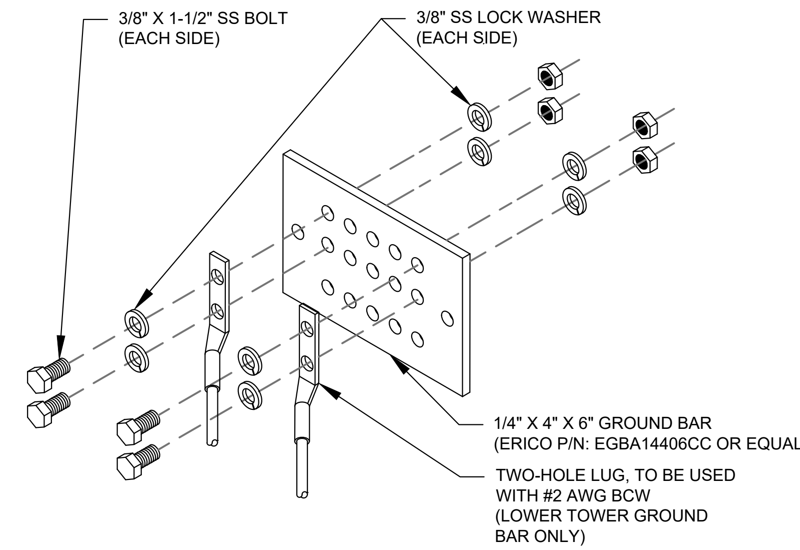
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

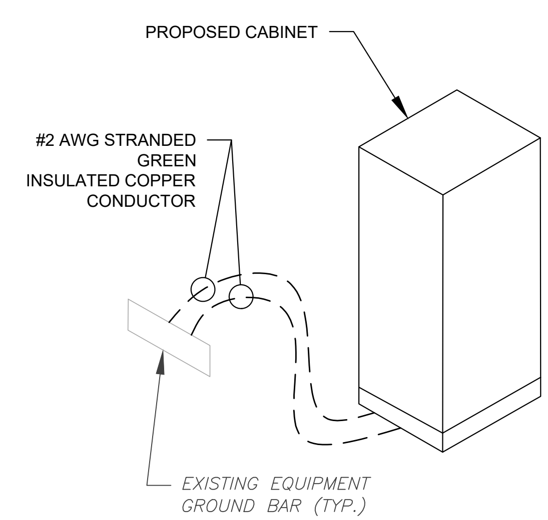
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.

STANDARD CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
RMC (METALLIC)	AC, DC COMM	ABOVE GROUND	ABOVE GROUND PPC TO SSC
PVC	AC POWER	UNDERGROUND	UNDERGROUND PPC TO SSC OR BACKHAUL TRANSPORT HUB TO SSC
LFMC	AC, DC, COMM	MAX 6' PER CONDUIT RUN, ABOVE GROUND ONLY	TIGHT LOCATIONS BETWEEN HUB AND CONDUIT BUT NOT TO BE USED WHERE IT CAN BE STEPPED ON
EMT	INDOOR AC, DC COMM	INDOOR NOT EXPOSED TO THE OUTDOOR ENVIRONMENT (MUST BE DRY)	CIRCUIT PANEL TO JUNCTION BOX
LFNC	GROUND WIRE	CONCEALING AND PROTECTING BTCW RISERS ONLY	GROUND RING TO MGB OR SSC

EXCEPTION CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
EMT (NOT PREFERRED)	OUTDOOR DC, COMM	OUTDOOR WHEN USED WITH WATERTIGHT HUBS ONLY	BETWEEN EQUIPMENT AND BATTERY CABINET OR EQUIPMENT TO EQUIPMENT CABINETS FOR INTER CABINET CONNECTION
RMC NONMETALLIC (ALUMINUM)	OUTDOOR/INDOOR PER NEC GUIDLINES	ABOVE GROUND	MAT BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WW-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

4 CONDUIT USE TABLES



5 CABINET GROUNDING DETAIL
SCALE: N.T.S.

ELECTRICAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW IN CHART.
3. FOR SPECIFIC CABINET / ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD REFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

Authorized by "EOR"
14 Jun 2022 03:12:07
cosign

OCPD SIZE	WIRE SIZE	GROUND SIZE	CONDUIT SIZE
80A/2P	2#3 AWG	#8 AWG	1-1/4"
100/2P	2#2 AWG	#8 AWG	1-1/4"
125A/2P	2#1 AWG	#8 AWG	1-1/2"
150A/2P	2#1/0 AWG	#8 AWG	1-1/2"

6 ELECTRICAL NOTES

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	JD	06/13/22

ATC SITE NUMBER:
88009

ATC SITE NAME:
CORNWALL CT

T-MOBILE SITE NAME:
CTNH545A

SITE ADDRESS:
36 TOOMEY RD.
CORNWALL, CT 06759

SEAL:

T-Mobile

DATE DRAWN:	06/13/22
ATC JOB NO:	14093080_G3
CUSTOMER ID:	CTNH545A
CUSTOMER #:	CTNH545A

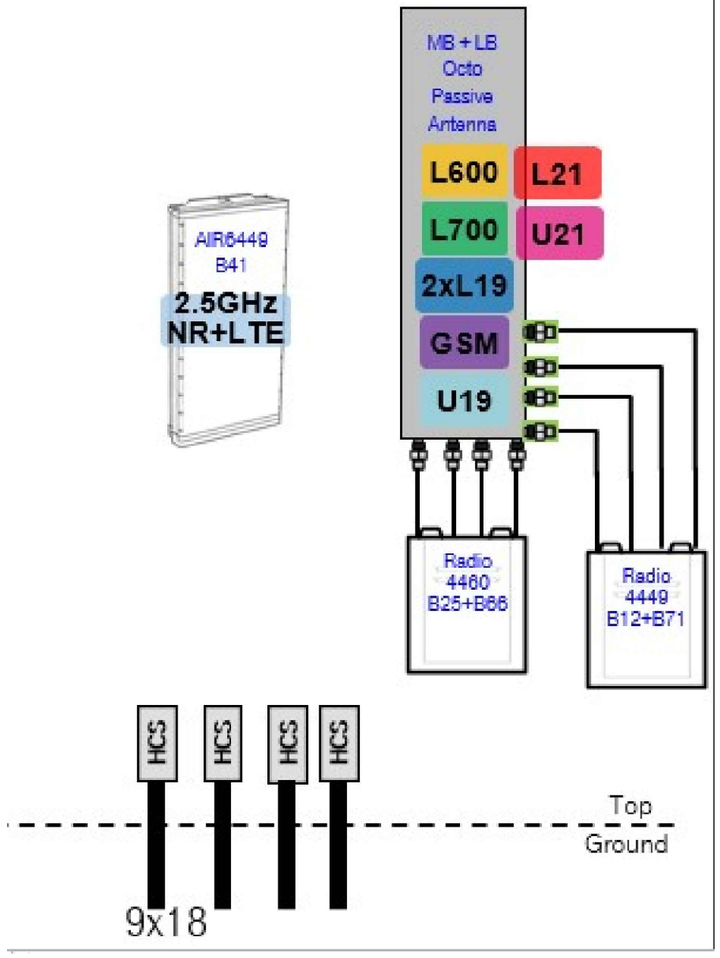
GROUNDING DETAILS

SHEET NUMBER: E-501
REVISION: 0

Proposed RAN Equipment			
Template: 67D5D998E 6160			
Enclosure	1	2	3
Enclosure Type	Ancillary Equipment (Ericsson)	Enclosure 6160 AC V1	B160
Baseband		RP 6651 (N2500, L2500); BB 6648 (L700, L600, N600); BB 6630 (L2100, L1900); DUW30 (U1900); RBS6601	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	PSU 4813 vR4A (Kit); Ericsson Hybrid Trunk 6/24 4AWG 30m	
Transport System		CSR IXRe V2 (Gen2)	

1 CABINET CONFIGURATION

Final Config: 67D5A998E



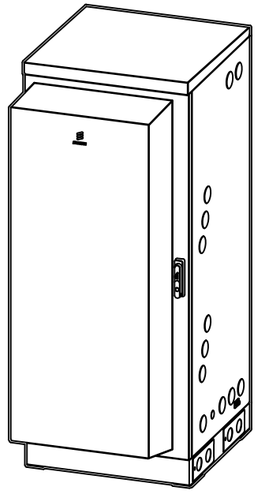
2 ANTENNA CONFIGURATION

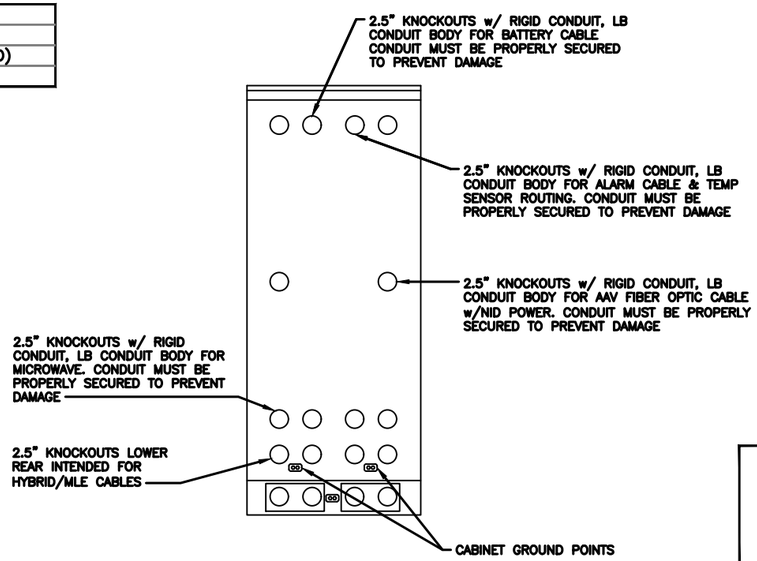
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

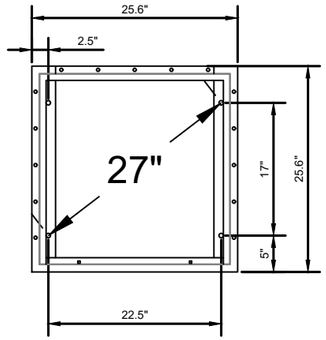
MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS





REAR VIEW

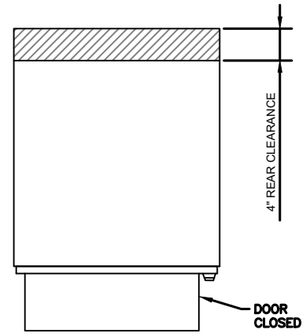
NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

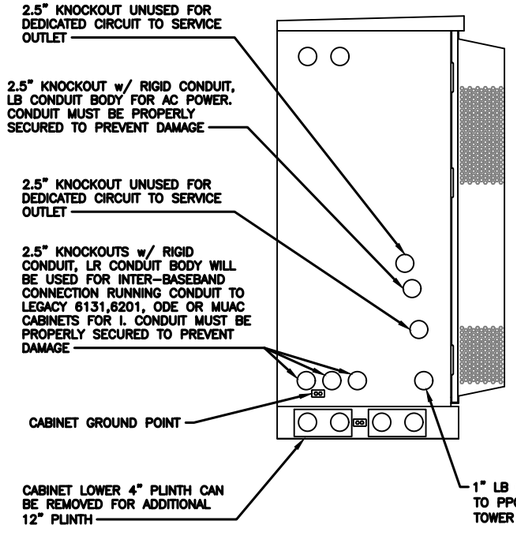


BOLT DOWN PATTERN

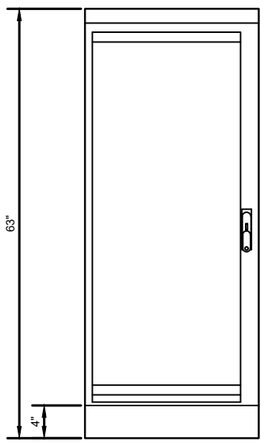
GROUNDING NOTE:

"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

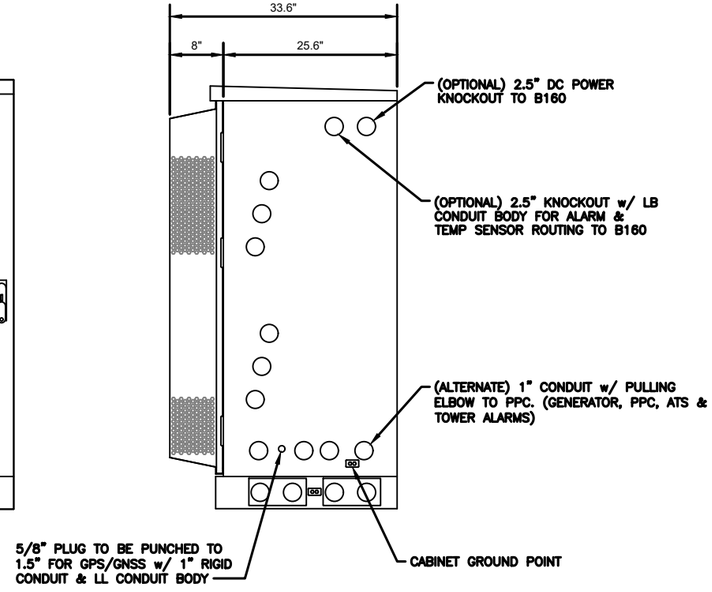




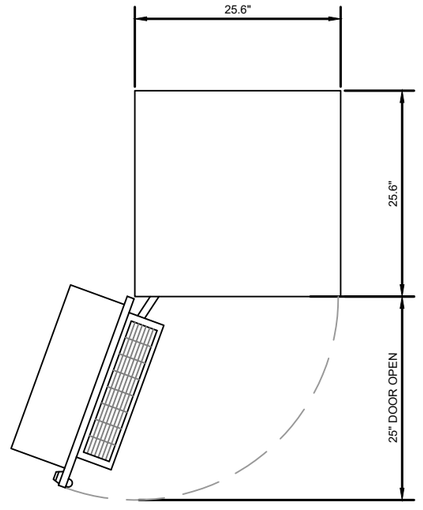
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

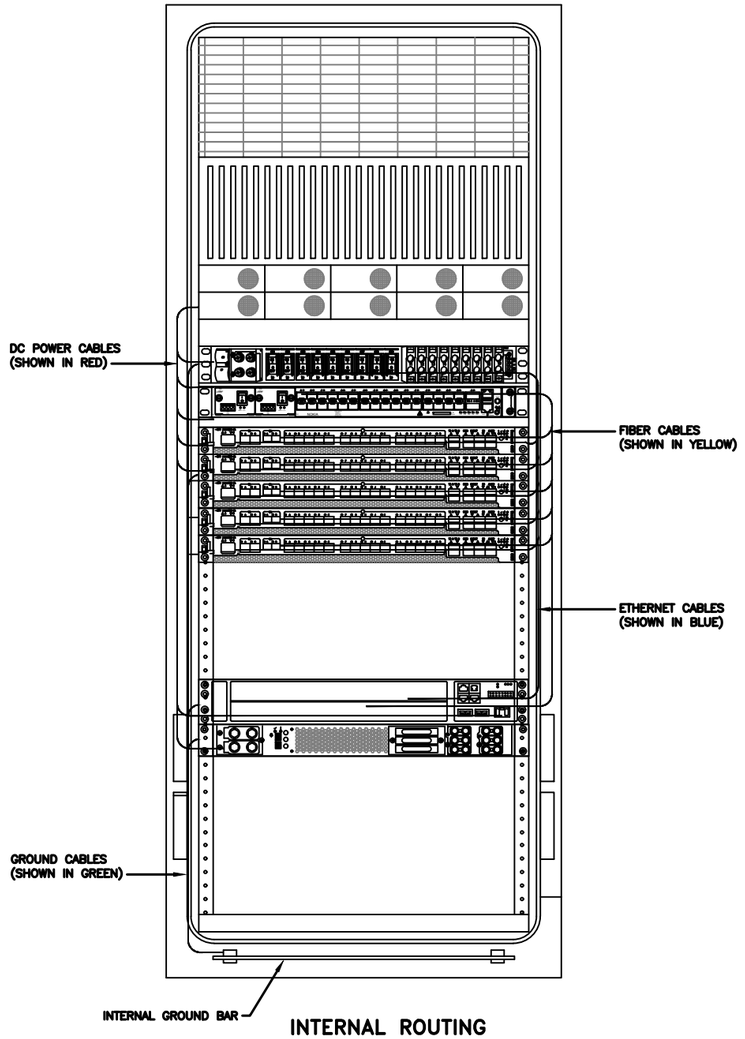
1 ERICSSON 6160 SITE SUPPORT CABINET SPECIFICATIONS

SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

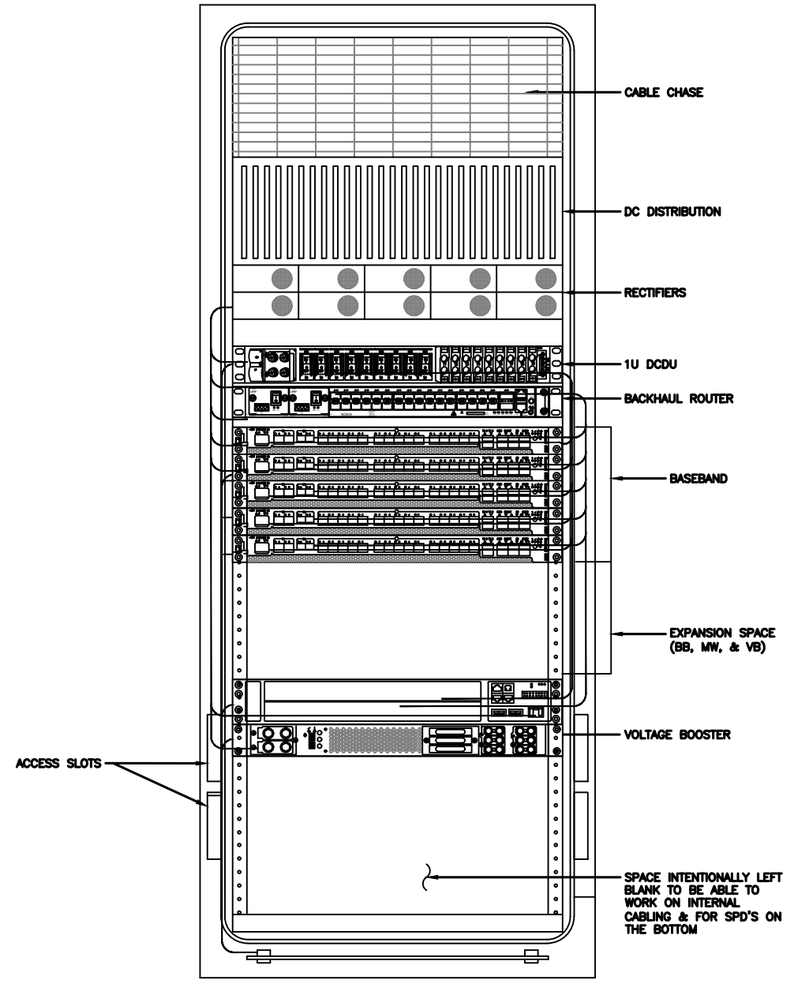
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0



INTERNAL ROUTING
(DOOR OPEN)

RACK ASSIGNMENTS	
RU SLOTS	DESCRIPTION
1	DC DISTRIBUTION
2	
3	
4	
5	RECTIFIER SHELF
6	
7	FIBER BOX
8	DCDU
9	BACKHAUL ROUTER
10	
11	1ST BASEBAND
12	2ND BASEBAND
13	3RD BASEBAND
14	4TH BASEBAND
15	5TH BASEBAND
16	EXPANSION
17	
18	
19	
20	EXPANSION / LEGACY BASEBAND / VOLTAGE BOOSTER
21	
22	VOLTAGE BOOSTER
23	OPEN SPACE FOR SPD ACCESS
24	
25	



FRONT VIEW
(DOOR OPEN)

1 ERICSSON 6160 CABINET DETAILS

SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

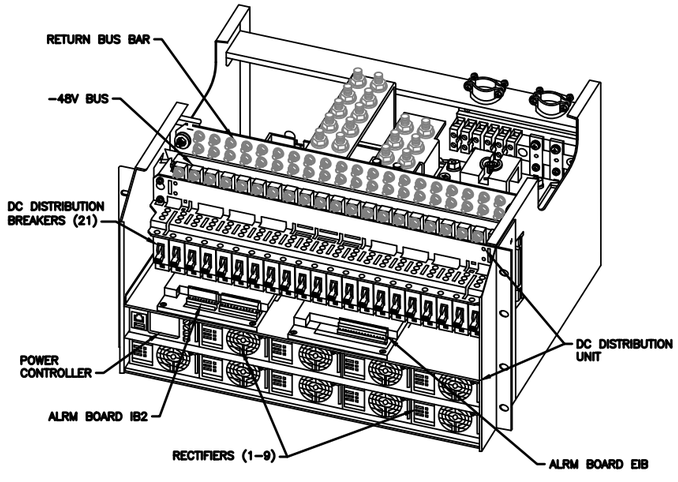
SUPPLEMENTAL

SHEET NUMBER: R-603

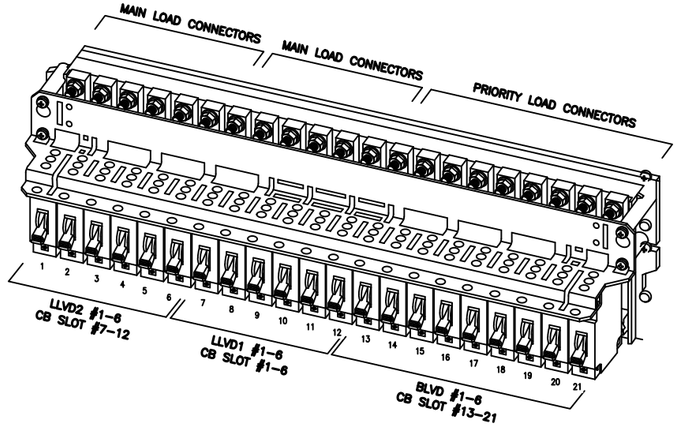
REVISION: 0

NOTE:
THIS IS FOR REFERENCE ONLY, CHECK FOR SPECIFIC DETAIL IN T–MOBILE CABINET SPECIFIC INSTALLATION GUIDES

Breaker Allocation for E6160					
CB SLOT	Ckt #		w/ DCDU Prior to availability of the 4460 and 4480	w/ DCDU Later Design Post-4460 and Post-4480	w/ DCDU 4 and 6 Sector designs
1	LVD1 47.0V	1	Router PS-2*/Future		Radio 4460 B25/66 ζ-1
2		2	Future		Radio 4460 B25/66 ζ-2
3		3	PSU 4813 feeding B25/66 α, β and γ (AIR 1641s)		PSU 4813 feeding B41-δ & B71/12-δ (Air 6449s and Radio 4480s)
4		4			
5		5	PSU 4813 feeding B41 α, β and γ (Air 6449s)		
6		6			
7	LVD2 45.1V	1	PSU 4813 feeding B71/12 α, β and γ (Radio 4449s)	PSU 4813 feeding B71/12 α, β and γ (Radio 4480s)	
8		2			
9		3	Future		Radio 4460 B25/66 δ-1
10		4	Future		Radio 4460 B25/66 δ-2
11		5	Future		Radio 4460 B25/66 ε-1
12		6	Future		Radio 4460 B25/66 ε-2
13	BLVD 43.2V	1	Router PS-1		
14		2	Radio 4415 B25/66 α	Radio 4460 B25/66 α-1	
15		3	Radio 4415 B25/66 β	Radio 4460 B25/66 α-2	
16		4	Radio 4415 B25/66 γ	Radio 4460 B25/66 β-1	
17		5	PSU 4813 feeding B2/25 α, β and γ (Radio 4424s)	Radio 4460 B25/66 β-2	
18		6		Radio 4460 B25/66 γ-1	
19		7	Future	Radio 4460 B25/66 γ-2	
20		8	DCDU		
21		9	AAV		
Sector Identification α = Alpha, β = Beta, γ = Gamma, δ = Delta, ε = Epsilon, ζ = Zeta					



POWER SUBRACK



DC DISTRIBUTION

1 ERICSSON 6160 ELECTRICAL DETAILS

SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-604

REVISION: 0

NOTE:

1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.

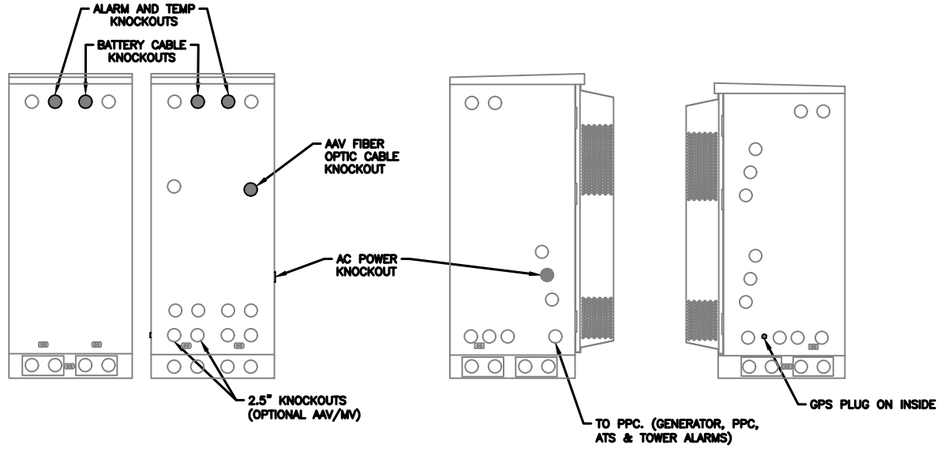
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6' MAX PER CONDUIT RUN.

3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)

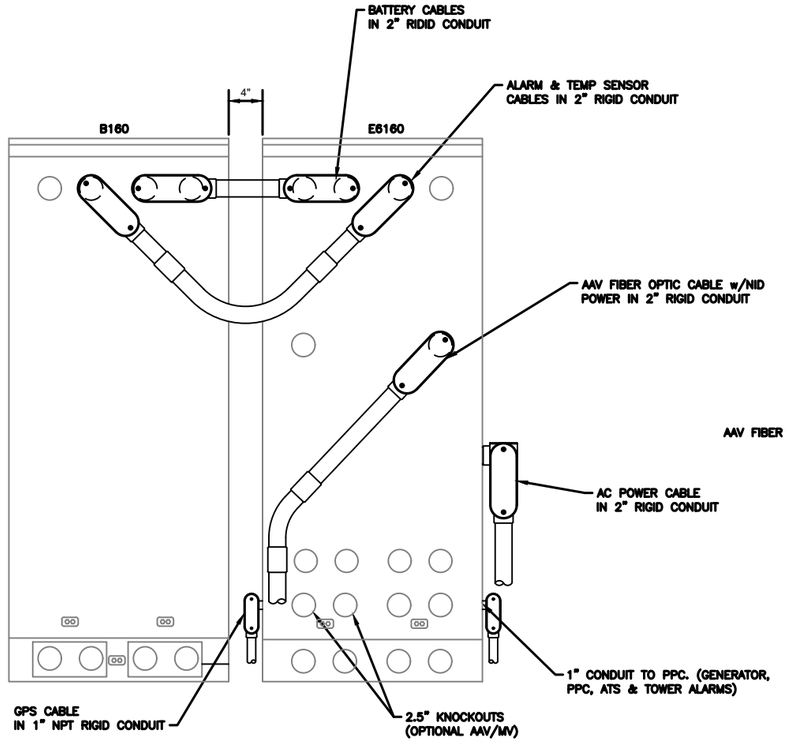
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.

5. ALL EXTERNAL ALARM CONDUITS ARE TOO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.

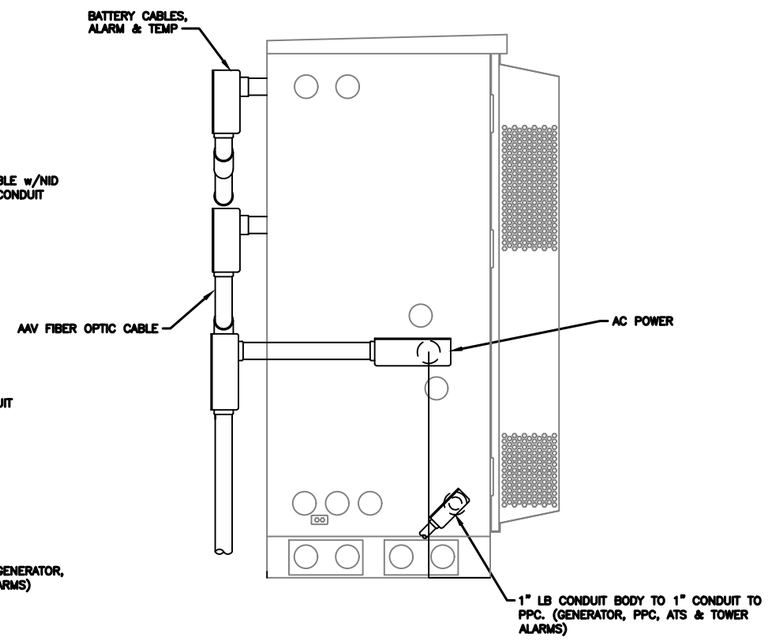
6. (DO NOT USE CHASE NIPPLES) CONDUIT SHOULD HAVE SEALING WASHERS INSIDE AND OUT w/ LOCK NUT AND CAP.



CONDUIT LOCATIONS



REAR VIEW



SIDE VIEW

1 ERICSSON 6160/B160 CONDUIT ROUTING DETAILS

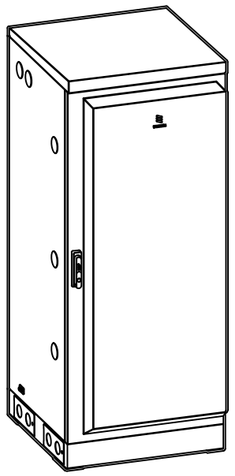
SCALE: N.T.S.

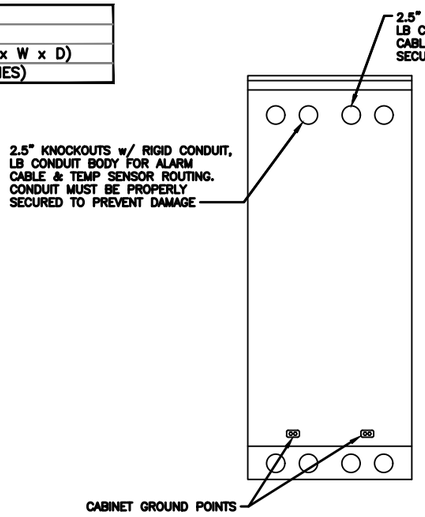
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

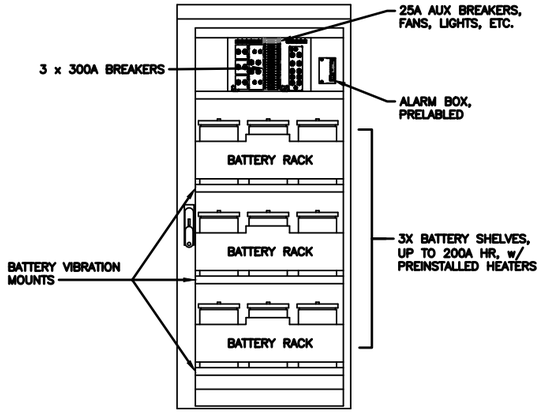
SHEET NUMBER:	REVISION:
R-605	0

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)



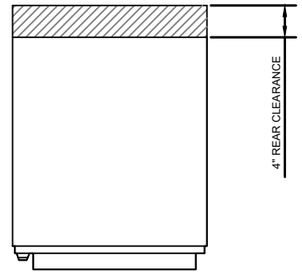


REAR VIEW



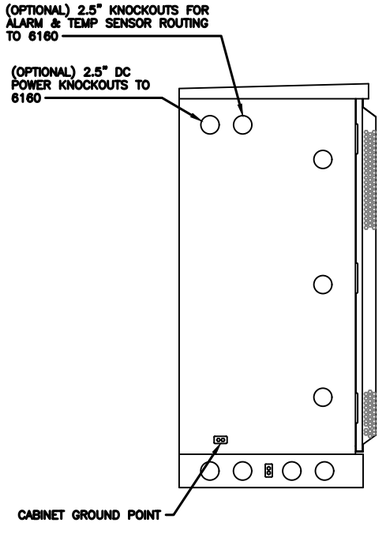
FRONT VIEW
(DOOR OPEN)

NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

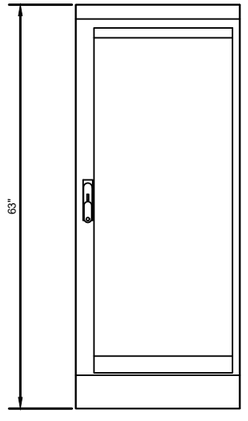


GROUNDING NOTE:

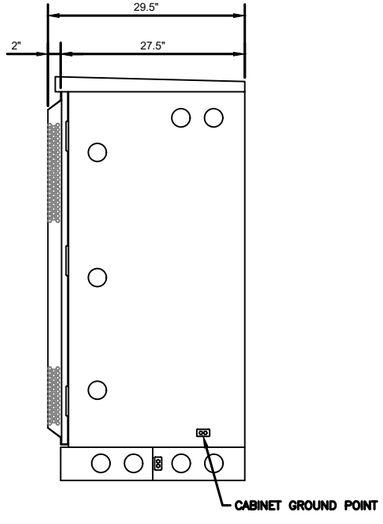
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



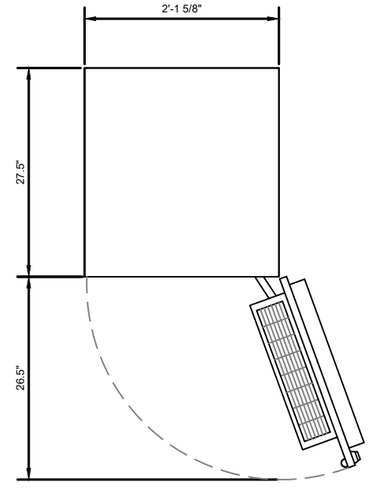
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

B160 ERICSSON SITE SUPPORT BATTERY CABINET

1 ERICSSON B160 BATTERY CABINET SPECIFICATIONS

SCALE: N.T.S.

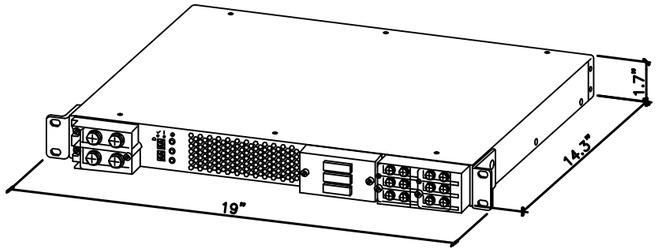
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

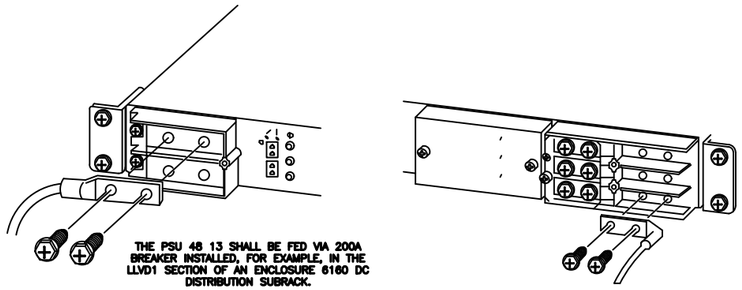
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-606	0

MANUFACTURER:	ERICSSON
MODEL:	PSU 48 13
WEIGHT:	17.1 LBS
DIMENSIONS:	19"x 1.7"x 14.3"

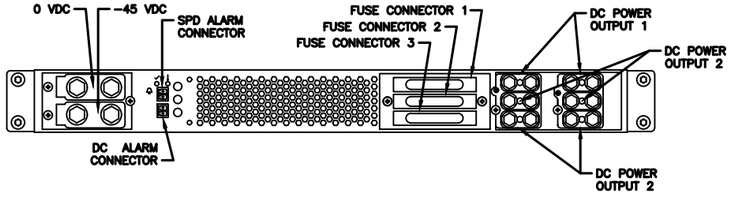
NEEDED INSTALL KIT (PICK 1)
34133 PSU4813 INSTALL KIT FOR RBS61XX
34134 PSU4813 INSTALL KIT FOR PBC6200
34135 PSU4813 INSTALL KIT FOR 6X60/RBS6230





THE PSU 48 13 SHALL BE FED VIA 200A BREAKER INSTALLED, FOR EXAMPLE, IN THE LLVD1 SECTION OF AN ENCLOSURE 6160 DC DISTRIBUTION SUBRACK.

