750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379 *Corporate Headquarters*
781.713.4725
617.249.0819

Centerline Communications
Mark Appleby
750 West Center Street, Floor 3
West Bridgewater, MA 02379
860-209-4694
mappleby@clinellc.com

July 14, 2022

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

Notice of Exempt Modification
20 Antolini Rd New Hartford CT 06057
Latitude: 41 ’49 41” N
Longitude: -73.’00 56.33” W
T-Mobile Site#: CTNH411A_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains Six (6) antennas at the 125-foot level of the existing 150-foot Monopole Tower at 20 Antolini Rd Connecticut 06057 The 150-foot Monopole tower is owned by the American Tower Company. T-Mobile Now intends to remove the existing antennas and tma’s at the 125- foot level and relocate with Nine (9) new antennas at the 151-foot level. The proposed upgrades will make this site available for 5G deployment in the future.

Planned Modifications:

Remove 125 Ft Level:
(3) Existing LNX-6515DS-A1M Antennas **(Remove)**
(3) Existing APX16-DWV-S-E-A20 Antennas **(Remove)**
(3) Existing TMA’s **(Remove)**

Install New: 151 Ft level
(3) RFS APXVAARR24_43-U-NA20 Antennas
(3) AIR 6419-B41 Antennas
(3) Commscope VV-65A-R1
(3) RRU 4460 B25 B66A Radios Antenna Level
(3) RRU 4480 B71 B85 Radios Antenna Level

Remove Existing Coax Replace with (3) Fiber Cables

Ground: Install (2) New Cabinets

CENTERLINE COMMUNICATIONS

750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379 *Corporate Headquarters*
781.713.4725
617.249.0819

This facility was approved by the Connecticut Siting Council Docket # 184 on June 29. 1998 see attached.

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 Daniel Jerram First Selectman, Michael Lucas Zoning Officer, American Tower Compan,. Tower Owner, South End Fire District Landowner

The planning 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,

Mark Appleby

Mobile: 860-209-4694
Fax: 508-819-3017
Office: 750 W. Center Street Suite 301
West Bridgewater, MA 02379
Email: mappleby@clinellc.com

Attachments
cc: Town of New Hartford Daniel Jerram First Selectman
Town of New Harford Zoning Office Michael Lucas
American Tower Company Tower Owner
South End Fire District Landowner

Exhibit A

Original Facility Approval

Report an accessibility issue.

Connecticut Siting Council

DOCKET NO. 184 - An application by Litchfield Acquisition Corporation d/b/a AT&T Wireless Services for a Certificate of Environmental Compatibility and Public Need for construction, maintenance, and operation of a telecommunications tower and associated equipment located at 670 Town Hill Road, or approximately 700 feet southeast from the intersection of Routes 219 and 202 on South End Fire District property, New Hartford, Connecticut.

Connecticut Siting Council

June 25, 1998

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed alternate site in New Hartford, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Litchfield Acquisition Corporation d/b/a AT&T Wireless Services (AT&T) for the construction, operation, and maintenance of a telecommunications tower, associated equipment, and buildings at the proposed alternate site, 20 Antolini Road, in the Town of New Hartford, Connecticut. We deny certification of the proposed prime site.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T, Springwich Cellular Limited Partnership (Springwich), Nextel Communications of the Mid-Atlantic, Inc. (Nextel), South End Fire District, and other entities, both public and private, but such tower shall not exceed a height of 115 feet above ground level (AGL).

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for site development to include the location and specifications for the tower, tower foundation, antennas, architecturally-treated equipment buildings, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; provisions for the tower finish to maintain a blue/gray color; landscaping plan; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.

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

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

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

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

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

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

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

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

The parties and intervenors to this proceeding are:

Applicant

Litchfield Acquisition Corporation d/b/a AT&T Wireless Services

Its Representative

Douglas A. Cohen, Esq.
Brown, Rudnick, Freed & Gesmer, P.C.
185 Asylum Street, CityPlace I
Hartford, CT 06103-3402 (860) 509-6511

Mitchell Holmgren
Site Development Coordinator AT&T Wireless Services
15 East Midland Avenue
Paramus, NJ 07652 (201) 967-3130

Intervenor

Springwich Cellular Limited Partnership

Its Representative

Peter J. Tyrrell, Senior Counsel
Springwich Cellular Limited Partnership
500 Enterprise Drive
Rocky Hill, CT 06067-3900 (860) 513-7673

Intervenor

Nextel Communications of the Mid-Atlantic, Inc. d/b/a Nextel Communications

Its Representative

Christopher B. Fisher
Cuddy, Feder & Worby
90 Maple Avenue
White Plains, NY 10601-5196 (914) 761-1300

Exhibit B

Property Card

Town of New Hartford, CT

Property Listing Report

Map Block Lot	021-007-42B	Bldg #	1	Sec #	1	PID	5959	Account	00247301

Property Information

Property Location	20 ANTOLINI ROAD
Owner	SOUTH END FIRE DISTRICT C/O VERIZON WIRELESS
Co-Owner	
Mailing Address	PO BOX 2549 ADDISON TX 75001
Land Use	3900 COM VACANT
Land Class	C
Zoning Code	
Census Tract	3061

Neighborhood	D
Acreage	0.4
Utilities	Well,Septic
Lot Setting/Desc	Rural Level
Book / Page	0103/0417
Fire District	4

Photo

Sketch

Primary Construction Details

Year Built	0
Building Desc.	COM VACANT
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	A
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Report Created On 7/14/2022

Town of New Hartford, CT

Property Listing Report

Map Block Lot	021-007-42B	Bldg #	1	Sec #	1	PID	5959	Account	00247301

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	194600	136220
Land	324000	226800
Total	518600	363020

Outbuilding and Extra Features

Type	Description
Pre Cast Cell	240 S.F.
Pre Cast Cell	200 S.F.
Pre Cast Cell	312 S.F.
Pre Cast Cell	360 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
SOUTH END FIRE DISTRICT C/O VERIZON WIRELESS	0103/0417	1984-10-04	0

Report Created On 7/14/2022

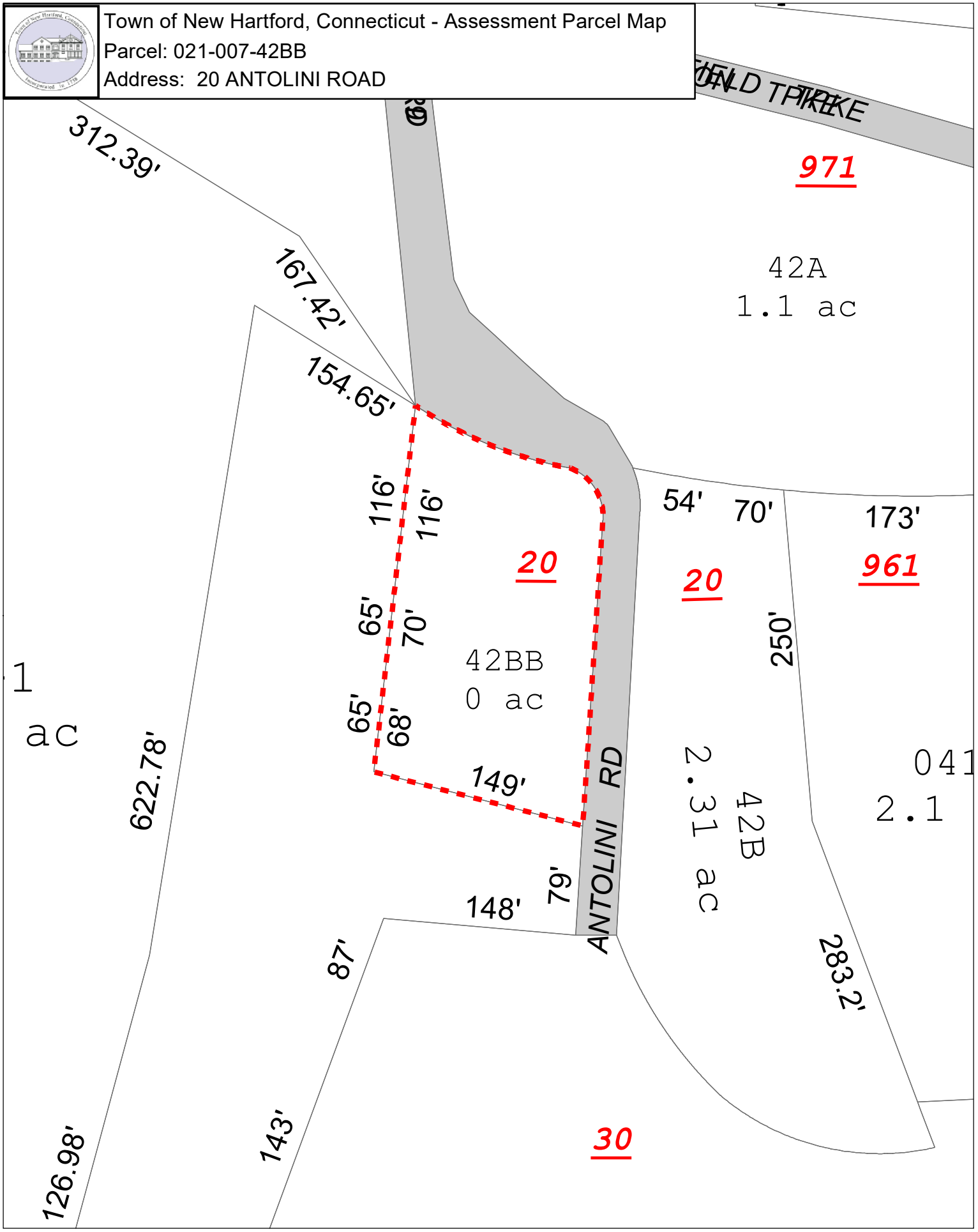
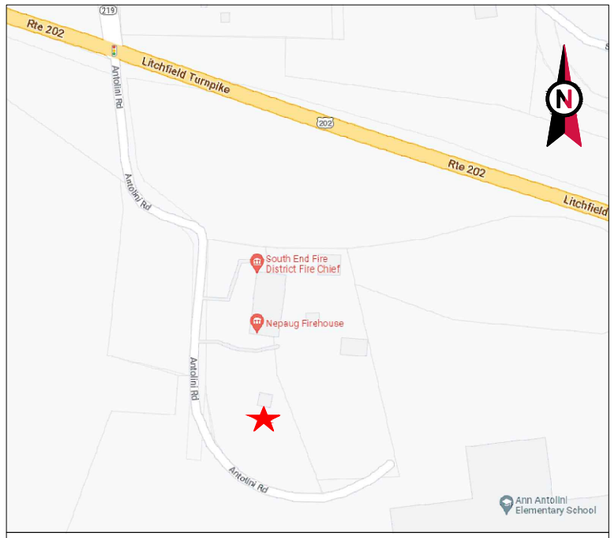

Town of New Hartford, Connecticut - Assessment Parcel Map
Parcel: 021-007-42BB
Address: 20 ANTOLINI ROAD
312.39'
167.42'
154.65'
971
42A
1.1 ac
116'
116'
65'
70'
65'
68'
149'
20
42BB
0 ac
54'
70'
173'
961
20
250'
ANTOLINI RD
79'
148'
87'
622.78'
2.31 ac
42B
283.2'
041
2.1
143'
126.98'
30
Approximate Scale: 1 inch = 100 feet
0 40 80 120 160
Feet
Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of New Hartford and its mapping contractors
assume no legal responsibility for the
information contained herein.
Map Produced May 2022

Exhibit C

Construction Drawings



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: NEPAUG CT
ATC SITE NUMBER: 411182
T-MOBILE SITE NAME: ANTOLINI - VERIZON COLO
T-MOBILE SITE NUMBER: CTNH411A
SITE ADDRESS: 20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

LOCATION MAP

T-MOBILE ANCHOR AMENDMENT PLAN
67E5D998E ODE+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: UTILITY COMPANY DIRECT
PHONE: UNKNOWN

TELEPHONE COMPANY: UNKNOWN
PHONE: UNKNOWN

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

PROJECT SUMMARY

SITE ADDRESS:

20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326
COUNTY: LITCHFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.82806664
LONGITUDE: -73.01568614
GROUND ELEVATION: 744' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

T-MOBILE

ENGINEER:

HUDSON DESIGN GROUP, LLC.
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

PROPERTY OWNER:

SOUTH END CT FIRE DIST
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:
TOWER WORK:
REMOVE (6) ANTENNA(s), (4) TMA(s) AND (18) 1-5/8" COAX CABLE(s) AND ALL T-MOBILE EQUIPMENT AT RAD 125' AND ALL SPRINT EQUIPMENT AT RAD 151'

INSTALL MOUNT MODIFICATION(s), (9) ANTENNA(s), (6) RRU(s) AND (3) HYBRID TRUNK 6X24 4AWG CABLE(s) AT RAD 151'