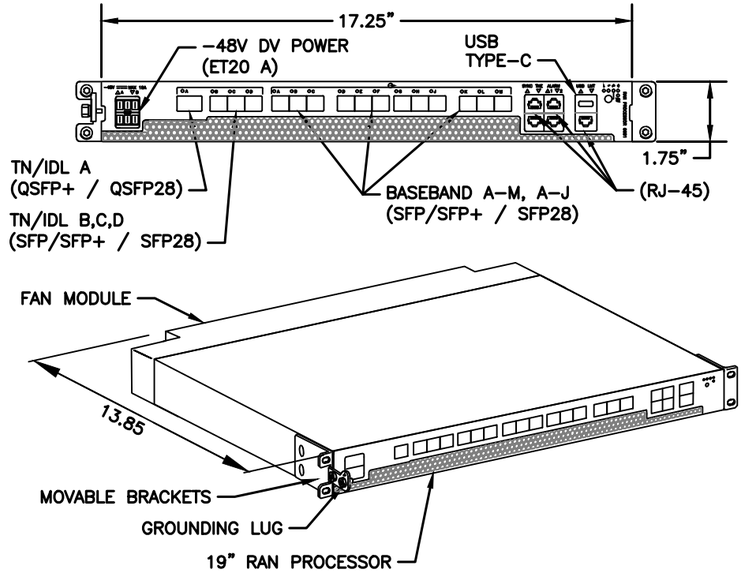
CONNECT –58 VDC DISTRIBUTION CABLE TO TERMINAL AT THE RIGHT, WHICH WILL BE FED TO RRU/AIR AT THE OTHER END.



1 SKU# 34132 - PSU 48 13

SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	6651 RAN PROCESSOR (KDU1370093/11)
DIMENSIONS:	1.75" x 17.25" x 13.85" (H" x W" x D")
WEIGHT:	16.53 LBS



2 34553 - ERICSSON 6651 RAN PROCESSOR

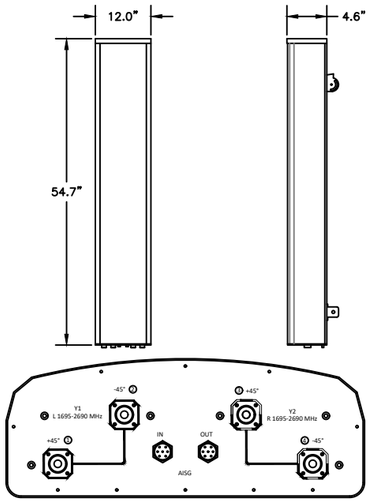
SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-607	0

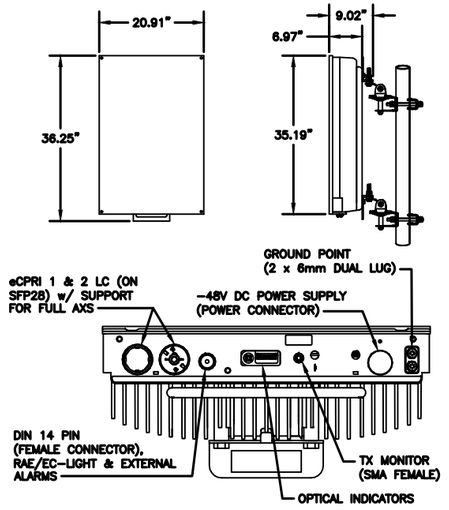
MANUFACTURER:	COMMSCOPE
MODEL:	VV-65A-R1
DIMENSIONS:	54.7" x 12.1" x 4.6" (H x W x D)
WEIGHT:	24.7 LB
INTERFACE:	4-PORT 4.3-10 FEMALE
MOUNTING KIT:	600899A-2 (INCLUDED) WEIGHT: 8.6 LB

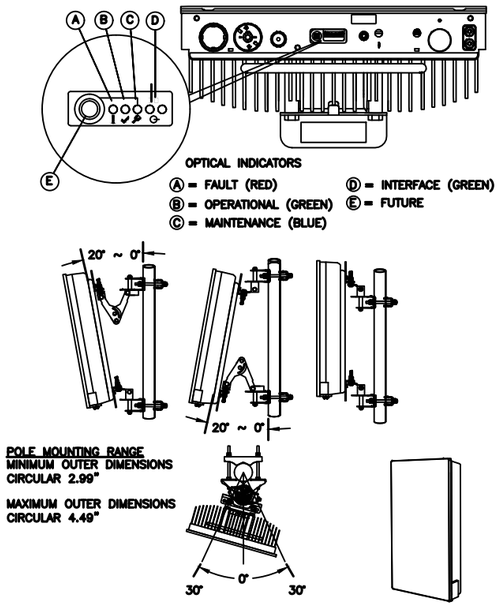


1 34401 - COMMSCOPE VV-65A-R1

SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	AIR 6419 B41 (2.5GHz M-MIMO)
DIMENSIONS:	36.25" x 20.91" x 9.02" NOT TO EXCEED (H x W x D)
WEIGHT:	83 LBS (EXCLUDING MOUNTING KIT)
MOUNT WEIGHT:	13.5 LBS (SXK109 2016/1)

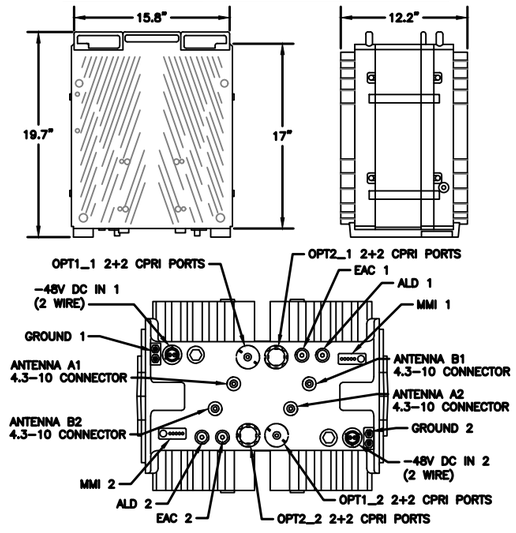




2 34552 - ERICSSON AIR 6419 BAND 41

SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXK1255993/1)



3 34373 - ERICSSON 4460 RADIO B2/25 B66

SCALE: N.T.S.

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-608	0

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

ENGINEERED
TOWER SOLUTIONS

Antenna Mount Analysis Report

ATC Site Name	:	**CORNWALL CT**
ATC Site Number	:	**88009**
Engineering Number	:	**14093080_C8_01**
ETS, PLLC Job Number	:	**22106323.STR.4552**
Mount Elevation	:	**56 ft**
Carrier	:	**T-MOBILE**
Carrier Site Name	:	**CTNH545A**
Carrier Site Number	:	**CTNH545A**
Site Location	:	**36 Toomey Rd.** **Cornwall, CT 06759** **41.82133837°, -73.29644928°**
County	:	**Litchfield**
Date	:	**April 21, 2022**
Max Usage	:	**88%**
Result	:	**Contingent Pass**

4/21/22

STATE OF CONNECTICUT
FREDERIC BOST
PEN.0029529
LICENSED
PROFESSIONAL ENGINEER

Prepared By:
Kousthub Mahendra, EI
Structural Engineer III

Reviewed By:
Frederic Geoffrey Bost, PE
CTO

Table of Contents

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 56 ft.

Supporting Documents

RFDS	RFDS dated March 10, 2022
Photos	Site Photos from 2021

Analysis

This antenna mount was analyzed using RISA-3D v17.0.4 analysis software.

Basic Wind Speed:	114 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1.0" radial ice concurrent
Codes:	ANSI/TIA-222-H
Structure Class:	II
Exposure Category:	B
Topographic Procedure:	Method 2
Topographic Feature:	Hill
Crest Height:	585 ft
Crest Length:	3106 ft
Spectral Response:	Ss = 0.173, S_1 = 0.054
Site Class:	D - Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

1. Install (3) new mount pipe 2.0 SCH 40 x 10'-0", A53 Gr. B using XP-2020 crossover kits to the face mount pipe and connect to platform channel using (2) L3x3x1/4-9", A36 angle with (2) 1/2" U-bolts and (4) 5/8" A325 Bolts along with appropriate hardware.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

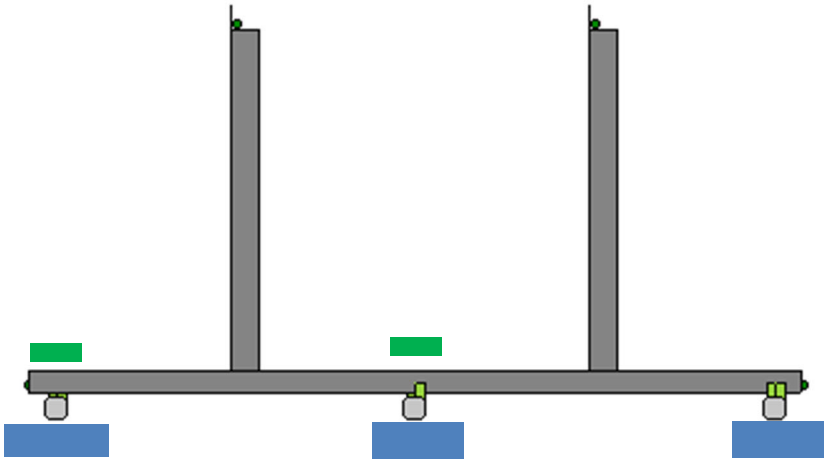
Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
56.0	56.0	3	Commscope VV-65A-R1
		3	Ericsson AIR 6419 B41
		3	RFS APXVAALL24 43-U-NA20
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson 4460 BAND 2/25

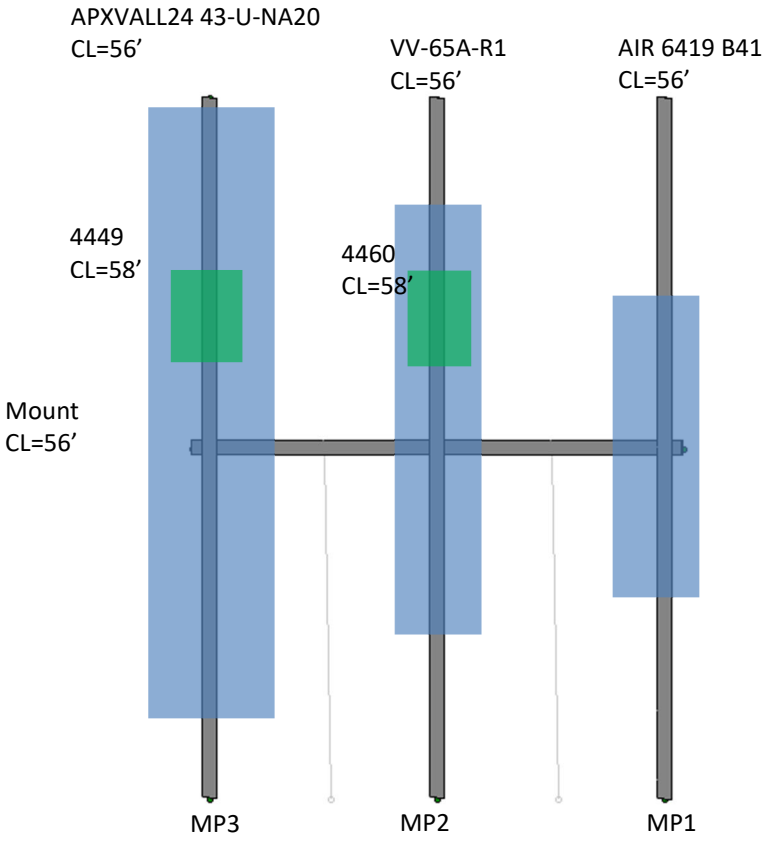
Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	80%	Pass
Mount Pipes	88%	Pass
Diagonals	14%	Pass

Mount Layout



Equipment Layout



Standard Conditions

All engineering services performed by Engineered Tower Solutions, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ETS, PLLC

It is the responsibility of the client to ensure that the information provided to ETS, PLLC and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate, Threaded Rod	ASTM A36 (Gr. 36)
HSS (Rectangular)	ASTM A500 (Gr. B-46)
HSS (Round)	ASTM A500 (Gr. B-42)
Pipe	ASTM A53 (Gr. 35)
Connection Bolts	ASTM A325
U-Bolt	SAE J429 (Gr. 2)

Unless explicitly agreed by both the client and ETS, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ETS, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

TIA-222-H Mount Load Generator

Site Inputs	
Mount Support (Tower, or Building Support)?	Tower
Risk Category (TIA Table 2-1)	II
Exposure Category	B
Basic Wind Speed without Ice, V	114 mph
Basic Wind Speed with Ice, V_i	40 mph
Design of Ice, δ_{ice}	56 pcf
Design Ice Thickness, t_i	1.00 in
Basic Wind Speed (Maintenance)	30 mph
Maintenance Load, L_m	500 lb
Maintenance Load, L_v	250 lb
Height of Structure, h	65.0 ft
Mount Centerline, h_m	56.0 ft
Topographic Factor, K_{zt}	1.72
Rooftop Wind Speed-Up Factor, K_s	1.00
Mean Elevation of base of structure above sea level, z_s	1,679 ft
Ground Elevation Factor, K_e	0.94
Wind Direction Probability Factor, K_d	0.95
Gust Response Factor, G_h	1.00
Shielding Factor for Appurtenances, K_a	0.90

Seismic Design Input/Output	
0.173	Spectral response acceleration at short periods, S_s
0.054	Spectral response acceleration at a period of 1 second, S_1
D	Soil Site Class
1.600	Short-period site coefficient, F_a
2.400	Long-period site coefficient, F_v
0.185	Design spectral response acceleration at short periods, S_{DS}
0.086	Design spectral response acceleration at a period of 1 second, S_{D1}
2.00	Response modification coefficient, R
1.00	Earthquake amplification factor, A_s
1.00	Importance Factor
0.0923	Seismic Response Coefficient, C_s
Eh = 0.092 W	Total Seismic Shear Force, $E_h = \rho Q_E$ ($Q_E = \rho C_s$ W A_s & ρ = 1.0)
Ev = 0.037 D	Vertical Seismic Load Effect, $E_v = 0.2 S_{DS}$ D A_s

Output File Name: 88009_14093080_T-Mobile

Mount Pipe Information							Mount Pipe Forces					
Mount Pipe	Mount Location	Vertical Offset	Length	Diameter	Weight	Shape	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
P 2 SCH 40 x 120	MP1	0.00 ft	120.00 in	2.38 in	36.56 lb	Round	59.27 lb	101.98 lb	1.276 in	56.90 lb	15.60 lb	26.53 lb
P 2 SCH 40 x 120	MP2	0.00 ft	120.00 in	2.38 in	36.56 lb	Round	46.24 lb	101.98 lb	1.276 in	56.90 lb	12.27 lb	26.53 lb
P 2 SCH 40 x 120	MP3	0.00 ft	120.00 in	2.38 in	36.56 lb	Round	17.07 lb	101.98 lb	1.276 in	56.90 lb	4.82 lb	26.53 lb

Engineered Tower Solutions, PLLC
3227 Wellington Court
Raleigh, NC 27615

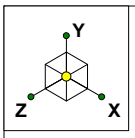
Appurtenance Information - MP1							Appurtenance Forces - MP1					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
ERICSSON / AIR 6419 B41_TMO	1	0.00 ft	36.30 in	20.90 in	9.00 in	83.30 lb	271.46 lb	123.54 lb	1.276 in	113.30 lb	35.97 lb	18.08 lb

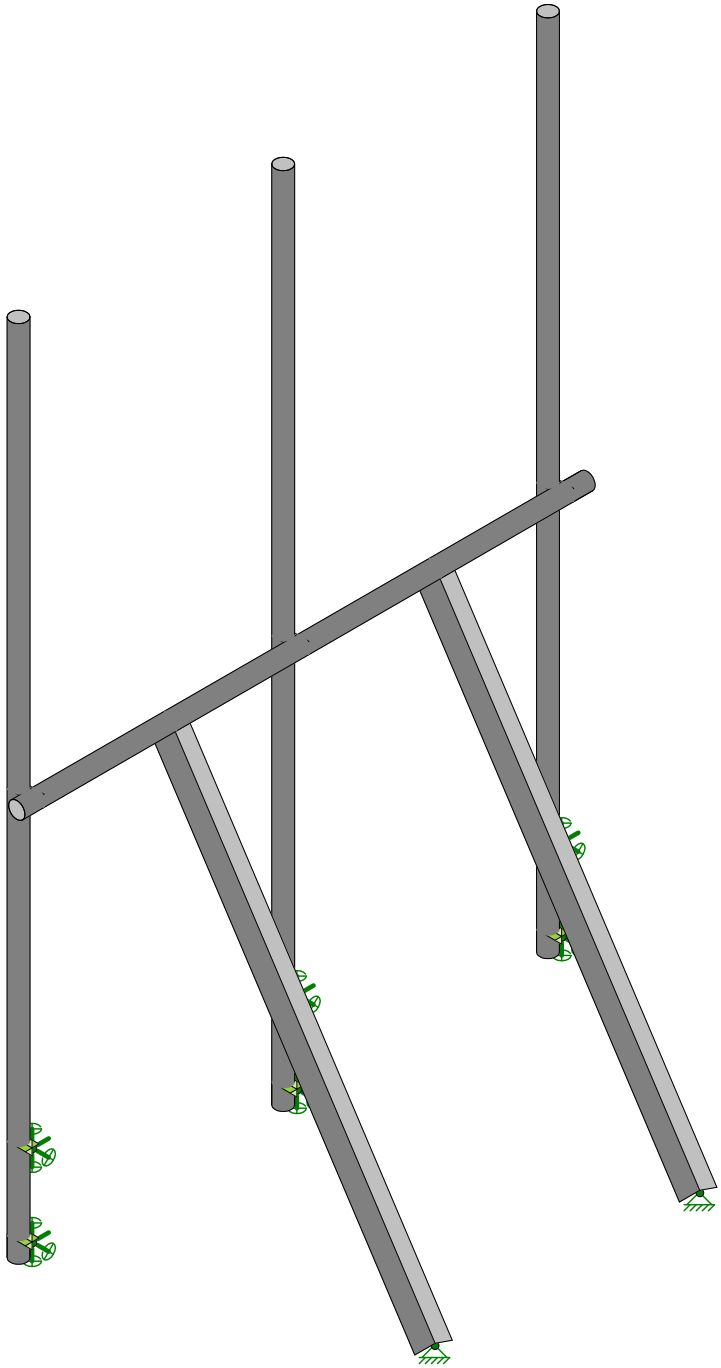
Appurtenance Information - MP2							Appurtenance Forces - MP2					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
COMMSCOPE / VV-65A-R1_TMO	1	0.00 ft	54.70 in	12.10 in	4.60 in	23.80 lb	254.55 lb	117.27 lb	1.276 in	101.03 lb	34.60 lb	18.01 lb
ERICSSON / RADIO 4460 B2/B25 B66_TMO	1	2.00 ft	19.60 in	15.70 in	12.10 in	109.00 lb	111.21 lb	85.71 lb	1.280 in	53.91 lb	15.23 lb	12.83 lb

Appurtenance Information - MP3							Appurtenance Forces - MP3					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVAALL24_43-U-NA20	1	0.00 ft	95.90 in	24.00 in	8.50 in	122.80 lb	869.16 lb	374.98 lb	1.276 in	333.02 lb	112.63 lb	52.24 lb
ERICSSON / RADIO 4449 B71 B85A_T-MOBILE	1	2.00 ft	15.00 in	13.20 in	10.50 in	75.00 lb	71.56 lb	56.92 lb	1.280 in	35.48 lb	9.98 lb	8.87 lb

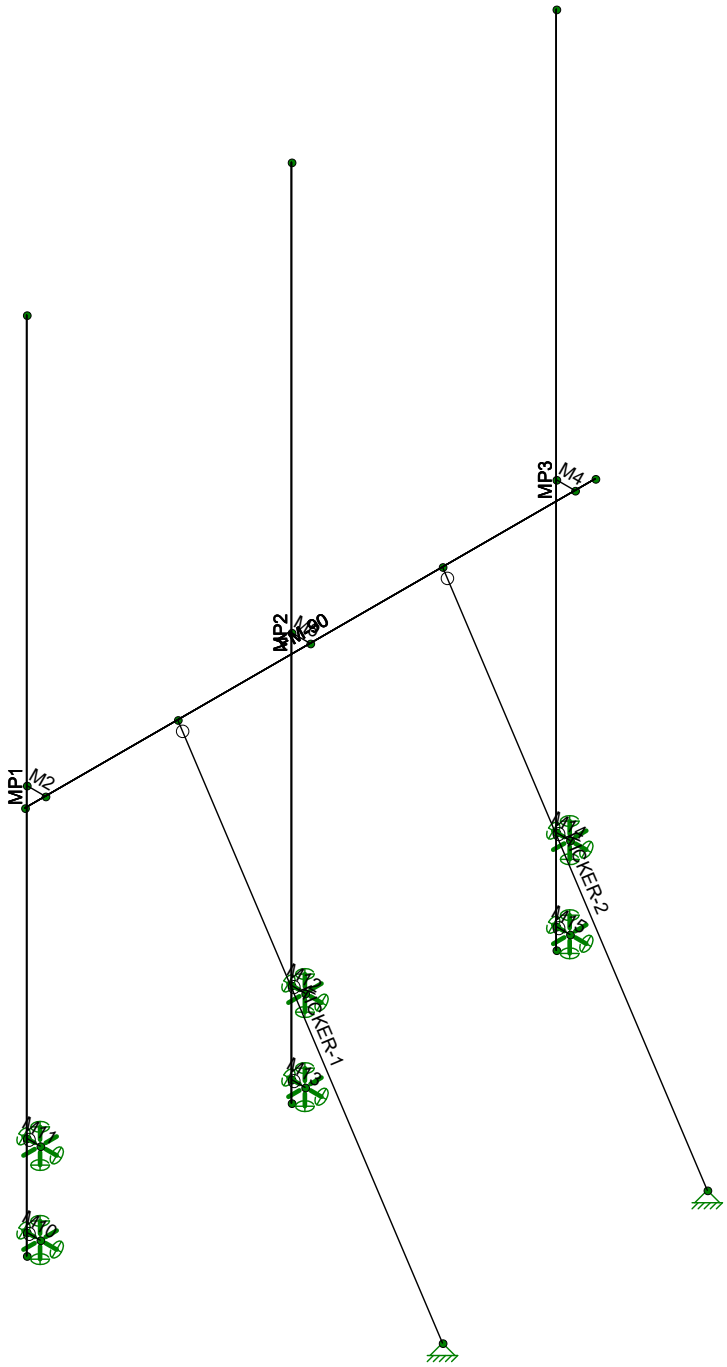
Member Distributed Loads	Member Information			Member Forces		
Mount Members	Width/Diameter (in)	Depth/Diameter (in)	Length (in)	$Ka * Force / Length, No Ice$	Ice Weight (plf)	$Ka * Force / Length, Ice$
PIPE_2.0	2.375 in	2.375 in	84.0 in	9.2 lb/ft	5.7 lb/ft	2.2 lb/ft
L3x3x4	3.000 in	3.000 in	71.6 in	19.0 lb/ft	8.6 lb/ft	3.3 lb/ft

Member Lookup	Member Label	Position	Maintenance Load
PIPE_2.0	FM-90	90°	Start/Mid/End
L3x3x4	KICKER-1	V	
L3x3x4	KICKER-2	V	





ETS, PLLC	CORNWALL CT	SK - 1
KM		Apr 21, 2022 at 12:05 PM
ETS#22106323.STR.4552		88009_14093080_T-Mobile.r3d



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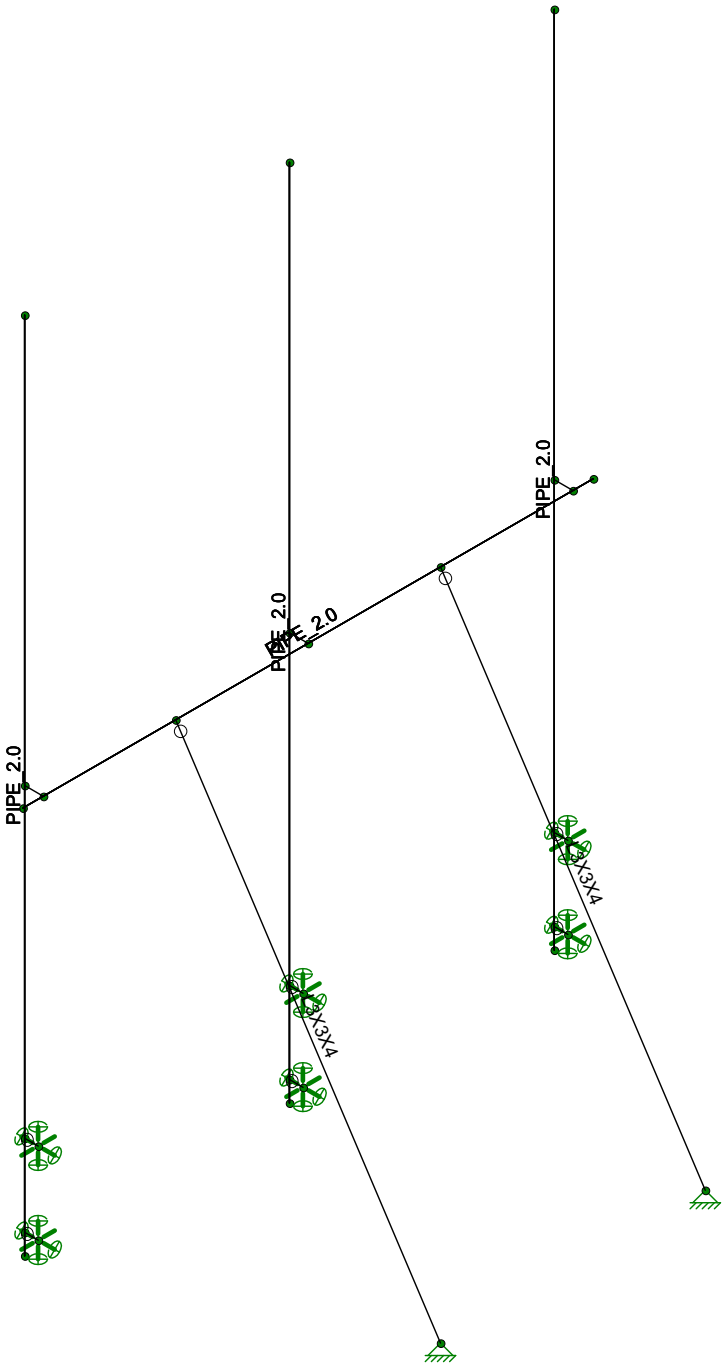

ETS, PLLC	CORNWALL CT	SK - 3
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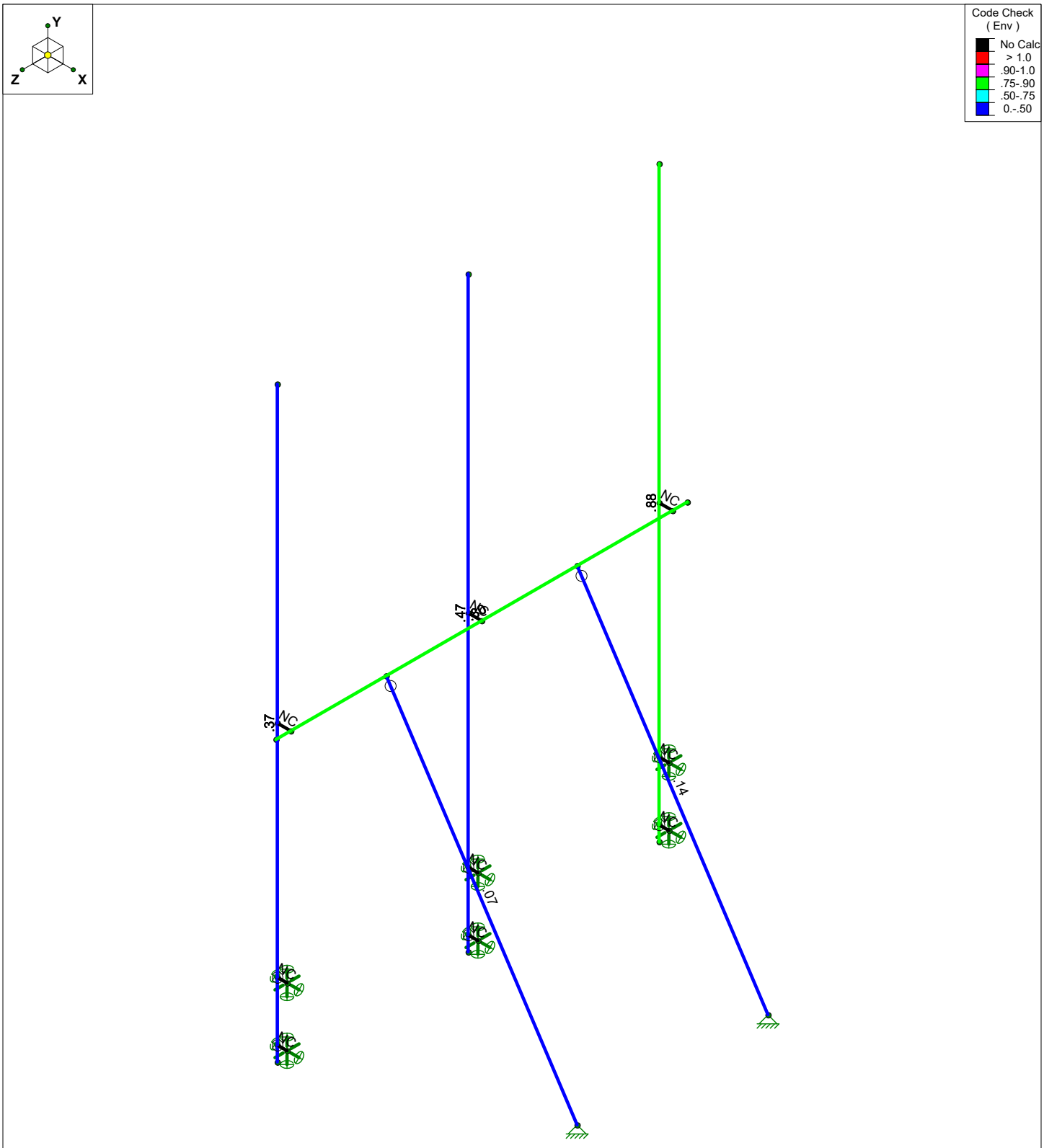

Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

ETS, PLLC	CORNWALL CT	SK - 4
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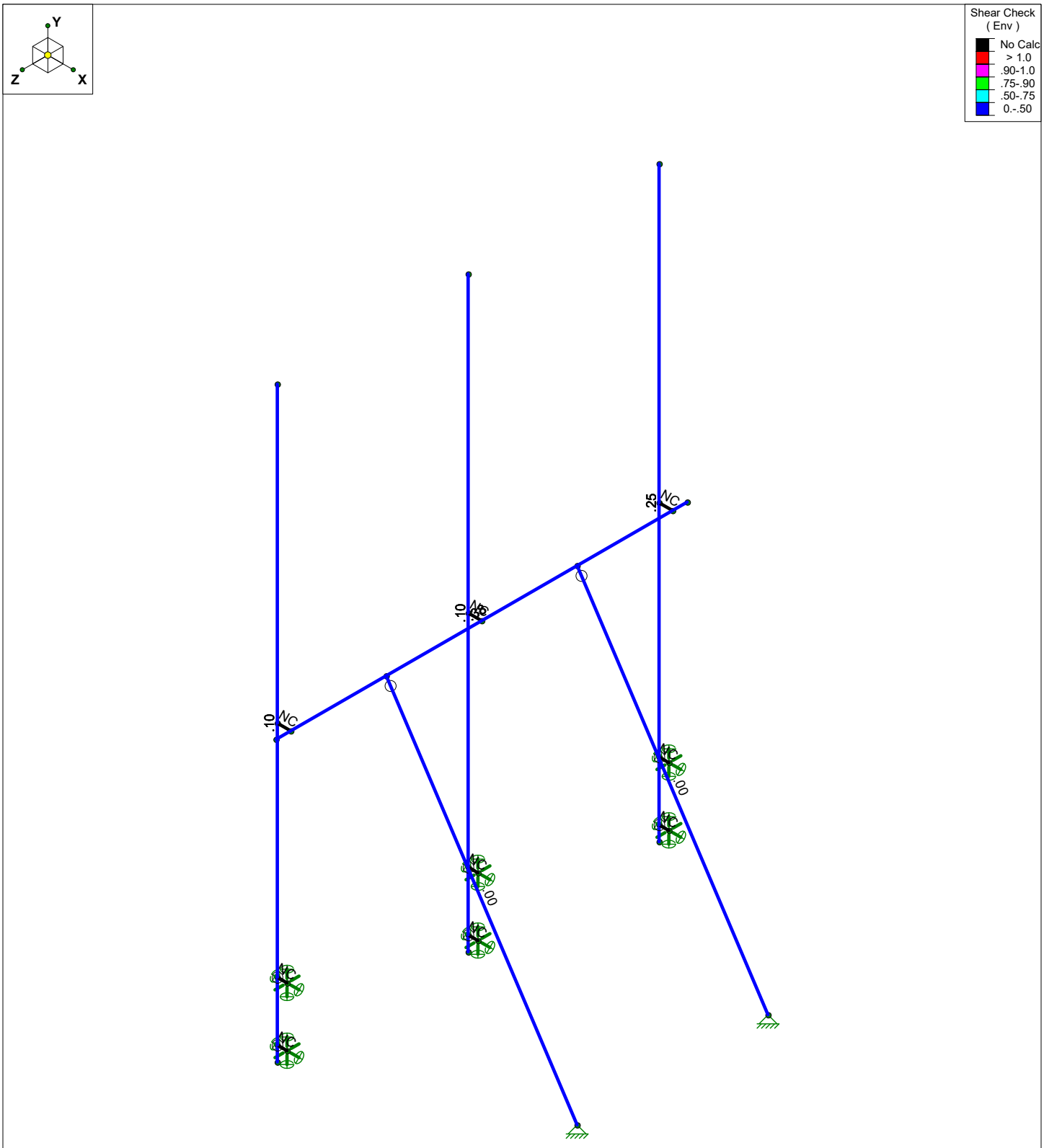


Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

ETS, PLLC	CORNWALL CT	SK - 5
KM		Apr 21, 2022 at 12:05 PM
ETS#22106323.STR.4552		88009_14093080_T-Mobile.r3d

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N17	Reaction	Reaction	Reaction			
2	N18	Reaction	Reaction	Reaction			
3	N19						
4	N22						
5	N21						
6	N24						
7	N20						
8	N23						
9	N25	Reaction	Reaction	Reaction	Reaction	Reaction	
10	N26	Reaction	Reaction	Reaction	Reaction	Reaction	
11	N27	Reaction	Reaction	Reaction	Reaction	Reaction	
12	N28	Reaction	Reaction	Reaction	Reaction	Reaction	
13	N29	Reaction	Reaction	Reaction	Reaction	Reaction	
14	N30	Reaction	Reaction	Reaction	Reaction	Reaction	

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	0	42	0	
3	N3	0	0	-42	0	
4	N4	0	0	39	0	
5	N5	-2.75	0	39	0	
6	N6	-2.75	-60	39	0	
7	N7	-2.75	60	39	0	
8	N8	0	0	-39	0	
9	N9	-2.75	0	-39	0	
10	N10	-2.75	-60	-39	0	
11	N11	-2.75	60	-39	0	
12	N13	-2.75	0	0	0	
13	N14	-2.75	-60	0	0	
14	N15	-2.75	60	0	0	
15	N15A	0	0	19.5	0	
16	N16	0	0	-19.5	0	
17	N17	39	-60	19.5	0	
18	N18	39	-60	-19.5	0	
19	N19	-2.75	-57	39	0	
20	N20	-2.75	-57	-39	0	
21	N21	-2.75	-57	0	0	
22	N22	-2.75	-45	39	0	
23	N23	-2.75	-45	-39	0	
24	N24	-2.75	-45	0	0	
25	N25	-.75	-57	39	0	
26	N26	-.75	-57	-39	0	
27	N27	-.75	-57	0	0	
28	N28	-.75	-45	39	0	
29	N29	-.75	-45	-39	0	
30	N30	-.75	-45	0	0	

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design ...	Material	Design Rules
1	FM-90	N2	N3			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
2	M2	N4	N5			RIGID	None	None	RIGID	Typical
3	MP1	N6	N7			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design ...	Material	Design Rules
4	M4	N8	N9			RIGID	None	None	RIGID	Typical
5	MP3	N10	N11			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	M6	N1	N13			RIGID	None	None	RIGID	Typical
7	MP2	N14	N15			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
8	KICKER-1	N15A	N17			L3X3X4	Beam	Single A...	A36 Gr.36	Typical
9	KICKER-2	N16	N18			L3X3X4	Beam	Single A...	A36 Gr.36	Typical
10	M10	N25	N19			RIGID	None	None	RIGID	Typical
11	M11	N28	N22			RIGID	None	None	RIGID	Typical
12	M12	N30	N24			RIGID	None	None	RIGID	Typical
13	M13	N27	N21			RIGID	None	None	RIGID	Typical
14	M14	N29	N23			RIGID	None	None	RIGID	Typical
15	M15	N26	N20			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis Offset[in]	Inactive	Seismi...
1	FM-90						Yes				None
2	M2						Yes	** NA **			None
3	MP1						Yes	Default			None
4	M4						Yes	** NA **			None
5	MP3						Yes				None
6	M6						Yes	** NA **			None
7	MP2						Yes				None
8	KICKER-1	BenPIN					Yes	Default			None
9	KICKER-2	BenPIN					Yes	Default			None
10	M10	OOOXOO					Yes	** NA **			None
11	M11	OOOXOO					Yes	** NA **			None
12	M12	OOOXOO					Yes	** NA **			None
13	M13	OOOXOO					Yes	** NA **			None
14	M14	OOOXOO					Yes	** NA **			None
15	M15	OOOXOO					Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
1	FM-90	PIPE_2.0	84			Lbyy						Late...
2	MP1	PIPE_2.0	120			Lbyy						Late...
3	MP3	PIPE_2.0	120			Lbyy						Late...
4	MP2	PIPE_2.0	120			Lbyy						Late...
5	KICKER-1	L3X3X4	71.561			Lbyy						Late...
6	KICKER-2	L3X3X4	71.561			Lbyy						Late...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B R...	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	0	%50
2	MP2	Y	0	%50
3	MP3	Y	0	%50
4	MP2	Y	-109	%70
5	MP3	Y	-75	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	53.3	%50
2	MP2	X	41.6	%50
3	MP3	X	15.4	%50
4	MP2	X	100.1	%70
5	MP3	X	64.4	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	54.5	%50
2	MP2	X	46.9	%50
3	MP3	X	29.8	%50
4	MP2	X	81.7	%70
5	MP3	X	52.9	%70
6	MP1	Z	31.5	%50
7	MP2	Z	27.1	%50
8	MP3	Z	17.2	%50
9	MP2	Z	47.2	%70
10	MP3	Z	30.6	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	41.1	%50
2	MP2	X	39.6	%50
3	MP3	X	36.3	%50
4	MP2	X	41.4	%70
5	MP3	X	27.3	%70
6	MP1	Z	71.2	%50
7	MP2	Z	68.6	%50
8	MP3	Z	62.9	%50
9	MP2	Z	71.8	%70
10	MP3	Z	47.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	91.8	%50
7	MP2	Z	91.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
8	MP3	Z	91.8	%50
9	MP2	Z	77.1	%70
10	MP3	Z	51.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-41.1	%50
2	MP2	X	-39.6	%50
3	MP3	X	-36.3	%50
4	MP2	X	-41.4	%70
5	MP3	X	-27.3	%70
6	MP1	Z	71.2	%50
7	MP2	Z	68.6	%50
8	MP3	Z	62.9	%50
9	MP2	Z	71.8	%70
10	MP3	Z	47.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-54.5	%50
2	MP2	X	-46.9	%50
3	MP3	X	-29.8	%50
4	MP2	X	-81.7	%70
5	MP3	X	-52.9	%70
6	MP1	Z	31.5	%50
7	MP2	Z	27.1	%50
8	MP3	Z	17.2	%50
9	MP2	Z	47.2	%70
10	MP3	Z	30.6	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-53.3	%50
2	MP2	X	-41.6	%50
3	MP3	X	-15.4	%50
4	MP2	X	-100.1	%70
5	MP3	X	-64.4	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-54.5	%50
2	MP2	X	-46.9	%50
3	MP3	X	-29.8	%50
4	MP2	X	-81.7	%70
5	MP3	X	-52.9	%70
6	MP1	Z	-31.5	%50
7	MP2	Z	-27.1	%50
8	MP3	Z	-17.2	%50
9	MP2	Z	-47.2	%70
10	MP3	Z	-30.6	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-41.1	%50
2	MP2	X	-39.6	%50
3	MP3	X	-36.3	%50
4	MP2	X	-41.4	%70
5	MP3	X	-27.3	%70
6	MP1	Z	-71.2	%50
7	MP2	Z	-68.6	%50
8	MP3	Z	-62.9	%50
9	MP2	Z	-71.8	%70
10	MP3	Z	-47.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	-91.8	%50
7	MP2	Z	-91.8	%50
8	MP3	Z	-91.8	%50
9	MP2	Z	-77.1	%70
10	MP3	Z	-51.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	41.1	%50
2	MP2	X	39.6	%50
3	MP3	X	36.3	%50
4	MP2	X	41.4	%70
5	MP3	X	27.3	%70
6	MP1	Z	-71.2	%50
7	MP2	Z	-68.6	%50
8	MP3	Z	-62.9	%50
9	MP2	Z	-71.8	%70
10	MP3	Z	-47.2	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	54.5	%50
2	MP2	X	46.9	%50
3	MP3	X	29.8	%50
4	MP2	X	81.7	%70
5	MP3	X	52.9	%70
6	MP1	Z	-31.5	%50
7	MP2	Z	-27.1	%50
8	MP3	Z	-17.2	%50
9	MP2	Z	-47.2	%70
10	MP3	Z	-30.6	%70

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-56.9	%50
2	MP2	Y	-56.9	%50
3	MP3	Y	-56.9	%50

Member Point Loads (BLC 14 : Ice Load) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	Y	-53.9	%70
5	MP3	Y	-35.5	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14	%50
2	MP2	X	11	%50
3	MP3	X	4.3	%50
4	MP2	X	13.7	%70
5	MP3	X	9	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14.3	%50
2	MP2	X	12.3	%50
3	MP3	X	8	%50
4	MP2	X	11.4	%70
5	MP3	X	7.6	%70
6	MP1	Z	8.2	%50
7	MP2	Z	7.1	%50
8	MP3	Z	4.6	%50
9	MP2	Z	6.6	%70
10	MP3	Z	4.4	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.7	%50
2	MP2	X	10.3	%50
3	MP3	X	9.5	%50
4	MP2	X	6	%70
5	MP3	X	4.1	%70
6	MP1	Z	18.6	%50
7	MP2	Z	17.9	%50
8	MP3	Z	16.5	%50
9	MP2	Z	10.5	%70
10	MP3	Z	7.1	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	23.9	%50
7	MP2	Z	23.9	%50
8	MP3	Z	23.9	%50
9	MP2	Z	11.5	%70
10	MP3	Z	8	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.7	%50
2	MP2	X	-10.3	%50
3	MP3	X	-9.5	%50
4	MP2	X	-6	%70
5	MP3	X	-4.1	%70
6	MP1	Z	18.6	%50
7	MP2	Z	17.9	%50
8	MP3	Z	16.5	%50
9	MP2	Z	10.5	%70
10	MP3	Z	7.1	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14.3	%50
2	MP2	X	-12.3	%50
3	MP3	X	-8	%50
4	MP2	X	-11.4	%70
5	MP3	X	-7.6	%70
6	MP1	Z	8.2	%50
7	MP2	Z	7.1	%50
8	MP3	Z	4.6	%50
9	MP2	Z	6.6	%70
10	MP3	Z	4.4	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14	%50
2	MP2	X	-11	%50
3	MP3	X	-4.3	%50
4	MP2	X	-13.7	%70
5	MP3	X	-9	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-14.3	%50
2	MP2	X	-12.3	%50
3	MP3	X	-8	%50
4	MP2	X	-11.4	%70
5	MP3	X	-7.6	%70
6	MP1	Z	-8.2	%50
7	MP2	Z	-7.1	%50
8	MP3	Z	-4.6	%50
9	MP2	Z	-6.6	%70
10	MP3	Z	-4.4	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.7	%50
2	MP2	X	-10.3	%50
3	MP3	X	-9.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	X	-6	%70
5	MP3	X	-4.1	%70
6	MP1	Z	-18.6	%50
7	MP2	Z	-17.9	%50
8	MP3	Z	-16.5	%50
9	MP2	Z	-10.5	%70
10	MP3	Z	-7.1	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	-23.9	%50
7	MP2	Z	-23.9	%50
8	MP3	Z	-23.9	%50
9	MP2	Z	-11.5	%70
10	MP3	Z	-8	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.7	%50
2	MP2	X	10.3	%50
3	MP3	X	9.5	%50
4	MP2	X	6	%70
5	MP3	X	4.1	%70
6	MP1	Z	-18.6	%50
7	MP2	Z	-17.9	%50
8	MP3	Z	-16.5	%50
9	MP2	Z	-10.5	%70
10	MP3	Z	-7.1	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	14.3	%50
2	MP2	X	12.3	%50
3	MP3	X	8	%50
4	MP2	X	11.4	%70
5	MP3	X	7.6	%70
6	MP1	Z	-8.2	%50
7	MP2	Z	-7.1	%50
8	MP3	Z	-4.6	%50
9	MP2	Z	-6.6	%70
10	MP3	Z	-4.4	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	109	%70
5	MP3	X	75	%70
6	MP1	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	94.4	%70
5	MP3	X	65	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	54.5	%70
10	MP3	Z	37.5	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	54.5	%70
5	MP3	X	37.5	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	94.4	%70
10	MP3	Z	65	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	109	%70
10	MP3	Z	75	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	-54.5	%70
5	MP3	X	-37.5	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	94.4	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP3	Z	65	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	-94.4	%70
5	MP3	X	-65	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	54.5	%70
10	MP3	Z	37.5	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	-109	%70
5	MP3	X	-75	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	0	%70
10	MP3	Z	0	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	-94.4	%70
5	MP3	X	-65	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	-54.5	%70
10	MP3	Z	-37.5	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	-54.5	%70
5	MP3	X	-37.5	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	-94.4	%70
10	MP3	Z	-65	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	0	%70
5	MP3	X	0	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	-109	%70
10	MP3	Z	-75	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	54.5	%70
5	MP3	X	37.5	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	-94.4	%70
10	MP3	Z	-65	%70

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP3	X	0	%50
4	MP2	X	94.4	%70
5	MP3	X	65	%70
6	MP1	Z	0	%50
7	MP2	Z	0	%50
8	MP3	Z	0	%50
9	MP2	Z	-54.5	%70
10	MP3	Z	-37.5	%70

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

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

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

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

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

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

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	FM-90	Y	-250	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	FM-90	Y	-250	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	FM-90	Y	-250	%100

Member Point Loads (BLC 175 : Antenna Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-41.6	%39.875
2	MP1	Y	-41.6	%60.125
3	MP2	Y	-11.9	%32.208
4	MP2	Y	-11.9	%67.792
5	MP3	Y	-61.4	%15.042
6	MP3	Y	-61.4	%84.958

Member Point Loads (BLC 176 : Antenna Wind Load (0 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	122.2	%39.875
2	MP1	X	122.2	%60.125
3	MP2	X	114.5	%32.208
4	MP2	X	114.5	%67.792
5	MP3	X	391.1	%15.042
6	MP3	X	391.1	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 177 : Antenna Wind Load (30 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	91.4	%39.875
2	MP1	X	91.4	%60.125
3	MP2	X	85.8	%32.208
4	MP2	X	85.8	%67.792
5	MP3	X	290.6	%15.042
6	MP3	X	290.6	%84.958
7	MP1	Z	52.8	%39.875
8	MP1	Z	52.8	%60.125
9	MP2	Z	49.6	%32.208
10	MP2	Z	49.6	%67.792
11	MP3	Z	167.8	%15.042
12	MP3	Z	167.8	%84.958

Member Point Loads (BLC 178 : Antenna Wind Load (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	36.1	%39.875
2	MP1	X	36.1	%60.125
3	MP2	X	34.1	%32.208
4	MP2	X	34.1	%67.792
5	MP3	X	112.2	%15.042
6	MP3	X	112.2	%84.958
7	MP1	Z	62.6	%39.875

Member Point Loads (BLC 178 : Antenna Wind Load (60 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
8	MP1	Z	62.6	%60.125
9	MP2	Z	59.1	%32.208
10	MP2	Z	59.1	%67.792
11	MP3	Z	194.3	%15.042
12	MP3	Z	194.3	%84.958

Member Point Loads (BLC 179 : Antenna Wind Load (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	55.6	%39.875
8	MP1	Z	55.6	%60.125
9	MP2	Z	52.8	%32.208
10	MP2	Z	52.8	%67.792
11	MP3	Z	168.7	%15.042
12	MP3	Z	168.7	%84.958

Member Point Loads (BLC 180 : Antenna Wind Load (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-36.1	%39.875
2	MP1	X	-36.1	%60.125
3	MP2	X	-34.1	%32.208
4	MP2	X	-34.1	%67.792
5	MP3	X	-112.2	%15.042
6	MP3	X	-112.2	%84.958
7	MP1	Z	62.6	%39.875
8	MP1	Z	62.6	%60.125
9	MP2	Z	59.1	%32.208
10	MP2	Z	59.1	%67.792
11	MP3	Z	194.3	%15.042
12	MP3	Z	194.3	%84.958

Member Point Loads (BLC 181 : Antenna Wind Load (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-91.4	%39.875
2	MP1	X	-91.4	%60.125
3	MP2	X	-85.8	%32.208
4	MP2	X	-85.8	%67.792
5	MP3	X	-290.6	%15.042
6	MP3	X	-290.6	%84.958
7	MP1	Z	52.8	%39.875
8	MP1	Z	52.8	%60.125
9	MP2	Z	49.6	%32.208
10	MP2	Z	49.6	%67.792
11	MP3	Z	167.8	%15.042
12	MP3	Z	167.8	%84.958

Member Point Loads (BLC 182 : Antenna Wind Load (180 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-122.2	%39.875
2	MP1	X	-122.2	%60.125

Member Point Loads (BLC 182 : Antenna Wind Load (180 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP2	X	-114.5	%32.208
4	MP2	X	-114.5	%67.792
5	MP3	X	-391.1	%15.042
6	MP3	X	-391.1	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 183 : Antenna Wind Load (210 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-91.4	%39.875
2	MP1	X	-91.4	%60.125
3	MP2	X	-85.8	%32.208
4	MP2	X	-85.8	%67.792
5	MP3	X	-290.6	%15.042
6	MP3	X	-290.6	%84.958
7	MP1	Z	-52.8	%39.875
8	MP1	Z	-52.8	%60.125
9	MP2	Z	-49.6	%32.208
10	MP2	Z	-49.6	%67.792
11	MP3	Z	-167.8	%15.042
12	MP3	Z	-167.8	%84.958

Member Point Loads (BLC 184 : Antenna Wind Load (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-36.1	%39.875
2	MP1	X	-36.1	%60.125
3	MP2	X	-34.1	%32.208
4	MP2	X	-34.1	%67.792
5	MP3	X	-112.2	%15.042
6	MP3	X	-112.2	%84.958
7	MP1	Z	-62.6	%39.875
8	MP1	Z	-62.6	%60.125
9	MP2	Z	-59.1	%32.208
10	MP2	Z	-59.1	%67.792
11	MP3	Z	-194.3	%15.042
12	MP3	Z	-194.3	%84.958

Member Point Loads (BLC 185 : Antenna Wind Load (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	-55.6	%39.875
8	MP1	Z	-55.6	%60.125
9	MP2	Z	-52.8	%32.208
10	MP2	Z	-52.8	%67.792
11	MP3	Z	-168.7	%15.042
12	MP3	Z	-168.7	%84.958

Member Point Loads (BLC 186 : Antenna Wind Load (300 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	36.1	%39.875
2	MP1	X	36.1	%60.125
3	MP2	X	34.1	%32.208
4	MP2	X	34.1	%67.792
5	MP3	X	112.2	%15.042
6	MP3	X	112.2	%84.958
7	MP1	Z	-62.6	%39.875
8	MP1	Z	-62.6	%60.125
9	MP2	Z	-59.1	%32.208
10	MP2	Z	-59.1	%67.792
11	MP3	Z	-194.3	%15.042
12	MP3	Z	-194.3	%84.958

Member Point Loads (BLC 187 : Antenna Wind Load (330 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	91.4	%39.875
2	MP1	X	91.4	%60.125
3	MP2	X	85.8	%32.208
4	MP2	X	85.8	%67.792
5	MP3	X	290.6	%15.042
6	MP3	X	290.6	%84.958
7	MP1	Z	-52.8	%39.875
8	MP1	Z	-52.8	%60.125
9	MP2	Z	-49.6	%32.208
10	MP2	Z	-49.6	%67.792
11	MP3	Z	-167.8	%15.042
12	MP3	Z	-167.8	%84.958

Member Point Loads (BLC 188 : Antenna Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-56.7	%39.875
2	MP1	Y	-56.7	%60.125
3	MP2	Y	-50.5	%32.208
4	MP2	Y	-50.5	%67.792
5	MP3	Y	-166.5	%15.042
6	MP3	Y	-166.5	%84.958

Member Point Loads (BLC 189 : Antenna Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	16.2	%39.875
2	MP1	X	16.2	%60.125
3	MP2	X	15.6	%32.208
4	MP2	X	15.6	%67.792
5	MP3	X	50.7	%15.042
6	MP3	X	50.7	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 190 : Antenna Wind on Ice (30 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	12.3	%39.875

Member Point Loads (BLC 190 : Antenna Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	12.3	%60.125
3	MP2	X	11.9	%32.208
4	MP2	X	11.9	%67.792
5	MP3	X	38	%15.042
6	MP3	X	38	%84.958
7	MP1	Z	7.1	%39.875
8	MP1	Z	7.1	%60.125
9	MP2	Z	6.9	%32.208
10	MP2	Z	6.9	%67.792
11	MP3	Z	21.9	%15.042
12	MP3	Z	21.9	%84.958

Member Point Loads (BLC 191 : Antenna Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	5.1	%39.875
2	MP1	X	5.1	%60.125
3	MP2	X	5	%32.208
4	MP2	X	5	%67.792
5	MP3	X	15.2	%15.042
6	MP3	X	15.2	%84.958
7	MP1	Z	8.8	%39.875
8	MP1	Z	8.8	%60.125
9	MP2	Z	8.6	%32.208
10	MP2	Z	8.6	%67.792
11	MP3	Z	26.2	%15.042
12	MP3	Z	26.2	%84.958

Member Point Loads (BLC 192 : Antenna Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	8.1	%39.875
8	MP1	Z	8.1	%60.125
9	MP2	Z	8.1	%32.208
10	MP2	Z	8.1	%67.792
11	MP3	Z	23.5	%15.042
12	MP3	Z	23.5	%84.958

Member Point Loads (BLC 193 : Antenna Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-5.1	%39.875
2	MP1	X	-5.1	%60.125
3	MP2	X	-5	%32.208
4	MP2	X	-5	%67.792
5	MP3	X	-15.2	%15.042
6	MP3	X	-15.2	%84.958
7	MP1	Z	8.8	%39.875
8	MP1	Z	8.8	%60.125
9	MP2	Z	8.6	%32.208
10	MP2	Z	8.6	%67.792
11	MP3	Z	26.2	%15.042

Member Point Loads (BLC 193 : Antenna Wind on Ice (120 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	MP3	Z	26.2	%84.958

Member Point Loads (BLC 194 : Antenna Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-12.3	%39.875
2	MP1	X	-12.3	%60.125
3	MP2	X	-11.9	%32.208
4	MP2	X	-11.9	%67.792
5	MP3	X	-38	%15.042
6	MP3	X	-38	%84.958
7	MP1	Z	7.1	%39.875
8	MP1	Z	7.1	%60.125
9	MP2	Z	6.9	%32.208
10	MP2	Z	6.9	%67.792
11	MP3	Z	21.9	%15.042
12	MP3	Z	21.9	%84.958

Member Point Loads (BLC 195 : Antenna Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-16.2	%39.875
2	MP1	X	-16.2	%60.125
3	MP2	X	-15.6	%32.208
4	MP2	X	-15.6	%67.792
5	MP3	X	-50.7	%15.042
6	MP3	X	-50.7	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 196 : Antenna Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-12.3	%39.875
2	MP1	X	-12.3	%60.125
3	MP2	X	-11.9	%32.208
4	MP2	X	-11.9	%67.792
5	MP3	X	-38	%15.042
6	MP3	X	-38	%84.958
7	MP1	Z	-7.1	%39.875
8	MP1	Z	-7.1	%60.125
9	MP2	Z	-6.9	%32.208
10	MP2	Z	-6.9	%67.792
11	MP3	Z	-21.9	%15.042
12	MP3	Z	-21.9	%84.958

Member Point Loads (BLC 197 : Antenna Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-5.1	%39.875
2	MP1	X	-5.1	%60.125
3	MP2	X	-5	%32.208
4	MP2	X	-5	%67.792
5	MP3	X	-15.2	%15.042
6	MP3	X	-15.2	%84.958

Member Point Loads (BLC 197 : Antenna Wind on Ice (240 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	Z	-8.8	%39.875
8	MP1	Z	-8.8	%60.125
9	MP2	Z	-8.6	%32.208
10	MP2	Z	-8.6	%67.792
11	MP3	Z	-26.2	%15.042
12	MP3	Z	-26.2	%84.958

Member Point Loads (BLC 198 : Antenna Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	-8.1	%39.875
8	MP1	Z	-8.1	%60.125
9	MP2	Z	-8.1	%32.208
10	MP2	Z	-8.1	%67.792
11	MP3	Z	-23.5	%15.042
12	MP3	Z	-23.5	%84.958

Member Point Loads (BLC 199 : Antenna Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	5.1	%39.875
2	MP1	X	5.1	%60.125
3	MP2	X	5	%32.208
4	MP2	X	5	%67.792
5	MP3	X	15.2	%15.042
6	MP3	X	15.2	%84.958
7	MP1	Z	-8.8	%39.875
8	MP1	Z	-8.8	%60.125
9	MP2	Z	-8.6	%32.208
10	MP2	Z	-8.6	%67.792
11	MP3	Z	-26.2	%15.042
12	MP3	Z	-26.2	%84.958

Member Point Loads (BLC 200 : Antenna Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	12.3	%39.875
2	MP1	X	12.3	%60.125
3	MP2	X	11.9	%32.208
4	MP2	X	11.9	%67.792
5	MP3	X	38	%15.042
6	MP3	X	38	%84.958
7	MP1	Z	-7.1	%39.875
8	MP1	Z	-7.1	%60.125
9	MP2	Z	-6.9	%32.208
10	MP2	Z	-6.9	%67.792
11	MP3	Z	-21.9	%15.042
12	MP3	Z	-21.9	%84.958

Member Point Loads (BLC 201 : Ant. Horiz. Seismic, Eh (0))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	41.6	%39.875

Member Point Loads (BLC 201 : Ant. Horiz. Seismic, Eh (0)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	41.6	%60.125
3	MP2	X	11.9	%32.208
4	MP2	X	11.9	%67.792
5	MP3	X	61.4	%15.042
6	MP3	X	61.4	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 202 : Ant. Horiz. Seismic, Eh (30))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	36.1	%39.875
2	MP1	X	36.1	%60.125
3	MP2	X	10.3	%32.208
4	MP2	X	10.3	%67.792
5	MP3	X	53.2	%15.042
6	MP3	X	53.2	%84.958
7	MP1	Z	20.8	%39.875
8	MP1	Z	20.8	%60.125
9	MP2	Z	5.9	%32.208
10	MP2	Z	5.9	%67.792
11	MP3	Z	30.7	%15.042
12	MP3	Z	30.7	%84.958

Member Point Loads (BLC 203 : Ant. Horiz. Seismic, Eh (60))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	20.8	%39.875
2	MP1	X	20.8	%60.125
3	MP2	X	6	%32.208
4	MP2	X	6	%67.792
5	MP3	X	30.7	%15.042
6	MP3	X	30.7	%84.958
7	MP1	Z	36.1	%39.875
8	MP1	Z	36.1	%60.125
9	MP2	Z	10.3	%32.208
10	MP2	Z	10.3	%67.792
11	MP3	Z	53.2	%15.042
12	MP3	Z	53.2	%84.958

Member Point Loads (BLC 204 : Ant. Horiz. Seismic, Eh (90))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	41.6	%39.875
8	MP1	Z	41.6	%60.125
9	MP2	Z	11.9	%32.208
10	MP2	Z	11.9	%67.792
11	MP3	Z	61.4	%15.042

Member Point Loads (BLC 204 : Ant. Horiz. Seismic, Eh (90)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	MP3	Z	61.4	%84.958

Member Point Loads (BLC 205 : Ant. Horiz. Seismic, Eh (120))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-20.8	%39.875
2	MP1	X	-20.8	%60.125
3	MP2	X	-5.9	%32.208
4	MP2	X	-5.9	%67.792
5	MP3	X	-30.7	%15.042
6	MP3	X	-30.7	%84.958
7	MP1	Z	36.1	%39.875
8	MP1	Z	36.1	%60.125
9	MP2	Z	10.3	%32.208
10	MP2	Z	10.3	%67.792
11	MP3	Z	53.2	%15.042
12	MP3	Z	53.2	%84.958

Member Point Loads (BLC 206 : Ant. Horiz. Seismic, Eh (150))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-36.1	%39.875
2	MP1	X	-36.1	%60.125
3	MP2	X	-10.3	%32.208
4	MP2	X	-10.3	%67.792
5	MP3	X	-53.2	%15.042
6	MP3	X	-53.2	%84.958
7	MP1	Z	20.8	%39.875
8	MP1	Z	20.8	%60.125
9	MP2	Z	5.9	%32.208
10	MP2	Z	5.9	%67.792
11	MP3	Z	30.7	%15.042
12	MP3	Z	30.7	%84.958

Member Point Loads (BLC 207 : Ant. Horiz. Seismic, Eh (180))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-41.6	%39.875
2	MP1	X	-41.6	%60.125
3	MP2	X	-11.9	%32.208
4	MP2	X	-11.9	%67.792
5	MP3	X	-61.4	%15.042
6	MP3	X	-61.4	%84.958
7	MP1	Z	0	0
8	MP1	Z	0	0
9	MP2	Z	0	0
10	MP2	Z	0	0
11	MP3	Z	0	0
12	MP3	Z	0	0

Member Point Loads (BLC 208 : Ant. Horiz. Seismic, Eh (210))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-36.1	%39.875
2	MP1	X	-36.1	%60.125
3	MP2	X	-10.3	%32.208
4	MP2	X	-10.3	%67.792
5	MP3	X	-53.2	%15.042
6	MP3	X	-53.2	%84.958

Member Point Loads (BLC 208 : Ant. Horiz. Seismic, Eh (210)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	Z	-20.8	%39.875
8	MP1	Z	-20.8	%60.125
9	MP2	Z	-6	%32.208
10	MP2	Z	-6	%67.792
11	MP3	Z	-30.7	%15.042
12	MP3	Z	-30.7	%84.958

Member Point Loads (BLC 209 : Ant. Horiz. Seismic, Eh (240))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-20.8	%39.875
2	MP1	X	-20.8	%60.125
3	MP2	X	-6	%32.208
4	MP2	X	-6	%67.792
5	MP3	X	-30.7	%15.042
6	MP3	X	-30.7	%84.958
7	MP1	Z	-36.1	%39.875
8	MP1	Z	-36.1	%60.125
9	MP2	Z	-10.3	%32.208
10	MP2	Z	-10.3	%67.792
11	MP3	Z	-53.2	%15.042
12	MP3	Z	-53.2	%84.958

Member Point Loads (BLC 210 : Ant. Horiz. Seismic, Eh (270))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP3	X	0	0
6	MP3	X	0	0
7	MP1	Z	-41.6	%39.875
8	MP1	Z	-41.6	%60.125
9	MP2	Z	-11.9	%32.208
10	MP2	Z	-11.9	%67.792
11	MP3	Z	-61.4	%15.042
12	MP3	Z	-61.4	%84.958

Member Point Loads (BLC 211 : Ant. Horiz. Seismic, Eh (300))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	20.8	%39.875
2	MP1	X	20.8	%60.125
3	MP2	X	6	%32.208
4	MP2	X	6	%67.792
5	MP3	X	30.7	%15.042
6	MP3	X	30.7	%84.958
7	MP1	Z	-36.1	%39.875
8	MP1	Z	-36.1	%60.125
9	MP2	Z	-10.3	%32.208
10	MP2	Z	-10.3	%67.792
11	MP3	Z	-53.2	%15.042
12	MP3	Z	-53.2	%84.958

Member Point Loads (BLC 212 : Ant. Horiz. Seismic, Eh (330))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	36.1	%39.875

Member Point Loads (BLC 212 : Ant. Horiz. Seismic, Eh (330)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	36.1	%60.125
3	MP2	X	10.3	%32.208
4	MP2	X	10.3	%67.792
5	MP3	X	53.2	%15.042
6	MP3	X	53.2	%84.958
7	MP1	Z	-20.8	%39.875
8	MP1	Z	-20.8	%60.125
9	MP2	Z	-6	%32.208
10	MP2	Z	-6	%67.792
11	MP3	Z	-30.7	%15.042
12	MP3	Z	-30.7	%84.958

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	9.2	9.2	0	0
2	KICKER-1	X	19	19	0	0
3	KICKER-2	X	19	19	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	0	0	0	0
6	KICKER-2	Z	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	6.9	6.9	0	0
2	KICKER-1	X	16.4	16.4	0	0
3	KICKER-2	X	16.4	16.4	0	0
4	FM-90	Z	4	4	0	0
5	KICKER-1	Z	9.5	9.5	0	0
6	KICKER-2	Z	9.5	9.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	2.3	2.3	0	0
2	KICKER-1	X	9.5	9.5	0	0
3	KICKER-2	X	9.5	9.5	0	0
4	FM-90	Z	4	4	0	0
5	KICKER-1	Z	16.4	16.4	0	0
6	KICKER-2	Z	16.4	16.4	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	0	0	0	0
2	KICKER-1	X	0	0	0	0
3	KICKER-2	X	0	0	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	19	19	0	0
6	KICKER-2	Z	19	19	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-2.3	-2.3	0	0
2	KICKER-1	X	-9.5	-9.5	0	0
3	KICKER-2	X	-9.5	-9.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
4	FM-90	Z	4	4	0	0
5	KICKER-1	Z	16.4	16.4	0	0
6	KICKER-2	Z	16.4	16.4	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-6.9	-6.9	0	0
2	KICKER-1	X	-16.4	-16.4	0	0
3	KICKER-2	X	-16.4	-16.4	0	0
4	FM-90	Z	4	4	0	0
5	KICKER-1	Z	9.5	9.5	0	0
6	KICKER-2	Z	9.5	9.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-9.2	-9.2	0	0
2	KICKER-1	X	-19	-19	0	0
3	KICKER-2	X	-19	-19	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	0	0	0	0
6	KICKER-2	Z	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-6.9	-6.9	0	0
2	KICKER-1	X	-16.4	-16.4	0	0
3	KICKER-2	X	-16.4	-16.4	0	0
4	FM-90	Z	-4	-4	0	0
5	KICKER-1	Z	-9.5	-9.5	0	0
6	KICKER-2	Z	-9.5	-9.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-2.3	-2.3	0	0
2	KICKER-1	X	-9.5	-9.5	0	0
3	KICKER-2	X	-9.5	-9.5	0	0
4	FM-90	Z	-4	-4	0	0
5	KICKER-1	Z	-16.4	-16.4	0	0
6	KICKER-2	Z	-16.4	-16.4	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	0	0	0	0
2	KICKER-1	X	0	0	0	0
3	KICKER-2	X	0	0	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	-19	-19	0	0
6	KICKER-2	Z	-19	-19	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	2.3	2.3	0	0
2	KICKER-1	X	9.5	9.5	0	0
3	KICKER-2	X	9.5	9.5	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
4	FM-90	Z	-4	-4	0	0
5	KICKER-1	Z	-16.4	-16.4	0	0
6	KICKER-2	Z	-16.4	-16.4	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	6.9	6.9	0	0
2	KICKER-1	X	16.4	16.4	0	0
3	KICKER-2	X	16.4	16.4	0	0
4	FM-90	Z	-4	-4	0	0
5	KICKER-1	Z	-9.5	-9.5	0	0
6	KICKER-2	Z	-9.5	-9.5	0	0

Member Distributed Loads (BLC 14 : Ice Load)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	Y	-5.7	-5.7	0	0
2	KICKER-1	Y	-8.6	-8.6	0	0
3	KICKER-2	Y	-8.6	-8.6	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	2.2	2.2	0	0
2	KICKER-1	X	3.3	3.3	0	0
3	KICKER-2	X	3.3	3.3	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	0	0	0	0
6	KICKER-2	Z	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	1.6	1.6	0	0
2	KICKER-1	X	2.8	2.8	0	0
3	KICKER-2	X	2.8	2.8	0	0
4	FM-90	Z	.9	.9	0	0
5	KICKER-1	Z	1.6	1.6	0	0
6	KICKER-2	Z	1.6	1.6	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	.5	.5	0	0
2	KICKER-1	X	1.6	1.6	0	0
3	KICKER-2	X	1.6	1.6	0	0
4	FM-90	Z	.9	.9	0	0
5	KICKER-1	Z	2.8	2.8	0	0
6	KICKER-2	Z	2.8	2.8	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	0	0	0	0
2	KICKER-1	X	0	0	0	0
3	KICKER-2	X	0	0	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	3.3	3.3	0	0
6	KICKER-2	Z	3.3	3.3	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-.5	-.5	0	0
2	KICKER-1	X	-1.6	-1.6	0	0
3	KICKER-2	X	-1.6	-1.6	0	0
4	FM-90	Z	.9	.9	0	0
5	KICKER-1	Z	2.8	2.8	0	0
6	KICKER-2	Z	2.8	2.8	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-1.6	-1.6	0	0
2	KICKER-1	X	-2.8	-2.8	0	0
3	KICKER-2	X	-2.8	-2.8	0	0
4	FM-90	Z	.9	.9	0	0
5	KICKER-1	Z	1.6	1.6	0	0
6	KICKER-2	Z	1.6	1.6	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-2.2	-2.2	0	0
2	KICKER-1	X	-3.3	-3.3	0	0
3	KICKER-2	X	-3.3	-3.3	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	0	0	0	0
6	KICKER-2	Z	0	0	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-1.6	-1.6	0	0
2	KICKER-1	X	-2.8	-2.8	0	0
3	KICKER-2	X	-2.8	-2.8	0	0
4	FM-90	Z	-.9	-.9	0	0
5	KICKER-1	Z	-1.6	-1.6	0	0
6	KICKER-2	Z	-1.6	-1.6	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	-.5	-.5	0	0
2	KICKER-1	X	-1.6	-1.6	0	0
3	KICKER-2	X	-1.6	-1.6	0	0
4	FM-90	Z	-.9	-.9	0	0
5	KICKER-1	Z	-2.8	-2.8	0	0
6	KICKER-2	Z	-2.8	-2.8	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	0	0	0	0
2	KICKER-1	X	0	0	0	0
3	KICKER-2	X	0	0	0	0
4	FM-90	Z	0	0	0	0
5	KICKER-1	Z	-3.3	-3.3	0	0
6	KICKER-2	Z	-3.3	-3.3	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	.5	.5	0	0
2	KICKER-1	X	1.6	1.6	0	0
3	KICKER-2	X	1.6	1.6	0	0
4	FM-90	Z	-.9	-.9	0	0
5	KICKER-1	Z	-2.8	-2.8	0	0
6	KICKER-2	Z	-2.8	-2.8	0	0

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude...	Start Location[in,%]	End Location[in,%]
1	FM-90	X	1.6	1.6	0	0
2	KICKER-1	X	2.8	2.8	0	0
3	KICKER-2	X	2.8	2.8	0	0
4	FM-90	Z	-.9	-.9	0	0
5	KICKER-1	Z	-1.6	-1.6	0	0
6	KICKER-2	Z	-1.6	-1.6	0	0