GROUND WORK:
REMOVE (1) RBS 3106 CABINET

INSTALL (1) 6160 CABINET, (1) B160 BATTERY CABINET, (2) RP 6651, (1) CSR IXRE V2 AND (2) PSU 4813 VR4A

EXISTING (1) RBS 6201 CABINET TO REMAIN

THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE

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

DIRECTIONS FROM WINDSOR SWITCH 1. TAKE I-91 TO EXIT 32B (TRUMBULL ST). 2. FOLLOW UP THE HILL AND TAKE RIGHT ON TO RT 44 (MAIN ST). 3. FOLLOW RT 44 UNTIL IT SPLITS. BEAR LEFT ON TO RT 202 WEST. 4. FOLLOW RT 202 W TO 219 JCT. 5. TAKE LEFT AT 219 JCT. 6. FOLLOW ANTOLINI ROAD UP HILL. ACCESS ROAD ON LEFT AFTER FIRE STATION.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	06/29/22	BB
G-002	GENERAL NOTES	0	06/29/22	BB
C-101	DETAILED SITE PLAN	0	06/29/22	BB
C-102	DETAILED EQUIPMENT PLAN	0	06/29/22	BB
C-201	TOWER ELEVATION	0	06/29/22	BB
C-401	ANTENNA INFORMATION & SCHEDULE	0	06/29/22	BB
C-501	CONSTRUCTION DETAILS	0	06/29/22	BB
E-501	GROUNDING DETAILS	0	06/29/22	BB
R-601	SUPPLEMENTAL	0		
R-602	SUPPLEMENTAL	0		
R-603	SUPPLEMENTAL	0		
R-604	SUPPLEMENTAL	0		
R-605	SUPPLEMENTAL	0		
R-606	SUPPLEMENTAL	0		
R-607	SUPPLEMENTAL	0		
R-608	SUPPLEMENTAL	0		
R-609	SUPPLEMENTAL	0		
R-610	SUPPLEMENTAL	0		
R-611	SUPPLEMENTAL	0		
R-612	SUPPLEMENTAL	0		
	MOUNT MODIFICATION SHEETS			

AMERICAN TOWER®

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
   - H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
   - I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T- MOBILE PROJECT MANAGER IN WRITING

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 AND PROVIDE PRINTOUT OF THAT TEST.
   - 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).

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®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

Copyright © 2022 ATC IP LLC, All Rights Reserved.

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

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.

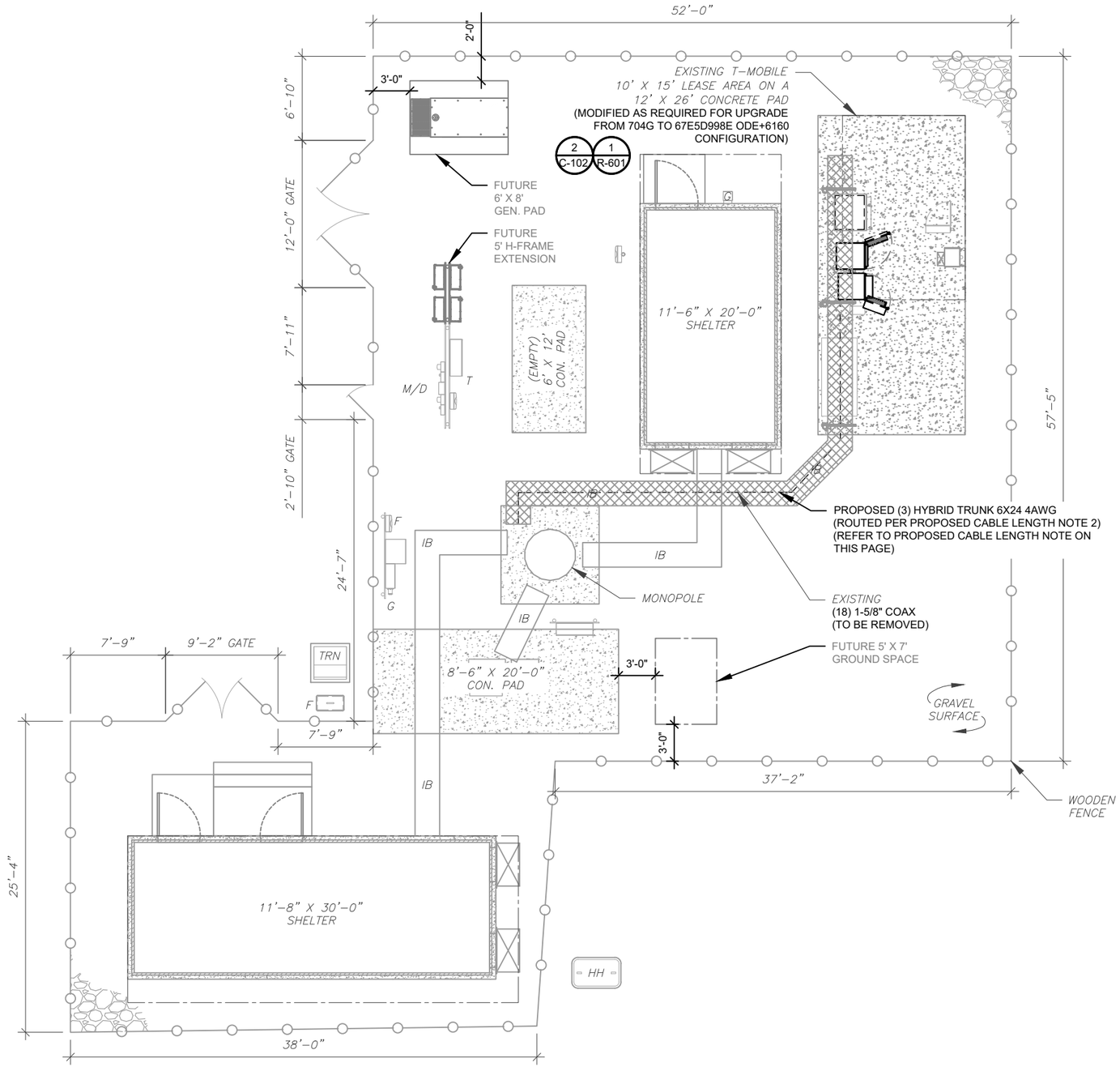
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

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

PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **230'±**. 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. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.



1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

AMERICAN TOWER®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

Copyright © 2022 ATC IP LLC, All Rights Reserved.

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

T-Mobile

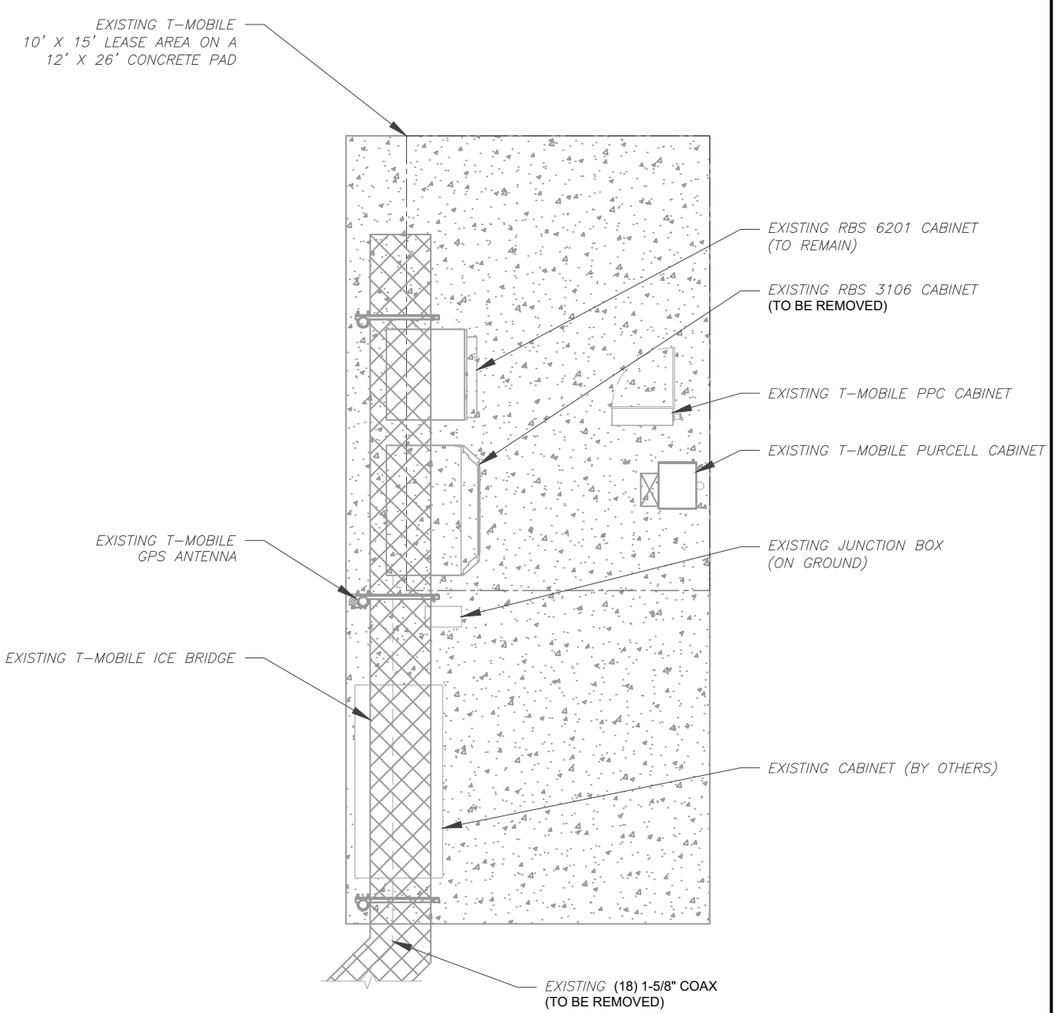
DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

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

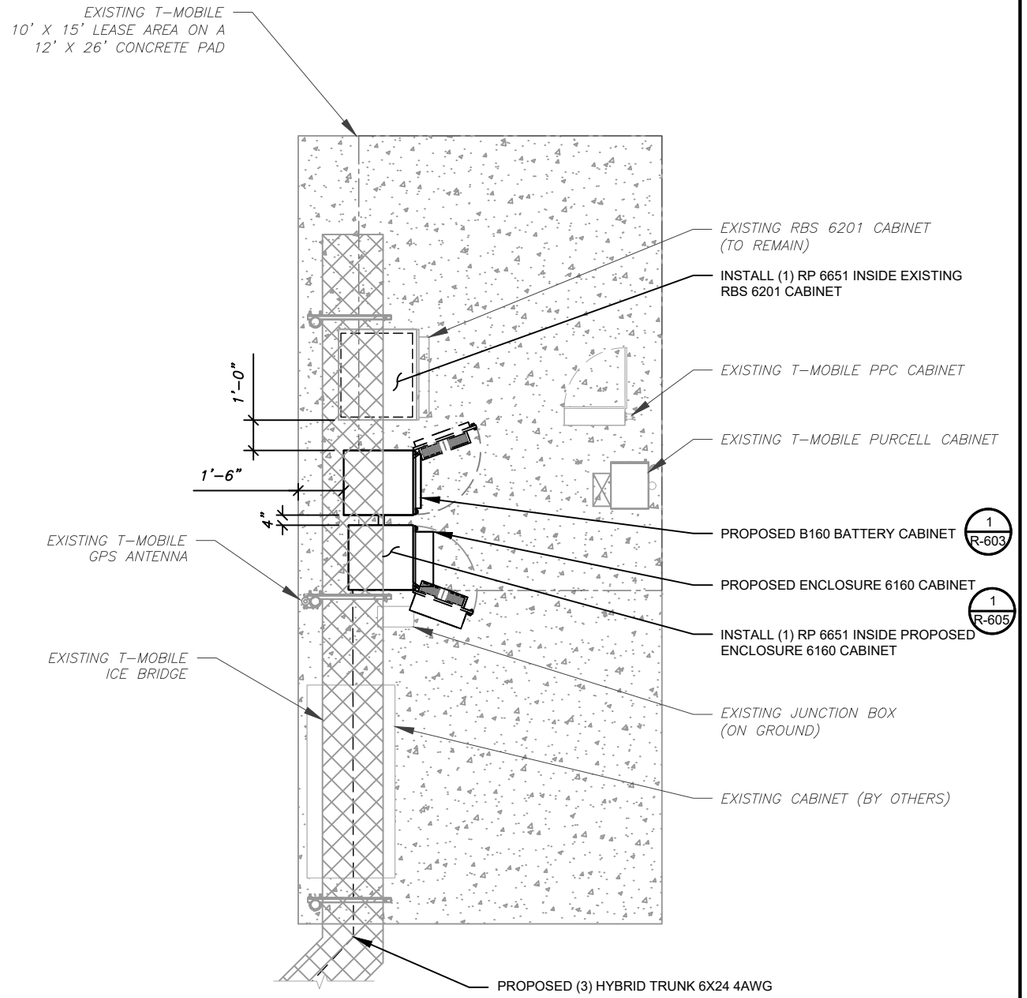
GRAPHIC SCALE

5 0 2.5 5

(IN FEET)
1 UNIT = 5 FEET

N

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS.