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead Load	None		-1			5			
2	Wind Load (0 deg)	None					10	6		
3	Wind Load (30 deg)	None					10	6		
4	Wind Load (60 deg)	None					10	6		
5	Wind Load (90 deg)	None					10	6		
6	Wind Load (120 deg)	None					10	6		
7	Wind Load (150 deg)	None					10	6		
8	Wind Load (180 deg)	None					10	6		
9	Wind Load (210 deg)	None					10	6		
10	Wind Load (240 deg)	None					10	6		
11	Wind Load (270 deg)	None					10	6		
12	Wind Load (300 deg)	None					10	6		
13	Wind Load (330 deg)	None					10	6		
14	Ice Load	None					5	3		
15	Wind on Ice (0 deg)	None					10	6		
16	Wind on Ice (30 deg)	None					10	6		
17	Wind on Ice (60 deg)	None					10	6		
18	Wind on Ice (90 deg)	None					10	6		
19	Wind on Ice (120 deg)	None					10	6		
20	Wind on Ice (150 deg)	None					10	6		
21	Wind on Ice (180 deg)	None					10	6		
22	Wind on Ice (210 deg)	None					10	6		
23	Wind on Ice (240 deg)	None					10	6		
24	Wind on Ice (270 deg)	None					10	6		
25	Wind on Ice (300 deg)	None					10	6		
26	Wind on Ice (330 deg)	None					10	6		
27	Horizontal Seismic, Eh (0)	None	1				10			
28	Horizontal Seismic, Eh (30)	None	.866		.5		10			
29	Horizontal Seismic, Eh (60)	None	.5		.866		10			
30	Horizontal Seismic, Eh (90)	None			1		10			
31	Horizontal Seismic, Eh (120)	None	-.5		.866		10			
32	Horizontal Seismic, Eh (150)	None	-.866		.5		10			
33	Horizontal Seismic, Eh (180)	None	-1				10			
34	Horizontal Seismic, Eh (210)	None	-.866		-.5		10			
35	Horizontal Seismic, Eh (240)	None	-.5		-.866		10			
36	Horizontal Seismic, Eh (270)	None			-1		10			
37	Horizontal Seismic, Eh (300)	None	.5		-.866		10			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
38	Horizontal Seismic, Eh (330)	None	.866		-.5		10			
39	Maintenance Load, Lm (MP1)	None					1			
40	Maintenance Load, Lm (MP2)	None					1			
41	Maintenance Load, Lm (MP3)	None					1			
42	Maintenance Load, Lm (MP4)	None								
43	Maintenance Load, Lm (MP5)	None								
44	Maintenance Load, Lm (MP6)	None								
45	Maintenance Load, Lm (MP7)	None								
46	Maintenance Load, Lm (MP8)	None								
47	Maintenance Load, Lm (MP9)	None								
48	Maintenance Load, Lm (MP10)	None								
49	Maintenance Load, Lm (MP11)	None								
50	Maintenance Load, Lm (MP12)	None								
51	Maintenance Load, Lm (MP13)	None								
52	Maintenance Load, Lm (MP14)	None								
53	Maintenance Load, Lm (MP15)	None								
54	Maintenance Load, Lm (MP16)	None								
55	Maintenance Load, Lm (MP17)	None								
56	Maintenance Load, Lm (MP18)	None								
57	Maintenance Load, Lm (MP19)	None								
58	Maintenance Load, Lm (MP20)	None								
59	Maintenance Load, Lm (MP21)	None								
60	Maintenance Load, Lm (MP22)	None								
61	Maintenance Load, Lm (MP23)	None								
62	Maintenance Load, Lm (MP24)	None								
63	Maintenance Load, Lm (MP25)	None								
64	Maintenance Load, Lm (MP26)	None								
65	Maintenance Load, Lm (MP27)	None								
66	Maintenance Load, Lm (MP28)	None								
67	Maintenance Load, Lm (MP29)	None								
68	Maintenance Load, Lm (MP30)	None								
69	Maintenance Load, Lm (MP31)	None								
70	Maintenance Load, Lm (MP32)	None								
71	Maintenance Load, Lm (MP33)	None								
72	Maintenance Load, Lm (MP34)	None								
73	Maintenance Load, Lm (MP35)	None								
74	Maintenance Load, Lm (MP36)	None								
75	Maintenance Load, Lv (Pos. 1)	None					1			
76	Maintenance Load, Lv (Pos. 2)	None					1			
77	Maintenance Load, Lv (Pos. 3)	None					1			
78	Maintenance Load, Lv (Pos. 4)	None								
79	Maintenance Load, Lv (Pos. 5)	None								
80	Maintenance Load, Lv (Pos. 6)	None								
81	Maintenance Load, Lv (Pos. 7)	None								
82	Maintenance Load, Lv (Pos. 8)	None								
83	Maintenance Load, Lv (Pos. 9)	None								
84	Maintenance Load, Lv (Pos. 10)	None								
85	Maintenance Load, Lv (Pos. 11)	None								
86	Maintenance Load, Lv (Pos. 12)	None								
87	Maintenance Load, Lv (Pos. 13)	None								
88	Maintenance Load, Lv (Pos. 14)	None								
89	Maintenance Load, Lv (Pos. 15)	None								
90	Maintenance Load, Lv (Pos. 16)	None								
91	Maintenance Load, Lv (Pos. 17)	None								
92	Maintenance Load, Lv (Pos. 18)	None								
93	Maintenance Load, Lv (Pos. 19)	None								
94	Maintenance Load, Lv (Pos. 20)	None								

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
95	Maintenance Load, Lv (Pos. 21)	None								
96	Maintenance Load, Lv (Pos. 22)	None								
97	Maintenance Load, Lv (Pos. 23)	None								
98	Maintenance Load, Lv (Pos. 24)	None								
99	Maintenance Load, Lv (Pos. 25)	None								
100	Maintenance Load, Lv (Pos. 26)	None								
101	Maintenance Load, Lv (Pos. 27)	None								
102	Maintenance Load, Lv (Pos. 28)	None								
103	Maintenance Load, Lv (Pos. 29)	None								
104	Maintenance Load, Lv (Pos. 30)	None								
105	Maintenance Load, Lv (Pos. 31)	None								
106	Maintenance Load, Lv (Pos. 32)	None								
107	Maintenance Load, Lv (Pos. 33)	None								
108	Maintenance Load, Lv (Pos. 34)	None								
109	Maintenance Load, Lv (Pos. 35)	None								
110	Maintenance Load, Lv (Pos. 36)	None								
111	Maintenance Load, Lv (Pos. 37)	None								
112	Maintenance Load, Lv (Pos. 38)	None								
113	Maintenance Load, Lv (Pos. 39)	None								
114	Maintenance Load, Lv (Pos. 40)	None								
115	Maintenance Load, Lv (Pos. 41)	None								
116	Maintenance Load, Lv (Pos. 42)	None								
117	Maintenance Load, Lv (Pos. 43)	None								
118	Maintenance Load, Lv (Pos. 44)	None								
119	Maintenance Load, Lv (Pos. 45)	None								
120	Maintenance Load, Lv (Pos. 46)	None								
121	Maintenance Load, Lv (Pos. 47)	None								
122	Maintenance Load, Lv (Pos. 48)	None								
123	Maintenance Load, Lv (Pos. 49)	None								
124	Maintenance Load, Lv (Pos. 50)	None								
125	Maintenance Load, Lv (Pos. 51)	None								
126	Maintenance Load, Lv (Pos. 52)	None								
127	Maintenance Load, Lv (Pos. 53)	None								
128	Maintenance Load, Lv (Pos. 54)	None								
129	Maintenance Load, Lv (Pos. 55)	None								
130	Maintenance Load, Lv (Pos. 56)	None								
131	Maintenance Load, Lv (Pos. 57)	None								
132	Maintenance Load, Lv (Pos. 58)	None								
133	Maintenance Load, Lv (Pos. 59)	None								
134	Maintenance Load, Lv (Pos. 60)	None								
135	Maintenance Load, Lv (Pos. 61)	None								
136	Maintenance Load, Lv (Pos. 62)	None								
137	Maintenance Load, Lv (Pos. 63)	None								
138	Maintenance Load, Lv (Pos. 64)	None								
139	Maintenance Load, Lv (Pos. 65)	None								
140	Maintenance Load, Lv (Pos. 66)	None								
141	Maintenance Load, Lv (Pos. 67)	None								
142	Maintenance Load, Lv (Pos. 68)	None								
143	Maintenance Load, Lv (Pos. 69)	None								
144	Maintenance Load, Lv (Pos. 70)	None								
145	Maintenance Load, Lv (Pos. 71)	None								
146	Maintenance Load, Lv (Pos. 72)	None								
147	Maintenance Load, Lv (Pos. 73)	None								
148	Maintenance Load, Lv (Pos. 74)	None								
149	Maintenance Load, Lv (Pos. 75)	None								
150	Maintenance Load, Lv (Pos. 76)	None								
151	Maintenance Load, Lv (Pos. 77)	None								

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
152	Maintenance Load, Lv (Pos. 78)	None								
153	Maintenance Load, Lv (Pos. 79)	None								
154	Maintenance Load, Lv (Pos. 80)	None								
155	Maintenance Load, Lv (Pos. 81)	None								
156	Maintenance Load, Lv (Pos. 82)	None								
157	Maintenance Load, Lv (Pos. 83)	None								
158	Maintenance Load, Lv (Pos. 84)	None								
159	Maintenance Load, Lv (Pos. 85)	None								
160	Maintenance Load, Lv (Pos. 86)	None								
161	Maintenance Load, Lv (Pos. 87)	None								
162	Maintenance Load, Lv (Pos. 88)	None								
163	Maintenance Load, Lv (Pos. 89)	None								
164	Maintenance Load, Lv (Pos. 90)	None								
165	Maintenance Load, Lv (Pos. 91)	None								
166	Maintenance Load, Lv (Pos. 92)	None								
167	Maintenance Load, Lv (Pos. 93)	None								
168	Maintenance Load, Lv (Pos. 94)	None								
169	Maintenance Load, Lv (Pos. 95)	None								
170	Maintenance Load, Lv (Pos. 96)	None								
171	Maintenance Load, Lv (Pos. 97)	None								
172	Maintenance Load, Lv (Pos. 98)	None								
173	Maintenance Load, Lv (Pos. 99)	None								
174	Maintenance Load, Lv (Pos. 100)	None								
175	Antenna Dead Load	None					6			
176	Antenna Wind Load (0 deg)	None					12			
177	Antenna Wind Load (30 deg)	None					12			
178	Antenna Wind Load (60 deg)	None					12			
179	Antenna Wind Load (90 deg)	None					12			
180	Antenna Wind Load (120 deg)	None					12			
181	Antenna Wind Load (150 deg)	None					12			
182	Antenna Wind Load (180 deg)	None					12			
183	Antenna Wind Load (210 deg)	None					12			
184	Antenna Wind Load (240 deg)	None					12			
185	Antenna Wind Load (270 deg)	None					12			
186	Antenna Wind Load (300 deg)	None					12			
187	Antenna Wind Load (330 deg)	None					12			
188	Antenna Ice Load	None					6			
189	Antenna Wind on Ice (0 deg)	None					12			
190	Antenna Wind on Ice (30 deg)	None					12			
191	Antenna Wind on Ice (60 deg)	None					12			
192	Antenna Wind on Ice (90 deg)	None					12			
193	Antenna Wind on Ice (120 deg)	None					12			
194	Antenna Wind on Ice (150 deg)	None					12			
195	Antenna Wind on Ice (180 deg)	None					12			
196	Antenna Wind on Ice (210 deg)	None					12			
197	Antenna Wind on Ice (240 deg)	None					12			
198	Antenna Wind on Ice (270 deg)	None					12			
199	Antenna Wind on Ice (300 deg)	None					12			
200	Antenna Wind on Ice (330 deg)	None					12			
201	Ant. Horiz. Seismic, Eh (0)	None					12			
202	Ant. Horiz. Seismic, Eh (30)	None					12			
203	Ant. Horiz. Seismic, Eh (60)	None					12			
204	Ant. Horiz. Seismic, Eh (90)	None					12			
205	Ant. Horiz. Seismic, Eh (120)	None					12			
206	Ant. Horiz. Seismic, Eh (150)	None					12			
207	Ant. Horiz. Seismic, Eh (180)	None					12			
208	Ant. Horiz. Seismic, Eh (210)	None					12			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
209	Ant. Horiz. Seismic, Eh (240)	None					12			
210	Ant. Horiz. Seismic, Eh (270)	None					12			
211	Ant. Horiz. Seismic, Eh (300)	None					12			
212	Ant. Horiz. Seismic, Eh (330)	None					12			

Load Combinations

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4	175	1.4																
2	1.2D + 1.0W (0 deg)	Yes	Y		1	1.2	2	1	175	1.2	176	1												
3	1.2D + 1.0W (30 deg)	Yes	Y		1	1.2	3	1	175	1.2	177	1												
4	1.2D + 1.0W (60 deg)	Yes	Y		1	1.2	4	1	175	1.2	178	1												
5	1.2D + 1.0W (90 deg)	Yes	Y		1	1.2	5	1	175	1.2	179	1												
6	1.2D + 1.0W (120 deg)	Yes	Y		1	1.2	6	1	175	1.2	180	1												
7	1.2D + 1.0W (150 deg)	Yes	Y		1	1.2	7	1	175	1.2	181	1												
8	1.2D + 1.0W (180 deg)	Yes	Y		1	1.2	8	1	175	1.2	182	1												
9	1.2D + 1.0W (210 deg)	Yes	Y		1	1.2	9	1	175	1.2	183	1												
10	1.2D + 1.0W (240 deg)	Yes	Y		1	1.2	10	1	175	1.2	184	1												
11	1.2D + 1.0W (270 deg)	Yes	Y		1	1.2	11	1	175	1.2	185	1												
12	1.2D + 1.0W (300 deg)	Yes	Y		1	1.2	12	1	175	1.2	186	1												
13	1.2D + 1.0W (330 deg)	Yes	Y		1	1.2	13	1	175	1.2	187	1												
14	1.2D + Di + Wi (0 deg)	Yes	Y		1	1.2	14	1	15	1	175	1.2	188	1	189	1								
15	1.2D + Di + Wi (30 deg)	Yes	Y		1	1.2	14	1	16	1	175	1.2	188	1	190	1								
16	1.2D + Di + Wi (60 deg)	Yes	Y		1	1.2	14	1	17	1	175	1.2	188	1	191	1								
17	1.2D + Di + Wi (90 deg)	Yes	Y		1	1.2	14	1	18	1	175	1.2	188	1	192	1								
18	1.2D + Di + Wi (120 deg)	Yes	Y		1	1.2	14	1	19	1	175	1.2	188	1	193	1								
19	1.2D + Di + Wi (150 deg)	Yes	Y		1	1.2	14	1	20	1	175	1.2	188	1	194	1								
20	1.2D + Di + Wi (180 deg)	Yes	Y		1	1.2	14	1	21	1	175	1.2	188	1	195	1								
21	1.2D + Di + Wi (210 deg)	Yes	Y		1	1.2	14	1	22	1	175	1.2	188	1	196	1								
22	1.2D + Di + Wi (240 deg)	Yes	Y		1	1.2	14	1	23	1	175	1.2	188	1	197	1								
23	1.2D + Di + Wi (270 deg)	Yes	Y		1	1.2	14	1	24	1	175	1.2	188	1	198	1								
24	1.2D + Di + Wi (300 deg)	Yes	Y		1	1.2	14	1	25	1	175	1.2	188	1	199	1								
25	1.2D + Di + Wi (330 deg)	Yes	Y		1	1.2	14	1	26	1	175	1.2	188	1	200	1								
26	1.2D + 1.0 Ev + 1.0Eh (0 deg)	Yes	Y		1	1.2	1	.037	27	.092	175	1.2	175	.037	201	.092								
27	1.2D + 1.0 Ev + 1.0Eh (30 de..	Yes	Y		1	1.2	1	.037	28	.092	175	1.2	175	.037	202	.092								
28	1.2D + 1.0 Ev + 1.0Eh (60 de..	Yes	Y		1	1.2	1	.037	29	.092	175	1.2	175	.037	203	.092								
29	1.2D + 1.0 Ev + 1.0Eh (90 de..	Yes	Y		1	1.2	1	.037	30	.092	175	1.2	175	.037	204	.092								
30	1.2D + 1.0 Ev + 1.0Eh (120 d..	Yes	Y		1	1.2	1	.037	31	.092	175	1.2	175	.037	205	.092								
31	1.2D + 1.0 Ev + 1.0Eh (150 d..	Yes	Y		1	1.2	1	.037	32	.092	175	1.2	175	.037	206	.092								
32	1.2D + 1.0 Ev + 1.0Eh (180 d..	Yes	Y		1	1.2	1	.037	33	.092	175	1.2	175	.037	207	.092								
33	1.2D + 1.0 Ev + 1.0Eh (210 d..	Yes	Y		1	1.2	1	.037	34	.092	175	1.2	175	.037	208	.092								
34	1.2D + 1.0 Ev + 1.0Eh (240 d..	Yes	Y		1	1.2	1	.037	35	.092	175	1.2	175	.037	209	.092								
35	1.2D + 1.0 Ev + 1.0Eh (270 d..	Yes	Y		1	1.2	1	.037	36	.092	175	1.2	175	.037	210	.092								
36	1.2D + 1.0 Ev + 1.0Eh (300 d..	Yes	Y		1	1.2	1	.037	37	.092	175	1.2	175	.037	211	.092								
37	1.2D + 1.0 Ev + 1.0Eh (330 d..	Yes	Y		1	1.2	1	.037	38	.092	175	1.2	175	.037	212	.092								
38	1.2D + 1.5Lm1 + 1.0Wm (0 d..	Yes	Y		1	1.2	39	1.5	2	.069	175	1.2	176	.069										
39	1.2D + 1.5Lm1 + 1.0Wm (30 ..	Yes	Y		1	1.2	39	1.5	3	.069	175	1.2	177	.069										
40	1.2D + 1.5Lm1 + 1.0Wm (60 ..	Yes	Y		1	1.2	39	1.5	4	.069	175	1.2	178	.069										
41	1.2D + 1.5Lm1 + 1.0Wm (90 ..	Yes	Y		1	1.2	39	1.5	5	.069	175	1.2	179	.069										
42	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.5	6	.069	175	1.2	180	.069										
43	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.5	7	.069	175	1.2	181	.069										
44	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.5	8	.069	175	1.2	182	.069										
45	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.5	9	.069	175	1.2	183	.069										
46	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.5	10	.069	175	1.2	184	.069										
47	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.5	11	.069	175	1.2	185	.069										
48	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.5	12	.069	175	1.2	186	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
49	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.5	13	.069	175	1.2	187	.069										
50	1.2D + 1.5Lm2 + 1.0Wm (0 d..	Yes	Y		1	1.2	40	1.5	2	.069	175	1.2	176	.069										
51	1.2D + 1.5Lm2 + 1.0Wm (30 ..	Yes	Y		1	1.2	40	1.5	3	.069	175	1.2	177	.069										
52	1.2D + 1.5Lm2 + 1.0Wm (60 ..	Yes	Y		1	1.2	40	1.5	4	.069	175	1.2	178	.069										
53	1.2D + 1.5Lm2 + 1.0Wm (90 ..	Yes	Y		1	1.2	40	1.5	5	.069	175	1.2	179	.069										
54	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y		1	1.2	40	1.5	6	.069	175	1.2	180	.069										
55	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y		1	1.2	40	1.5	7	.069	175	1.2	181	.069										
56	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y		1	1.2	40	1.5	8	.069	175	1.2	182	.069										
57	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y		1	1.2	40	1.5	9	.069	175	1.2	183	.069										
58	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y		1	1.2	40	1.5	10	.069	175	1.2	184	.069										
59	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y		1	1.2	40	1.5	11	.069	175	1.2	185	.069										
60	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y		1	1.2	40	1.5	12	.069	175	1.2	186	.069										
61	1.2D + 1.5Lm2 + 1.0Wm (33...	Yes	Y		1	1.2	40	1.5	13	.069	175	1.2	187	.069										
62	1.2D + 1.5Lm3 + 1.0Wm (0 d..	Yes	Y		1	1.2	41	1.5	2	.069	175	1.2	176	.069										
63	1.2D + 1.5Lm3 + 1.0Wm (30 ..	Yes	Y		1	1.2	41	1.5	3	.069	175	1.2	177	.069										
64	1.2D + 1.5Lm3 + 1.0Wm (60 ..	Yes	Y		1	1.2	41	1.5	4	.069	175	1.2	178	.069										
65	1.2D + 1.5Lm3 + 1.0Wm (90 ..	Yes	Y		1	1.2	41	1.5	5	.069	175	1.2	179	.069										
66	1.2D + 1.5Lm3 + 1.0Wm (12...	Yes	Y		1	1.2	41	1.5	6	.069	175	1.2	180	.069										
67	1.2D + 1.5Lm3 + 1.0Wm (15...	Yes	Y		1	1.2	41	1.5	7	.069	175	1.2	181	.069										
68	1.2D + 1.5Lm3 + 1.0Wm (18...	Yes	Y		1	1.2	41	1.5	8	.069	175	1.2	182	.069										
69	1.2D + 1.5Lm3 + 1.0Wm (21...	Yes	Y		1	1.2	41	1.5	9	.069	175	1.2	183	.069										
70	1.2D + 1.5Lm3 + 1.0Wm (24...	Yes	Y		1	1.2	41	1.5	10	.069	175	1.2	184	.069										
71	1.2D + 1.5Lm3 + 1.0Wm (27...	Yes	Y		1	1.2	41	1.5	11	.069	175	1.2	185	.069										
72	1.2D + 1.5Lm3 + 1.0Wm (30...	Yes	Y		1	1.2	41	1.5	12	.069	175	1.2	186	.069										
73	1.2D + 1.5Lm3 + 1.0Wm (33...	Yes	Y		1	1.2	41	1.5	13	.069	175	1.2	187	.069										
74	1.2D + 1.5Lm4 + 1.0Wm (0 d..		Y		1	1.2	42	1.5	2	.069	175	1.2	176	.069										
75	1.2D + 1.5Lm4 + 1.0Wm (30 ..		Y		1	1.2	42	1.5	3	.069	175	1.2	177	.069										
76	1.2D + 1.5Lm4 + 1.0Wm (60 ..		Y		1	1.2	42	1.5	4	.069	175	1.2	178	.069										
77	1.2D + 1.5Lm4 + 1.0Wm (90 ..		Y		1	1.2	42	1.5	5	.069	175	1.2	179	.069										
78	1.2D + 1.5Lm4 + 1.0Wm (12...		Y		1	1.2	42	1.5	6	.069	175	1.2	180	.069										
79	1.2D + 1.5Lm4 + 1.0Wm (15...		Y		1	1.2	42	1.5	7	.069	175	1.2	181	.069										
80	1.2D + 1.5Lm4 + 1.0Wm (18...		Y		1	1.2	42	1.5	8	.069	175	1.2	182	.069										
81	1.2D + 1.5Lm4 + 1.0Wm (21...		Y		1	1.2	42	1.5	9	.069	175	1.2	183	.069										
82	1.2D + 1.5Lm4 + 1.0Wm (24...		Y		1	1.2	42	1.5	10	.069	175	1.2	184	.069										
83	1.2D + 1.5Lm4 + 1.0Wm (27...		Y		1	1.2	42	1.5	11	.069	175	1.2	185	.069										
84	1.2D + 1.5Lm4 + 1.0Wm (30...		Y		1	1.2	42	1.5	12	.069	175	1.2	186	.069										
85	1.2D + 1.5Lm4 + 1.0Wm (33...		Y		1	1.2	42	1.5	13	.069	175	1.2	187	.069										
86	1.2D + 1.5Lm5 + 1.0Wm (0 d..		Y		1	1.2	43	1.5	2	.069	175	1.2	176	.069										
87	1.2D + 1.5Lm5 + 1.0Wm (30 ..		Y		1	1.2	43	1.5	3	.069	175	1.2	177	.069										
88	1.2D + 1.5Lm5 + 1.0Wm (60 ..		Y		1	1.2	43	1.5	4	.069	175	1.2	178	.069										
89	1.2D + 1.5Lm5 + 1.0Wm (90 ..		Y		1	1.2	43	1.5	5	.069	175	1.2	179	.069										
90	1.2D + 1.5Lm5 + 1.0Wm (12...		Y		1	1.2	43	1.5	6	.069	175	1.2	180	.069										
91	1.2D + 1.5Lm5 + 1.0Wm (15...		Y		1	1.2	43	1.5	7	.069	175	1.2	181	.069										
92	1.2D + 1.5Lm5 + 1.0Wm (18...		Y		1	1.2	43	1.5	8	.069	175	1.2	182	.069										
93	1.2D + 1.5Lm5 + 1.0Wm (21...		Y		1	1.2	43	1.5	9	.069	175	1.2	183	.069										
94	1.2D + 1.5Lm5 + 1.0Wm (24...		Y		1	1.2	43	1.5	10	.069	175	1.2	184	.069										
95	1.2D + 1.5Lm5 + 1.0Wm (27...		Y		1	1.2	43	1.5	11	.069	175	1.2	185	.069										
96	1.2D + 1.5Lm5 + 1.0Wm (30...		Y		1	1.2	43	1.5	12	.069	175	1.2	186	.069										
97	1.2D + 1.5Lm5 + 1.0Wm (33...		Y		1	1.2	43	1.5	13	.069	175	1.2	187	.069										
98	1.2D + 1.5Lm6 + 1.0Wm (0 d..		Y		1	1.2	44	1.5	2	.069	175	1.2	176	.069										
99	1.2D + 1.5Lm6 + 1.0Wm (30 ..		Y		1	1.2	44	1.5	3	.069	175	1.2	177	.069										
100	1.2D + 1.5Lm6 + 1.0Wm (60 ..		Y		1	1.2	44	1.5	4	.069	175	1.2	178	.069										
101	1.2D + 1.5Lm6 + 1.0Wm (90 ..		Y		1	1.2	44	1.5	5	.069	175	1.2	179	.069										
102	1.2D + 1.5Lm6 + 1.0Wm (12...		Y		1	1.2	44	1.5	6	.069	175	1.2	180	.069										
103	1.2D + 1.5Lm6 + 1.0Wm (15...		Y		1	1.2	44	1.5	7	.069	175	1.2	181	.069										
104	1.2D + 1.5Lm6 + 1.0Wm (18...		Y		1	1.2	44	1.5	8	.069	175	1.2	182	.069										
105	1.2D + 1.5Lm6 + 1.0Wm (21...		Y		1	1.2	44	1.5	9	.069	175	1.2	183	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
106	1.2D + 1.5Lm6 + 1.0Wm (24...		Y		1	1.2	44	1.5	10	.069	175	1.2	184	.069										
107	1.2D + 1.5Lm6 + 1.0Wm (27...		Y		1	1.2	44	1.5	11	.069	175	1.2	185	.069										
108	1.2D + 1.5Lm6 + 1.0Wm (30...		Y		1	1.2	44	1.5	12	.069	175	1.2	186	.069										
109	1.2D + 1.5Lm6 + 1.0Wm (33...		Y		1	1.2	44	1.5	13	.069	175	1.2	187	.069										
110	1.2D + 1.5Lm7 + 1.0Wm (0 d...		Y		1	1.2	45	1.5	2	.069	175	1.2	176	.069										
111	1.2D + 1.5Lm7 + 1.0Wm (30 ...		Y		1	1.2	45	1.5	3	.069	175	1.2	177	.069										
112	1.2D + 1.5Lm7 + 1.0Wm (60 ...		Y		1	1.2	45	1.5	4	.069	175	1.2	178	.069										
113	1.2D + 1.5Lm7 + 1.0Wm (90 ...		Y		1	1.2	45	1.5	5	.069	175	1.2	179	.069										
114	1.2D + 1.5Lm7 + 1.0Wm (12...		Y		1	1.2	45	1.5	6	.069	175	1.2	180	.069										
115	1.2D + 1.5Lm7 + 1.0Wm (15...		Y		1	1.2	45	1.5	7	.069	175	1.2	181	.069										
116	1.2D + 1.5Lm7 + 1.0Wm (18...		Y		1	1.2	45	1.5	8	.069	175	1.2	182	.069										
117	1.2D + 1.5Lm7 + 1.0Wm (21...		Y		1	1.2	45	1.5	9	.069	175	1.2	183	.069										
118	1.2D + 1.5Lm7 + 1.0Wm (24...		Y		1	1.2	45	1.5	10	.069	175	1.2	184	.069										
119	1.2D + 1.5Lm7 + 1.0Wm (27...		Y		1	1.2	45	1.5	11	.069	175	1.2	185	.069										
120	1.2D + 1.5Lm7 + 1.0Wm (30...		Y		1	1.2	45	1.5	12	.069	175	1.2	186	.069										
121	1.2D + 1.5Lm7 + 1.0Wm (33...		Y		1	1.2	45	1.5	13	.069	175	1.2	187	.069										
122	1.2D + 1.5Lm8 + 1.0Wm (0 d...		Y		1	1.2	46	1.5	2	.069	175	1.2	176	.069										
123	1.2D + 1.5Lm8 + 1.0Wm (30 ...		Y		1	1.2	46	1.5	3	.069	175	1.2	177	.069										
124	1.2D + 1.5Lm8 + 1.0Wm (60 ...		Y		1	1.2	46	1.5	4	.069	175	1.2	178	.069										
125	1.2D + 1.5Lm8 + 1.0Wm (90 ...		Y		1	1.2	46	1.5	5	.069	175	1.2	179	.069										
126	1.2D + 1.5Lm8 + 1.0Wm (12...		Y		1	1.2	46	1.5	6	.069	175	1.2	180	.069										
127	1.2D + 1.5Lm8 + 1.0Wm (15...		Y		1	1.2	46	1.5	7	.069	175	1.2	181	.069										
128	1.2D + 1.5Lm8 + 1.0Wm (18...		Y		1	1.2	46	1.5	8	.069	175	1.2	182	.069										
129	1.2D + 1.5Lm8 + 1.0Wm (21...		Y		1	1.2	46	1.5	9	.069	175	1.2	183	.069										
130	1.2D + 1.5Lm8 + 1.0Wm (24...		Y		1	1.2	46	1.5	10	.069	175	1.2	184	.069										
131	1.2D + 1.5Lm8 + 1.0Wm (27...		Y		1	1.2	46	1.5	11	.069	175	1.2	185	.069										
132	1.2D + 1.5Lm8 + 1.0Wm (30...		Y		1	1.2	46	1.5	12	.069	175	1.2	186	.069										
133	1.2D + 1.5Lm8 + 1.0Wm (33...		Y		1	1.2	46	1.5	13	.069	175	1.2	187	.069										
134	1.2D + 1.5Lm9 + 1.0Wm (0 d...		Y		1	1.2	47	1.5	2	.069	175	1.2	176	.069										
135	1.2D + 1.5Lm9 + 1.0Wm (30 ...		Y		1	1.2	47	1.5	3	.069	175	1.2	177	.069										
136	1.2D + 1.5Lm9 + 1.0Wm (60 ...		Y		1	1.2	47	1.5	4	.069	175	1.2	178	.069										
137	1.2D + 1.5Lm9 + 1.0Wm (90 ...		Y		1	1.2	47	1.5	5	.069	175	1.2	179	.069										
138	1.2D + 1.5Lm9 + 1.0Wm (12...		Y		1	1.2	47	1.5	6	.069	175	1.2	180	.069										
139	1.2D + 1.5Lm9 + 1.0Wm (15...		Y		1	1.2	47	1.5	7	.069	175	1.2	181	.069										
140	1.2D + 1.5Lm9 + 1.0Wm (18...		Y		1	1.2	47	1.5	8	.069	175	1.2	182	.069										
141	1.2D + 1.5Lm9 + 1.0Wm (21...		Y		1	1.2	47	1.5	9	.069	175	1.2	183	.069										
142	1.2D + 1.5Lm9 + 1.0Wm (24...		Y		1	1.2	47	1.5	10	.069	175	1.2	184	.069										
143	1.2D + 1.5Lm9 + 1.0Wm (27...		Y		1	1.2	47	1.5	11	.069	175	1.2	185	.069										
144	1.2D + 1.5Lm9 + 1.0Wm (30...		Y		1	1.2	47	1.5	12	.069	175	1.2	186	.069										
145	1.2D + 1.5Lm9 + 1.0Wm (33...		Y		1	1.2	47	1.5	13	.069	175	1.2	187	.069										
146	1.2D + 1.5Lm10 + 1.0Wm (0 ...		Y		1	1.2	48	1.5	2	.069	175	1.2	176	.069										
147	1.2D + 1.5Lm10 + 1.0Wm (3...		Y		1	1.2	48	1.5	3	.069	175	1.2	177	.069										
148	1.2D + 1.5Lm10 + 1.0Wm (6...		Y		1	1.2	48	1.5	4	.069	175	1.2	178	.069										
149	1.2D + 1.5Lm10 + 1.0Wm (9...		Y		1	1.2	48	1.5	5	.069	175	1.2	179	.069										
150	1.2D + 1.5Lm10 + 1.0Wm (1...		Y		1	1.2	48	1.5	6	.069	175	1.2	180	.069										
151	1.2D + 1.5Lm10 + 1.0Wm (1...		Y		1	1.2	48	1.5	7	.069	175	1.2	181	.069										
152	1.2D + 1.5Lm10 + 1.0Wm (1...		Y		1	1.2	48	1.5	8	.069	175	1.2	182	.069										
153	1.2D + 1.5Lm10 + 1.0Wm (2...		Y		1	1.2	48	1.5	9	.069	175	1.2	183	.069										
154	1.2D + 1.5Lm10 + 1.0Wm (2...		Y		1	1.2	48	1.5	10	.069	175	1.2	184	.069										
155	1.2D + 1.5Lm10 + 1.0Wm (2...		Y		1	1.2	48	1.5	11	.069	175	1.2	185	.069										
156	1.2D + 1.5Lm10 + 1.0Wm (3...		Y		1	1.2	48	1.5	12	.069	175	1.2	186	.069										
157	1.2D + 1.5Lm10 + 1.0Wm (3...		Y		1	1.2	48	1.5	13	.069	175	1.2	187	.069										
158	1.2D + 1.5Lm11 + 1.0Wm (0 ...		Y		1	1.2	49	1.5	2	.069	175	1.2	176	.069										
159	1.2D + 1.5Lm11 + 1.0Wm (3...		Y		1	1.2	49	1.5	3	.069	175	1.2	177	.069										
160	1.2D + 1.5Lm11 + 1.0Wm (6...		Y		1	1.2	49	1.5	4	.069	175	1.2	178	.069										
161	1.2D + 1.5Lm11 + 1.0Wm (9...		Y		1	1.2	49	1.5	5	.069	175	1.2	179	.069										
162	1.2D + 1.5Lm11 + 1.0Wm (1...		Y		1	1.2	49	1.5	6	.069	175	1.2	180	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
163	1.2D + 1.5Lm11 + 1.0Wm (1...		Y		1	1.2	49	1.5	7	.069	175	1.2	181	.069										
164	1.2D + 1.5Lm11 + 1.0Wm (1...		Y		1	1.2	49	1.5	8	.069	175	1.2	182	.069										
165	1.2D + 1.5Lm11 + 1.0Wm (2...		Y		1	1.2	49	1.5	9	.069	175	1.2	183	.069										
166	1.2D + 1.5Lm11 + 1.0Wm (2...		Y		1	1.2	49	1.5	10	.069	175	1.2	184	.069										
167	1.2D + 1.5Lm11 + 1.0Wm (2...		Y		1	1.2	49	1.5	11	.069	175	1.2	185	.069										
168	1.2D + 1.5Lm11 + 1.0Wm (3...		Y		1	1.2	49	1.5	12	.069	175	1.2	186	.069										
169	1.2D + 1.5Lm11 + 1.0Wm (3...		Y		1	1.2	49	1.5	13	.069	175	1.2	187	.069										
170	1.2D + 1.5Lm12 + 1.0Wm (0 ...		Y		1	1.2	50	1.5	2	.069	175	1.2	176	.069										
171	1.2D + 1.5Lm12 + 1.0Wm (3...		Y		1	1.2	50	1.5	3	.069	175	1.2	177	.069										
172	1.2D + 1.5Lm12 + 1.0Wm (6...		Y		1	1.2	50	1.5	4	.069	175	1.2	178	.069										
173	1.2D + 1.5Lm12 + 1.0Wm (9...		Y		1	1.2	50	1.5	5	.069	175	1.2	179	.069										
174	1.2D + 1.5Lm12 + 1.0Wm (1...		Y		1	1.2	50	1.5	6	.069	175	1.2	180	.069										
175	1.2D + 1.5Lm12 + 1.0Wm (1...		Y		1	1.2	50	1.5	7	.069	175	1.2	181	.069										
176	1.2D + 1.5Lm12 + 1.0Wm (1...		Y		1	1.2	50	1.5	8	.069	175	1.2	182	.069										
177	1.2D + 1.5Lm12 + 1.0Wm (2...		Y		1	1.2	50	1.5	9	.069	175	1.2	183	.069										
178	1.2D + 1.5Lm12 + 1.0Wm (2...		Y		1	1.2	50	1.5	10	.069	175	1.2	184	.069										
179	1.2D + 1.5Lm12 + 1.0Wm (2...		Y		1	1.2	50	1.5	11	.069	175	1.2	185	.069										
180	1.2D + 1.5Lm12 + 1.0Wm (3...		Y		1	1.2	50	1.5	12	.069	175	1.2	186	.069										
181	1.2D + 1.5Lm12 + 1.0Wm (3...		Y		1	1.2	50	1.5	13	.069	175	1.2	187	.069										
182	1.2D + 1.5Lm13 + 1.0Wm (0 ...		Y		1	1.2	51	1.5	2	.069	175	1.2	176	.069										
183	1.2D + 1.5Lm13 + 1.0Wm (3...		Y		1	1.2	51	1.5	3	.069	175	1.2	177	.069										
184	1.2D + 1.5Lm13 + 1.0Wm (6...		Y		1	1.2	51	1.5	4	.069	175	1.2	178	.069										
185	1.2D + 1.5Lm13 + 1.0Wm (9...		Y		1	1.2	51	1.5	5	.069	175	1.2	179	.069										
186	1.2D + 1.5Lm13 + 1.0Wm (1...		Y		1	1.2	51	1.5	6	.069	175	1.2	180	.069										
187	1.2D + 1.5Lm13 + 1.0Wm (1...		Y		1	1.2	51	1.5	7	.069	175	1.2	181	.069										
188	1.2D + 1.5Lm13 + 1.0Wm (1...		Y		1	1.2	51	1.5	8	.069	175	1.2	182	.069										
189	1.2D + 1.5Lm13 + 1.0Wm (2...		Y		1	1.2	51	1.5	9	.069	175	1.2	183	.069										
190	1.2D + 1.5Lm13 + 1.0Wm (2...		Y		1	1.2	51	1.5	10	.069	175	1.2	184	.069										
191	1.2D + 1.5Lm13 + 1.0Wm (2...		Y		1	1.2	51	1.5	11	.069	175	1.2	185	.069										
192	1.2D + 1.5Lm13 + 1.0Wm (3...		Y		1	1.2	51	1.5	12	.069	175	1.2	186	.069										
193	1.2D + 1.5Lm13 + 1.0Wm (3...		Y		1	1.2	51	1.5	13	.069	175	1.2	187	.069										
194	1.2D + 1.5Lm14 + 1.0Wm (0 ...		Y		1	1.2	52	1.5	2	.069	175	1.2	176	.069										
195	1.2D + 1.5Lm14 + 1.0Wm (3...		Y		1	1.2	52	1.5	3	.069	175	1.2	177	.069										
196	1.2D + 1.5Lm14 + 1.0Wm (6...		Y		1	1.2	52	1.5	4	.069	175	1.2	178	.069										
197	1.2D + 1.5Lm14 + 1.0Wm (9...		Y		1	1.2	52	1.5	5	.069	175	1.2	179	.069										
198	1.2D + 1.5Lm14 + 1.0Wm (1...		Y		1	1.2	52	1.5	6	.069	175	1.2	180	.069										
199	1.2D + 1.5Lm14 + 1.0Wm (1...		Y		1	1.2	52	1.5	7	.069	175	1.2	181	.069										
200	1.2D + 1.5Lm14 + 1.0Wm (1...		Y		1	1.2	52	1.5	8	.069	175	1.2	182	.069										
201	1.2D + 1.5Lm14 + 1.0Wm (2...		Y		1	1.2	52	1.5	9	.069	175	1.2	183	.069										
202	1.2D + 1.5Lm14 + 1.0Wm (2...		Y		1	1.2	52	1.5	10	.069	175	1.2	184	.069										
203	1.2D + 1.5Lm14 + 1.0Wm (2...		Y		1	1.2	52	1.5	11	.069	175	1.2	185	.069										
204	1.2D + 1.5Lm14 + 1.0Wm (3...		Y		1	1.2	52	1.5	12	.069	175	1.2	186	.069										
205	1.2D + 1.5Lm14 + 1.0Wm (3...		Y		1	1.2	52	1.5	13	.069	175	1.2	187	.069										
206	1.2D + 1.5Lm15 + 1.0Wm (0 ...		Y		1	1.2	53	1.5	2	.069	175	1.2	176	.069										
207	1.2D + 1.5Lm15 + 1.0Wm (3...		Y		1	1.2	53	1.5	3	.069	175	1.2	177	.069										
208	1.2D + 1.5Lm15 + 1.0Wm (6...		Y		1	1.2	53	1.5	4	.069	175	1.2	178	.069										
209	1.2D + 1.5Lm15 + 1.0Wm (9...		Y		1	1.2	53	1.5	5	.069	175	1.2	179	.069										
210	1.2D + 1.5Lm15 + 1.0Wm (1...		Y		1	1.2	53	1.5	6	.069	175	1.2	180	.069										
211	1.2D + 1.5Lm15 + 1.0Wm (1...		Y		1	1.2	53	1.5	7	.069	175	1.2	181	.069										
212	1.2D + 1.5Lm15 + 1.0Wm (1...		Y		1	1.2	53	1.5	8	.069	175	1.2	182	.069										
213	1.2D + 1.5Lm15 + 1.0Wm (2...		Y		1	1.2	53	1.5	9	.069	175	1.2	183	.069										
214	1.2D + 1.5Lm15 + 1.0Wm (2...		Y		1	1.2	53	1.5	10	.069	175	1.2	184	.069										
215	1.2D + 1.5Lm15 + 1.0Wm (2...		Y		1	1.2	53	1.5	11	.069	175	1.2	185	.069										
216	1.2D + 1.5Lm15 + 1.0Wm (3...		Y		1	1.2	53	1.5	12	.069	175	1.2	186	.069										
217	1.2D + 1.5Lm15 + 1.0Wm (3...		Y		1	1.2	53	1.5	13	.069	175	1.2	187	.069										
218	1.2D + 1.5Lm16 + 1.0Wm (0 ...		Y		1	1.2	54	1.5	2	.069	175	1.2	176	.069										
219	1.2D + 1.5Lm16 + 1.0Wm (3...		Y		1	1.2	54	1.5	3	.069	175	1.2	177	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
220	1.2D + 1.5Lm16 + 1.0Wm (6...		Y		1	1.2	54	1.5	4	.069	175	1.2	178	.069										
221	1.2D + 1.5Lm16 + 1.0Wm (9...		Y		1	1.2	54	1.5	5	.069	175	1.2	179	.069										
222	1.2D + 1.5Lm16 + 1.0Wm (1...		Y		1	1.2	54	1.5	6	.069	175	1.2	180	.069										
223	1.2D + 1.5Lm16 + 1.0Wm (1...		Y		1	1.2	54	1.5	7	.069	175	1.2	181	.069										
224	1.2D + 1.5Lm16 + 1.0Wm (1...		Y		1	1.2	54	1.5	8	.069	175	1.2	182	.069										
225	1.2D + 1.5Lm16 + 1.0Wm (2...		Y		1	1.2	54	1.5	9	.069	175	1.2	183	.069										
226	1.2D + 1.5Lm16 + 1.0Wm (2...		Y		1	1.2	54	1.5	10	.069	175	1.2	184	.069										
227	1.2D + 1.5Lm16 + 1.0Wm (2...		Y		1	1.2	54	1.5	11	.069	175	1.2	185	.069										
228	1.2D + 1.5Lm16 + 1.0Wm (3...		Y		1	1.2	54	1.5	12	.069	175	1.2	186	.069										
229	1.2D + 1.5Lm16 + 1.0Wm (3...		Y		1	1.2	54	1.5	13	.069	175	1.2	187	.069										
230	1.2D + 1.5Lm17 + 1.0Wm (0 ...		Y		1	1.2	55	1.5	2	.069	175	1.2	176	.069										
231	1.2D + 1.5Lm17 + 1.0Wm (3...		Y		1	1.2	55	1.5	3	.069	175	1.2	177	.069										
232	1.2D + 1.5Lm17 + 1.0Wm (6...		Y		1	1.2	55	1.5	4	.069	175	1.2	178	.069										
233	1.2D + 1.5Lm17 + 1.0Wm (9...		Y		1	1.2	55	1.5	5	.069	175	1.2	179	.069										
234	1.2D + 1.5Lm17 + 1.0Wm (1...		Y		1	1.2	55	1.5	6	.069	175	1.2	180	.069										
235	1.2D + 1.5Lm17 + 1.0Wm (1...		Y		1	1.2	55	1.5	7	.069	175	1.2	181	.069										
236	1.2D + 1.5Lm17 + 1.0Wm (1...		Y		1	1.2	55	1.5	8	.069	175	1.2	182	.069										
237	1.2D + 1.5Lm17 + 1.0Wm (2...		Y		1	1.2	55	1.5	9	.069	175	1.2	183	.069										
238	1.2D + 1.5Lm17 + 1.0Wm (2...		Y		1	1.2	55	1.5	10	.069	175	1.2	184	.069										
239	1.2D + 1.5Lm17 + 1.0Wm (2...		Y		1	1.2	55	1.5	11	.069	175	1.2	185	.069										
240	1.2D + 1.5Lm17 + 1.0Wm (3...		Y		1	1.2	55	1.5	12	.069	175	1.2	186	.069										
241	1.2D + 1.5Lm17 + 1.0Wm (3...		Y		1	1.2	55	1.5	13	.069	175	1.2	187	.069										
242	1.2D + 1.5Lm18 + 1.0Wm (0 ...		Y		1	1.2	56	1.5	2	.069	175	1.2	176	.069										
243	1.2D + 1.5Lm18 + 1.0Wm (3...		Y		1	1.2	56	1.5	3	.069	175	1.2	177	.069										
244	1.2D + 1.5Lm18 + 1.0Wm (6...		Y		1	1.2	56	1.5	4	.069	175	1.2	178	.069										
245	1.2D + 1.5Lm18 + 1.0Wm (9...		Y		1	1.2	56	1.5	5	.069	175	1.2	179	.069										
246	1.2D + 1.5Lm18 + 1.0Wm (1...		Y		1	1.2	56	1.5	6	.069	175	1.2	180	.069										
247	1.2D + 1.5Lm18 + 1.0Wm (1...		Y		1	1.2	56	1.5	7	.069	175	1.2	181	.069										
248	1.2D + 1.5Lm18 + 1.0Wm (1...		Y		1	1.2	56	1.5	8	.069	175	1.2	182	.069										
249	1.2D + 1.5Lm18 + 1.0Wm (2...		Y		1	1.2	56	1.5	9	.069	175	1.2	183	.069										
250	1.2D + 1.5Lm18 + 1.0Wm (2...		Y		1	1.2	56	1.5	10	.069	175	1.2	184	.069										
251	1.2D + 1.5Lm18 + 1.0Wm (2...		Y		1	1.2	56	1.5	11	.069	175	1.2	185	.069										
252	1.2D + 1.5Lm18 + 1.0Wm (3...		Y		1	1.2	56	1.5	12	.069	175	1.2	186	.069										
253	1.2D + 1.5Lm18 + 1.0Wm (3...		Y		1	1.2	56	1.5	13	.069	175	1.2	187	.069										
254	1.2D + 1.5Lm19 + 1.0Wm (0 ...		Y		1	1.2	57	1.5	2	.069	175	1.2	176	.069										
255	1.2D + 1.5Lm19 + 1.0Wm (3...		Y		1	1.2	57	1.5	3	.069	175	1.2	177	.069										
256	1.2D + 1.5Lm19 + 1.0Wm (6...		Y		1	1.2	57	1.5	4	.069	175	1.2	178	.069										
257	1.2D + 1.5Lm19 + 1.0Wm (9...		Y		1	1.2	57	1.5	5	.069	175	1.2	179	.069										
258	1.2D + 1.5Lm19 + 1.0Wm (1...		Y		1	1.2	57	1.5	6	.069	175	1.2	180	.069										
259	1.2D + 1.5Lm19 + 1.0Wm (1...		Y		1	1.2	57	1.5	7	.069	175	1.2	181	.069										
260	1.2D + 1.5Lm19 + 1.0Wm (1...		Y		1	1.2	57	1.5	8	.069	175	1.2	182	.069										
261	1.2D + 1.5Lm19 + 1.0Wm (2...		Y		1	1.2	57	1.5	9	.069	175	1.2	183	.069										
262	1.2D + 1.5Lm19 + 1.0Wm (2...		Y		1	1.2	57	1.5	10	.069	175	1.2	184	.069										
263	1.2D + 1.5Lm19 + 1.0Wm (2...		Y		1	1.2	57	1.5	11	.069	175	1.2	185	.069										
264	1.2D + 1.5Lm19 + 1.0Wm (3...		Y		1	1.2	57	1.5	12	.069	175	1.2	186	.069										
265	1.2D + 1.5Lm19 + 1.0Wm (3...		Y		1	1.2	57	1.5	13	.069	175	1.2	187	.069										
266	1.2D + 1.5Lm20 + 1.0Wm (0 ...		Y		1	1.2	58	1.5	2	.069	175	1.2	176	.069										
267	1.2D + 1.5Lm20 + 1.0Wm (3...		Y		1	1.2	58	1.5	3	.069	175	1.2	177	.069										
268	1.2D + 1.5Lm20 + 1.0Wm (6...		Y		1	1.2	58	1.5	4	.069	175	1.2	178	.069										
269	1.2D + 1.5Lm20 + 1.0Wm (9...		Y		1	1.2	58	1.5	5	.069	175	1.2	179	.069										
270	1.2D + 1.5Lm20 + 1.0Wm (1...		Y		1	1.2	58	1.5	6	.069	175	1.2	180	.069										
271	1.2D + 1.5Lm20 + 1.0Wm (1...		Y		1	1.2	58	1.5	7	.069	175	1.2	181	.069										
272	1.2D + 1.5Lm20 + 1.0Wm (1...		Y		1	1.2	58	1.5	8	.069	175	1.2	182	.069										
273	1.2D + 1.5Lm20 + 1.0Wm (2...		Y		1	1.2	58	1.5	9	.069	175	1.2	183	.069										
274	1.2D + 1.5Lm20 + 1.0Wm (2...		Y		1	1.2	58	1.5	10	.069	175	1.2	184	.069										
275	1.2D + 1.5Lm20 + 1.0Wm (2...		Y		1	1.2	58	1.5	11	.069	175	1.2	185	.069										
276	1.2D + 1.5Lm20 + 1.0Wm (3...		Y		1	1.2	58	1.5	12	.069	175	1.2	186	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
277	1.2D + 1.5Lm20 + 1.0Wm (3...		Y		1	1.2	58	1.5	13	.069	175	1.2	187	.069										
278	1.2D + 1.5Lm21 + 1.0Wm (0 ...		Y		1	1.2	59	1.5	2	.069	175	1.2	176	.069										
279	1.2D + 1.5Lm21 + 1.0Wm (3...		Y		1	1.2	59	1.5	3	.069	175	1.2	177	.069										
280	1.2D + 1.5Lm21 + 1.0Wm (6...		Y		1	1.2	59	1.5	4	.069	175	1.2	178	.069										
281	1.2D + 1.5Lm21 + 1.0Wm (9...		Y		1	1.2	59	1.5	5	.069	175	1.2	179	.069										
282	1.2D + 1.5Lm21 + 1.0Wm (1...		Y		1	1.2	59	1.5	6	.069	175	1.2	180	.069										
283	1.2D + 1.5Lm21 + 1.0Wm (1...		Y		1	1.2	59	1.5	7	.069	175	1.2	181	.069										
284	1.2D + 1.5Lm21 + 1.0Wm (1...		Y		1	1.2	59	1.5	8	.069	175	1.2	182	.069										
285	1.2D + 1.5Lm21 + 1.0Wm (2...		Y		1	1.2	59	1.5	9	.069	175	1.2	183	.069										
286	1.2D + 1.5Lm21 + 1.0Wm (2...		Y		1	1.2	59	1.5	10	.069	175	1.2	184	.069										
287	1.2D + 1.5Lm21 + 1.0Wm (2...		Y		1	1.2	59	1.5	11	.069	175	1.2	185	.069										
288	1.2D + 1.5Lm21 + 1.0Wm (3...		Y		1	1.2	59	1.5	12	.069	175	1.2	186	.069										
289	1.2D + 1.5Lm21 + 1.0Wm (3...		Y		1	1.2	59	1.5	13	.069	175	1.2	187	.069										
290	1.2D + 1.5Lm22 + 1.0Wm (0 ...		Y		1	1.2	60	1.5	2	.069	175	1.2	176	.069										
291	1.2D + 1.5Lm22 + 1.0Wm (3...		Y		1	1.2	60	1.5	3	.069	175	1.2	177	.069										
292	1.2D + 1.5Lm22 + 1.0Wm (6...		Y		1	1.2	60	1.5	4	.069	175	1.2	178	.069										
293	1.2D + 1.5Lm22 + 1.0Wm (9...		Y		1	1.2	60	1.5	5	.069	175	1.2	179	.069										
294	1.2D + 1.5Lm22 + 1.0Wm (1...		Y		1	1.2	60	1.5	6	.069	175	1.2	180	.069										
295	1.2D + 1.5Lm22 + 1.0Wm (1...		Y		1	1.2	60	1.5	7	.069	175	1.2	181	.069										
296	1.2D + 1.5Lm22 + 1.0Wm (1...		Y		1	1.2	60	1.5	8	.069	175	1.2	182	.069										
297	1.2D + 1.5Lm22 + 1.0Wm (2...		Y		1	1.2	60	1.5	9	.069	175	1.2	183	.069										
298	1.2D + 1.5Lm22 + 1.0Wm (2...		Y		1	1.2	60	1.5	10	.069	175	1.2	184	.069										
299	1.2D + 1.5Lm22 + 1.0Wm (2...		Y		1	1.2	60	1.5	11	.069	175	1.2	185	.069										
300	1.2D + 1.5Lm22 + 1.0Wm (3...		Y		1	1.2	60	1.5	12	.069	175	1.2	186	.069										
301	1.2D + 1.5Lm22 + 1.0Wm (3...		Y		1	1.2	60	1.5	13	.069	175	1.2	187	.069										
302	1.2D + 1.5Lm23 + 1.0Wm (0 ...		Y		1	1.2	61	1.5	2	.069	175	1.2	176	.069										
303	1.2D + 1.5Lm23 + 1.0Wm (3...		Y		1	1.2	61	1.5	3	.069	175	1.2	177	.069										
304	1.2D + 1.5Lm23 + 1.0Wm (6...		Y		1	1.2	61	1.5	4	.069	175	1.2	178	.069										
305	1.2D + 1.5Lm23 + 1.0Wm (9...		Y		1	1.2	61	1.5	5	.069	175	1.2	179	.069										
306	1.2D + 1.5Lm23 + 1.0Wm (1...		Y		1	1.2	61	1.5	6	.069	175	1.2	180	.069										
307	1.2D + 1.5Lm23 + 1.0Wm (1...		Y		1	1.2	61	1.5	7	.069	175	1.2	181	.069										
308	1.2D + 1.5Lm23 + 1.0Wm (1...		Y		1	1.2	61	1.5	8	.069	175	1.2	182	.069										
309	1.2D + 1.5Lm23 + 1.0Wm (2...		Y		1	1.2	61	1.5	9	.069	175	1.2	183	.069										
310	1.2D + 1.5Lm23 + 1.0Wm (2...		Y		1	1.2	61	1.5	10	.069	175	1.2	184	.069										
311	1.2D + 1.5Lm23 + 1.0Wm (2...		Y		1	1.2	61	1.5	11	.069	175	1.2	185	.069										
312	1.2D + 1.5Lm23 + 1.0Wm (3...		Y		1	1.2	61	1.5	12	.069	175	1.2	186	.069										
313	1.2D + 1.5Lm23 + 1.0Wm (3...		Y		1	1.2	61	1.5	13	.069	175	1.2	187	.069										
314	1.2D + 1.5Lm24 + 1.0Wm (0 ...		Y		1	1.2	62	1.5	2	.069	175	1.2	176	.069										
315	1.2D + 1.5Lm24 + 1.0Wm (3...		Y		1	1.2	62	1.5	3	.069	175	1.2	177	.069										
316	1.2D + 1.5Lm24 + 1.0Wm (6...		Y		1	1.2	62	1.5	4	.069	175	1.2	178	.069										
317	1.2D + 1.5Lm24 + 1.0Wm (9...		Y		1	1.2	62	1.5	5	.069	175	1.2	179	.069										
318	1.2D + 1.5Lm24 + 1.0Wm (1...		Y		1	1.2	62	1.5	6	.069	175	1.2	180	.069										
319	1.2D + 1.5Lm24 + 1.0Wm (1...		Y		1	1.2	62	1.5	7	.069	175	1.2	181	.069										
320	1.2D + 1.5Lm24 + 1.0Wm (1...		Y		1	1.2	62	1.5	8	.069	175	1.2	182	.069										
321	1.2D + 1.5Lm24 + 1.0Wm (2...		Y		1	1.2	62	1.5	9	.069	175	1.2	183	.069										
322	1.2D + 1.5Lm24 + 1.0Wm (2...		Y		1	1.2	62	1.5	10	.069	175	1.2	184	.069										
323	1.2D + 1.5Lm24 + 1.0Wm (2...		Y		1	1.2	62	1.5	11	.069	175	1.2	185	.069										
324	1.2D + 1.5Lm24 + 1.0Wm (3...		Y		1	1.2	62	1.5	12	.069	175	1.2	186	.069										
325	1.2D + 1.5Lm24 + 1.0Wm (3...		Y		1	1.2	62	1.5	13	.069	175	1.2	187	.069										
326	1.2D + 1.5Lm25 + 1.0Wm (0 ...		Y		1	1.2	63	1.5	2	.069	175	1.2	176	.069										
327	1.2D + 1.5Lm25 + 1.0Wm (3...		Y		1	1.2	63	1.5	3	.069	175	1.2	177	.069										
328	1.2D + 1.5Lm25 + 1.0Wm (6...		Y		1	1.2	63	1.5	4	.069	175	1.2	178	.069										
329	1.2D + 1.5Lm25 + 1.0Wm (9...		Y		1	1.2	63	1.5	5	.069	175	1.2	179	.069										
330	1.2D + 1.5Lm25 + 1.0Wm (1...		Y		1	1.2	63	1.5	6	.069	175	1.2	180	.069										
331	1.2D + 1.5Lm25 + 1.0Wm (1...		Y		1	1.2	63	1.5	7	.069	175	1.2	181	.069										
332	1.2D + 1.5Lm25 + 1.0Wm (1...		Y		1	1.2	63	1.5	8	.069	175	1.2	182	.069										
333	1.2D + 1.5Lm25 + 1.0Wm (2...		Y		1	1.2	63	1.5	9	.069	175	1.2	183	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
334	1.2D + 1.5Lm25 + 1.0Wm (2...		Y		1	1.2	63	1.5	10	.069	175	1.2	184	.069										
335	1.2D + 1.5Lm25 + 1.0Wm (2...		Y		1	1.2	63	1.5	11	.069	175	1.2	185	.069										
336	1.2D + 1.5Lm25 + 1.0Wm (3...		Y		1	1.2	63	1.5	12	.069	175	1.2	186	.069										
337	1.2D + 1.5Lm25 + 1.0Wm (3...		Y		1	1.2	63	1.5	13	.069	175	1.2	187	.069										
338	1.2D + 1.5Lm26 + 1.0Wm (0 ...		Y		1	1.2	64	1.5	2	.069	175	1.2	176	.069										
339	1.2D + 1.5Lm26 + 1.0Wm (3...		Y		1	1.2	64	1.5	3	.069	175	1.2	177	.069										
340	1.2D + 1.5Lm26 + 1.0Wm (6...		Y		1	1.2	64	1.5	4	.069	175	1.2	178	.069										
341	1.2D + 1.5Lm26 + 1.0Wm (9...		Y		1	1.2	64	1.5	5	.069	175	1.2	179	.069										
342	1.2D + 1.5Lm26 + 1.0Wm (1...		Y		1	1.2	64	1.5	6	.069	175	1.2	180	.069										
343	1.2D + 1.5Lm26 + 1.0Wm (1...		Y		1	1.2	64	1.5	7	.069	175	1.2	181	.069										
344	1.2D + 1.5Lm26 + 1.0Wm (1...		Y		1	1.2	64	1.5	8	.069	175	1.2	182	.069										
345	1.2D + 1.5Lm26 + 1.0Wm (2...		Y		1	1.2	64	1.5	9	.069	175	1.2	183	.069										
346	1.2D + 1.5Lm26 + 1.0Wm (2...		Y		1	1.2	64	1.5	10	.069	175	1.2	184	.069										
347	1.2D + 1.5Lm26 + 1.0Wm (2...		Y		1	1.2	64	1.5	11	.069	175	1.2	185	.069										
348	1.2D + 1.5Lm26 + 1.0Wm (3...		Y		1	1.2	64	1.5	12	.069	175	1.2	186	.069										
349	1.2D + 1.5Lm26 + 1.0Wm (3...		Y		1	1.2	64	1.5	13	.069	175	1.2	187	.069										
350	1.2D + 1.5Lm27 + 1.0Wm (0 ...		Y		1	1.2	65	1.5	2	.069	175	1.2	176	.069										
351	1.2D + 1.5Lm27 + 1.0Wm (3...		Y		1	1.2	65	1.5	3	.069	175	1.2	177	.069										
352	1.2D + 1.5Lm27 + 1.0Wm (6...		Y		1	1.2	65	1.5	4	.069	175	1.2	178	.069										
353	1.2D + 1.5Lm27 + 1.0Wm (9...		Y		1	1.2	65	1.5	5	.069	175	1.2	179	.069										
354	1.2D + 1.5Lm27 + 1.0Wm (1...		Y		1	1.2	65	1.5	6	.069	175	1.2	180	.069										
355	1.2D + 1.5Lm27 + 1.0Wm (1...		Y		1	1.2	65	1.5	7	.069	175	1.2	181	.069										
356	1.2D + 1.5Lm27 + 1.0Wm (1...		Y		1	1.2	65	1.5	8	.069	175	1.2	182	.069										
357	1.2D + 1.5Lm27 + 1.0Wm (2...		Y		1	1.2	65	1.5	9	.069	175	1.2	183	.069										
358	1.2D + 1.5Lm27 + 1.0Wm (2...		Y		1	1.2	65	1.5	10	.069	175	1.2	184	.069										
359	1.2D + 1.5Lm27 + 1.0Wm (2...		Y		1	1.2	65	1.5	11	.069	175	1.2	185	.069										
360	1.2D + 1.5Lm27 + 1.0Wm (3...		Y		1	1.2	65	1.5	12	.069	175	1.2	186	.069										
361	1.2D + 1.5Lm27 + 1.0Wm (3...		Y		1	1.2	65	1.5	13	.069	175	1.2	187	.069										
362	1.2D + 1.5Lm28 + 1.0Wm (0 ...		Y		1	1.2	66	1.5	2	.069	175	1.2	176	.069										
363	1.2D + 1.5Lm28 + 1.0Wm (3...		Y		1	1.2	66	1.5	3	.069	175	1.2	177	.069										
364	1.2D + 1.5Lm28 + 1.0Wm (6...		Y		1	1.2	66	1.5	4	.069	175	1.2	178	.069										
365	1.2D + 1.5Lm28 + 1.0Wm (9...		Y		1	1.2	66	1.5	5	.069	175	1.2	179	.069										
366	1.2D + 1.5Lm28 + 1.0Wm (1...		Y		1	1.2	66	1.5	6	.069	175	1.2	180	.069										
367	1.2D + 1.5Lm28 + 1.0Wm (1...		Y		1	1.2	66	1.5	7	.069	175	1.2	181	.069										
368	1.2D + 1.5Lm28 + 1.0Wm (1...		Y		1	1.2	66	1.5	8	.069	175	1.2	182	.069										
369	1.2D + 1.5Lm28 + 1.0Wm (2...		Y		1	1.2	66	1.5	9	.069	175	1.2	183	.069										
370	1.2D + 1.5Lm28 + 1.0Wm (2...		Y		1	1.2	66	1.5	10	.069	175	1.2	184	.069										
371	1.2D + 1.5Lm28 + 1.0Wm (2...		Y		1	1.2	66	1.5	11	.069	175	1.2	185	.069										
372	1.2D + 1.5Lm28 + 1.0Wm (3...		Y		1	1.2	66	1.5	12	.069	175	1.2	186	.069										
373	1.2D + 1.5Lm28 + 1.0Wm (3...		Y		1	1.2	66	1.5	13	.069	175	1.2	187	.069										
374	1.2D + 1.5Lm29 + 1.0Wm (0 ...		Y		1	1.2	67	1.5	2	.069	175	1.2	176	.069										
375	1.2D + 1.5Lm29 + 1.0Wm (3...		Y		1	1.2	67	1.5	3	.069	175	1.2	177	.069										
376	1.2D + 1.5Lm29 + 1.0Wm (6...		Y		1	1.2	67	1.5	4	.069	175	1.2	178	.069										
377	1.2D + 1.5Lm29 + 1.0Wm (9...		Y		1	1.2	67	1.5	5	.069	175	1.2	179	.069										
378	1.2D + 1.5Lm29 + 1.0Wm (1...		Y		1	1.2	67	1.5	6	.069	175	1.2	180	.069										
379	1.2D + 1.5Lm29 + 1.0Wm (1...		Y		1	1.2	67	1.5	7	.069	175	1.2	181	.069										
380	1.2D + 1.5Lm29 + 1.0Wm (1...		Y		1	1.2	67	1.5	8	.069	175	1.2	182	.069										
381	1.2D + 1.5Lm29 + 1.0Wm (2...		Y		1	1.2	67	1.5	9	.069	175	1.2	183	.069										
382	1.2D + 1.5Lm29 + 1.0Wm (2...		Y		1	1.2	67	1.5	10	.069	175	1.2	184	.069										
383	1.2D + 1.5Lm29 + 1.0Wm (2...		Y		1	1.2	67	1.5	11	.069	175	1.2	185	.069										
384	1.2D + 1.5Lm29 + 1.0Wm (3...		Y		1	1.2	67	1.5	12	.069	175	1.2	186	.069										
385	1.2D + 1.5Lm29 + 1.0Wm (3...		Y		1	1.2	67	1.5	13	.069	175	1.2	187	.069										
386	1.2D + 1.5Lm30 + 1.0Wm (0 ...		Y		1	1.2	68	1.5	2	.069	175	1.2	176	.069										
387	1.2D + 1.5Lm30 + 1.0Wm (3...		Y		1	1.2	68	1.5	3	.069	175	1.2	177	.069										
388	1.2D + 1.5Lm30 + 1.0Wm (6...		Y		1	1.2	68	1.5	4	.069	175	1.2	178	.069										
389	1.2D + 1.5Lm30 + 1.0Wm (9...		Y		1	1.2	68	1.5	5	.069	175	1.2	179	.069										
390	1.2D + 1.5Lm30 + 1.0Wm (1...		Y		1	1.2	68	1.5	6	.069	175	1.2	180	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
391	1.2D + 1.5Lm30 + 1.0Wm (1...		Y		1	1.2	68	1.5	7	.069	175	1.2	181	.069										
392	1.2D + 1.5Lm30 + 1.0Wm (1...		Y		1	1.2	68	1.5	8	.069	175	1.2	182	.069										
393	1.2D + 1.5Lm30 + 1.0Wm (2...		Y		1	1.2	68	1.5	9	.069	175	1.2	183	.069										
394	1.2D + 1.5Lm30 + 1.0Wm (2...		Y		1	1.2	68	1.5	10	.069	175	1.2	184	.069										
395	1.2D + 1.5Lm30 + 1.0Wm (2...		Y		1	1.2	68	1.5	11	.069	175	1.2	185	.069										
396	1.2D + 1.5Lm30 + 1.0Wm (3...		Y		1	1.2	68	1.5	12	.069	175	1.2	186	.069										
397	1.2D + 1.5Lm30 + 1.0Wm (3...		Y		1	1.2	68	1.5	13	.069	175	1.2	187	.069										
398	1.2D + 1.5Lm31 + 1.0Wm (0 ...		Y		1	1.2	69	1.5	2	.069	175	1.2	176	.069										
399	1.2D + 1.5Lm31 + 1.0Wm (3...		Y		1	1.2	69	1.5	3	.069	175	1.2	177	.069										
400	1.2D + 1.5Lm31 + 1.0Wm (6...		Y		1	1.2	69	1.5	4	.069	175	1.2	178	.069										
401	1.2D + 1.5Lm31 + 1.0Wm (9...		Y		1	1.2	69	1.5	5	.069	175	1.2	179	.069										
402	1.2D + 1.5Lm31 + 1.0Wm (1...		Y		1	1.2	69	1.5	6	.069	175	1.2	180	.069										
403	1.2D + 1.5Lm31 + 1.0Wm (1...		Y		1	1.2	69	1.5	7	.069	175	1.2	181	.069										
404	1.2D + 1.5Lm31 + 1.0Wm (1...		Y		1	1.2	69	1.5	8	.069	175	1.2	182	.069										
405	1.2D + 1.5Lm31 + 1.0Wm (2...		Y		1	1.2	69	1.5	9	.069	175	1.2	183	.069										
406	1.2D + 1.5Lm31 + 1.0Wm (2...		Y		1	1.2	69	1.5	10	.069	175	1.2	184	.069										
407	1.2D + 1.5Lm31 + 1.0Wm (2...		Y		1	1.2	69	1.5	11	.069	175	1.2	185	.069										
408	1.2D + 1.5Lm31 + 1.0Wm (3...		Y		1	1.2	69	1.5	12	.069	175	1.2	186	.069										
409	1.2D + 1.5Lm31 + 1.0Wm (3...		Y		1	1.2	69	1.5	13	.069	175	1.2	187	.069										
410	1.2D + 1.5Lm32 + 1.0Wm (0 ...		Y		1	1.2	70	1.5	2	.069	175	1.2	176	.069										
411	1.2D + 1.5Lm32 + 1.0Wm (3...		Y		1	1.2	70	1.5	3	.069	175	1.2	177	.069										
412	1.2D + 1.5Lm32 + 1.0Wm (6...		Y		1	1.2	70	1.5	4	.069	175	1.2	178	.069										
413	1.2D + 1.5Lm32 + 1.0Wm (9...		Y		1	1.2	70	1.5	5	.069	175	1.2	179	.069										
414	1.2D + 1.5Lm32 + 1.0Wm (1...		Y		1	1.2	70	1.5	6	.069	175	1.2	180	.069										
415	1.2D + 1.5Lm32 + 1.0Wm (1...		Y		1	1.2	70	1.5	7	.069	175	1.2	181	.069										
416	1.2D + 1.5Lm32 + 1.0Wm (1...		Y		1	1.2	70	1.5	8	.069	175	1.2	182	.069										
417	1.2D + 1.5Lm32 + 1.0Wm (2...		Y		1	1.2	70	1.5	9	.069	175	1.2	183	.069										
418	1.2D + 1.5Lm32 + 1.0Wm (2...		Y		1	1.2	70	1.5	10	.069	175	1.2	184	.069										
419	1.2D + 1.5Lm32 + 1.0Wm (2...		Y		1	1.2	70	1.5	11	.069	175	1.2	185	.069										
420	1.2D + 1.5Lm32 + 1.0Wm (3...		Y		1	1.2	70	1.5	12	.069	175	1.2	186	.069										
421	1.2D + 1.5Lm32 + 1.0Wm (3...		Y		1	1.2	70	1.5	13	.069	175	1.2	187	.069										
422	1.2D + 1.5Lm33 + 1.0Wm (0 ...		Y		1	1.2	71	1.5	2	.069	175	1.2	176	.069										
423	1.2D + 1.5Lm33 + 1.0Wm (3...		Y		1	1.2	71	1.5	3	.069	175	1.2	177	.069										
424	1.2D + 1.5Lm33 + 1.0Wm (6...		Y		1	1.2	71	1.5	4	.069	175	1.2	178	.069										
425	1.2D + 1.5Lm33 + 1.0Wm (9...		Y		1	1.2	71	1.5	5	.069	175	1.2	179	.069										
426	1.2D + 1.5Lm33 + 1.0Wm (1...		Y		1	1.2	71	1.5	6	.069	175	1.2	180	.069										
427	1.2D + 1.5Lm33 + 1.0Wm (1...		Y		1	1.2	71	1.5	7	.069	175	1.2	181	.069										
428	1.2D + 1.5Lm33 + 1.0Wm (1...		Y		1	1.2	71	1.5	8	.069	175	1.2	182	.069										
429	1.2D + 1.5Lm33 + 1.0Wm (2...		Y		1	1.2	71	1.5	9	.069	175	1.2	183	.069										
430	1.2D + 1.5Lm33 + 1.0Wm (2...		Y		1	1.2	71	1.5	10	.069	175	1.2	184	.069										
431	1.2D + 1.5Lm33 + 1.0Wm (2...		Y		1	1.2	71	1.5	11	.069	175	1.2	185	.069										
432	1.2D + 1.5Lm33 + 1.0Wm (3...		Y		1	1.2	71	1.5	12	.069	175	1.2	186	.069										
433	1.2D + 1.5Lm33 + 1.0Wm (3...		Y		1	1.2	71	1.5	13	.069	175	1.2	187	.069										
434	1.2D + 1.5Lm34 + 1.0Wm (0 ...		Y		1	1.2	72	1.5	2	.069	175	1.2	176	.069										
435	1.2D + 1.5Lm34 + 1.0Wm (3...		Y		1	1.2	72	1.5	3	.069	175	1.2	177	.069										
436	1.2D + 1.5Lm34 + 1.0Wm (6...		Y		1	1.2	72	1.5	4	.069	175	1.2	178	.069										
437	1.2D + 1.5Lm34 + 1.0Wm (9...		Y		1	1.2	72	1.5	5	.069	175	1.2	179	.069										
438	1.2D + 1.5Lm34 + 1.0Wm (1...		Y		1	1.2	72	1.5	6	.069	175	1.2	180	.069										
439	1.2D + 1.5Lm34 + 1.0Wm (1...		Y		1	1.2	72	1.5	7	.069	175	1.2	181	.069										
440	1.2D + 1.5Lm34 + 1.0Wm (1...		Y		1	1.2	72	1.5	8	.069	175	1.2	182	.069										
441	1.2D + 1.5Lm34 + 1.0Wm (2...		Y		1	1.2	72	1.5	9	.069	175	1.2	183	.069										
442	1.2D + 1.5Lm34 + 1.0Wm (2...		Y		1	1.2	72	1.5	10	.069	175	1.2	184	.069										
443	1.2D + 1.5Lm34 + 1.0Wm (2...		Y		1	1.2	72	1.5	11	.069	175	1.2	185	.069										
444	1.2D + 1.5Lm34 + 1.0Wm (3...		Y		1	1.2	72	1.5	12	.069	175	1.2	186	.069										
445	1.2D + 1.5Lm34 + 1.0Wm (3...		Y		1	1.2	72	1.5	13	.069	175	1.2	187	.069										
446	1.2D + 1.5Lm35 + 1.0Wm (0 ...		Y		1	1.2	73	1.5	2	.069	175	1.2	176	.069										
447	1.2D + 1.5Lm35 + 1.0Wm (3...		Y		1	1.2	73	1.5	3	.069	175	1.2	177	.069										