2 PROPOSED GROUND EQUIPMENT LAYOUT

GRAPHIC SCALE

5 0 2.5 5

(IN FEET)
1 UNIT = 5 FEET

N

AMERICAN TOWER®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

T-Mobile

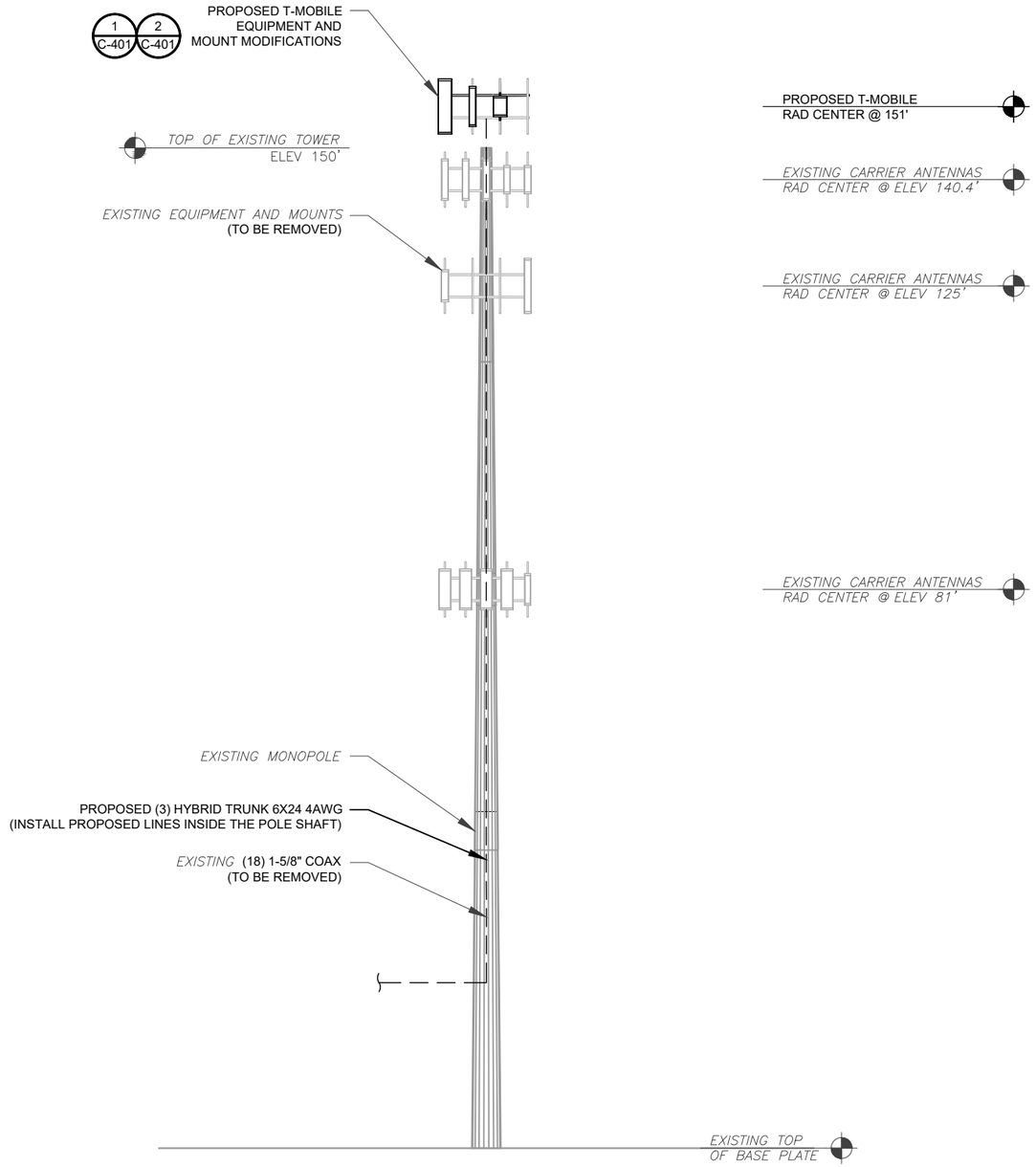
DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

DETAILED EQUIPMENT PLAN

SHEET NUMBER:	REVISION:
C-102	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 05/23/22, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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, ALL NEW 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. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
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.

AMERICAN TOWER®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

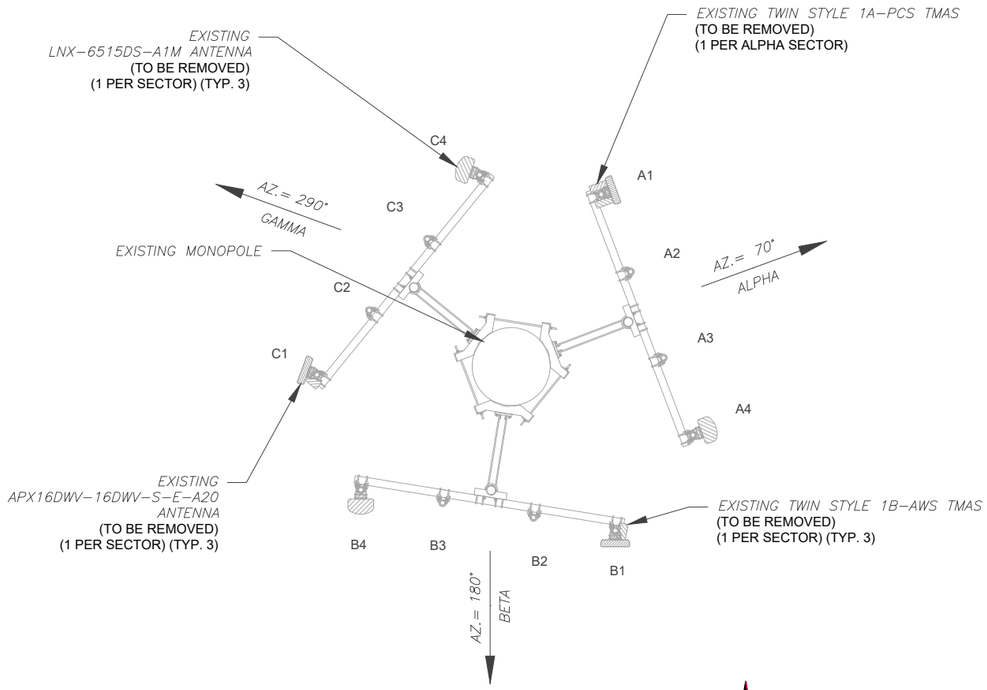
T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

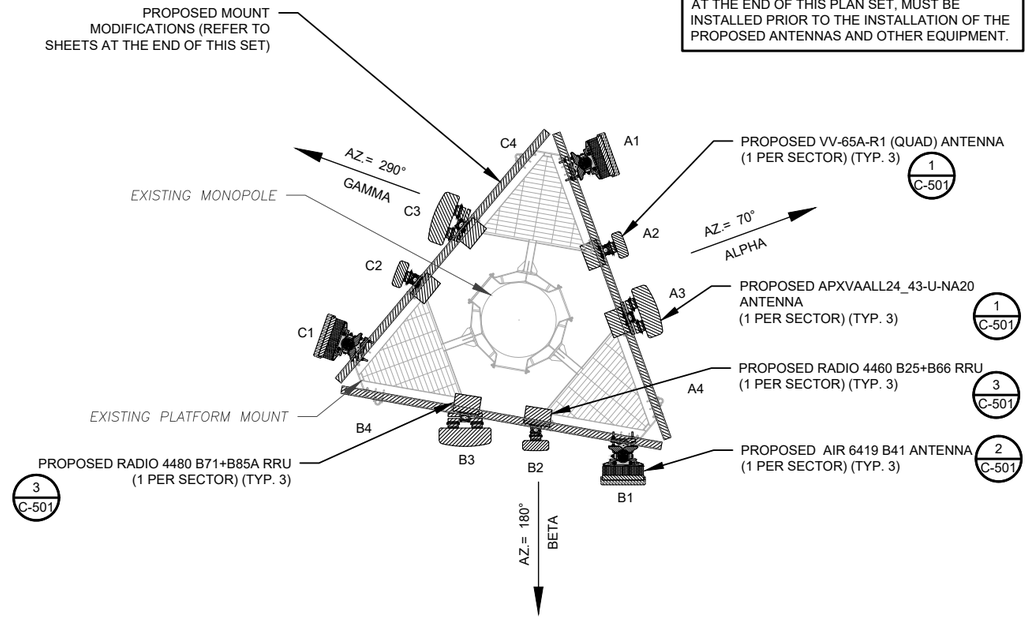


1 EXISTING ANTENNA PLAN

SCALE: N.T.S.

CONTRACTOR SHALL RE-ORIENT ANTENNA MOUNT(s) AS NECESSARY TO ACHIEVE PROPOSED ANTENNA AZIMUTHS

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 05/23/22, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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	125'	70°	A1	APX16DWV-16DWV-S-E-A20	L1900, G1900, U2100	0/2	RMV	TWIN STYLE 1A TWIN STYLE 1B	RMV RMV
			A2	–	–	–	EMPTY	–	EMPTY
			A3	–	–	–	EMPTY	–	EMPTY
			A4	LNX-6515DS-A1M	L700	0/2	RMV	–	EMPTY
BETA	125'	180°	B1	APX16DWV-16DWV-S-E-A20	L1900, G1900, U2100	0/2	RMV	TWIN STYLE 1B	RMV
			B2	–	–	–	EMPTY	–	EMPTY
			B3	–	–	–	EMPTY	–	EMPTY
			B4	LNX-6515DS-A1M	L700	0/2	RMV	–	EMPTY
GAMMA	125'	290°	C1	APX16DWV-16DWV-S-E-A20	L1900, G1900, U2100	0/2	RMV	TWIN STYLE 1B	RMV
			C2	–	–	–	EMPTY	–	EMPTY
			C3	–	–	–	EMPTY	–	EMPTY
			C4	LNX-6515DS-A1M	L700	0/2	RMV	–	EMPTY

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	151'	70°	A1	AIR 6419 B41	L2500, N2500	0/2	ADD	–	EMPTY
			A2	COMMSCOPE_VV-65A-R1	L2100, L1900, G1900	0/2	ADD	RADIO 4460 B25+B66	ADD
			A3	APXVAALL24_43-U-NA20	L700, L600, N600	0/2	ADD	RADIO 4480 B71+B85	ADD
			A4	–	–	–	EMPTY	–	EMPTY
BETA	151'	180°	B1	AIR 6419 B41	L2500, N2500	0/2	ADD	–	EMPTY
			B2	COMMSCOPE_VV-65A-R1	L2100, L1900, G1900	0/2	ADD	RADIO 4460 B25+B66	ADD
			B3	APXVAALL24_43-U-NA20	L700, L600, N600	0/2	ADD	RADIO 4480 B71+B85	ADD
			B4	–	–	–	EMPTY	–	EMPTY
GAMMA	151'	290°	C1	AIR 6419 B41	L2500, N2500	0/2	ADD	–	EMPTY
			C2	COMMSCOPE_VV-65A-R1	L2100, L1900, G1900	0/2	ADD	RADIO 4460 B25+B66	ADD
			C3	APXVAALL24_43-U-NA20	L700, L600, N600	0/2	ADD	RADIO 4480 B71+B85	ADD
			C4	–	–	–	EMPTY	–	EMPTY

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	–	(18) 1-5/8" COAX	RMV

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
–	–	(3) HYBRID TRUNK 6X24 4AWG	ADD

AMERICAN TOWER®

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

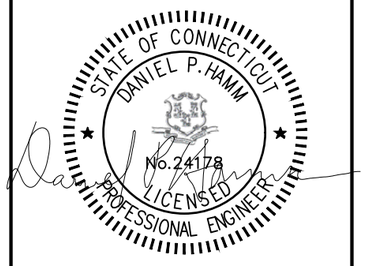
ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:



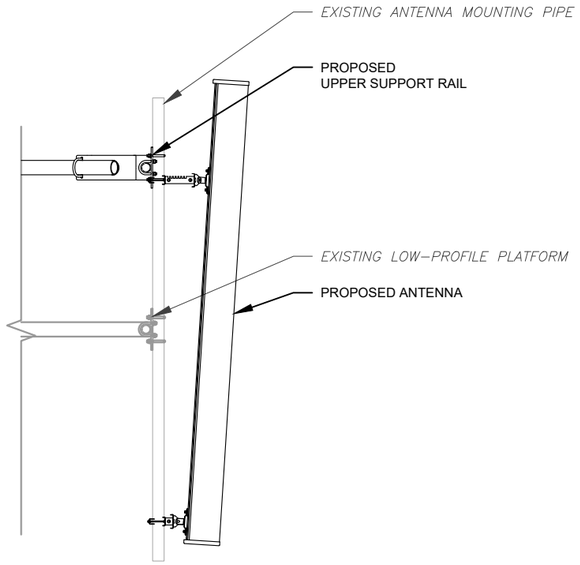
T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

ANTENNA INFORMATION & SCHEDULE

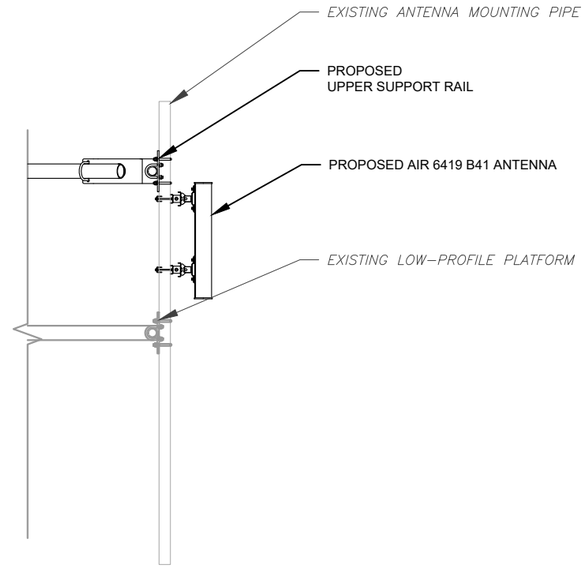
SHEET NUMBER:	REVISION:
C-401	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.