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
448	1.2D + 1.5Lm35 + 1.0Wm (6...		Y		1	1.2	73	1.5	4	.069	175	1.2	178	.069										
449	1.2D + 1.5Lm35 + 1.0Wm (9...		Y		1	1.2	73	1.5	5	.069	175	1.2	179	.069										
450	1.2D + 1.5Lm35 + 1.0Wm (1...		Y		1	1.2	73	1.5	6	.069	175	1.2	180	.069										
451	1.2D + 1.5Lm35 + 1.0Wm (1...		Y		1	1.2	73	1.5	7	.069	175	1.2	181	.069										
452	1.2D + 1.5Lm35 + 1.0Wm (1...		Y		1	1.2	73	1.5	8	.069	175	1.2	182	.069										
453	1.2D + 1.5Lm35 + 1.0Wm (2...		Y		1	1.2	73	1.5	9	.069	175	1.2	183	.069										
454	1.2D + 1.5Lm35 + 1.0Wm (2...		Y		1	1.2	73	1.5	10	.069	175	1.2	184	.069										
455	1.2D + 1.5Lm35 + 1.0Wm (2...		Y		1	1.2	73	1.5	11	.069	175	1.2	185	.069										
456	1.2D + 1.5Lm35 + 1.0Wm (3...		Y		1	1.2	73	1.5	12	.069	175	1.2	186	.069										
457	1.2D + 1.5Lm35 + 1.0Wm (3...		Y		1	1.2	73	1.5	13	.069	175	1.2	187	.069										
458	1.2D + 1.5Lm36 + 1.0Wm (0 ...		Y		1	1.2	74	1.5	2	.069	175	1.2	176	.069										
459	1.2D + 1.5Lm36 + 1.0Wm (3...		Y		1	1.2	74	1.5	3	.069	175	1.2	177	.069										
460	1.2D + 1.5Lm36 + 1.0Wm (6...		Y		1	1.2	74	1.5	4	.069	175	1.2	178	.069										
461	1.2D + 1.5Lm36 + 1.0Wm (9...		Y		1	1.2	74	1.5	5	.069	175	1.2	179	.069										
462	1.2D + 1.5Lm36 + 1.0Wm (1...		Y		1	1.2	74	1.5	6	.069	175	1.2	180	.069										
463	1.2D + 1.5Lm36 + 1.0Wm (1...		Y		1	1.2	74	1.5	7	.069	175	1.2	181	.069										
464	1.2D + 1.5Lm36 + 1.0Wm (1...		Y		1	1.2	74	1.5	8	.069	175	1.2	182	.069										
465	1.2D + 1.5Lm36 + 1.0Wm (2...		Y		1	1.2	74	1.5	9	.069	175	1.2	183	.069										
466	1.2D + 1.5Lm36 + 1.0Wm (2...		Y		1	1.2	74	1.5	10	.069	175	1.2	184	.069										
467	1.2D + 1.5Lm36 + 1.0Wm (2...		Y		1	1.2	74	1.5	11	.069	175	1.2	185	.069										
468	1.2D + 1.5Lm36 + 1.0Wm (3...		Y		1	1.2	74	1.5	12	.069	175	1.2	186	.069										
469	1.2D + 1.5Lm36 + 1.0Wm (3...		Y		1	1.2	74	1.5	13	.069	175	1.2	187	.069										
470	1.2D + 1.5Lv (Position 1)	Yes	Y		1	1.2	75	1.5	175	1.2														
471	1.2D + 1.5Lv (Position 2)	Yes	Y		1	1.2	76	1.5	175	1.2														
472	1.2D + 1.5Lv (Position 3)	Yes	Y		1	1.2	77	1.5	175	1.2														
473	1.2D + 1.5Lv (Position 4)		Y		1	1.2	78	1.5	175	1.2														
474	1.2D + 1.5Lv (Position 5)		Y		1	1.2	79	1.5	175	1.2														
475	1.2D + 1.5Lv (Position 6)		Y		1	1.2	80	1.5	175	1.2														
476	1.2D + 1.5Lv (Position 7)		Y		1	1.2	81	1.5	175	1.2														
477	1.2D + 1.5Lv (Position 8)		Y		1	1.2	82	1.5	175	1.2														
478	1.2D + 1.5Lv (Position 9)		Y		1	1.2	83	1.5	175	1.2														
479	1.2D + 1.5Lv (Position 10)		Y		1	1.2	84	1.5	175	1.2														
480	1.2D + 1.5Lv (Position 11)		Y		1	1.2	85	1.5	175	1.2														
481	1.2D + 1.5Lv (Position 12)		Y		1	1.2	86	1.5	175	1.2														
482	1.2D + 1.5Lv (Position 13)		Y		1	1.2	87	1.5	175	1.2														
483	1.2D + 1.5Lv (Position 14)		Y		1	1.2	88	1.5	175	1.2														
484	1.2D + 1.5Lv (Position 15)		Y		1	1.2	89	1.5	175	1.2														
485	1.2D + 1.5Lv (Position 16)		Y		1	1.2	90	1.5	175	1.2														
486	1.2D + 1.5Lv (Position 17)		Y		1	1.2	91	1.5	175	1.2														
487	1.2D + 1.5Lv (Position 18)		Y		1	1.2	92	1.5	175	1.2														
488	1.2D + 1.5Lv (Position 19)		Y		1	1.2	93	1.5	175	1.2														
489	1.2D + 1.5Lv (Position 20)		Y		1	1.2	94	1.5	175	1.2														
490	1.2D + 1.5Lv (Position 21)		Y		1	1.2	95	1.5	175	1.2														
491	1.2D + 1.5Lv (Position 22)		Y		1	1.2	96	1.5	175	1.2														
492	1.2D + 1.5Lv (Position 23)		Y		1	1.2	97	1.5	175	1.2														
493	1.2D + 1.5Lv (Position 24)		Y		1	1.2	98	1.5	175	1.2														
494	1.2D + 1.5Lv (Position 25)		Y		1	1.2	99	1.5	175	1.2														
495	1.2D + 1.5Lv (Position 26)		Y		1	1.2	100	1.5	175	1.2														
496	1.2D + 1.5Lv (Position 27)		Y		1	1.2	101	1.5	175	1.2														
497	1.2D + 1.5Lv (Position 28)		Y		1	1.2	102	1.5	175	1.2														
498	1.2D + 1.5Lv (Position 29)		Y		1	1.2	103	1.5	175	1.2														
499	1.2D + 1.5Lv (Position 30)		Y		1	1.2	104	1.5	175	1.2														
500	1.2D + 1.5Lv (Position 31)		Y		1	1.2	105	1.5	175	1.2														
501	1.2D + 1.5Lv (Position 32)		Y		1	1.2	106	1.5	175	1.2														
502	1.2D + 1.5Lv (Position 33)		Y		1	1.2	107	1.5	175	1.2														
503	1.2D + 1.5Lv (Position 34)		Y		1	1.2	108	1.5	175	1.2														
504	1.2D + 1.5Lv (Position 35)		Y		1	1.2	109	1.5	175	1.2														

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
505	1.2D + 1.5Lv (Position 36)		Y		1	1.2	110	1.5	175	1.2																
506	1.2D + 1.5Lv (Position 37)		Y		1	1.2	111	1.5	175	1.2																
507	1.2D + 1.5Lv (Position 38)		Y		1	1.2	112	1.5	175	1.2																
508	1.2D + 1.5Lv (Position 39)		Y		1	1.2	113	1.5	175	1.2																
509	1.2D + 1.5Lv (Position 40)		Y		1	1.2	114	1.5	175	1.2																
510	1.2D + 1.5Lv (Position 41)		Y		1	1.2	115	1.5	175	1.2																
511	1.2D + 1.5Lv (Position 42)		Y		1	1.2	116	1.5	175	1.2																
512	1.2D + 1.5Lv (Position 43)		Y		1	1.2	117	1.5	175	1.2																
513	1.2D + 1.5Lv (Position 44)		Y		1	1.2	118	1.5	175	1.2																
514	1.2D + 1.5Lv (Position 45)		Y		1	1.2	119	1.5	175	1.2																
515	1.2D + 1.5Lv (Position 46)		Y		1	1.2	120	1.5	175	1.2																
516	1.2D + 1.5Lv (Position 47)		Y		1	1.2	121	1.5	175	1.2																
517	1.2D + 1.5Lv (Position 48)		Y		1	1.2	122	1.5	175	1.2																
518	1.2D + 1.5Lv (Position 49)		Y		1	1.2	123	1.5	175	1.2																
519	1.2D + 1.5Lv (Position 50)		Y		1	1.2	124	1.5	175	1.2																
520	1.2D + 1.5Lv (Position 51)		Y		1	1.2	125	1.5	175	1.2																
521	1.2D + 1.5Lv (Position 52)		Y		1	1.2	126	1.5	175	1.2																
522	1.2D + 1.5Lv (Position 53)		Y		1	1.2	127	1.5	175	1.2																
523	1.2D + 1.5Lv (Position 54)		Y		1	1.2	128	1.5	175	1.2																
524	1.2D + 1.5Lv (Position 55)		Y		1	1.2	129	1.5	175	1.2																
525	1.2D + 1.5Lv (Position 56)		Y		1	1.2	130	1.5	175	1.2																
526	1.2D + 1.5Lv (Position 57)		Y		1	1.2	131	1.5	175	1.2																
527	1.2D + 1.5Lv (Position 58)		Y		1	1.2	132	1.5	175	1.2																
528	1.2D + 1.5Lv (Position 59)		Y		1	1.2	133	1.5	175	1.2																
529	1.2D + 1.5Lv (Position 60)		Y		1	1.2	134	1.5	175	1.2																
530	1.2D + 1.5Lv (Position 61)		Y		1	1.2	135	1.5	175	1.2																
531	1.2D + 1.5Lv (Position 62)		Y		1	1.2	136	1.5	175	1.2																
532	1.2D + 1.5Lv (Position 63)		Y		1	1.2	137	1.5	175	1.2																
533	1.2D + 1.5Lv (Position 64)		Y		1	1.2	138	1.5	175	1.2																
534	1.2D + 1.5Lv (Position 65)		Y		1	1.2	139	1.5	175	1.2																
535	1.2D + 1.5Lv (Position 66)		Y		1	1.2	140	1.5	175	1.2																
536	1.2D + 1.5Lv (Position 67)		Y		1	1.2	141	1.5	175	1.2																
537	1.2D + 1.5Lv (Position 68)		Y		1	1.2	142	1.5	175	1.2																
538	1.2D + 1.5Lv (Position 69)		Y		1	1.2	143	1.5	175	1.2																
539	1.2D + 1.5Lv (Position 70)		Y		1	1.2	144	1.5	175	1.2																
540	1.2D + 1.5Lv (Position 71)		Y		1	1.2	145	1.5	175	1.2																
541	1.2D + 1.5Lv (Position 72)		Y		1	1.2	146	1.5	175	1.2																
542	1.2D + 1.5Lv (Position 73)		Y		1	1.2	147	1.5	175	1.2																
543	1.2D + 1.5Lv (Position 74)		Y		1	1.2	148	1.5	175	1.2																
544	1.2D + 1.5Lv (Position 75)		Y		1	1.2	149	1.5	175	1.2																
545	1.2D + 1.5Lv (Position 76)		Y		1	1.2	150	1.5	175	1.2																
546	1.2D + 1.5Lv (Position 77)		Y		1	1.2	151	1.5	175	1.2																
547	1.2D + 1.5Lv (Position 78)		Y		1	1.2	152	1.5	175	1.2																
548	1.2D + 1.5Lv (Position 79)		Y		1	1.2	153	1.5	175	1.2																
549	1.2D + 1.5Lv (Position 80)		Y		1	1.2	154	1.5	175	1.2																
550	1.2D + 1.5Lv (Position 81)		Y		1	1.2	155	1.5	175	1.2																
551	1.2D + 1.5Lv (Position 82)		Y		1	1.2	156	1.5	175	1.2																
552	1.2D + 1.5Lv (Position 83)		Y		1	1.2	157	1.5	175	1.2																
553	1.2D + 1.5Lv (Position 84)		Y		1	1.2	158	1.5	175	1.2																
554	1.2D + 1.5Lv (Position 85)		Y		1	1.2	159	1.5	175	1.2																
555	1.2D + 1.5Lv (Position 86)		Y		1	1.2	160	1.5	175	1.2																
556	1.2D + 1.5Lv (Position 87)		Y		1	1.2	161	1.5	175	1.2																
557	1.2D + 1.5Lv (Position 88)		Y		1	1.2	162	1.5	175	1.2																
558	1.2D + 1.5Lv (Position 89)		Y		1	1.2	163	1.5	175	1.2																
559	1.2D + 1.5Lv (Position 90)		Y		1	1.2	164	1.5	175	1.2																
560	1.2D + 1.5Lv (Position 91)		Y		1	1.2	165	1.5	175	1.2																
561	1.2D + 1.5Lv (Position 92)		Y		1	1.2	166	1.5	175	1.2																

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
562	1.2D + 1.5Lv (Position 93)		Y		1	1.2	167	1.5	175	1.2														
563	1.2D + 1.5Lv (Position 94)		Y		1	1.2	168	1.5	175	1.2														
564	1.2D + 1.5Lv (Position 95)		Y		1	1.2	169	1.5	175	1.2														
565	1.2D + 1.5Lv (Position 96)		Y		1	1.2	170	1.5	175	1.2														
566	1.2D + 1.5Lv (Position 97)		Y		1	1.2	171	1.5	175	1.2														
567	1.2D + 1.5Lv (Position 98)		Y		1	1.2	172	1.5	175	1.2														
568	1.2D + 1.5Lv (Position 99)		Y		1	1.2	173	1.5	175	1.2														
569	1.2D + 1.5Lv (Position 100)		Y		1	1.2	174	1.5	175	1.2														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N17	max	496.972	8	705.507	2	56.46	11	0	472	0	472	0	472
2		min	-503.698	2	-659.597	8	-56.808	5	0	1	0	1	0	1
3	N18	max	1223	8	1807.575	2	56.916	11	0	472	0	472	0	472
4		min	-1217.13	2	-1771.856	8	-56.355	5	0	1	0	1	0	1
5	N25	max	162.232	2	563.74	8	635.735	6	0	472	105.956	6	0	472
6		min	-216.642	8	-421.464	2	-630.656	12	0	1	-105.109	12	0	1
7	N26	max	270.135	2	980.591	8	535.874	4	0	472	89.312	4	0	472
8		min	-376.966	8	-702.081	2	-541.46	10	0	1	-90.243	10	0	1
9	N27	max	59.506	13	422.301	55	745.113	6	0	472	124.185	6	0	472
10		min	-162.246	55	-154.325	13	-743.16	12	0	1	-123.86	12	0	1
11	N28	max	265.239	8	555.475	39	956.536	12	0	472	197.792	10	0	472
12		min	-208.869	2	-317.061	9	-960.538	6	0	1	-199.593	4	0	1
13	N29	max	550.712	8	706.371	12	943.343	10	0	472	361.802	13	0	472
14		min	-448.831	2	-376.97	6	-942.845	4	0	1	-362.563	7	0	1
15	N30	max	159.491	51	1406.441	8	1176.045	12	0	472	229.978	12	0	472
16		min	-30.651	9	-1149.278	2	-1169.882	6	0	1	-229.375	6	0	1
17	Totals:	max	1821.42	8	1670.766	20	1184.499	11						
18		min	-1821.42	2	720.794	2	-1184.499	5						

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

	Member	Shape	Code Che...	Loc[in]	LC	Shea...	Loc[in]	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	Cb	Eqn
1	MP3	PIPE_2.0	.883	60	8	.251	60		8	9836.5...	321...	187...	187...	1.562	H1-...
2	FM-90	PIPE_2.0	.797	61.25	8	.378	42		8	17855....	321...	187...	187...	1.381	H3-6
3	MP2	PIPE_2.0	.469	60	7	.099	15		6	9836.5...	321...	187...	187...	1.899	H1-...
4	MP1	PIPE_2.0	.370	15	6	.102	15		9	9836.5...	321...	187...	187...	2.618	H1-...
5	KICKER-2	L3X3X4	.137	36.526	2	.004	71.5...	y	8	21222....	466...	168...	318...	1.136	H2-1
6	KICKER-1	L3X3X4	.075	36.526	2	.004	71.5...	y	8	21222....	466...	168...	318...	1.136	H2-1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**65 ft Self Support Tower**
ATC Site Name	:	**CORNWALL CT,CT**
ATC Site Number	:	**88009**
Engineering Number	:	**14093080_C3_03**
Proposed Carrier	:	**T-MOBILE**
Carrier Site Name	:	**CTNH545A**
Carrier Site Number	:	**CTNH545A**
Site Location	:	**36 Toomey Rd.** **Cornwall, CT 06759-4232** **41.8213, -73.2964**
County	:	**Litchfield**
Date	:	**May 10, 2022**
Max Usage	:	**37%**
Result	:	**Pass**

Prepared By:

Zachary S. Blackford
Structural Engineer

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
10 May 2022 01:37:58 cosign

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 65 ft Self Support tower to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	CSEI ATC Engineering #26472221, dated September 19, 2006
Foundation Drawing	TEP Project #74252-101870, dated November 22, 2016
Geotechnical Report	FDH Project #16PWAQ1600, dated November 30, 2016
Modifications	ATC Project #OAA687939_C6_07, dated November 6, 2017
Mount Analysis	Engineered Tower Solutions Job #22106323.STR.4552, dated April 21, 2022

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	114 mph (3-second gust)
Basic Wind Speed w/ Ice:	40 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Crest Height (H):	585 ft
Crest Length (L):	3106 ft
Spectral Response:	Ss = 0.17, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
82.8	1	Generic 5' Omni	Leg	-	UNKNOWN
73.8	1	Generic 10' Dipole	Leg	-	
69.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	Side Arm	(3) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
	3	Alcatel-Lucent RRH2x50-08			
	3	Alcatel-Lucent RRH2x40 (700)			
	3	Commscope DT465B-2XR			
	3	RFS APXVSPP18-C-A20			
	3	Alcatel-Lucent 800 MHz RRH			
65.0	4	CCI DMP65R-BU6DA	Triangular Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax	AT&T MOBILITY
	2	CCI DMP65R-BU4D			
	3	Powerwave Allgon 7770.00A			
	1	Raycap DC6-48-60-18			
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 32 (50.8 lbs)			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	1	Andrew ABT-DFDM-ADB			
	6	Powerwave Allgon TT19-08BP111-001			
63.0	1	Sinclair SV228-HF2SNM	Flush	(1) 7/8" Coax	US DEPT OF HOMELAND SECURITY
56.0	3	RFS APXVAALL24 43-U-NA20	-	(3) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	Ericsson Radio 4449 B71 B85A			
46.0	2	RFS DB-C1-12C-24AB-0Z	Triangular Platform with Handrails	(2) 1 5/8" (1.63"-41.3mm) Fiber (3) 1/2" Coax (12) 7/8" Coax (6) 1 5/8" Coax	ALLTEL COMMUNICATIONS, LLC
	3	Samsung B5/B13 RRH-BR04C			
	3	Decibel 776QNB120EXM			
	3	Alcatel-Lucent B66a RRH4x45 (AWS-3)			
	3	Alcatel-Lucent B25 RRH4x30-4R			
	3	Samsung MT6407-77A			
	6	Commscope JAHH-65B-R3B			
	4	Antel LPA-80063/6CF			
	3	Commscope CBC78T-DS-43-2X			
	3	Samsung B2/B66A RRH-BR049			
	1	Commscope CHB726-01			
	2	Antel LPA-80063/6CF			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
56.0	3	Ericsson RRUS 11 B2	T-Arm	-	T-MOBILE
	3	RFS APX16DWV-16DWVS-E-A20			
	3	Ericsson RRUS 11 B4			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
56.0	3	Ericsson 4460 BAND 2/25	Sector Frame	(1) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Commscope VV-65A-R1			
	3	Ericsson AIR 6419 B41			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing T-MOBILE lines.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	23%	Pass
Diagonals	37%	Pass
Horizontals	10%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Download (kips)	55.2	3%
Moment (Kips-Ft)	1195.8	14%
Shear (Kips)	12.0	4%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
63.0	Sinclair SV228-HF2SNM	US DEPT OF HOMELAND SECURITY	0.115	0.603	0.307
56.0	Commscope VV-65A-R1	T-MOBILE	0.081	0.603	0.530
	Ericsson 4460 BAND 2/25				
	Ericsson AIR 6419 B41				

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

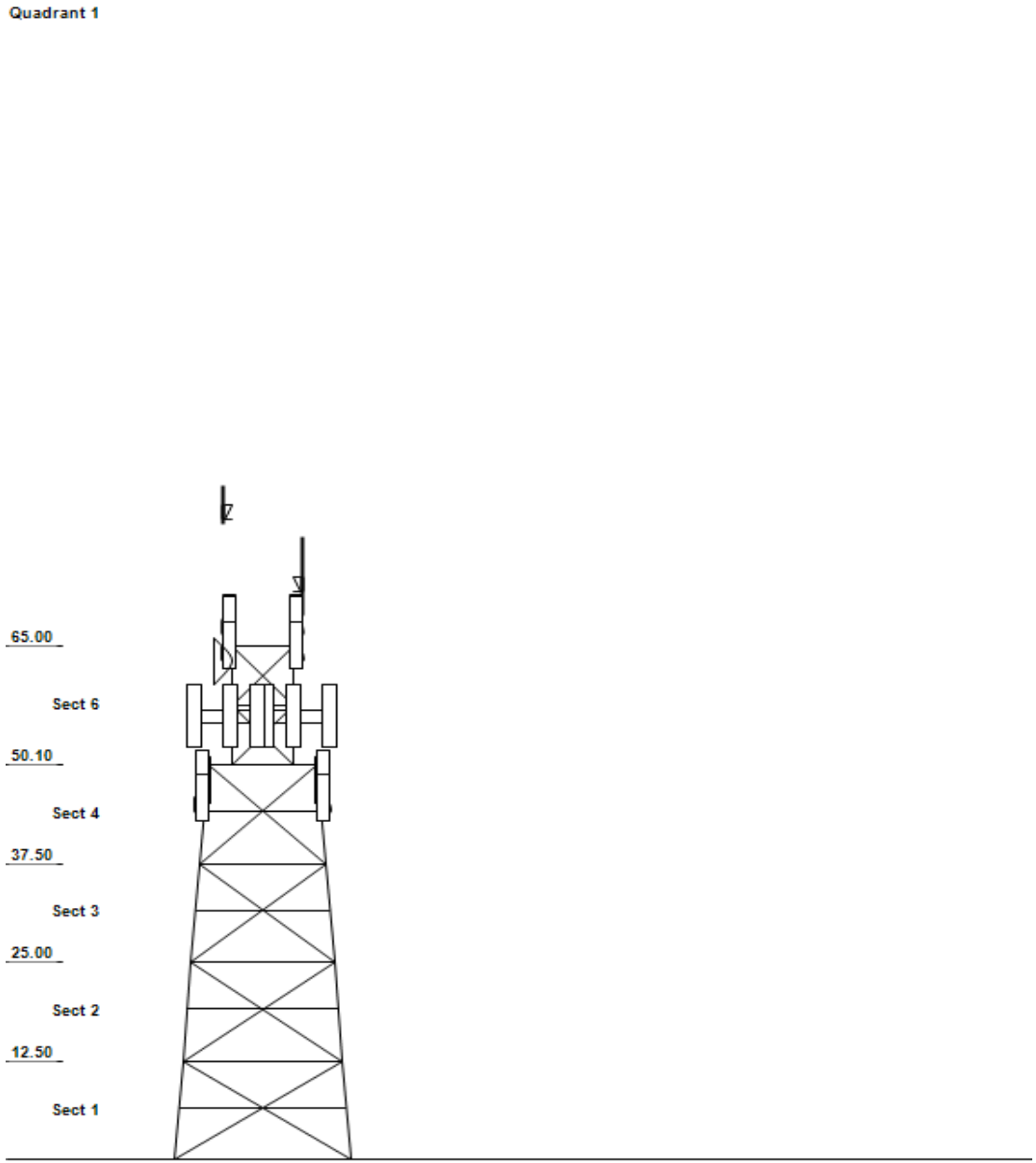
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset:	88009, CORNWALL CT	Height :	65 ft
Client	T-MOBILE	Base Width :	20 ft
Code:	ANSI/TIA-222-H	Shape :	Square



SITE PARAMETERS

Nominal Wind : 114 mph wind with no ice — Exposure : B — Site Class : D

Ice Wind: 40 mph wind with 1" radial — Topo Method: Method 2 — Risk Cat : II

Service Wind : 60 mph Serviceability — Topo Feature : Flat — S_s : 0.173 — S_1 : 0.054

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	SAE 33 ksi 6X6X0.625	SAU 36 ksi 4X3X0.25	DAL 36 ksi 3X2.5X0.25
3	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3.5X3X0.25	DAL 36 ksi 3.5X3X0.3125
4	SAE 33 ksi 6X6X0.5	SAE 36 ksi 3.5x3.5x0.25	DAL 36 ksi 3.5X3X0.3125
5	SAE 33 ksi 6X6X0.5		
6	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3X2X0.25	DAL 36 ksi 2.5X2X0.25

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 2	-	S3X2.5X0.25	-	-	-	-
3	-	CC6 x 8.2	-	-	-	-
4	-	S2.5X2X0.25	-	-	-	-
5 - 6	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
82.80	OMNI	1	Generic 5' Omni
73.80	DIPOLE	1	Generic 10' Dipole
70.30	RRU/RRH	3	Alcatel-Lucent TD-RRH8x20-25 w
69.00	Side Arm	6	Generic Flat Side Arm
68.70	RRU/RRH	3	Alcatel-Lucent RRH2x50-08
68.50	RRU/RRH	3	Alcatel-Lucent RRH2x40 (700)
68.40	PANEL	3	Commscope DT465B-2XR
68.20	PANEL	3	RFS APXVSPP18-C-A20
67.70	RRU/RRH	3	Alcatel-Lucent 800 MHz RRH
65.00	BTS	1	Andrew ABT-DFDM-ADB
65.00	Other	1	Fire Warden Cabin
65.00	PANEL	2	CCI DMP65R-BU4D
65.00	PANEL	3	Powerwave Allgon 7770.00A
65.00	PANEL	4	CCI DMP65R-BU6DA
65.00	RRU/RRH	3	Ericsson RRUS 4478 B14
65.00	RRU/RRH	3	Ericsson RRUS 32 (50.8 lbs)
65.00	RRU/RRH	3	Ericsson RRUS 4449 B5, B12
65.00	TTA	6	Powerwave Allgon TT19-08BP111-
63.00	DISH-GRID	1	Sinclair SV228-HF2SNM
62.00	Triangular Low Profile Platform	1	Platform with Handrails
60.80	BOB/SSB	1	Raycap DC6-48-60-18
60.40	BOB/SSB	1	Raycap DC6-48-60-18-8F
56.00	PANEL	3	Commscope VV-65A-R1
56.00	PANEL	3	Ericsson AIR 6419 B41
56.00	PANEL	3	RFS APXVAALL24 43-U-NA20
56.00	RRU/RRH	3	Ericsson Radio 4449 B71 B85A
56.00	Radio/ODU	3	Ericsson 4460 BAND 2/25
56.00	Sector Frame	3	Site Pro TPF123XX
55.30	BOB/SSB	2	RFS DB-C1-12C-24AB-0Z

JOB INFORMATION

Asset:	88009, CORNWALL CT	Height :	65 ft
Client	T-MOBILE	Base Width :	20 ft
Code:	ANSI/TIA-222-H	Shape :	Square

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
50.80	RRU/RRH	3	Samsung B5/B13 RRH-BR04C
50.00	Triangular Low Profile Platform	1	Platfrom w/ Handrails
48.00	PANEL	3	Decibel 776QNB120EXM
47.60	RRU/RRH	3	Alcatel-Lucent B66a RRH4x45 (A
47.50	RRU/RRH	3	Alcatel-Lucent B25 RRH4x30-4R
46.00	DIPLEXER/DUAL COUPLER	1	Commscope CHB726-01
46.00	DIPLEXER/DUAL COUPLER	3	Commscope CBC78T-DS-43-2X
46.00	PANEL	3	Samsung MT6407-77A
46.00	PANEL	4	Antel LPA-80063/6CF
46.00	PANEL	6	Commscope JAHH-65B-R3B
46.00	RRU/RRH	3	Samsung B2/B66A RRH-BR049
45.80	PANEL	2	Antel LPA-80063/6CF
37.50	Triangular Low Profile Platform	1	Access Platform

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
0.00	68.00	3	1 1/4" Hybriflex Cable
0.00	67.00	1	Waveguide
0.00	67.00	1	Climbing Ladder
0.00	65.00	12	1 1/4" Coax
0.00	65.00	4	0.78" (19.7mm) 8 AWG 6
0.00	65.00	2	0.39" (10mm) Fiber Trunk
0.00	63.00	1	7/8" Coax
0.00	56.00	1	Waveguide
0.00	56.00	1	1.99" (50.7mm) Hybrid
0.00	56.00	3	1 5/8" (1.63"-41.3mm) Fiber
0.00	55.00	2	1 5/8" (1.63"-41.3mm) Fiber
0.00	48.00	12	7/8" Coax
0.00	48.00	3	1/2" Coax
0.00	46.00	6	1 5/8" Coax

GLOBAL BASE FOUNDATION DESIGN LOADS

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL+WL	1195.81	51.6	26.24
DL+WL+IL	282.1	99.51	5.92

INDIVIDUAL BASE FOUNDATION DESIGN LOADS

	Vertical (kip)	Uplift (kip)	Horizontal (kip)
	55.21	32.54	11.96

ANALYSIS PARAMETERS

Location:	Litchfield County, CT	**Height:**	65 ft
Type and Shape:	Self Support, Square	**Base Elevation:**	0.00 ft
Manufacturer:	Undetermined	**Bottom Face Width:**	20.00 ft
Kd	0.85	**Top Face Width:**	7.00 ft
Ke:	0.94	**Anchor Bolt Detail Type:**	c

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed Without Ice:**	114 mph
Risk Category:	II	**Design Wind Speed with Ice:**	40 mph
Topographic Factor Procedure:	Method 2	**Operational Windspeed:**	60 mph
		Design Ice Thickness:	1.00 in
		HMSL:	1678 ft
Crest Height(H):	585 ft		
Crest Length(L):	3106 ft	**Distance from Apex (x):**	0
Feature:	Flat	**Upwind/Downwind:**	Upwind

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	0.59
T_L (sec):	6	**P:**	1.3	**C_s:**	0.049
S_s:	0.173	**S_1:**	0.054	**C_s Max:**	0.049
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.185	**S_{d1}:**	0.086		

LOAD CASES

1.2D + 1.0W Normal	114 mph wind with no ice
1.2D + 1.0W 45°	114 mph wind with no ice
0.9D + 1.0W Normal	114 mph wind with no ice
0.9D + 1.0W 45°	114 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	40 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 45°	40 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 45°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 45°	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 45°	60 mph Wind with No Ice

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
82.8	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	0.0	0.00	24.92	21	12
73.8	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.00	24.11	77	36
70.3	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.00	23.78	120	252
69.0	Generic Flat Side Arm	6	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	23.65	509	1350
68.7	Alcatel-Lucent RRH2x50-08	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.00	23.62	41	190
68.5	Alcatel-Lucent RRH2x40 (700)	3	50	2.1	1.7	12.2	10.6	0.80	0.67	0.0	0.00	23.60	69	180
68.4	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.00	23.60	302	209
68.2	RFS APXVSPP18-C-A20	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	23.58	266	205
67.7	Alcatel-Lucent 800 MHz RRH	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.00	23.53	69	191
65.0	Andrew ABT-DFDM-ADB	1	1	0.0	0.3	1.7	1.6	0.80	1.00	2.0	1.44	23.46	1	1
65.0	Powerwave Allgon TT19-08BP111-	6	16	0.6	0.8	6.7	5.4	0.80	0.50	2.0	52.92	23.46	26	115
65.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.75	0.50	0.0	0.00	23.25	41	216
65.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.75	0.50	-4.0	171.98	22.84	43	256
65.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.67	2.0	172.61	23.46	86	183
65.0	Powerwave Allgon 7770.00A	3	27	5.6	4.6	11.0	4.9	0.80	0.65	2.0	345.55	23.46	173	97
65.0	CCI DMP65R-BU4D	2	68	8.3	4.0	20.7	7.7	0.75	0.72	0.0	0.00	23.25	177	163
65.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.75	0.63	0.0	0.00	23.25	475	381
65.0	Fire Warden Cabin	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	23.25	2965	2400
63.0	Sinclair SV228-HF2SNM	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.00	23.05	310	112
62.0	Platform with Handrails	1	2000	27.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	22.94	530	2400
60.8	Raycap DC6-48-60-18	1	30	3.8	2.3	16.7	5.5	0.75	1.00	0.0	0.00	22.81	55	36
60.4	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	39.39	22.98	20	24
56.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	22.28	38	270
56.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.67	0.0	0.00	22.28	78	392
56.0	Commscope VV-65A-R1	3	24	5.9	4.6	12.1	4.6	0.80	0.63	0.0	0.00	22.28	170	86
56.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	22.28	181	300
56.0	Site Pro TPF123XX	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	22.28	411	1080
56.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	22.28	580	442
55.3	RFS DB-C1-12C-24AB-0Z	2	32	4.1	2.5	16.5	12.6	0.75	1.00	1.0	115.42	22.32	115	77
50.8	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	21.67	39	253
50.0	Platfrom w/ Handrails	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	21.57	1284	6000
48.0	Decibel 776QNB120EXM	3	117	22.2	6.0	37.0	9.5	0.80	0.59	0.0	0.00	21.32	570	421
47.6	Alcatel-Lucent B66a RRH4x45 (A	3	67	2.7	2.2	12.0	6.8	1.00	0.67	0.0	0.00	21.27	97	241
47.5	Alcatel-Lucent B25 RRH4x30-4R	3	51	2.1	1.8	12.0	7.2	1.00	0.67	0.0	0.00	21.26	78	184
46.0	Commscope CHB726-01	1	10	0.4	0.6	7.1	3.4	0.75	1.00	0.0	0.00	21.07	6	12
46.0	Commscope CBC78T-DS-43-2X	3	21	0.6	0.8	6.9	6.4	0.75	0.50	0.0	0.00	21.07	11	75
46.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	21.07	38	304
46.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	21.07	116	294
46.0	Commscope JAHH-65B-R3B	6	61	9.1	6.0	13.8	8.2	0.75	0.69	1.0	509.80	21.20	510	436
46.0	Antel LPA-80063/6CF	4	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	21.07	392	130
45.8	Antel LPA-80063/6CF	2	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	21.04	196	65
37.5	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	19.87	760	6000
	Totals	112	21,724	926.1									12,043	26,069