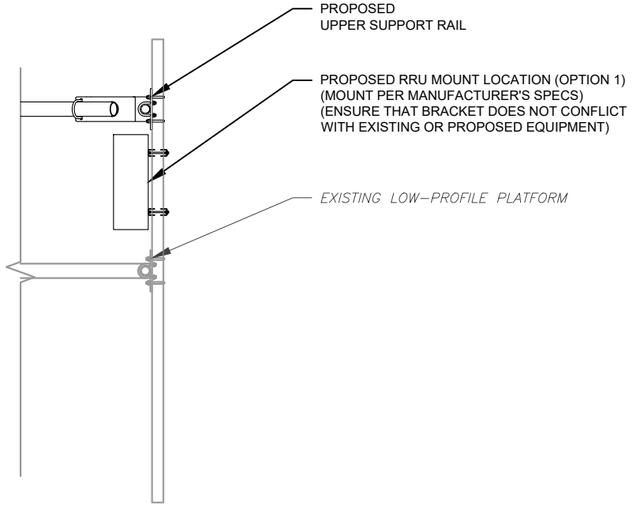
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



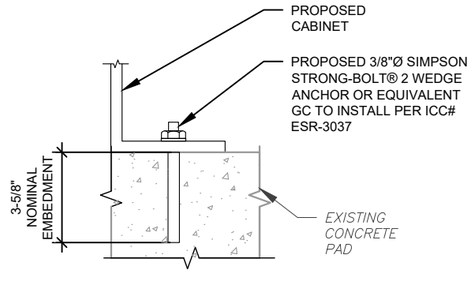
2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

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.

AMERICAN TOWER®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

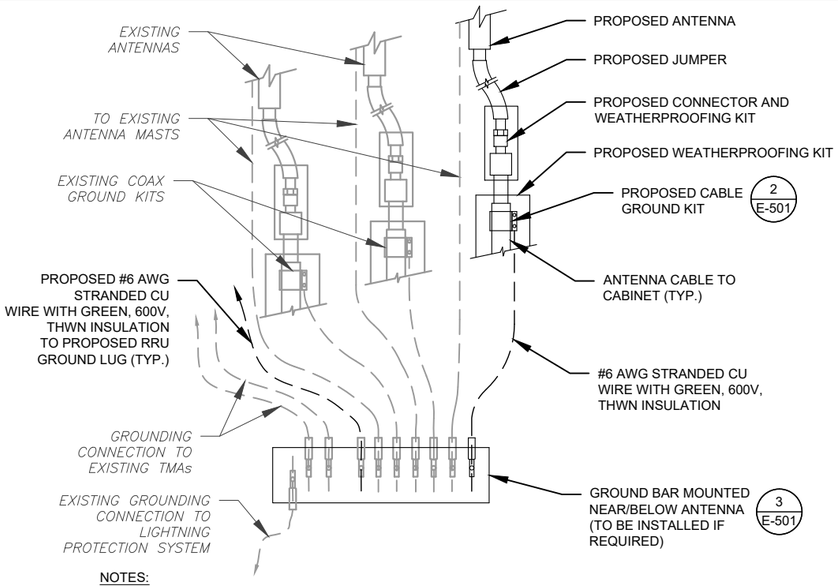
T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

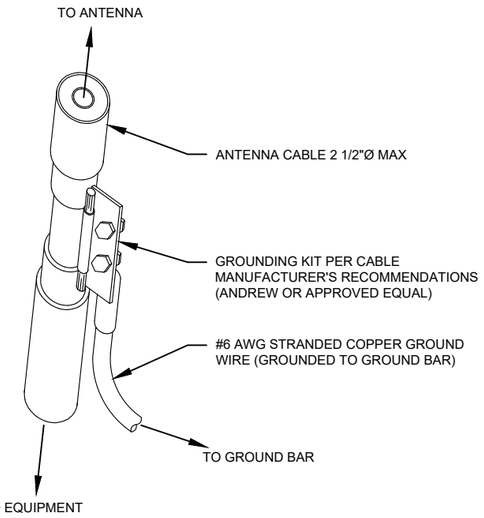


NOTES:

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.

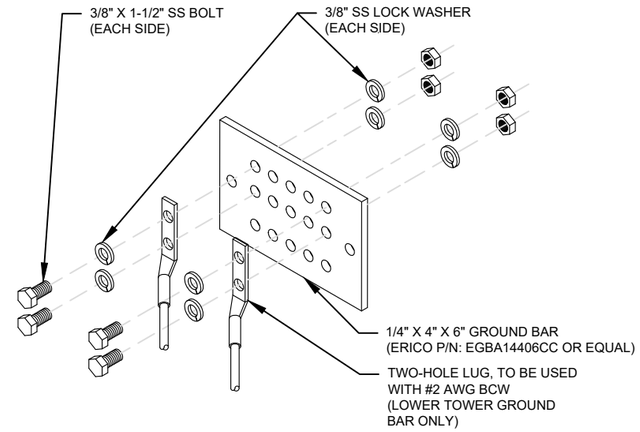


GROUND KIT NOTES:

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.

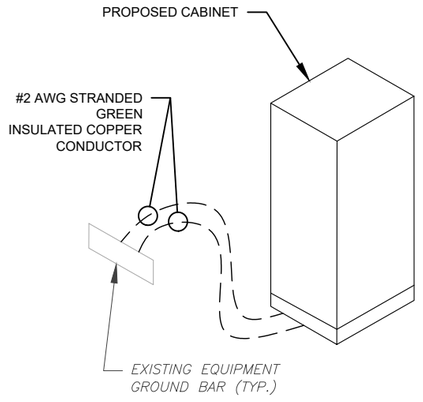
3 TOWER GROUND BAR DETAIL

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.

VOLTS	OCPD SIZE	WIRE SIZE	GROUND	CONDUIT
120/240V OR 120/208V	80A/2P	3-#3 AWG	#8 AWG	1-1/4"
	100/2P	3-#2 AWG	#8 AWG	1-1/4"
	125A/2P	3-#3/0 AWG	#6 AWG	2"
	150A/2P	3-#3/0 AWG	#6 AWG	2"
	200A/2P	3-#3/0 AWG	#6 AWG	2"
240V OR 208V	80A/2P	2-#3 AWG	#8 AWG	1-1/4"
	100/2P	2-#2 AWG	#8 AWG	1-1/4"
	125A/2P	2-#3/0 AWG	#6 AWG	2"
	150A/2P	2-#3/0 AWG	#6 AWG	2"
	200A/2P	2-#3/0 AWG	#6 AWG	2"

AMERICAN TOWER®

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MRK	06/07/22
0	FINALS	BB	06/29/22

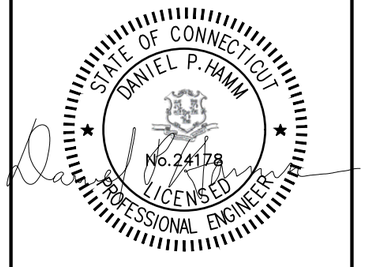
ATC SITE NUMBER:
411182

ATC SITE NAME:
NEPAUG CT

T-MOBILE SITE NAME:
ANTOLINI - VERIZON COLO

SITE ADDRESS:
20 ANTOLINI ROAD
NEW HARTFORD, CT 06057-3326

SEAL:



T-Mobile

DATE DRAWN:	05/31/22
ATC JOB NO:	14099474_G3
CUSTOMER ID:	ANTOLINI - VERIZON COLO
CUSTOMER #:	CTNH411A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

RAN Template:	A&L Template:
67ESD998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L699 Coverage
Replacement_Colo Consolidation

Section 1 - Site Information

Site ID: CTNH411A
States: Final
Version: 4
Project Type: Anchor
Approved: 4/20/2022 3:8:06 PM
Approved By: Pratik.Pati30@T-Mobile.com
Last Modified: 4/20/2022 3:8:06 PM
Last Modified By: Pratik.Pati30@T-Mobile.com

Site Name: Antolini - Verizon Colo
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2022
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: Verizon Wireless

Latitude: 41.82266600
Longitude: -73.01343900
Address: 26 Amsterdam Road
City, State: New Hartford, CT
Region: NORTHEAST

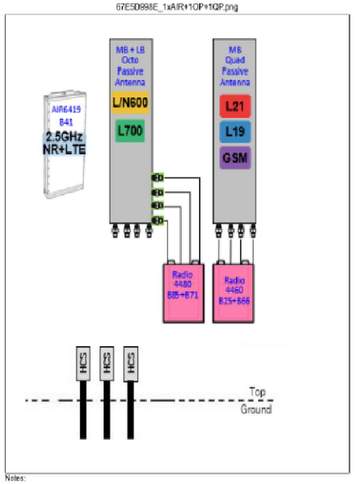
RAN Template: 67ESD998E ODE+6160		A&L Template: 67ES998E_1xAIR+1OP+1QP		
Sector Count: 3	Antenna Count: 9	Coax Line Count: 0	TMA Count: 0	RRU Count: 6

Section 2 - Existing Template Images

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

Section 3 - Proposed Template Images

67ESD998E_1xAIR+1OP+1QP.png



Notes:

Section 4 - Siteplan Images

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

RAN Template:	A&L Template:
67ESD998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L699 Coverage
Replacement_Colo Consolidation

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 70ALG

Enclosure	1	2
Enclosure Type	RBS 6201	RBS 3106
Baseband	DUG20 (G1900); BB 5216 (L1900, L700)	DUW30 (U2100)
Radio	RUS01 B2 (x 3) (L1900, G1900); RUS01 B2 (x 3) (L1900); RUS01 B12 (x 6) (L700)	RU22 (x 6) (U2100)

Proposed RAN Equipment

Template: 67ESD998E ODE+6160

Enclosure	1	2	3
Enclosure Type	RBS 6201	Enclosure 6160 AC V1	B160
Baseband	DUG20 (G1900); RP 6651 (L700, L600, N600, L2100, L1900)	RP 6651 (L2300, N2500)	
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 70m; PSU 4813 vR4A (K6)	PSU 4813 vR4A (K6); Hybrid Trunk 6/24 4AWG 70m (x 2)	
Transport System		CSR 8818 V2 (Gen2)	

RAN Scope of Work:

Remove and return all cabinet radios.
Keep existing cabinet 6201.
U2100 will be decom, remove Cabinet 3196.
Breaker upgrade for 6160 at 125A.
Add 6160 and B160.
Add (1) RP 6651 for L2500/N2500 to 6160.
Replace BB 5216 with (1) RP 6651 for L600/L700/N600/L1900/L2100 in 6201.
Add (1) DXR router, and Add (2) PSU 4813 vR4A to 6160.
Add (3) 6x24 at 70m.

RAN Template:	A&L Template:
67ESD998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L699 Coverage
Replacement_Colo Consolidation

Section 6 - A&L Equipment

Existing Template: 70ALG
Proposed Template: 67ESD998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro			
Antenna	1	2	3	4
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)	Empty Antenna Mount (Empty mount)	Empty Antenna Mount (Empty mount)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	70			79
M. Tilt	0			0
Height	135			135
Ports	P1	P2		P3
Active Tech.	L1900 G1900	U2100		L700
Dark Tech.				
Restricted Tech.				
Decomm. Tech.				
E. Tilt	2	2		2
Cables	1-5/8" Coax - 160 ft. (x2)	1-5/8" Coax - 160 ft. (x2)		1-5/8" Coax (x2)
TMAs	Generic Twin Style 1A - PCS (A/Antenna)	Generic Twin Style 1B - AWS (A/Antenna)		
Diplexers / Combiners				
Radio				
Sector Equipment				

Unconnected Equipment:

Scope of Work:

RAN Template:	A&L Template:
67ESD998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4
Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L699 Coverage
Replacement_Colo Consolidation

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			4
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			Empty Antenna Mount (Empty mount)
Azimuth	70		70		70			
M. Tilt	0		0		0			
Height	140' 151'		140' 151'		140' 151'			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2300 N2300	L2100 L1900 G1900	L2100 L1900 G1900	L700 L600 N600 0	L700 L600 N600 0		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2	2	2		
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 (A/ Antenna))	SHARED Radio 4460 (B25+B66 (A/ Antenna))	Radio 4480 (B5+B71 +B66 (A/ Antenna))	SHARED Radio 4480 (B5+B71 +B66 (A/ Antenna))		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Remove all TMAs.
Remove all Coaxial Lines.
Add (1) APXVAALL24 ante, (1) radio 4480 near the ante, to Position 3
Add (1) VV-65A-R1 with (1) radio 4460 near the Quad to Position 2
Add (1) AIR6419 to position 1

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

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

SUPPLEMENTAL

SHEET NUMBER: R-601

REVISION: 0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

4/20/22, 3:15 PM CTNH411A_Anchor_4_2022-04-20

RAN Template:	A&L Template:
67ES0998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L690 Coverage
Replacement_Colo Consolidation

Sector 2 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	1		2	3	4
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)		Empty Antenna Mount (Empty mount)	Empty Antenna Mount (Empty mount)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	190				190
M. Tilt					0
Height	126				125
Ports	P1	P2			P3
Active Tech.	L1900 G1900	U2100			L700
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2			2
Cables	1-5/8" Coax - 160 ft. (x2)	1-5/8" Coax - 160 ft. (x2)			1-5/8" Coax (x2)
TMAs		Generic Twin Style 1B - AWS (AAntenna)			
Diplexers / Combiners					
Radio					
Sector Equipment					

Unconnected Equipment:

Scope of Work:

4/20/22, 3:15 PM CTNH411A_Anchor_4_2022-04-20

RAN Template:	A&L Template:
67ES0998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L690 Coverage
Replacement_Colo Consolidation

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			4
Antenna Model	(AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			Empty Antenna Mount (Empty mount)
Azimuth	190		190		190			
M. Tilt	0		0		0			
Height	~~147~~ 151'		~~147~~ 151'		~~147~~ 151'			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 G1900	L2100 L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	4	4	2	2	2	2		
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)	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B71+B85 (At Antenna)	Radio 4460 B71+B85 (At Antenna)		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Remove all TMAs.
Remove all Coaxial Lines.
Add (1) APXVAALL24 octo, (1) radio 4460 near the octo, to Position 3
Add (1) VV-65A-R1 with (1) radio 4460 near the Quad to Position 2
Add (1) AIR6419 to position 1

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

4/20/22, 3:15 PM CTNH411A_Anchor_4_2022-04-20

RAN Template:	A&L Template:
67ES0998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L690 Coverage
Replacement_Colo Consolidation

Sector 3 (Existing) view from behind

Coverage Type	A - Outdoor Macro			
Antenna	1	2	3	4
Antenna Model	RFS - APX16DWV-16DWV-S-E-A20 (Quad)	Empty Antenna Mount (Empty mount)	Empty Antenna Mount (Empty mount)	Andrew - LNX-6515DS-A1M (Dual)
Azimuth	290			290
M. Tilt				9
Height	125			125
Ports	P1	P2		P3
Active Tech.	L1900 G1900	U2100		L700
Dark Tech.				
Restricted Tech.				
Decomm. Tech.				
E. Tilt	2	2		2
Cables	Fiber Jumper - 15 ft. 1-5/8" Coax - 160 ft. (x2)	1-5/8" Coax - 160 ft. (x2)		1-5/8" Coax (x2)
TMAs		Generic Twin Style 1B - AWS (AAntenna)		
Diplexers / Combiners				
Radio				
Sector Equipment				

Unconnected Equipment:

Scope of Work:

4/20/22, 3:15 PM CTNH411A_Anchor_4_2022-04-20

RAN Template:	A&L Template:
67ES0998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L690 Coverage
Replacement_Colo Consolidation

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2		3			4
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)			Empty Antenna Mount (Empty mount)
Azimuth	290		290		290			
M. Tilt	9		9		0			
Height	~~147~~ 151'		~~147~~ 151'		~~147~~ 151'			
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 G1900	L2100 L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2	2	2		
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)	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B71+B85 (At Antenna)	Radio 4460 B71+B85 (At Antenna)		
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Remove all TMAs.
Remove all Coaxial Lines.
Add (1) APXVAALL24 octo, (1) radio 4460 near the octo, to Position 3
Add (1) VV-65A-R1 with (1) radio 4460 near the Quad to Position 2
Add (1) AIR6419 to position 1

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

4/20/22, 3:15 PM CTNH411A_Anchor_4_2022-04-20

RAN Template:	A&L Template:
67ES0998E ODE+6160	67ES998E_1xAIR+1OP+1QP

CTNH411A_Anchor_4

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3
L600_L690 Coverage
Replacement_Colo Consolidation

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)

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

From the World Leader in VRLA Battery Technology

Designed for durability in Telecommunications and Electric Utility applications, the GNB Industrial Power *MARATHON*® M12V180FT Battery provides high performance and reliability in long duration discharge applications. The location of the terminals on the front (vs. the top) of the battery greatly facilitates the installation and maintenance of the product when placed in a cabinet enclosure or on a standard relay rack tray. The *MARATHON*® M12V180FT Battery highlights another example of GNB Industrial Power's extensive experience and world wide leadership in VRLA technology.

"Designed in" Quality Manufacturing

Quality manufacturing processes for the **MARATHON**® M12V180FT Battery incorporates the industry's most advanced technologies including: an automated helium leak detection system, a computer controlled "fill by weight" acid filler, and a temperature controlled water bath formation process. Each and every unit is capacity tested.

High Performance MARATHON® M12V180FT Features

- **Patented "Diamond Side-Wall" Design**
  maintains structural integrity in higher operating temperatures
- **Durable Flame Retardant Polypropylene Container and Cover**
  complies with UL94 V-0; 28% L.O.I.
- **Carry Handles**
  facilitates ease of installation
- **High-Compression Absorbent Glass Mat (AGM) Technology**
  ensures greater than 99% recombination efficiency
- **Integrated Flash Arrestor**
  ultrasonically welded into cover for secure and safe protection
- **10 Year Design Life**
  in float applications @ 25°C (77°F); 12 year @ 20°C (68°F)
- **Superior Lead-Tin-Calcium Positive Alloy**
  helps to resist corrosion
- **Higher Vent Opening Pressure**
  minimizes unnecessary gassing; one-way self resealing device
- **Front Accessible Copper Alloy, 6 mm, Female Terminals**
  ensures low resistance, high integrity connections
- **"Easy On\Easy Off" Terminal Post Protector**
  provides added safety
- **Wider Bushing**
  allows access for larger probes
- **Footprint Ready**
  fits in all standard 23" Relay Rack Applications
- **Compliance:** Designed in accordance with IEC 60896-21/-22
- **No Transport Restrictions:** Complies with IATA/ICAO Special Provision A67; DOT-CFR Title 49; IMDG Amendment 34-08

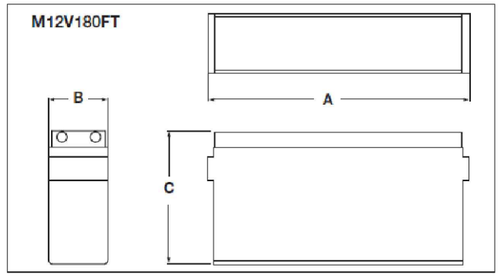
Applications

The **MARATHON**® M12V180FT Battery incorporates GNB Industrial Power's advanced VRLA technology designed for long life and high performance in:

Telecommunications
- Distributed Power
- PCS
- Cellular
- Broadband

Electric Utility
- Switchgear Control Power
- Communications

Model Number	Voltage	Capacity (AH)		Nominal Dimensions						Nominal Weight	
				Inches			Millimeters				
		8 hr to 1.75 VPC @ 25°C	10 hr to 1.80 VPC @ 20°C	A	B	C	A	B	C	lbs.	Kg
M12V180FT	12	180	175	22.00	4.90	12.50	559	124	318	133	60



Float Voltage & Charging

Constant Voltage charging is recommended

Recommended float voltage: 2.27 VPC @ 25°C (77°F)

Float Voltage Range: 2.25 to 2.30 VPC @ 25°C (77°F)

Equalize Voltage: 2.35 VPC for 24 Hours or 2.40 VPC for 12 Hours

NOTE: Design and/or specifications subject to change without notice. If questions arise, contact your local GNB Industrial Power sales representative for clarification

Marathon® M12V180FT Electrical Data

Model Number	Short Circuit Current Amps	Internal Resistance (mOhms)
M12V180FT	4147	3.0

Marathon M12V180FT Performance Specifications

Amperes @ 25° (77°F)

End Voltage Per Cell	Time															
	24 hr	20 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 rh	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
1.94 Final Volts Per Cell	6.4	7.6	12.2	14.4	15.9	17.7	20.0	22.5	26.1	31.2	39.4	45.6	54.6	69.1	89.8	134.0
1.92 Final Volts Per Cell	6.8	8.0	12.9	15.3	16.9	18.9	21.1	23.8	27.6	33.1	41.9	48.6	58.3	73.1	96.1	144.5
1.90 Final Volts Per Cell	7.1	8.4	13.6	16.1	17.8	19.9	22.0	24.9	28.9	34.8	44.0	51.2	61.5	76.6	101.7	154.6
1.87 Final Volts Per Cell	7.5	8.9	14.3	16.9	18.6	20.8	23.5	26.5	30.6	36.5	45.8	52.8	63.0	79.0	108.7	167.9
1.85 Final Volts Per Cell	7.7	9.1	14.6	17.3	19.1	21.3	24.1	27.1	31.3	37.4	47.1	54.4	65.0	81.7	112.7	175.2
1.83 Final Volts Per Cell	7.9	9.3	14.9	17.6	19.5	21.7	24.5	27.6	31.9	38.2	48.0	55.6	66.5	83.8	115.9	181.5
1.81 Final Volts Per Cell	7.9	9.4	15.1	17.9	19.7	22.0	24.9	27.9	32.3	38.7	48.8	56.5	67.6	85.3	118.2	186.4
1.80 Final Volts Per Cell	8.0	9.4	15.2	18.0	19.8	22.1	25.0	28.0	32.5	38.9	49.1	56.8	68.0	85.8	119.1	188.5
1.78 Final Volts Per Cell	8.0	9.5	15.3	18.1	20.0	22.3	25.2	28.2	32.7	39.2	49.5	57.4	68.7	86.7	120.3	191.9
1.75 Final Volts Per Cell	8.1	9.6	15.4	18.3	20.2	22.5	25.5	28.4	33.0	39.5	49.9	57.9	69.4	87.6	121.7	194.5

Copyright © 2022 ATC IP LLC, All Rights Reserved.

1 BATTERY SPECIFICATIONS

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

SUPPLEMENTAL

SHEET NUMBER: R-603

REVISION: 0

NSB 190FT *Red Battery*®

Long float life at elevated temperatures

Red Star Technology® uses pure lead plates to deliver **exceptionally long float life even at elevated temperatures.**

- Pure lead AGM technology delivers long float life for telecom applications even at elevated temperatures
- 15 year float life at 20°C (68°F)
- EUROBAT design life definition: Long Life (12+ years)
- High energy density
- Operating temperature range: -40°C to +65°C (-40°F to 149°F)
- State-of-the-art automated manufacturing ensures consistency and reliability
- Advanced 3 stage terminal design to ensure leak-free operation - female M8 brass terminals provide maximum performance
- 2 year shelf life at 25°C (77°F)
- High modulus Polyphenylene Oxide (PPO) plastic materials designed to withstand extended elevated operating temperatures and maintain high battery compression essential for reliable operation
  - Non-halogenated, thermally sealed plastic casing
  - Flame retardant (UL 94 V0) and LOI of at least 28%
- Integral handles and front access terminals ensure ease of installation and maintenance
- Approved as non-hazardous cargo for ground, sea, and air transport - DOT 49CFR173.159(d), (i) and (ii)

Visit our website to find out more **www.northstarbattery.com**

Form: SES-548-08-02 Issued: 11-11-13 ECO: 2383-513

NSB 190FT *Red Battery*®

Nominal Technical Specifications

Electrical

	International Standard 20°C (68°F)	North American Standard 25°C (77°F)
8 hour capacity to 1.75 VPC	188 Ah	191 Ah
10 hour capacity to 1.80 VPC	190 Ah	192 Ah
Float Voltage	2.29 +/- 0.02 VPC	2.27 +/- 0.02 VPC
Nominal Voltage	12 V	
Impedance (1kHz)	2.2 mΩ @ 25°C (77°F)	
Conductance	2,400 S	
Short Circuit Current	6,000 A	

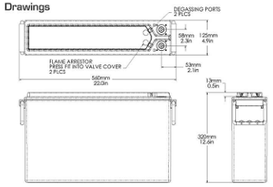
Dimensions

Height	320 mm (12.6 in)	Weight	60 kg (132 lbs)
Width	125 mm (4.9 in)	Terminal	Female M8 x 1.25
Depth	560 mm (22.0 in)	Terminal Torque	8.0 Nm (71 in-lbs)

Ah Capacity Ratings @ 25°C (77°F)

Capacity Discharge / hours	1	2	4	8	10
Capacity @ 25°C / Ah	150	167	181	191	192
End of Discharge / VPC	1.70	1.75	1.75	1.75	1.80

Drawings



All NorthStar batteries are compliant with: Telcordia SR4228, IEC 60896; Bellcore GR-63-Core, Issue 1; British, German, and Russian telecom standards; UL approved. NorthStar is registered to ISO 9001 and ISO 14001.