TOWER LOADING

Discrete Appurtenance Properties 0.9D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
82.8	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	0.0	0.00	24.92	21	9
73.8	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.00	24.11	77	27
70.3	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.00	23.78	120	189
69.0	Generic Flat Side Arm	6	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	23.65	509	1012
68.7	Alcatel-Lucent RRH2x50-08	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.00	23.62	41	143
68.5	Alcatel-Lucent RRH2x40 (700)	3	50	2.1	1.7	12.2	10.6	0.80	0.67	0.0	0.00	23.60	69	135
68.4	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.00	23.60	302	157
68.2	RFS APXVSPP18-C-A20	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	23.58	266	154
67.7	Alcatel-Lucent 800 MHz RRH	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.00	23.53	69	143
65.0	Andrew ABT-DFDM-ADB	1	1	0.0	0.3	1.7	1.6	0.80	1.00	2.0	1.44	23.46	1	1
65.0	Powerwave Allgon TT19-08BP111-	6	16	0.6	0.8	6.7	5.4	0.80	0.50	2.0	52.92	23.46	26	86
65.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.75	0.50	0.0	0.00	23.25	41	162
65.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.75	0.50	-4.0	171.98	22.84	43	192
65.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.67	2.0	172.61	23.46	86	137

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert E_{cc} (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
65.0	Powerwave Allgon 7770.00A	3	27	5.6	4.6	11.0	4.9	0.80	0.65	2.0	345.55	23.46	173	73
65.0	CCI DMP65R-BU4D	2	68	8.3	4.0	20.7	7.7	0.75	0.72	0.0	0.00	23.25	177	122
65.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.75	0.63	0.0	0.00	23.25	475	286
65.0	Fire Warden Cabin	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	23.25	2965	1800
63.0	Sinclair SV228-HF2SNM	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.00	23.05	310	84
62.0	Platform with Handrails	1	2000	27.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	22.94	530	1800
60.8	Raycap DC6-48-60-18	1	30	3.8	2.3	16.7	5.5	0.75	1.00	0.0	0.00	22.81	55	27
60.4	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	39.39	22.98	20	18
56.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	22.28	38	202
56.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.67	0.0	0.00	22.28	78	294
56.0	Commscope VV-65A-R1	3	24	5.9	4.6	12.1	4.6	0.80	0.63	0.0	0.00	22.28	170	64
56.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	22.28	181	225
56.0	Site Pro TPF123XX	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	22.28	411	810
56.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	22.28	580	332
55.3	RFS DB-C1-12C-24AB-0Z	2	32	4.1	2.5	16.5	12.6	0.75	1.00	1.0	115.42	22.32	115	58
50.8	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	21.67	39	190
50.0	Platfrom w/ Handrails	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	21.57	1284	4500
48.0	Decibel 776QNB120EXM	3	117	22.2	6.0	37.0	9.5	0.80	0.59	0.0	0.00	21.32	570	316
47.6	Alcatel-Lucent B66a RRH4x45 (A	3	67	2.7	2.2	12.0	6.8	1.00	0.67	0.0	0.00	21.27	97	181
47.5	Alcatel-Lucent B25 RRH4x30-4R	3	51	2.1	1.8	12.0	7.2	1.00	0.67	0.0	0.00	21.26	78	138
46.0	Commscope CHB726-01	1	10	0.4	0.6	7.1	3.4	0.75	1.00	0.0	0.00	21.07	6	9
46.0	Commscope CBC78T-DS-43-2X	3	21	0.6	0.8	6.9	6.4	0.75	0.50	0.0	0.00	21.07	11	56
46.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	21.07	38	228
46.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	21.07	116	220
46.0	Commscope JAHH-65B-R3B	6	61	9.1	6.0	13.8	8.2	0.75	0.69	1.0	509.80	21.20	510	327
46.0	Antel LPA-80063/6CF	4	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	21.07	392	97
45.8	Antel LPA-80063/6CF	2	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	21.04	196	49
37.5	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	19.87	760	4500
	Totals	112	21,724	926.1									12,043	19,552

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert E_{cc} (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
82.8	Generic 5' Omni	1	27	1.8	5.0	2.0	2.0	1.00	1.00	0.0	0.00	3.07	5	29
73.8	Generic 10' Dipole	1	98	7.4	10.0	3.0	3.0	1.00	1.00	0.0	0.00	2.97	19	104
70.3	Alcatel-Lucent TD-RRH8x20-25 w	3	127	4.9	2.2	18.6	6.7	0.80	0.61	0.0	0.00	2.93	18	424
69.0	Generic Flat Side Arm	6	268	8.2	0.0	0.0	0.0	1.00	0.67	0.0	0.00	2.91	82	1835
68.7	Alcatel-Lucent RRH2x50-08	3	89	2.2	1.3	13.0	9.8	0.80	0.50	0.0	0.00	2.91	7	298
68.5	Alcatel-Lucent RRH2x40 (700)	3	95	2.7	1.7	12.2	10.6	0.80	0.67	0.0	0.00	2.91	11	314
68.4	Commscope DT465B-2XR	3	181	10.8	6.0	13.8	8.2	0.80	0.69	0.0	0.00	2.90	44	577
68.2	RFS APXVSPP18-C-A20	3	162	9.7	6.0	11.8	7.0	0.80	0.69	0.0	0.00	2.90	40	519
67.7	Alcatel-Lucent 800 MHz RRH	3	98	2.7	1.6	13.0	10.8	0.80	0.67	0.0	0.00	2.90	11	325
65.0	Andrew ABT-DFDM-ADB	1	2	0.2	0.3	1.7	1.6	0.80	1.00	2.0	0.59	2.89	0	3
65.0	Powerwave Allgon TT19-08BP111-	6	28	0.9	0.8	6.7	5.4	0.80	0.50	2.0	10.17	2.89	5	189
65.0	Ericsson RRUS 4478 B14	3	93	2.4	1.4	13.4	7.7	0.75	0.50	0.0	0.00	2.86	7	316
65.0	Ericsson RRUS 4449 B5, B12	3	110	2.5	1.5	13.2	9.4	0.75	0.50	-4.0	27.26	2.81	7	373
65.0	Ericsson RRUS 32 (50.8 lbs)	3	94	3.4	2.2	12.1	6.7	0.80	0.67	2.0	26.79	2.89	13	313
65.0	Powerwave Allgon 7770.00A	3	96	6.9	4.6	11.0	4.9	0.80	0.65	2.0	52.47	2.89	26	305
65.0	CCI DMP65R-BU4D	2	178	9.5	4.0	20.7	7.7	0.75	0.72	0.0	0.00	2.86	25	382
65.0	CCI DMP65R-BU6DA	4	236	14.4	5.9	20.7	7.7	0.75	0.63	0.0	0.00	2.86	66	1007
65.0	Fire Warden Cabin	1	4537	498.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.86	1214	4937
63.0	Sinclair SV228-HF2SNM	1	383	42.9	6.0	116.0	62.0	1.00	1.00	0.0	0.00	2.84	103	402
62.0	Platform with Handrails	1	2787	42.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.82	101	3187
60.8	Raycap DC6-48-60-18	1	81	4.6	2.3	16.7	5.5	0.75	1.00	0.0	0.00	2.81	8	87
60.4	Raycap DC6-48-60-18-8F	1	52	1.7	2.0	9.7	9.7	0.80	1.00	2.0	6.39	2.83	3	56
56.0	Ericsson Radio 4449 B71 B85A	3	112	2.2	1.3	13.2	10.5	0.80	0.50	0.0	0.00	2.74	6	380
56.0	Ericsson 4460 BAND 2/25	3	163	3.2	1.6	15.7	12.1	0.80	0.67	0.0	0.00	2.74	12	553
56.0	Commscope VV-65A-R1	3	95	7.2	4.6	12.1	4.6	0.80	0.63	0.0	0.00	2.74	25	300
56.0	Ericsson AIR 6419 B41	3	175	7.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	2.74	26	575
56.0	Site Pro TPF123XX	3	523	24.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	2.74	86	1750
56.0	RFS APXVAALL24 43-U-NA20	3	359	22.5	8.0	24.0	8.5	0.80	0.63	0.0	0.00	2.74	79	1151
55.3	RFS DB-C1-12C-24AB-0Z	2	109	4.9	2.5	16.5	12.6	0.75	1.00	1.0	17.11	2.75	17	231
50.8	Samsung B5/B13 RRH-BR04C	3	105	2.4	1.3	15.0	8.1	0.75	0.50	0.0	0.00	2.67	6	356
50.0	Platfrom w/ Handrails	1	1220 0	214.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.66	483	13200

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
48.0	Decibel 776QNB120EXM	3	380	23.3	6.0	37.0	9.5	0.80	0.59	0.0	0.00	2.63	74	1211
47.6	Alcatel-Lucent B66a RRH4x45 (A	3	109	3.3	2.2	12.0	6.8	1.00	0.67	0.0	0.00	2.62	15	367
47.5	Alcatel-Lucent B25 RRH4x30-4R	3	87	2.7	1.8	12.0	7.2	1.00	0.67	0.0	0.00	2.62	12	291
46.0	Commscope CHB726-01	1	18	0.7	0.6	7.1	3.4	0.75	1.00	0.0	0.00	2.59	1	20
46.0	Commscope CBC78T-DS-43-2X	3	34	0.9	0.8	6.9	6.4	0.75	0.50	0.0	0.00	2.59	2	114
46.0	Samsung B2/B66A RRH-BR049	3	122	2.4	1.3	15.0	10.0	0.75	0.50	0.0	0.00	2.59	6	417
46.0	Samsung MT6407-77A	3	142	5.6	2.9	16.1	5.5	0.75	0.61	0.0	0.00	2.59	17	474
46.0	Commscope JAHH-65B-R3B	6	180	10.8	6.0	13.8	8.2	0.75	0.69	1.0	74.05	2.61	74	1153
46.0	Antel LPA-80063/6CF	4	187	10.4	5.9	15.0	13.1	0.75	0.76	0.0	0.00	2.59	52	769
45.8	Antel LPA-80063/6CF	2	187	10.4	5.9	15.0	13.1	0.75	0.76	0.0	0.00	2.59	26	384
37.5	Access Platform	1	1216 1	134.5	0.0	0.0	0.0	1.00	1.00	0.0	0.00	2.45	280	13161
	Totals	112	48,494	1683.3									3114	52,839

TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
82.8	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	0.0	0.00	6.90	6	10
73.8	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.00	6.68	21	30
70.3	Alcatel-Lucent TD-RRH8x20-25 w	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.00	6.59	33	210
69.0	Generic Flat Side Arm	6	188	6.3	0.0	0.0	0.0	1.00	0.67	0.0	0.00	6.55	141	1125
68.7	Alcatel-Lucent RRH2x50-08	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.00	6.54	11	159
68.5	Alcatel-Lucent RRH2x40 (700)	3	50	2.1	1.7	12.2	10.6	0.80	0.67	0.0	0.00	6.54	19	150
68.4	Commscope DT465B-2XR	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.00	6.54	84	174
68.2	RFS APXVSPP18-C-A20	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.00	6.53	74	171
67.7	Alcatel-Lucent 800 MHz RRH	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.00	6.52	19	159
65.0	Andrew ABT-DFDM-ADB	1	1	0.0	0.3	1.7	1.6	0.80	1.00	2.0	0.40	6.50	0	1
65.0	Powerwave Allgon TT19-08BP111-	6	16	0.6	0.8	6.7	5.4	0.80	0.50	2.0	14.66	6.50	7	96
65.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.75	0.50	0.0	0.00	6.44	11	180
65.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.75	0.50	-4.0	47.64	6.33	12	213
65.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.67	2.0	47.81	6.50	24	152
65.0	Powerwave Allgon 7770.00A	3	27	5.6	4.6	11.0	4.9	0.80	0.65	2.0	95.72	6.50	48	81
65.0	CCI DMP65R-BU4D	2	68	8.3	4.0	20.7	7.7	0.75	0.72	0.0	0.00	6.44	49	136
65.0	CCI DMP65R-BU6DA	4	79	12.7	5.9	20.7	7.7	0.75	0.63	0.0	0.00	6.44	132	318
65.0	Fire Warden Cabin	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.44	821	2000
63.0	Sinclair SV228-HF2SNM	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.00	6.38	86	93
62.0	Platform with Handrails	1	2000	27.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.36	147	2000
60.8	Raycap DC6-48-60-18	1	30	3.8	2.3	16.7	5.5	0.75	1.00	0.0	0.00	6.32	15	30
60.4	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	10.91	6.37	5	20
56.0	Ericsson Radio 4449 B71 B85A	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.00	6.17	10	225
56.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.67	0.0	0.00	6.17	22	327
56.0	Commscope VV-65A-R1	3	24	5.9	4.6	12.1	4.6	0.80	0.63	0.0	0.00	6.17	47	71
56.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	6.17	50	250
56.0	Site Pro TPF123XX	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.17	114	900
56.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	6.17	161	368
55.3	RFS DB-C1-12C-24AB-0Z	2	32	4.1	2.5	16.5	12.6	0.75	1.00	1.0	31.97	6.18	32	64
50.8	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.75	0.50	0.0	0.00	6.00	11	211
50.0	Platfrom w/ Handrails	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.98	356	5000
48.0	Decibel 776QNB120EXM	3	117	22.2	6.0	37.0	9.5	0.80	0.59	0.0	0.00	5.91	158	351
47.6	Alcatel-Lucent B66a RRH4x45 (A	3	67	2.7	2.2	12.0	6.8	1.00	0.67	0.0	0.00	5.89	27	201
47.5	Alcatel-Lucent B25 RRH4x30-4R	3	51	2.1	1.8	12.0	7.2	1.00	0.67	0.0	0.00	5.89	22	153
46.0	Commscope CHB726-01	1	10	0.4	0.6	7.1	3.4	0.75	1.00	0.0	0.00	5.84	2	10
46.0	Commscope CBC78T-DS-43-2X	3	21	0.6	0.8	6.9	6.4	0.75	0.50	0.0	0.00	5.84	3	62
46.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.75	0.50	0.0	0.00	5.84	10	253
46.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.75	0.61	0.0	0.00	5.84	32	245
46.0	Commscope JAHH-65B-R3B	6	61	9.1	6.0	13.8	8.2	0.75	0.69	1.0	141.22	5.87	141	364
46.0	Antel LPA-80063/6CF	4	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	5.84	108	108
45.8	Antel LPA-80063/6CF	2	27	9.6	5.9	15.0	13.1	0.75	0.76	0.0	0.00	5.83	54	54
37.5	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.50	211	5000
	Totals	112	21,724	926.1									3,336	21,724

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K_a Override
0.0	68.0	1 1/4" Hybriflex Cable	3	1.54	1.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	67.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	67.0	Climbing Ladder	1	2.00	6.90	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	65.0	0.78" (19.7mm) 8 AWG 6	4	0.78	0.59	100	None	Individual	0.00	N	1.00	1.00	0.00
0.0	65.0	1 1/4" Coax	12	1.55	0.63	33	1	Block	0.00	N	1.00	1.00	0.00
0.0	65.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	100	None	Individual	0.00	N	1.00	1.00	0.00
0.0	63.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	56.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	56.0	1 5/8" (1.63"-41.3mm) Fiber	3	1.63	1.61	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	56.0	1.99" (50.7mm) Hybrid	1	1.99	1.90	100	None	Individual	0.00	N	1.00	1.00	0.00
0.0	55.0	1 5/8" (1.63"-41.3mm) Fiber	2	1.63	1.61	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	48.0	7/8" Coax	12	1.09	0.33	100	None	Individual	0.00	N	1.00	1.00	0.00
0.0	48.0	1/2" Coax	3	0.63	0.15	100	None	Individual	0.00	N	1.00	1.00	0.00
0.0	46.0	1 5/8" Coax	6	1.98	0.82	67	1	Block	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal — Gust Response Factor (Gh): 0.85
114 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	22.46	30.065	0.000	0.00	0.269	2.70	1.00	1.00	0.0	30.06	81.24	0.00	3537	0	1551	559	2110	
5	50	21.58	4.279	0.000	0.00	1.000	2.10	1.00	1.00	0.0	4.28	8.99	0.00	408	0	165	0	39	**
4	44	20.77	32.213	0.000	0.00	0.185	3.05	1.00	1.00	0.0	32.21	98.12	0.00	4908	0	1732	820	2551	
3	31	18.86	39.046	0.000	0.00	0.198	2.99	1.00	1.00	0.0	39.05	116.77	0.00	5573	0	1872	819	2691	
2	19	18.63	38.105	0.000	0.00	0.172	3.10	1.00	1.00	0.0	38.10	118.20	0.00	5408	0	1872	809	2680	
1	6	18.63	40.268	0.000	0.00	0.165	3.14	1.00	1.00	0.0	40.27	126.32	0.00	5699	0	2000	809	2809	
** = Section Force Exceeds Solidity Ratio Criteria														25,534	0			12,881	

1.2D + 1.0W 45° — Gust Response Factor (Gh): 0.85
114 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	22.46	30.065	0.000	0.00	0.269	2.70	1.20	1.20	0.0	36.08	97.49	0.00	3537	0	1861	559	2420	
5	50	21.58	4.279	0.000	0.00	1.000	2.10	1.20	1.20	0.0	5.14	10.78	0.00	408	0	198	0	39	**
4	44	20.77	32.213	0.000	0.00	0.185	3.05	1.14	1.14	0.0	36.68	111.72	0.00	4908	0	1972	820	2792	
3	31	18.86	39.046	0.000	0.00	0.198	2.99	1.15	1.15	0.0	44.83	134.07	0.00	5573	0	2150	819	2969	
2	19	18.63	38.105	0.000	0.00	0.172	3.10	1.13	1.13	0.0	43.03	133.48	0.00	5408	0	2114	809	2922	
1	6	18.63	40.268	0.000	0.00	0.165	3.14	1.12	1.12	0.0	45.24	141.92	0.00	5699	0	2247	809	3056	
** = Section Force Exceeds Solidity Ratio Criteria														25,534	0			14,198	

0.9D + 1.0W Normal — Gust Response Factor (Gh): 0.85
114 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	22.46	30.065	0.000	0.00	0.269	2.70	1.00	1.00	0.0	30.06	81.24	0.00	2653	0	1551	559	2110	
5	50	21.58	4.279	0.000	0.00	1.000	2.10	1.00	1.00	0.0	4.28	8.99	0.00	306	0	165	0	39	**
4	44	20.77	32.213	0.000	0.00	0.185	3.05	1.00	1.00	0.0	32.21	98.12	0.00	3681	0	1732	820	2551	
3	31	18.86	39.046	0.000	0.00	0.198	2.99	1.00	1.00	0.0	39.05	116.77	0.00	4180	0	1872	819	2691	
2	19	18.63	38.105	0.000	0.00	0.172	3.10	1.00	1.00	0.0	38.10	118.20	0.00	4056	0	1872	809	2680	
1	6	18.63	40.268	0.000	0.00	0.165	3.14	1.00	1.00	0.0	40.27	126.32	0.00	4274	0	2000	809	2809	
** = Section Force Exceeds Solidity Ratio Criteria														19,150	0			12,881	

0.9D + 1.0W 45° — Gust Response Factor (Gh): 0.85
114 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	22.46	30.065	0.000	0.00	0.269	2.70	1.20	1.20	0.0	36.08	97.49	0.00	2653	0	1861	559	2420	
5	50	21.58	4.279	0.000	0.00	1.000	2.10	1.20	1.20	0.0	5.14	10.78	0.00	306	0	198	0	39	**
4	44	20.77	32.213	0.000	0.00	0.185	3.05	1.14	1.14	0.0	36.68	111.72	0.00	3681	0	1972	820	2792	
3	31	18.86	39.046	0.000	0.00	0.198	2.99	1.15	1.15	0.0	44.83	134.07	0.00	4180	0	2150	819	2969	
2	19	18.63	38.105	0.000	0.00	0.172	3.10	1.13	1.13	0.0	43.03	133.48	0.00	4056	0	2114	809	2922	
1	6	18.63	40.268	0.000	0.00	0.165	3.14	1.12	1.12	0.0	45.24	141.92	0.00	4274	0	2247	809	3056	
** = Section Force Exceeds Solidity Ratio Criteria														19,150	0			14,198	

1.2D + 1.0Di + 1.0Wi Normal — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
40 mph wind with 1" radial ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

SECTION FORCES

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	2.76	30.065	16.415	16.42	0.406	2.26	1.00	1.00	1.1	46.48	105.18	16.42	6649	3112	247	144	392	
5	50	2.66	4.279	1.487	1.49	1.000	2.10	1.00	1.00	1.0	5.77	12.11	1.49	597	190	27	0	5	**
4	44	2.56	32.213	14.029	14.03	0.262	2.73	1.00	1.00	1.0	46.24	126.15	14.03	9319	4411	274	257	531	
3	31	2.32	39.046	14.422	14.42	0.268	2.71	1.00	1.00	1.0	53.47	144.75	14.42	10348	4775	286	248	534	
2	19	2.29	38.105	14.543	14.54	0.236	2.83	1.00	1.00	0.9	52.65	149.01	14.54	9906	4498	290	246	536	
1	6	2.29	40.268	13.799	13.80	0.220	2.90	1.00	1.00	0.8	54.07	156.66	13.80	9854	4155	305	236	541	
** = Section Force Exceeds Solidity Ratio Criteria														46,674	21,141			2,539	

1.2D + 1.0Di + 1.0Wi 45° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
40 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	2.76	30.065	16.415	16.42	0.406	2.26	1.20	1.20	1.1	55.78	126.22	16.42	6649	3112	297	144	441	
5	50	2.66	4.279	1.487	1.49	1.000	2.10	1.20	1.20	1.0	6.92	14.53	1.49	597	190	33	0	5	**
4	44	2.56	32.213	14.029	14.03	0.262	2.73	1.20	1.20	1.0	55.33	150.96	14.03	9319	4411	328	257	585	
3	31	2.32	39.046	14.422	14.42	0.268	2.71	1.20	1.20	1.0	64.16	173.70	14.42	10348	4775	343	248	591	
2	19	2.29	38.105	14.543	14.54	0.236	2.83	1.18	1.18	0.9	61.97	175.38	14.54	9906	4498	342	246	588	
1	6	2.29	40.268	13.799	13.80	0.220	2.90	1.16	1.16	0.8	62.97	182.46	13.80	9854	4155	356	236	592	
** = Section Force Exceeds Solidity Ratio Criteria														46,674	21,141			2,801	

1.0D + 1.0W Service Normal Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	6.22	30.065	0.000	0.00	0.269	2.70	1.00	1.00	0.0	30.06	81.24	0.00	2948	0	430	155	584	
5	50	5.98	4.279	0.000	0.00	1.000	2.10	1.00	1.00	0.0	4.28	8.99	0.00	340	0	46	0	11	**
4	44	5.75	32.213	0.000	0.00	0.185	3.05	1.00	1.00	0.0	32.21	98.12	0.00	4090	0	480	227	707	
3	31	5.23	39.046	0.000	0.00	0.198	2.99	1.00	1.00	0.0	39.05	116.77	0.00	4645	0	519	227	745	
2	19	5.16	38.105	0.000	0.00	0.172	3.10	1.00	1.00	0.0	38.10	118.20	0.00	4506	0	518	224	742	
1	6	5.16	40.268	0.000	0.00	0.165	3.14	1.00	1.00	0.0	40.27	126.32	0.00	4749	0	554	224	778	
** = Section Force Exceeds Solidity Ratio Criteria														21,278	0			3,568	

1.0D + 1.0W Service 45° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
6	58	6.22	30.065	0.000	0.00	0.269	2.70	1.20	1.20	0.0	36.08	97.49	0.00	2948	0	516	155	670	
5	50	5.98	4.279	0.000	0.00	1.000	2.10	1.20	1.20	0.0	5.14	10.78	0.00	340	0	55	0	11	**
4	44	5.75	32.213	0.000	0.00	0.185	3.05	1.14	1.14	0.0	36.68	111.72	0.00	4090	0	546	227	773	
3	31	5.23	39.046	0.000	0.00	0.198	2.99	1.15	1.15	0.0	44.83	134.07	0.00	4645	0	595	227	822	
2	19	5.16	38.105	0.000	0.00	0.172	3.10	1.13	1.13	0.0	43.03	133.48	0.00	4506	0	585	224	810	
1	6	5.16	40.268	0.000	0.00	0.165	3.14	1.12	1.12	0.0	45.24	141.92	0.00	4749	0	622	224	847	
** = Section Force Exceeds Solidity Ratio Criteria														21,278	0			3,933	

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_S:	0.05
Lower Limit C_S:	0.03
Period based on Rayleigh Method (sec):	0.59
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.04
Total Unfactored Dead Load:	43.00 k
Seismic Base Shear (E):	2.74 k

SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
6	57.55	2,948	202,632	0.097	266	2,544
5	50.05	340	20,185	0.010	27	293
4	43.75	4,090	211,187	0.101	277	3,530
3	31.25	4,645	168,781	0.081	222	4,009
2	18.75	4,506	96,082	0.046	126	3,889
1	6.25	4,749	32,165	0.015	42	4,099
Generic 5' Omni	65.00	10	781	0.000	1	9
Generic 10' Dipole	65.00	30	2,342	0.001	3	26
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	65.00	210	16,391	0.008	22	181
Generic Flat Side Arm	65.00	1,125	87,809	0.042	115	971
Alcatel-Lucent RRH2x50-08	65.00	159	12,387	0.006	16	137
Alcatel-Lucent RRH2x40 (700)	65.00	150	11,708	0.006	15	129
Commscope DT465B-2XR	65.00	174	13,581	0.006	18	150
RFS APXVSPP18-C-A20	65.00	171	13,347	0.006	18	148
Alcatel-Lucent 800 MHz RRH	65.00	159	12,410	0.006	16	137
Andrew ABT-DFDM-ADB	65.00	1	86	0.000	0	1
Powerwave Allgon TT19-08BP111-001	65.00	96	7,493	0.004	10	83
Ericsson RRUS 4478 B14	65.00	180	14,026	0.007	18	155
Ericsson RRUS 4449 B5, B12	65.00	213	16,625	0.008	22	184
Ericsson RRUS 32 (50.8 lbs)	65.00	152	11,895	0.006	16	132
Powerwave Allgon 7770.00A	65.00	81	6,322	0.003	8	70
CCI DMP65R-BU4D	65.00	136	10,600	0.005	14	117
CCI DMP65R-BU6DA	65.00	318	24,790	0.012	33	274
Fire Warden Cabin	65.00	2,000	156,106	0.075	205	1,726
Sinclair SV228-HF2SNM	63.00	93	7,026	0.003	9	80
Platform with Handrails	62.00	2,000	148,593	0.071	195	1,726
Raycap DC6-48-60-18	60.80	30	2,184	0.001	3	26
Raycap DC6-48-60-18-8F	60.40	20	1,446	0.001	2	17
Ericsson Radio 4449 B71 B85A	56.00	225	15,032	0.007	20	194
Ericsson 4460 BAND 2/25	56.00	327	21,846	0.010	29	282
Commscope VV-65A-R1	56.00	71	4,770	0.002	6	62

Ericsson AIR 6419 B41	56.00	250	16,695	0.008	22	216
Site Pro TPF123XX	56.00	900	60,127	0.029	79	777
RFS APXVAALL24 43-U-NA20	56.00	368	24,612	0.012	32	318
RFS DB-C1-12C-24AB-0Z	55.30	64	4,220	0.002	6	55
Samsung B5/B13 RRH-BR04C	50.80	211	12,727	0.006	17	182
Platfrom w/ Handrails	50.00	5,000	296,770	0.142	390	4,315
Decibel 776QNB120EXM	48.00	351	19,964	0.010	26	303
Alcatel-Lucent B66a RRH4x45 (AWS-3)	47.60	201	11,333	0.005	15	173
Alcatel-Lucent B25 RRH4x30-4R	47.50	153	8,608	0.004	11	132
Commscope CHB726-01	46.00	10	539	0.000	1	9
Commscope CBC78T-DS-43-2X	46.00	62	3,379	0.002	4	54
Samsung B2/B66A RRH-BR049	46.00	253	13,776	0.007	18	219
Samsung MT6407-77A	46.00	245	13,319	0.006	17	211
Commscope JAHH-65B-R3B	46.00	364	19,782	0.010	26	314
Antel LPA-80063/6CF	46.00	108	5,876	0.003	8	93
Antel LPA-80063/6CF	45.80	54	2,925	0.001	4	47
Access Platform	37.50	5,000	219,788	0.105	289	4,315
Totals		43,002	2,085,065	1.000	2,740	37,115

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
6	57.55	2,948	202,632	0.097	266	3,646
5	50.05	340	20,185	0.010	27	420
4	43.75	4,090	211,187	0.101	277	5,059
3	31.25	4,645	168,781	0.081	222	5,745
2	18.75	4,506	96,082	0.046	126	5,574
1	6.25	4,749	32,165	0.015	42	5,874
Generic 5' Omni	65.00	10	781	0.000	1	12
Generic 10' Dipole	65.00	30	2,342	0.001	3	37
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	65.00	210	16,391	0.008	22	260
Generic Flat Side Arm	65.00	1,125	87,809	0.042	115	1,392
Alcatel-Lucent RRH2x50-08	65.00	159	12,387	0.006	16	196
Alcatel-Lucent RRH2x40 (700)	65.00	150	11,708	0.006	15	186
Commscope DT465B-2XR	65.00	174	13,581	0.006	18	215
RFS APXVSPP18-C-A20	65.00	171	13,347	0.006	18	212
Alcatel-Lucent 800 MHz RRH	65.00	159	12,410	0.006	16	197
Andrew ABT-DFDM-ADB	65.00	1	86	0.000	0	1
Powerwave Allgon TT19-08BP111-001	65.00	96	7,493	0.004	10	119
Ericsson RRUS 4478 B14	65.00	180	14,026	0.007	18	222
Ericsson RRUS 4449 B5, B12	65.00	213	16,625	0.008	22	263
Ericsson RRUS 32 (50.8 lbs)	65.00	152	11,895	0.006	16	189
Powerwave Allgon 7770.00A	65.00	81	6,322	0.003	8	100
CCI DMP65R-BU4D	65.00	136	10,600	0.005	14	168
CCI DMP65R-BU6DA	65.00	318	24,790	0.012	33	393
Fire Warden Cabin	65.00	2,000	156,106	0.075	205	2,474
Sinclair SV228-HF2SNM	63.00	93	7,026	0.003	9	115
Platform with Handrails	62.00	2,000	148,593	0.071	195	2,474
Raycap DC6-48-60-18	60.80	30	2,184	0.001	3	37
Raycap DC6-48-60-18-8F	60.40	20	1,446	0.001	2	25
Ericsson Radio 4449 B71 B85A	56.00	225	15,032	0.007	20	278
Ericsson 4460 BAND 2/25	56.00	327	21,846	0.010	29	404
Commscope VV-65A-R1	56.00	71	4,770	0.002	6	88
Ericsson AIR 6419 B41	56.00	250	16,695	0.008	22	309
Site Pro TPF123XX	56.00	900	60,127	0.029	79	1,113
RFS APXVAALL24 43-U-NA20	56.00	368	24,612	0.012	32	456
RFS DB-C1-12C-24AB-0Z	55.30	64	4,220	0.002	6	79
Samsung B5/B13 RRH-BR04C	50.80	211	12,727	0.006	17	261
Platfrom w/ Handrails	50.00	5,000	296,770	0.142	390	6,185
Decibel 776QNB120EXM	48.00	351	19,964	0.010	26	434
Alcatel-Lucent B66a RRH4x45 (AWS-3)	47.60	201	11,333	0.005	15	249
Alcatel-Lucent B25 RRH4x30-4R	47.50	153	8,608	0.004	11	189
Commscope CHB726-01	46.00	10	539	0.000	1	12
Commscope CBC78T-DS-43-2X	46.00	62	3,379	0.002	4	77
Samsung B2/B66A RRH-BR049	46.00	253	13,776	0.007	18	313
Samsung MT6407-77A	46.00	245	13,319	0.006	17	303
Commscope JAHH-65B-R3B	46.00	364	19,782	0.010	26	450

Antel LPA-80063/6CF		46.00	108	5,876	0.003	8	134
Antel LPA-80063/6CF		45.80	54	2,925	0.001	4	67
Access Platform		37.50	5,000	219,788	0.105	289	6,185
	Totals		43,002	2,085,065	1.000	2,740	53,190

FORCE/STRESS SUMMARY

Section 1 – Base 0.0 (ft) and Height 12.50 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.625	-49.07	1.2D + 1.0W 45°	12.57	50	50	50	63.92	33.0	207.00	0.00	0.00	0	0	23	Member Z
H DAL - 3X2.5X0.25	-1.53	0.9D + 1.0W N	18.125	50	100	13	199.79	36.0	18.86	0.00	0.00	0	0	8	Member Y
D SAU - 4X3X0.25	-5.60	1.2D + 1.0W N	22.815	47	47	47	179.21	36.0	15.06	0.00	0.00	0	0	37	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.625	28.85	0.9D + 1.0W 45°	33.0	45	211.17	0.00	0.00		0	0	13	Member
H DAL - 3X2.5X0.25	2.66	1.2D + 1.0W N	36.0	58	85.21	0.00	0.00	0.00	0	0	3	Member
D SAU - 4X3X0.25	3.85	1.2D + 1.0W N	36.0	58	54.76	0.00	0.00	0.00	0	0	7	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	25.09	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	33.74	0.9D + 1.0W 45°	0.00	0	0	
Bot Compression	55.41	1.2D + 1.0W 45°	0.00	0	0	

Section 2 – Base 12.5 (ft) and Height 12.50 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.625	-40.48	1.2D + 1.0W 45°	12.57	50	50	50	63.92	33.0	207.00	0.00	0.00	0	0	19	Member Z
H DAL - 3X2.5X0.25	-0.80	1.2D + 1.0W N	16.25	50	50	17	106.71	36.0	60.78	0.00	0.00	0	0	1	Member Y
D SAU - 4X3X0.25	-5.82	1.2D + 1.0W N	21.273	47	47	47	169.04	36.0	16.93	0.00	0.00	0	0	34	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.625	21.50	0.9D + 1.0W 45°	33.0	45	211.17	0.00	0.00		0	0	10	Member
H DAL - 3X2.5X0.25	1.79	1.2D + 1.0W N	36.0	58	85.21	0.00	0.00	0.00	0	0	2	Member
D SAU - 4X3X0.25	4.49	1.2D + 1.0W N	36.0	58	54.76	0.00	0.00	0.00	0	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	16.99	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	25.09	0.9D + 1.0W 45°	0.00	0	0	