NorthStar Americas
NorthStar Battery Company LLC
4000 Continental Way
Springfield, MO, 65803,
United States of America
info@northstarbattery.com
Tel: +1 417 575 6200
Fax: +1 417 575 6250

NorthStar Europe
StaTel Sweden AB
Staffans Väg 6-8
SE-192 07 Sollentuna,
Stockholm, Sweden
europe@northstarbattery.com
Tel: +46 8 410 102 00
Fax: +46 8 838 05 00

NorthStar Middle East, Africa
StaTel Sweden AB JTL Branch
Office 702, Saba 1 Tower
Jumeirah Lake Towers, Dubai
United Arab Emirates
mea@northstarbattery.com
Tel: +971 4 423 6060
Fax: +971 4 423 6061

NorthStar Asia-Pacific
NS Asia Pacific Sdn. Bhd.
Level 20, Menara Standard Chartered
30 Jalan Sultan Ismail, 50250
Kuala Lumpur, Malaysia
asia@northstarsitetel.com
Tel: +60 3 2117 5354

www.northstarbattery.com

Form: SES-548-08-02 Issued: 11-11-13 ECO: 2383-513

BATTERY SCHEDULE					
MODEL	CURRENT CAPACITY	NOMINAL VOLTAGE	WEIGHT (LBS)	QUANTITY	**ELECTROLYTE (H2SO4/H2O)**
NORTHSTAR NSB 190FT	190A	12V	132	12	**269.28**

Copyright © 2022 ATC IP LLC, All Rights Reserved.

Industrial Lead Acid Battery Safety Data Sheet

3. *COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:
Lead and Lead Compounds (inorganic)	7439-92-1	**50**
Electrolyte (H2SO4/H2O)	7664-93-9	**17**
Lead Oxide	1309-60-0	**20**
Tin	7440-31-5	**0.2**

4. FIRST AID MEASURES

INHALATION:
Sulfuric Acid: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.
Lead: Remove from exposure, gargle, wash nose and lips; consult physician.

INGESTION:
Sulfuric Acid: Give large quantities of water; Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death. Consult a physician.
Lead: Consult a physician immediately.

SKIN:
Sulfuric Acid: Flush with large amounts of water for at least 15 minutes; remove contaminated clothing completely, including shoes. If symptoms persist, seek medical attention. Wash contaminated clothing before reuse. Discard contaminated shoes.
Lead: Wash immediately with soap and water.

EYES:
Sulfuric Acid and Lead: Flush immediately with large amounts of water for at least 15 minutes while lifting lids; Seek immediate medical attention if eyes have been exposed directly to acid.

5. FIRE FIGHTING MEASURES

Flash Point: Not Applicable
Flammable Limits: LEL = 4.1% (Hydrogen Gas in air), UEL = 74.2%
Extinguishing media: CO2; foam; dry chemical. Do not use carbon dioxide directly on cells. Avoid breathing vapors. Use appropriate media for surrounding fire.

Fire Fighting Procedures:
Use positive pressure, self-contained breathing apparatus. Beware of acid splatter during water application and wear acid-resistant clothing, gloves, face and eye protection. If batteries are on charge, shut off power to the charging equipment, but note that strings of series connected batteries may still pose risk of electric shock even when charging equipment is shut down.

Industrial Lead Acid Battery Safety Data Sheet

1. IDENTIFICATION

REVISION DATE: 01-31-18

Product Name: Lead Acid Battery, Non-Spillable Wet **Synonyms:** Industrial Battery, Traction Battery, Stationary Battery, Deep Cycle Battery	**Product Use:** Electric Storage Battery **Manufacturer/Supplier:** NorthStar Battery, Co., LLC **Address:** 4000 E. Continental Way, Springfield, MO 65803
General Information Number: 417.575.8200	**CAS Number:** Not Applicable CHEMTREC: 800-424-9300

2. GHS HAZARDS IDENTIFICATION

Health	Environmental	Physical
Acute Toxicity (Oral/Dermal/Inhalation) - Category 4 Skin Corrosion/Irritation - Category 1A Eye Damage - Category 1 Reproductive - Category 1A Carcinogenicity (lead) - Category 1B Carcinogenicity (arsenic) - Category 1A Carcinogenicity (acid mist) - Category 1A Specific Target Organ Toxicity (repeated exposure) - Category 2	Aquatic Chronic - 1 Aquatic Acute - 1	Explosive Chemical, Division 1.3

GHS Label:

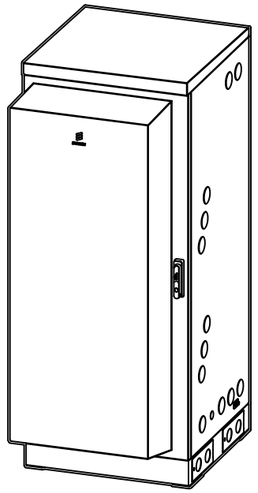
Health	Environmental	Physical
		
Hazard Statements **DANGER!** Causes severe skin burns and eye damage. Causes serious eye damage. May damage fertility or the unborn child if ingested or inhaled. May cause cancer if ingested or inhaled. Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure. May form explosive air/gas mixture during charging. Extremely flammable gas (hydrogen). Explosive, fire, blast or projection hazard.	***Precautionary Statements*** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing, eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Causes skin irritation, serious eye damage. Contact with internal components may cause irritation or severe burns. Avoid contact with internal acid. Irritating to eyes, respiratory system, and skin.	

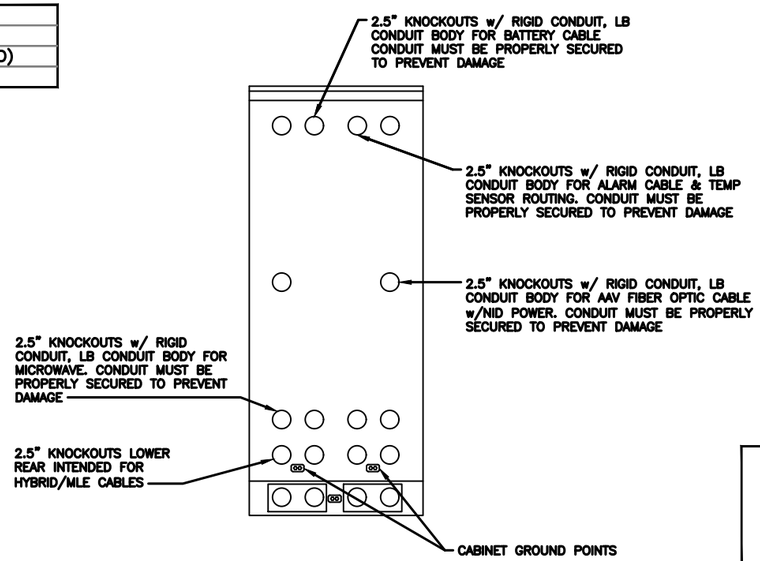
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	0

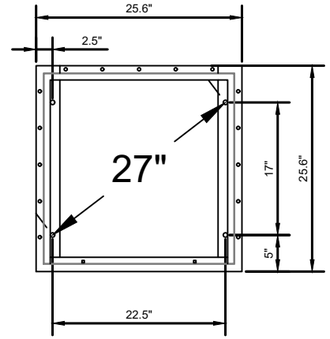
MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS





REAR VIEW

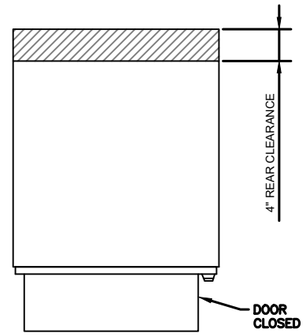
NOTE:
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

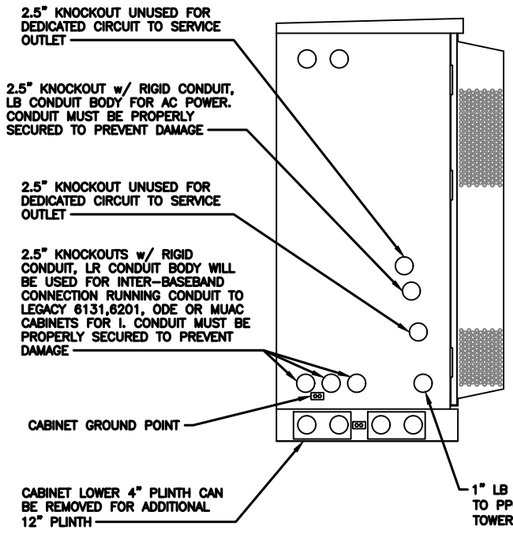


BOLT DOWN PATTERN

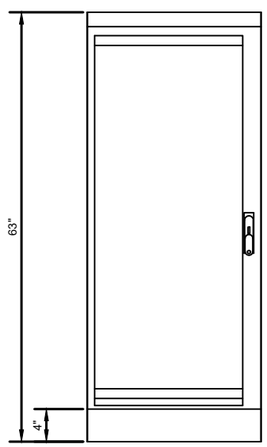
GROUNDING NOTE:

"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."

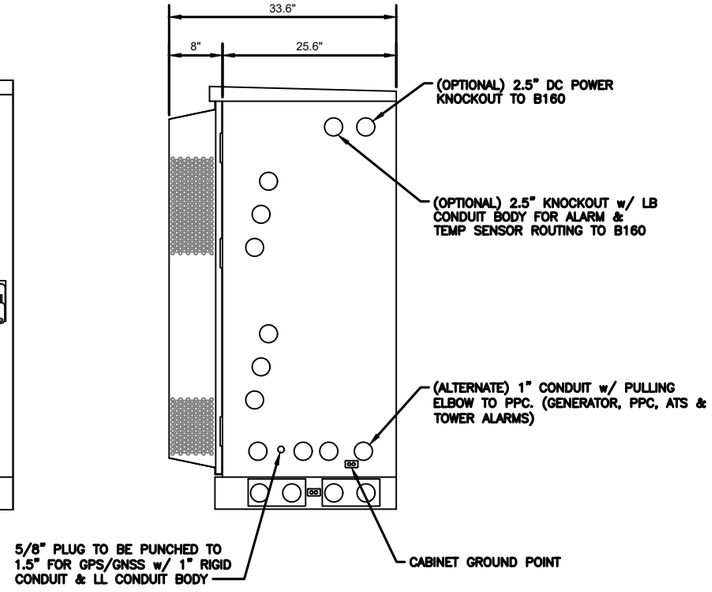




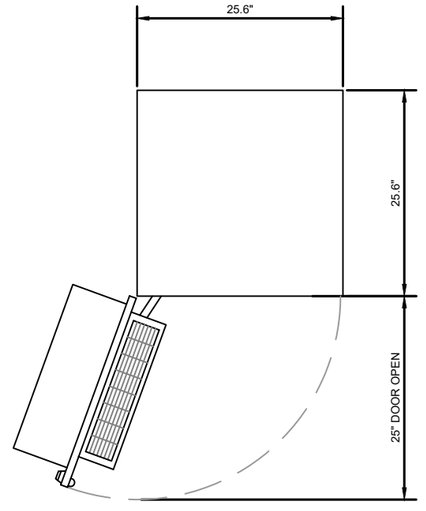
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

1 ERICSSON 6160 SITE SUPPORT CABINET SPECIFICATIONS

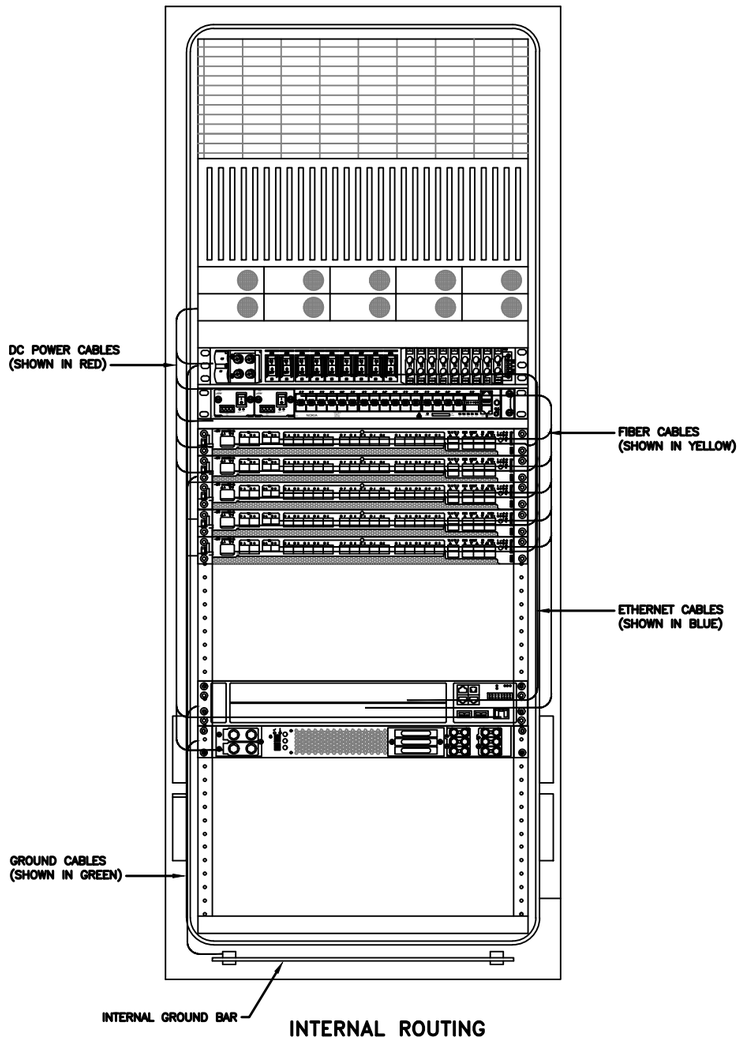
SCALE: N.T.S.

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

SUPPLEMENTAL

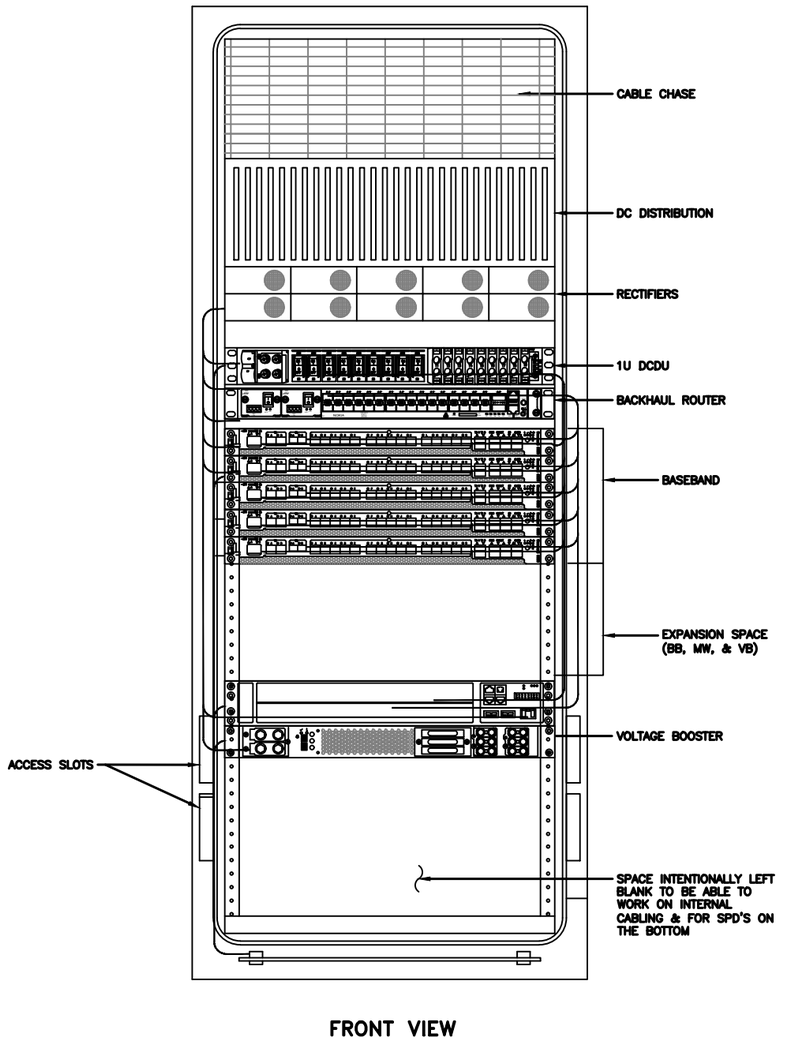
SHEET NUMBER:	REVISION:
R-605	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.



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.

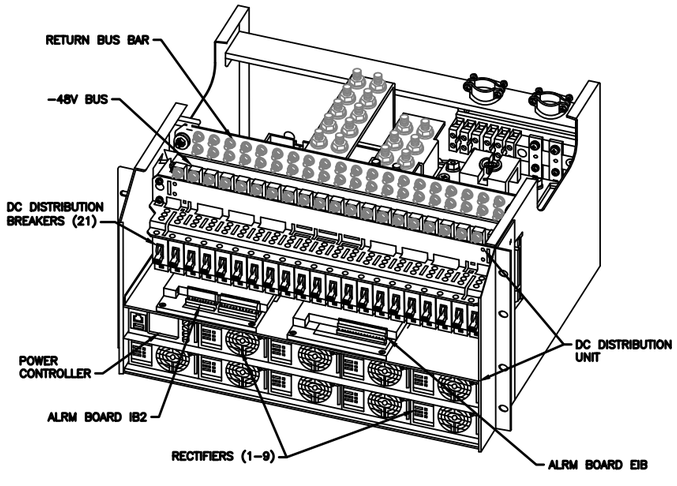
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-606	0

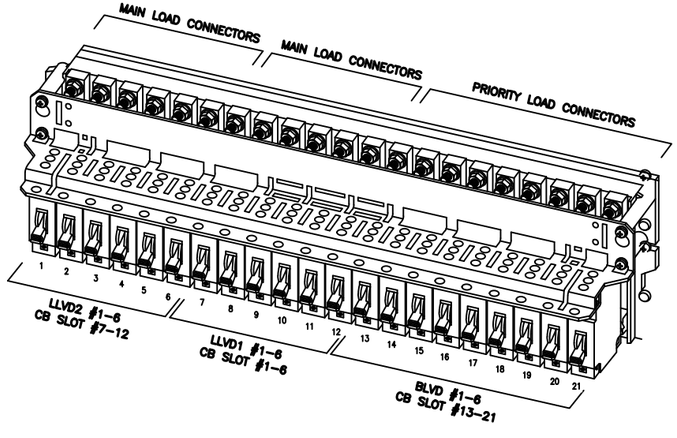
Copyright © 2022 ATC IP LLC, All Rights Reserved.

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.

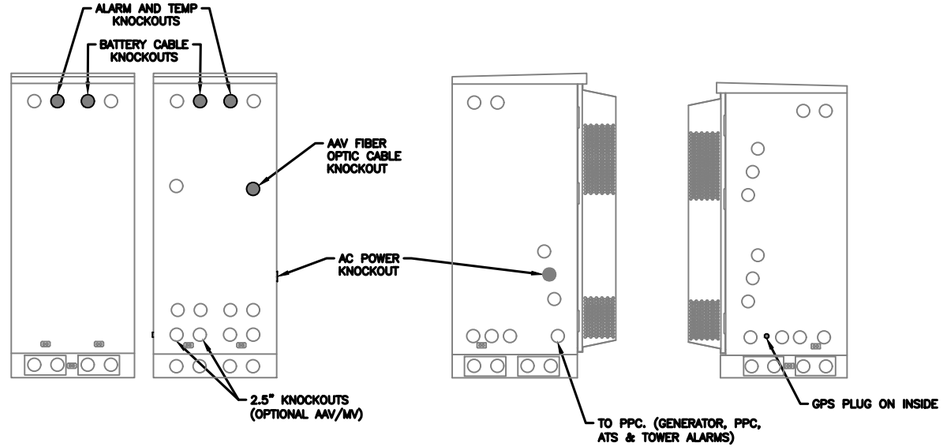
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-607	0

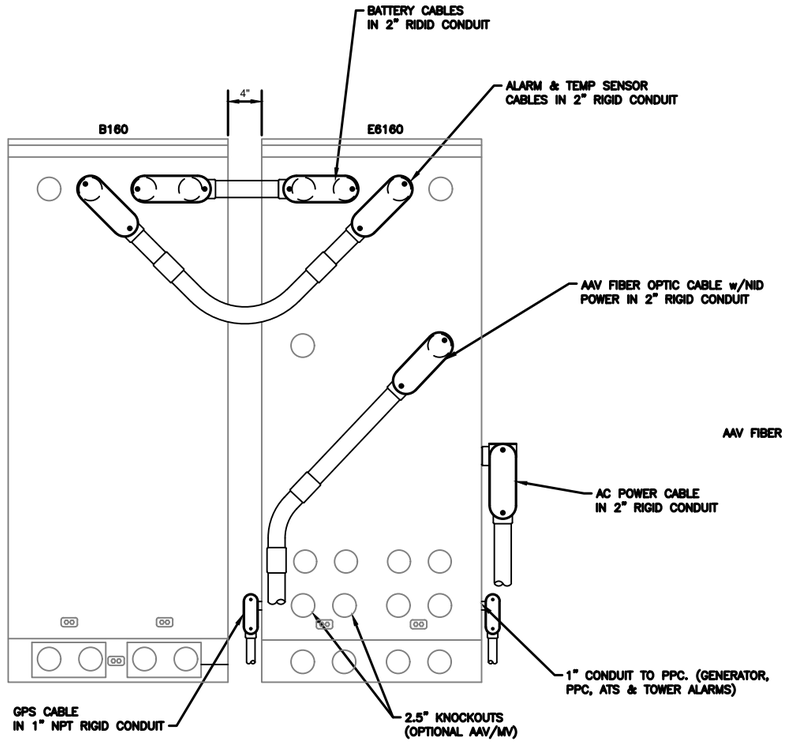
Copyright © 2022 ATC IP LLC, All Rights Reserved.

NOTE:

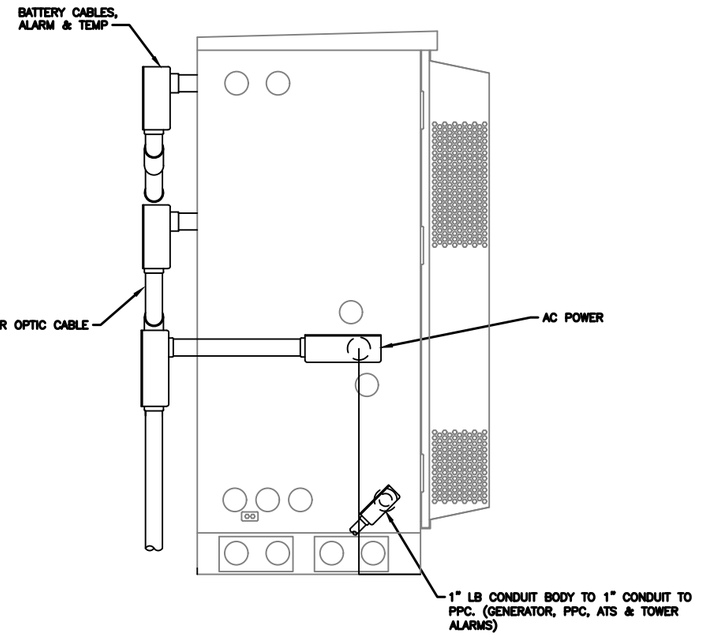
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT 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.

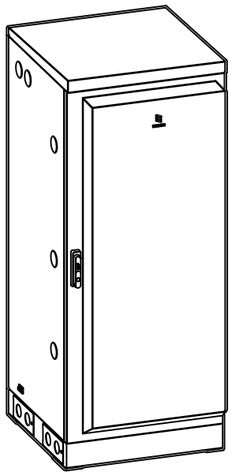
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

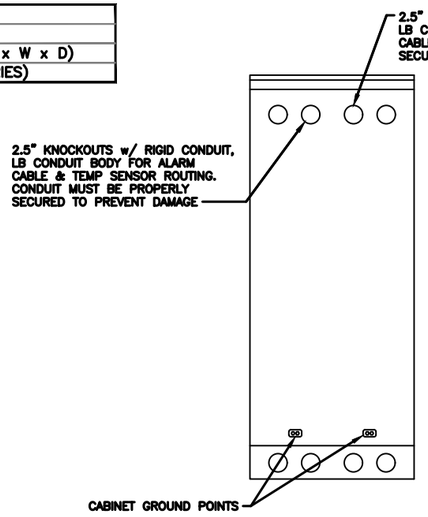
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-608	0

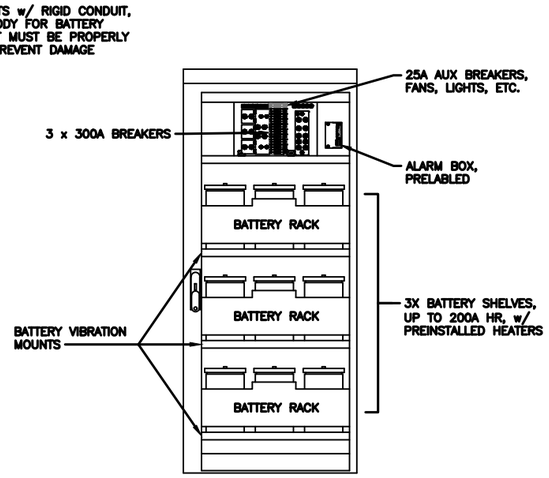
Copyright © 2022 ATC IP LLC, All Rights Reserved.