Section 3 – Base 25.0 (ft) and Height 12.50 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	-29.77	1.2D + 1.0W 45°	12.57	50	50	50	63.92	33.0	167.41	0.00	0.00	0	0	17	Member Z
H DAL - 3.5X3X0.3125	-1.20	1.2D + 1.0W N	14.375	50	100	17	136.07	36.0	59.82	0.00	0.00	0	0	2	Member Y
D SAU - 3.5X3X0.25	-5.94	1.2D + 1.0W N	19.789	47	47	47	163.38	36.0	16.73	0.00	0.00	0	0	35	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	13.55	0.9D + 1.0W 45°	33.0	45	170.78	0.00	0.00		0	0	7	Member
H DAL - 3.5X3X0.3125	3.13	1.2D + 1.0W N	36.0	58	125.39	0.00	0.00	0.00	0	0	2	Member
D SAU - 3.5X3X0.25	4.27	1.2D + 1.0W N	36.0	58	50.54	0.00	0.00	0.00	0	0	8	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	8.63	0.9D + 1.0W 45°	0.00	0	0	

FORCE/STRESS SUMMARY

Bot Tension	16.99	0.9D + 1.0W 45°	0.00	0	0

Section 4 – Base 37.5 (ft) and Height 12.50 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	-18.59	1.2D + 1.0W 45°	12.57	50	50	50	63.92	33.0	167.41	0.00	0.00	0	0	11	Member Z
H DAL - 3.5X3X0.3125	-1.87	1.2D + 1.0W 45°	12.5	100	100	17	136.37	36.0	59.56	0.00	0.00	0	0	3	Member X
D SAE - 3.5x3.5x0.25	-5.53	1.2D + 1.0W N	18.377	47	47	47	143.39	36.0	23.52	0.00	0.00	0	0	23	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	7.19	0.9D + 1.0W 45°	33.0	45	170.78	0.00	0.00		0	0	4	Member
H DAL - 3.5X3X0.3125	1.81	1.2D + 1.0W N	36.0	58	125.39	0.00	0.00	0.00	0	0	1	Member
D SAE - 3.5x3.5x0.25	3.89	1.2D + 1.0W N	36.0	58	54.76	0.00	0.00	0.00	0	0	7	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	1.98	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	8.63	0.9D + 1.0W 45°	0.00	0	0	

Section 5 – Base 50.0 (ft) and Height 0.10 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	-5.71	1.2D + 1.0Di + 1.0Wi 45	0.389	50	50	50	1.98	33.0	189.73	0.00	0.00	0	0	3	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	5.80	1.2D + 1.0W 45°	33.0	45	170.78	0.00	0.00		0	0	3	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	6.17	0.9D + 1.0W 45°	0.00	0	0	
Bot Tension	1.98	0.9D + 1.0W 45°	0.00	0	0	

Section 6 – Base 50.1 (ft) and Height 14.90 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	-13.30	1.2D + 1.0W 45°	7.45	100	100	100	75.76	33.0	158.36	0.00	0.00	0	0	8	Member Z
H DAL - 2.5X2X0.25	-3.58	1.2D + 1.0W 45°	7	100	100	50	133.74	36.0	34.09	0.00	0.00	0	0	10	Member Y
D SAU - 3X2X0.25	-4.33	1.2D + 1.0W N	10.223	50	50	50	136.05	36.0	18.40	0.00	0.00	0	0	23	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L SAE - 6X6X0.5	0.29	1.2D + 1.0W N	33.0	45	170.78	0.00	0.00		0	0	0	Member
H DAL - 2.5X2X0.25	0.86	1.2D + 1.0W N	36.0	58	69.01	0.00	0.00	0.00	0	0	1	Member
D SAU - 3X2X0.25	4.04	1.2D + 1.0W 45°	36.0	58	38.56	0.00	0.00	0.00	0	0	10	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	6.17	0.9D + 1.0W 45°	0.00	0	0	

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
1.2D + 1.0W Normal	14.14	0.00	45	1	-4.47	41.69	-7.87
	14.14	0.00	135	1a	1.58	-15.30	-4.91
	14.14	0.00	225	1b	-1.91	-15.69	-4.66
	14.14	0.00	315	1c	4.80	40.90	-7.48
1.2D + 1.0W 45°	14.14	0.00	45	1	-8.20	55.21	-8.71
	14.14	0.00	135	1a	-3.96	13.43	-0.99
	14.14	0.00	225	1b	-5.77	-29.34	-5.39
	14.14	0.00	315	1c	-0.63	12.31	-3.46
0.9D + 1.0W Normal	14.14	0.00	45	1	-4.12	38.43	-7.49
	14.14	0.00	135	1a	1.95	-18.64	-5.28
	14.14	0.00	225	1b	-2.28	-18.90	-5.02
	14.14	0.00	315	1c	4.44	37.81	-7.13
0.9D + 1.0W 45°	14.14	0.00	45	1	-7.85	51.94	-8.34
	14.14	0.00	135	1a	-3.59	10.06	-1.36
	14.14	0.00	225	1b	-6.13	-32.54	-5.74
	14.14	0.00	315	1c	-0.99	9.24	-3.11
1.2D + 1.0Di + 1.0Wi Normal	14.14	0.00	45	1	-1.36	31.73	-2.24
	14.14	0.00	135	1a	-0.06	19.27	-0.65
	14.14	0.00	225	1b	-0.02	18.20	-0.73
	14.14	0.00	315	1c	1.44	30.31	-2.03
1.2D + 1.0Di + 1.0Wi 45°	14.14	0.00	45	1	-2.19	34.85	-2.45
	14.14	0.00	135	1a	-1.32	26.03	0.26
	14.14	0.00	225	1b	-0.87	15.06	-0.90
	14.14	0.00	315	1c	0.21	23.57	-1.10
1.2D + 1.0Ev + 1.0Eh Normal	14.14	0.00	45	1	-1.88	16.06	-2.18
	14.14	0.00	135	1a	-1.10	9.07	0.82
	14.14	0.00	225	1b	1.10	9.07	0.82
	14.14	0.00	315	1c	1.88	16.06	-2.18
1.2D + 1.0Ev + 1.0Eh 45°	14.14	0.00	45	1	-2.25	17.50	-2.26
	14.14	0.00	135	1a	-1.69	12.56	1.30
	14.14	0.00	225	1b	0.73	7.62	0.74
	14.14	0.00	315	1c	1.29	12.56	-1.70
0.9D - 1.0Ev + 1.0Eh Normal	14.14	0.00	45	1	-1.43	12.26	-1.72
	14.14	0.00	135	1a	-0.65	5.28	0.37
	14.14	0.00	225	1b	0.65	5.28	0.37
	14.14	0.00	315	1c	1.43	12.26	-1.72
0.9D - 1.0Ev + 1.0Eh 45°	14.14	0.00	45	1	-1.80	13.70	-1.80
	14.14	0.00	135	1a	-1.24	8.77	0.84
	14.14	0.00	225	1b	0.28	3.83	0.28
	14.14	0.00	315	1c	0.84	8.77	-1.25
1.0D + 1.0W Service Normal	14.14	0.00	45	1	-2.02	18.74	-3.01
	14.14	0.00	135	1a	-0.39	3.25	-0.54
	14.14	0.00	225	1b	0.29	2.85	-0.50
	14.14	0.00	315	1c	2.12	18.16	-2.86
1.0D + 1.0W Service 45°	14.14	0.00	45	1	-3.05	22.49	-3.25
	14.14	0.00	135	1a	-1.93	11.20	0.54
	14.14	0.00	225	1b	-0.78	-0.93	-0.69
	14.14	0.00	315	1c	0.62	10.24	-1.74

Max Uplift:	32.54 (kip)	Moment Ice:	282.1 (kip-ft)	Moment:	1195.81 (kip-ft)
Max Down:	55.21 (kip)	Total Down Ice:	99.51 (kip)	Total Down:	51.6 (kip)
Max Shear:	11.96 (kip)	Total Shear Ice:	5.92 (kip)	Total Shear:	26.24(kip)

1.2D + 1.0W 45°

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 114 mph wind with no ice	37.50	0.0157	0.8605	0.4878	0.9511
1.2D + 1.0W Normal 114 mph wind with no ice	50.00	0.0231	1.1754	1.6534	2.0287
1.2D + 1.0W Normal 114 mph wind with no ice	50.10	0.0988	1.2167	1.0687	1.6194
1.2D + 1.0W Normal 114 mph wind with no ice	57.55	0.2022	1.2375	1.1829	1.7119
1.2D + 1.0W Normal 114 mph wind with no ice	65.00	0.3148	1.2304	0.8637	1.4729
1.2D + 1.0W 45° 114 mph wind with no ice	37.50	0.0166	1.0477	0.5927	1.1752
1.2D + 1.0W 45° 114 mph wind with no ice	50.00	0.0244	1.4360	1.9776	2.444
1.2D + 1.0W 45° 114 mph wind with no ice	50.10	0.122	1.4712	0.8952	1.7221
1.2D + 1.0W 45° 114 mph wind with no ice	57.55	0.2421	1.4788	1.4694	2.0847
1.2D + 1.0W 45° 114 mph wind with no ice	65.00	0.3642	1.4764	0.9472	1.7208
0.9D + 1.0W Normal 114 mph wind with no ice	37.50	0.0157	0.8078	0.4335	0.8789
0.9D + 1.0W Normal 114 mph wind with no ice	50.00	0.0231	1.0921	1.4527	1.8166
0.9D + 1.0W Normal 114 mph wind with no ice	50.10	0.0933	1.1296	0.9675	1.4873
0.9D + 1.0W Normal 114 mph wind with no ice	57.55	0.1967	1.1482	1.1421	1.6194
0.9D + 1.0W Normal 114 mph wind with no ice	65.00	0.3093	1.1419	0.8525	1.4024
0.9D + 1.0W 45° 114 mph wind with no ice	37.50	0.0166	0.9992	0.5380	1.1018
0.9D + 1.0W 45° 114 mph wind with no ice	50.00	0.0244	1.3597	1.7744	2.2354
0.9D + 1.0W 45° 114 mph wind with no ice	50.10	0.1167	1.3935	0.7731	1.5936
0.9D + 1.0W 45° 114 mph wind with no ice	57.55	0.2356	1.4009	1.4063	1.985
0.9D + 1.0W 45° 114 mph wind with no ice	65.00	0.3565	1.3987	0.9265	1.6549
1.2D + 1.0Di + 1.0Wi Normal 40 mph wind with 1" radial ice	37.50	0.0048	0.3242	0.4426	0.5424
1.2D + 1.0Di + 1.0Wi Normal 40 mph wind with 1" radial ice	50.00	0.0062	0.4553	1.6292	1.6916
1.2D + 1.0Di + 1.0Wi Normal 40 mph wind with 1" radial ice	50.10	0.0345	0.4689	0.9977	1.1024
1.2D + 1.0Di + 1.0Wi Normal 40 mph wind with 1" radial ice	57.55	0.0591	0.4715	0.5991	0.7624
1.2D + 1.0Di + 1.0Wi Normal 40 mph wind with 1" radial ice	65.00	0.0847	0.4706	0.2773	0.5189
1.2D + 1.0Di + 1.0Wi 45° 40 mph wind with 1" radial ice	37.50	0.0055	0.4412	0.4725	0.6406
1.2D + 1.0Di + 1.0Wi 45° 40 mph wind with 1" radial ice	50.00	0.0071	0.6163	1.7213	1.8283
1.2D + 1.0Di + 1.0Wi 45° 40 mph wind with 1" radial ice	50.10	0.0471	0.6310	0.9927	1.1762
1.2D + 1.0Di + 1.0Wi 45° 40 mph wind with 1" radial ice	57.55	0.0805	0.6298	0.7440	0.9748
1.2D + 1.0Di + 1.0Wi 45° 40 mph wind with 1" radial ice	65.00	0.1148	0.6302	0.4205	0.7343
1.2D + 1.0Ev + 1.0Eh Normal Seismic	37.50	0.0019	0.0074	0.2276	0.2277
1.2D + 1.0Ev + 1.0Eh Normal Seismic	50.00	0.0029	0.0012	0.8457	0.8457
1.2D + 1.0Ev + 1.0Eh Normal Seismic	50.10	0.0034	0.0034	0.5612	0.5612
1.2D + 1.0Ev + 1.0Eh Normal Seismic	57.55	0.0145	0.0044	0.2315	0.2315
1.2D + 1.0Ev + 1.0Eh Normal Seismic	65.00	0.0262	0.0041	0.1314	0.1314
1.2D + 1.0Ev + 1.0Eh 45° Seismic	37.50	0.002	0.0072	0.2401	0.2402
1.2D + 1.0Ev + 1.0Eh 45° Seismic	50.00	0.0029	-0.0010	0.8859	0.8859
1.2D + 1.0Ev + 1.0Eh 45° Seismic	50.10	0.0036	0.0024	0.5574	0.5574
1.2D + 1.0Ev + 1.0Eh 45° Seismic	57.55	0.0154	-0.0043	0.2856	0.2856
1.2D + 1.0Ev + 1.0Eh 45° Seismic	65.00	0.0281	-0.0039	0.1535	0.1535
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	37.50	0.0019	0.0066	0.1657	0.1658
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	50.00	0.0029	0.0006	0.6122	0.6122
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	50.10	0.0033	0.0016	0.4032	0.4032
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	57.55	0.0143	0.0024	0.1880	0.1881
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	65.00	0.0259	0.0021	0.1132	0.1132
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	37.50	0.002	0.0065	0.1781	0.1781
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	50.00	0.0029	-0.0009	0.6517	0.6517
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	50.10	0.0034	0.0011	0.3981	0.3981
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	57.55	0.0152	-0.0021	0.2380	0.238
0.9D - 1.0Ev + 1.0Eh 45° Seismic (Reduced DL)	65.00	0.0277	-0.0018	0.1301	0.1301
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	37.50	0.0043	0.3135	0.2468	0.3846
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	50.00	0.0064	0.4238	0.8785	0.9754
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	50.10	0.034	0.4371	0.5285	0.6858
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	57.55	0.061	0.4396	0.4184	0.6068
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	65.00	0.0906	0.4387	0.2514	0.4988
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	37.50	0.0046	0.4311	0.2783	0.5009
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	50.00	0.0068	0.5878	0.9720	1.1359
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	50.10	0.0468	0.6029	0.5090	0.789
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	57.55	0.0808	0.6033	0.5303	0.8033
1.0D + 1.0W Service 45° 60 mph Wind with No Ice	65.00	0.1153	0.6032	0.3066	0.6685

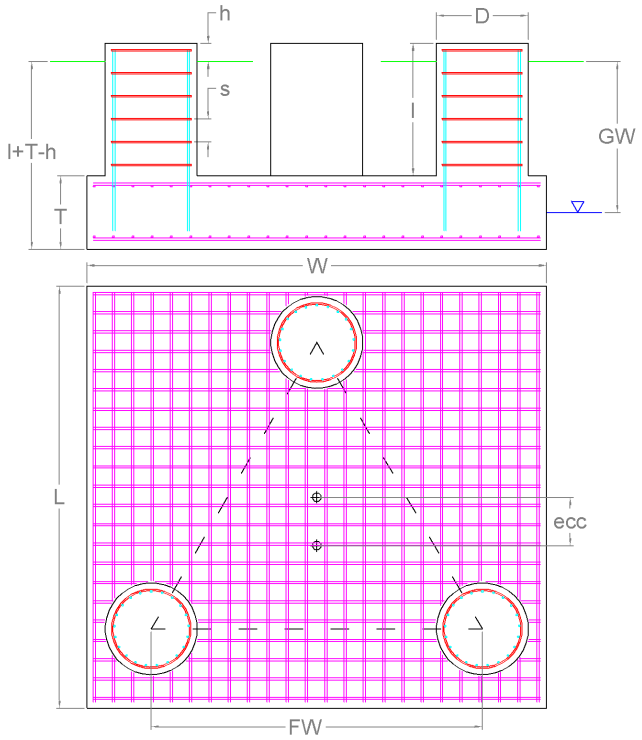
Monolithic Mat Foundation Analysis (ANSI/TIA-222-H)

Foundation & Tower Parameters			
Ignore Mat Rebar?		Y	
Ignore Pier Rebar?		Y	
Foundation has Pier(s)?		Y	
Pier Shape		Round	
Pier Diameter	*D*	4	ft
Pier Height Above Ground	*h*	0.5	ft
Pier Length	*l*	2.5	ft
Mat Base Depth	*l+T-h*	4.92	ft
Mat Length	*L*	30	ft
Mat Width	*W*	30	ft
Mat Thickness	*T*	2.92	ft
Unit Weight of Concrete		150	pcf
Tower Eccentricity	ecc	0	ft
Tower Face Width	FW	20	ft
Tower Leg Count		4	

Soil Parameters			
Water Table Depth [BGL]	*GW*	-	ft
Unit Weight of Soil		125	pcf
Unit Weight of Soil [Submerged]		62.6	pcf
Shear Friction Coefficient		0.5	
Ultimate Bearing Pressure		40,000	psf
Bearing Pressure Type		Gross	
Conical Failure Angle		35	°
Capacity Increase (Transient Loads)		1.00	
Soil Strength Reduction Factor, ϕ_s		0.75	
Dead Load Factor		1.2	

Soil Capacities		
Design Moment, M_u	1,260.84	k-ft
Nominal Moment Capacity, $\phi_m M_n$	9,343.65	k-ft
$M_u / \phi_s M_n$	**13.5%**	
Net Bearing Pressure	772	k
Nominal Bearing Capacity, $\phi_b P_n$	30,000	k
Bearing Pressure Controlling Load Direction	Parallel to Pad Edge	
$P_u / \phi_s P_n$	**2.6%**	
Ultimate Friction Resistance	334.24	k
Ultimate Passive Pressure Resistance	37.89	k
Nominal Shear Capacity, $\phi_s V_n$	279.1	k
$V_u / \phi_s V_n$	**4.0%**	

Reactions		
Moment, M_u	1,195.8	k-ft
Shear, V_u	12	k
Axial, P_u	55.2	k
Uplift, T_u	32.5	k
Tower Weight	51.6	k
Tower Dead Load Factor	0.9	
Shear/Leg in Compression, v_{cu}	7.9	k
Shear/Leg in Tension, v_{tu}	6.6	k



RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CTNH545A
Status: Final
Version: 4
Project Type: Anchor
Approved: 3/10/2022 3:53:28 PM
Approved By: Pratik.Patil30@T-Mobile.com
Last Modified: 3/10/2022 3:53:28 PM
Last Modified By: Pratik.Patil30@T-Mobile.com

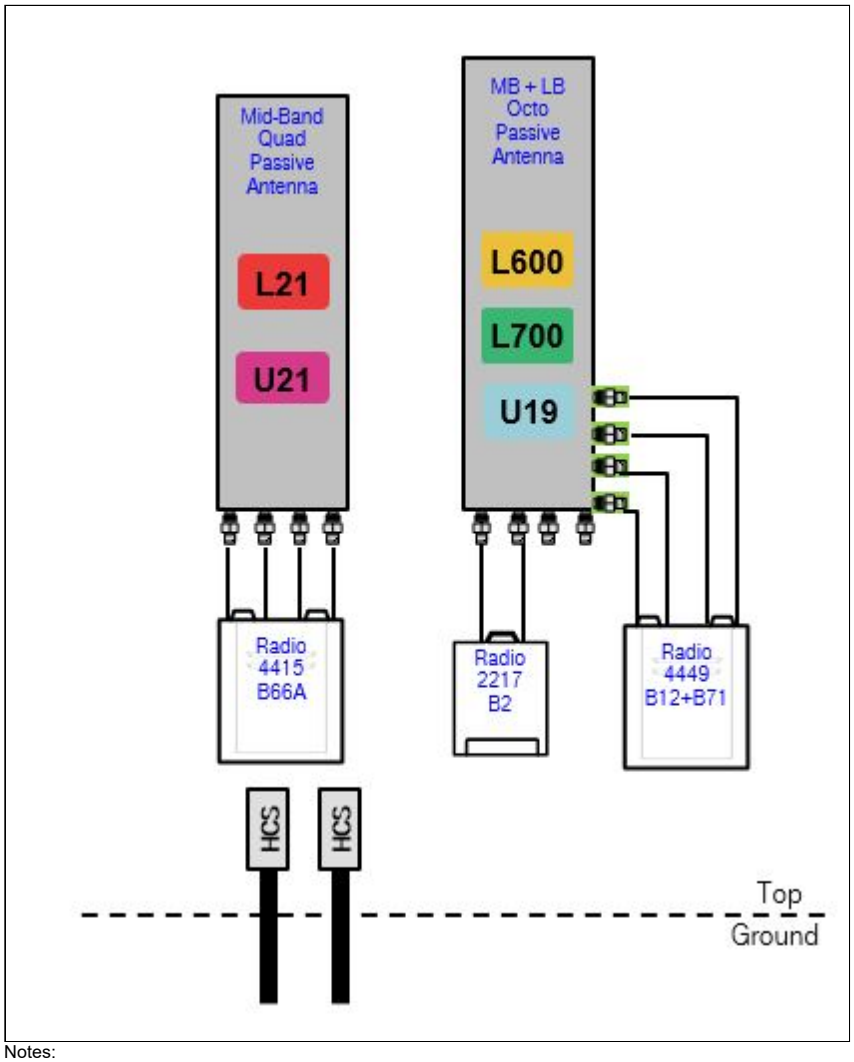
Site Name: CTNH545A
Site Class: Self Support Tower
Site Type: Structure Non Building
Plan Year: 2022
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: ATC

Latitude: 41.82130000
Longitude: -73.29644000
Address: 36 Mohawk Mountain Road
City, State: Cornwall Bridge, CT
Region: NORTHEAST

RAN Template: 67D5D998E 6160			AL Template: 67D5998E_1xAIR+1OP+1QP	
Sector Count: 3	**Antenna Count:** 9	**Coax Line Count:** 0	**TMA Count:** 0	**RRU Count:** 6

Section 2 - Existing Template Images

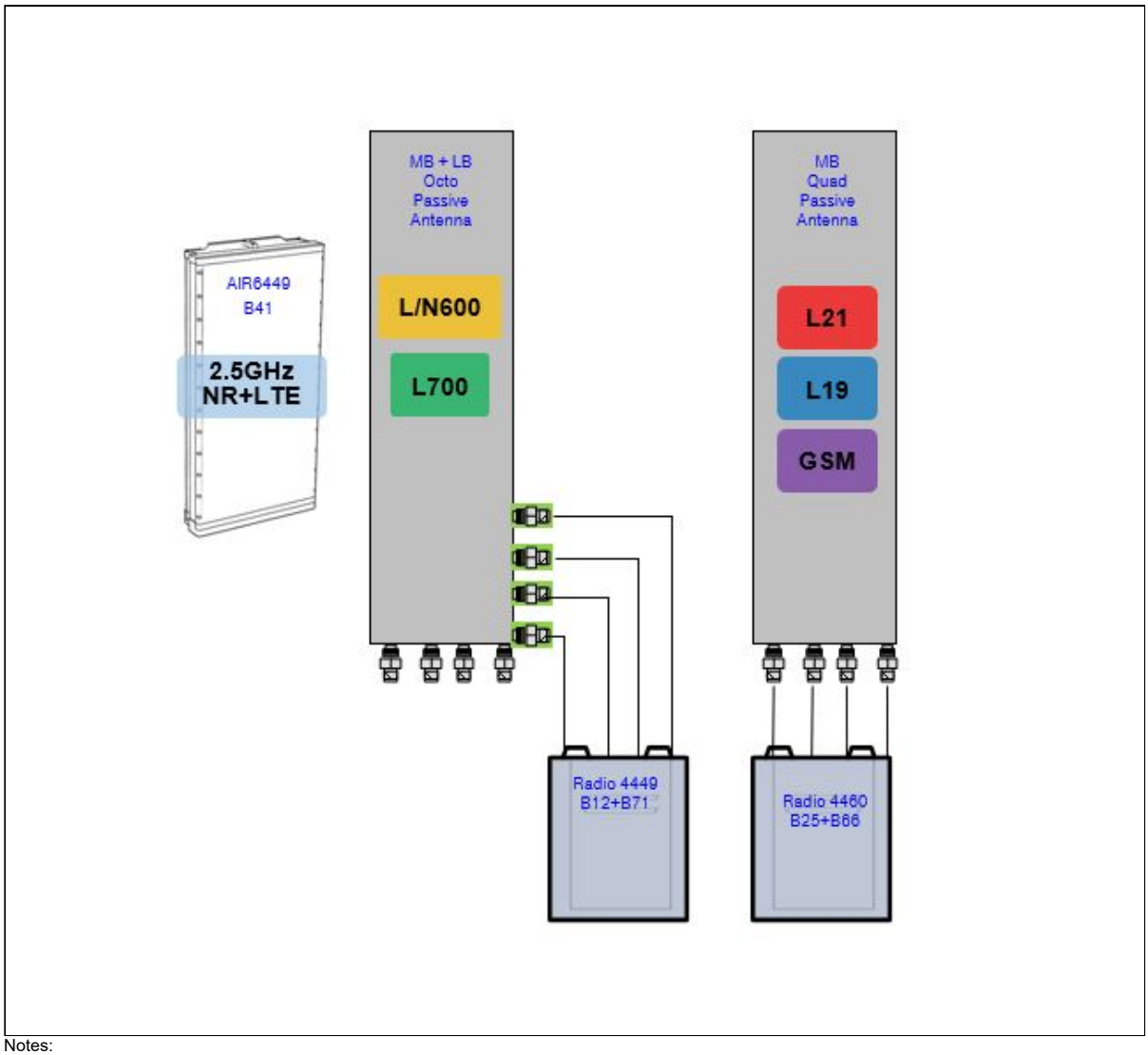
67D07C.JPG



Notes:

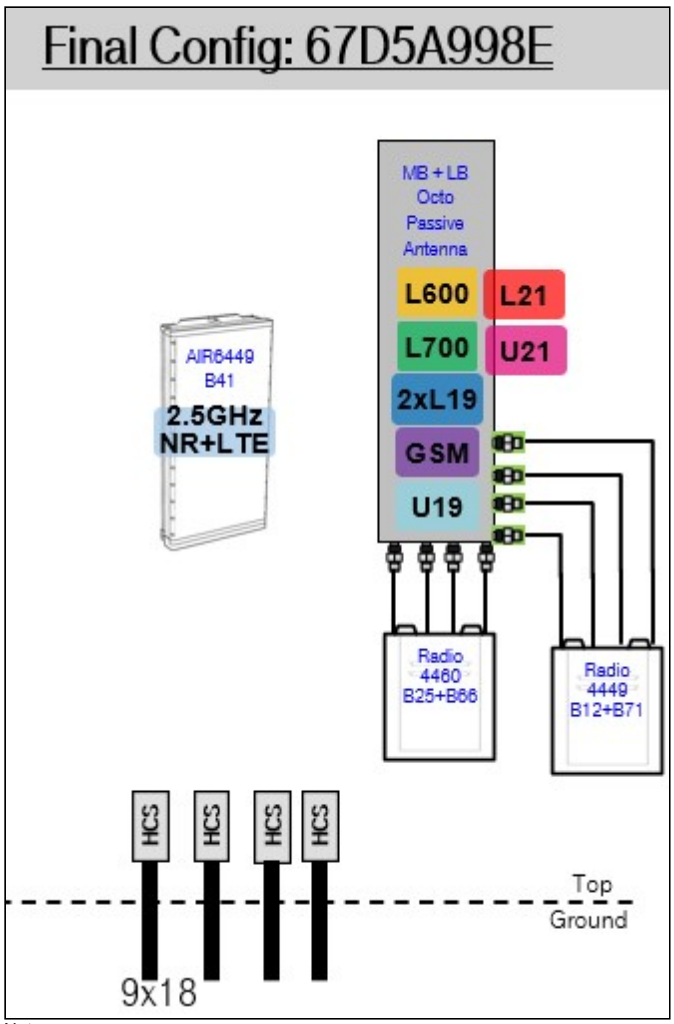
Section 3 - Proposed Template Images

67D5998E_1xAIR+1OP+1QP.JPG



Notes:

67D5A998E.jpg


Final Config: 67D5A998E
MB + LB
Octo
Passive
Antenna
L600
L21
L700
U21
2xL19
GSM
U19
AIR6449
B41
2.5GHz
NR+LTE
Radio
4460
B25+B66
Radio
4449
B12+B71
HCS
HCS
HCS
HCS
Top
Ground
9x18

Notes:

Section 4 - Siteplan Images

----- This section is intentionally blank. -----

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D07C 6102 MUAC

Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Purcell SFX17 2824
Baseband	BB 6630 (L2100); DUW30 (U1900); BB 6648 (L700, L600, N600)	
Hybrid Cable System		Ericsson 6x12 HCS *Select Length & AWG* **(x 3)**

Proposed RAN Equipment

Template: 67D5D998E 6160

Enclosure	1	2	3
Enclosure Type	Ancillary Equipment (Ericsson)	Enclosure 6160 AC V1	B160
Baseband		RP 6651 (N2500, L2500); BB 6648 (L700, L600, N600); BB 6630 (L2100, L1900); DUW30 (U1900); RBS6601	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* **(x 3)**	PSU 4813 vR4A (Kit); Ericsson Hybrid Trunk 6/24 4AWG 30m	
Transport System		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

Remove and return all cabinet radios from existing base station cabinet.

Upgrade 6102 breaker to 125A.

Add 150A breaker for 6160.

Remove existing cabinets and move basebands to 6160.

Add (1) Enclosure 6160.

Add (1) iXRe Router to new Enclosure 6160.

Add (1) RP 6651 for N2500/L2500 to new Enclosure 6160.

Add (1) PSU4813 Voltage Booster to new Enclosure 6160.

Add (1) Battery Cabinet B160.

Existing : (3) 6x12,

Remove all Coax,

Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 6 - A&L Equipment

Existing Template: 67D07C_1QP+1OP
Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1		2			
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	30		30			
M. Tilt	0		0			
Height	56		56			
Ports	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Active Tech.	U1900	L2100	L700 L600 N600	L700 L600 N600		
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2			
Cables	Coax Jumper **(x2)**	Coax Jumper **(x2)**	Coax Jumper **(x2)**	SHARED Coax Jumper **(x2)**		
TMAs						
Diplexers / Combiners						
Radio	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	30		30		30			
M. Tilt	0		0		0			
Height	56		56		56			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	N2500 L2500	N2500 L2500	L2100 L1900 U1900	L2100 L1900 U1900	L700 L600 N600	L700 L600 N600		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper **(x2)**	Fiber Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper		
TMAs								
Diplexers / Combiners								
Radio			Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

**New azimuths at 30/150/250 to minimize skew in Gamma.

There will be two antennae per sector.

Remove all TMAs.

Remove all diplexers.

Remove all Coaxial Lines.

Replace APXV16DWV with (1) AIR6419 B41 for L2500 and N2500 in Position 1.

Remove RRU from position 1 at antenna.

Move octo to position 2.

Add (1) Commscope VV-65A-R1 to position 2.

Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and U1900 to Position 2 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1		2			
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	150		150			
M. Tilt	0		0			
Height	56		56			
Ports	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Active Tech.	U1900	L2100	L700 L600 N600	L700 L600 N600		
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2			
Cables	Coax Jumper **(x2)**	Coax Jumper **(x2)**	Coax Jumper **(x2)**	SHARED Coax Jumper **(x2)**		
TMAs						
Diplexers / Combiners						
Radio	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	150		150		150			
M. Tilt	0		0		0			
Height	56		56		56			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 U1900	L2100 L1900 U1900	L700 L600 N600	L700 L600 N600		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper **(x2)**	Fiber Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper		
TMAs								
Diplexers / Combiners								
Radio			Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

**New azimuths at 30/150/250 to minimize skew in Gamma.

There will be two antennae per sector.

Remove all TMAs.

Remove all diplexers.

Remove all Coaxial Lines.

Replace APXV16DWV with (1) AIR6419 B41 for L2500 and N2500 in Position 1.

Remove RRU from position 1 at antenna.

Move octo to position 2.

Add (1) Commscope VV-65A-R1 to position 2.

Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and U1900 to Position 2 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1		2			
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	270		270			
M. Tilt	0		0			
Height	56		56			
Ports	**P1**	**P2**	**P3**	**P4**	**P5**	**P6**
Active Tech.	U1900	L2100	L700 L600 N600	L700 L600 N600		
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2			
Cables	Coax Jumper **(x2)**	Coax Jumper **(x2)**	Coax Jumper **(x2)**	SHARED Coax Jumper **(x2)**		
TMAs						
Diplexers / Combiners						
Radio	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	250		250		250			
M. Tilt	0		0		0			
Height	56		56		56			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 U1900	L2100 L1900 U1900	L700 L600 N600	L700 L600 N600		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper **(x2)**	Fiber Jumper **(x2)**	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)** Fiber Jumper		
TMAs								
Diplexers / Combiners								
Radio			Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

**New azimuths at 30/150/250 to minimize skew in Gamma.

There will be two antennae per sector.

Remove all TMAs.

Remove all diplexers.

Remove all Coaxial Lines.

Replace APXV16DWV with (1) AIR6419 B41 for L2500 and N2500 in Position 1.

Remove RRU from position 1 at antenna.

Move octo to position 2.

Add (1) Commscope VV-65A-R1 to position 2.

Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and U1900 to Position 2 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTNH545A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 7 - Power Systems Equipment

Existing Power Systems Equipment
----- This section is intentionally blank. -----

	Proposed Power Systems Equipment
Enclosure	1
Enclosure Type	Enclosure 6160 AC V1

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: CTNH545A

36 Toomey Road
Cornwall, Connecticut 06759

May 30, 2022

EBI Project Number: 6222003528

Site Compliance Summary	
Compliance Status:	**NOT COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**120.90%**

May 30, 2022

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

Emissions Analysis for Site: CTNH545A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **36 Toomey Road** in **Cornwall, 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 36 Toomey Road in Cornwall, 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) 2 UMTS 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) 2 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 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.

7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

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

10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

11) 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.

12) 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.

13) The antennas used in this modeling are the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 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.

14) The antenna mounting height centerline of the proposed antennas is 56 feet above ground level (AGL).

15) 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.

16) 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 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	56 feet	Height (AGL):	56 feet	Height (AGL):	56 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	**44.60%**	Antenna B1 MPE %:	**44.60%**	Antenna C1 MPE %:	**44.60%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1
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:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	56 feet	Height (AGL):	56 feet	Height (AGL):	56 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	300.00 Watts	Total TX Power (W):	300.00 Watts	Total TX Power (W):	300.00 Watts
ERP (W):	11,293.20	ERP (W):	11,293.20	ERP (W):	11,293.20
Antenna A2 MPE %:	**16.24%**	Antenna B2 MPE %:	**16.24%**	Antenna C2 MPE %:	**16.24%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	56 feet	Height (AGL):	56 feet	Height (AGL):	56 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A3 MPE %:	**14.21%**	Antenna B3 MPE %:	**14.21%**	Antenna C3 MPE %:	**14.21%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	75.05%
AT&T	18.47%
Verizon	9.41%
Sprint	16.83%
Dept Homeland Security - ICE	1.14%
Site Total MPE % :	120.90%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	75.05%
T-Mobile Sector B Total:	75.05%
T-Mobile Sector C Total:	75.05%
Site Total MPE % :	120.90%

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 1C & 2C Traffic	1	9619.47	56.0	138.33	2500 MHz LTE 1C & 2C Traffic	1000	13.83%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	717.84	56.0	10.32	2500 MHz LTE 1C & 2C Broadcast	1000	1.03%
T-Mobile 2500 MHz NR Traffic	1	19238.94	56.0	276.67	2500 MHz NR Traffic	1000	27.67%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	56.0	20.65	2500 MHz NR Broadcast	1000	2.06%
T-Mobile 1900 MHz UMTS	2	1076.77	56.0	30.97	1900 MHz UMTS	1000	3.10%
T-Mobile 1900 MHz LTE	2	2153.53	56.0	61.94	1900 MHz LTE	1000	6.19%
T-Mobile 2100 MHz LTE	2	2416.30	56.0	69.50	2100 MHz LTE	1000	6.95%
T-Mobile 600 MHz LTE	2	591.73	56.0	17.02	600 MHz LTE	400	4.25%
T-Mobile 600 MHz NR	1	1577.94	56.0	22.69	600 MHz NR	400	5.67%
T-Mobile 700 MHz LTE	2	695.22	56.0	20.00	700 MHz LTE	467	4.28%
						Total:	**75.05%**

• 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 **not 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:	75.05%
Sector B:	75.05%
Sector C:	75.05%
T-Mobile Maximum MPE % (Sector A):	75.05%
Site Total:	120.90%
Site Compliance Status:	**NOT COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **120.90%** 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 not within the allowable 100% threshold standard per the federal government.