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



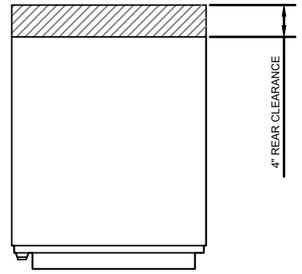


REAR VIEW



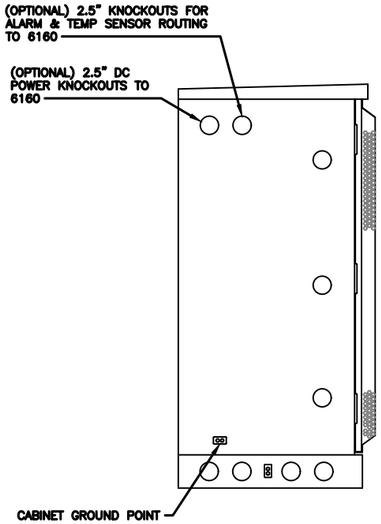
FRONT VIEW
(DOOR OPEN)

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

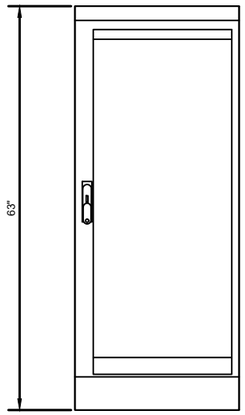


GROUNDING NOTE:

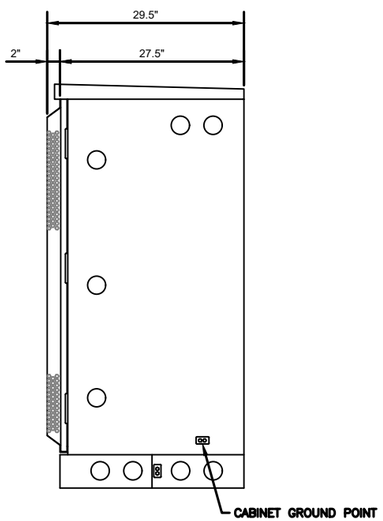
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



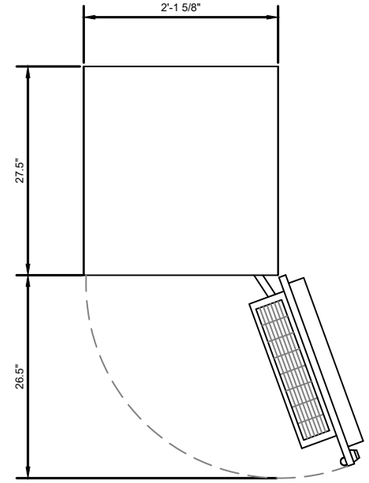
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

B160 ERICSSON SITE SUPPORT BATTERY CABINET

1 ERICSSON B160 BATTERY CABINET SPECIFICATIONS
SCALE: N.T.S.

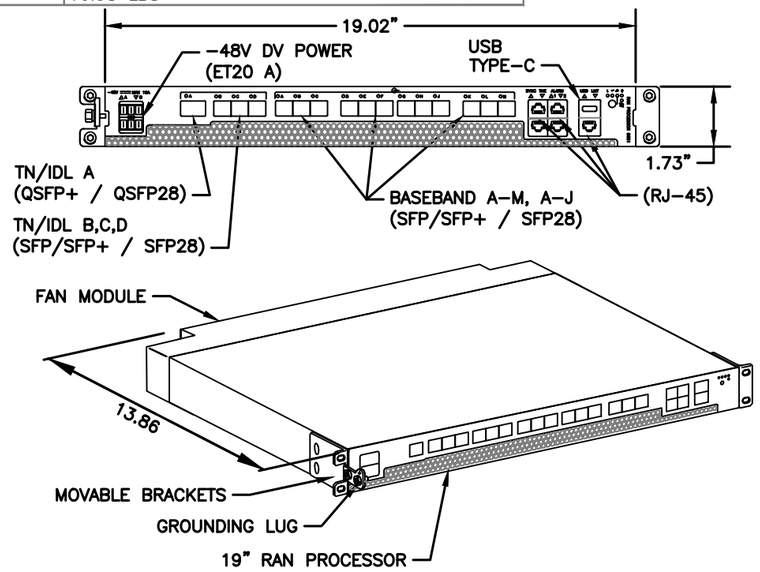
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-609	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

MANUFACTURER:	ERICSSON
MODEL:	6651 RAN PROCESSOR (KDU1370093/11)
DIMENSIONS:	1.73" X 19.02" X 13.86" (H" X W" X D")
WEIGHT:	16.98 LBS



1 34553 - ERICSSON 6651 RAN PROCESSOR

SCALE: N.T.S.

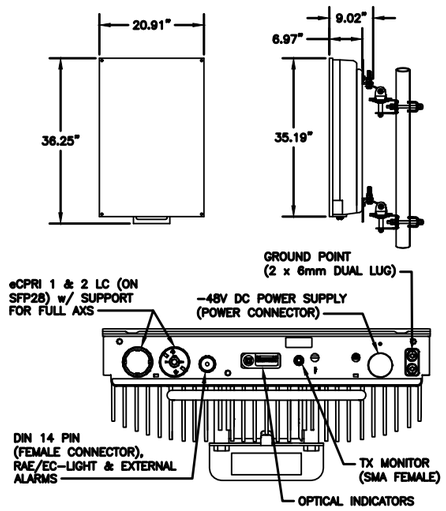
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

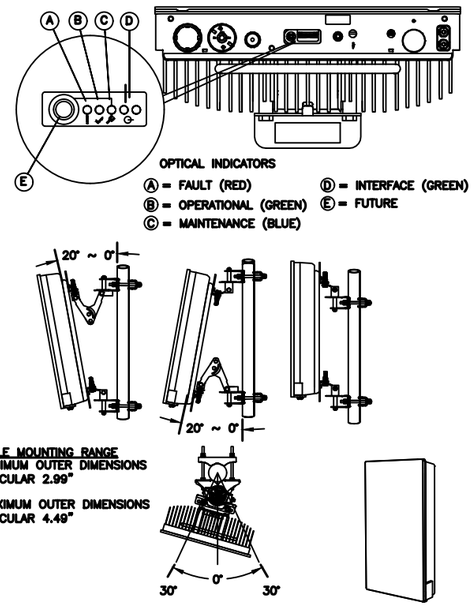
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-610	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

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)

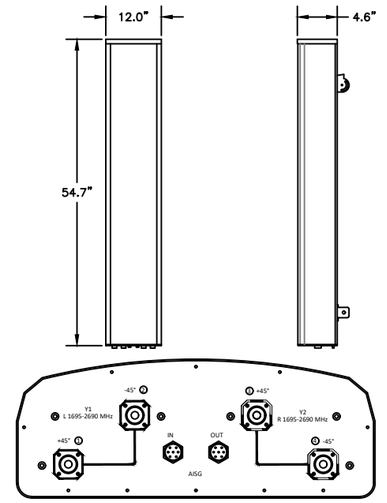




1 34552 - ERICSSON AIR 6419 BAND 41

SCALE: N.T.S.

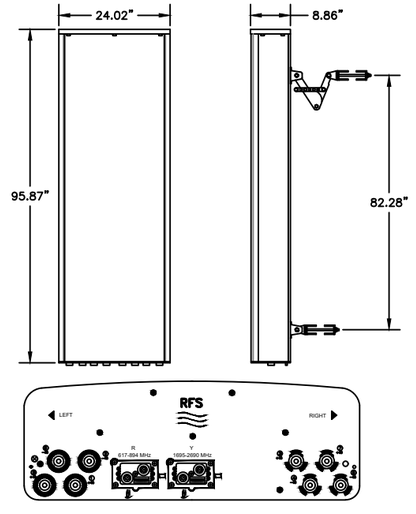
MANUFACTURER:	COMMSCOPE
MODEL:	VV-65A-R1
DIMENSIONS:	54.7" x 12.1" x 4.6" (H x W x D)
WEIGHT:	24.7 LB
INTERFACE:	4-PORT 4.3-10 FEMALE
MOUNTING KIT:	600899A-2 (INCLUDED) WEIGHT: 8.6 LB



2 34401 - COMMSCOPE VV-65A-R1

SCALE: N.T.S.

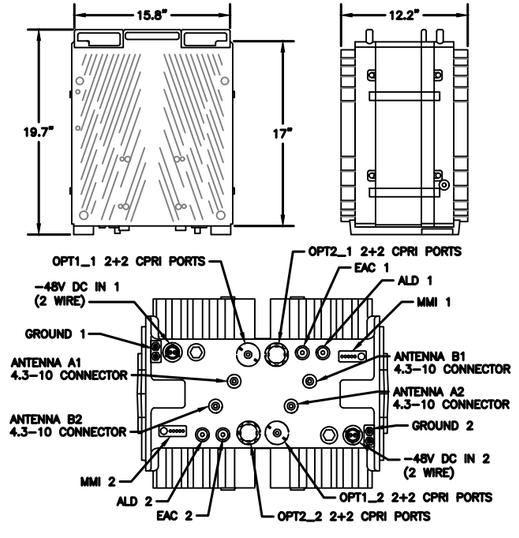
MANUFACTURER:	RFS
MODEL:	APXVAALL24_43-U-NA20
DIMENSIONS:	95.87" x 24.02" x 8.86"
WEIGHT:	119 LB
BAND:	QUAD BAND (8 PORT)
MOUNTING KIT & WEIGHT:	APM40-10E BEAM TILT KIT (INCLUDED) (16.53 LBS)



3 34087 - RFS APXVAALL24_43-U-NA20

SCALE: N.T.S.

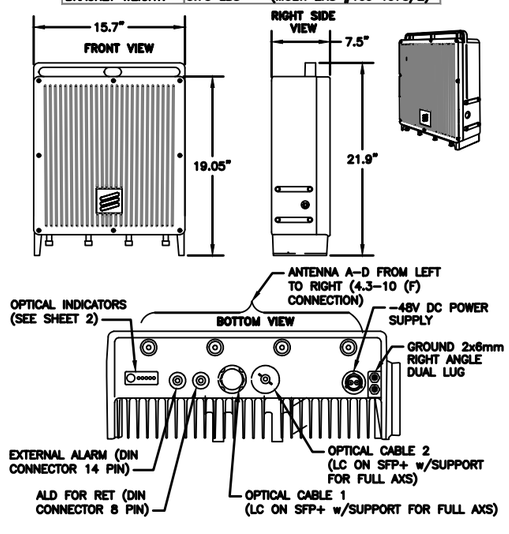
MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXK1255993/1)



4 34373 - ERICSSON 4460 RADIO B2/25 B66

SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4480 RADIO (KRC 161 922/1)
DIMENSIONS:	21.9" x 15.7" x 7.5" (H x W x D)
MODEL BAND:	B71, B85 FOR NR AND LTE
WEIGHT:	81 LBS
BRACKET WEIGHT:	3.75 LBS (MULTI ERS #109 1973/2)



5 34372 - ERICSSON 4480 RADIO

SCALE: N.T.S.

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-611	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	Nepaug CT, CT
ATC Site Number	:	411182
Engineering Number	:	14099474_C8_01
Mount Elevation	:	150.6 ft
Carrier	:	T-Mobile
Carrier Site Name	:	Antolini - Verizon Colo
Carrier Site Number	:	CTNH411A
Site Location	:	20 Antolini Road New Hartford, CT 06057-3326 41.82806664 , -73.01568614
County	:	Litchfield
Date	:	May 23, 2022
Max Usage	:	79%
Result	:	Contingent Pass

Prepared By:
Brittany Hucks
Structural Engineer I

Brittany Hucks

Reviewed By:

STATE OF CONNECTICUT · ESHA KAUSHAL MODI · 32593 · LICENSED PROFESSIONAL ENGINEER

Authorized by "EOR"
23 May 2022 03:58:01

COA: PEC.0001553

1 MOUNT ANALYSIS

AMERICAN TOWER® CORPORATION

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 150.6 ft.

Supporting Documents

Specifications Sheets	Site Pro 1 RMQP-4XX, dated July 9, 2015
	Site Pro 1 HRK12, dated July 13, 2014
Radio Frequency Data Sheet	RFDS ID #CTNH411A, dated April 20, 2022
Reference Photos	Site photos from 2021

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	115 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.174, S1 = 0.054
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs

* Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.

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:

- Install Site Pro 1 HRK12 handrail reinforcement kit (or similar) as requested by T-MOBILE.
- A handrail kit was modeled due to the Carrier's proposed Mount Type. The mount geometry before this addition was not assessed.

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.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-612	0

Copyright © 2022 ATC IP LLC, All Rights Reserved.

Exhibit D

Mount & Structural Analysis Report

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	**Nepaug CT, CT**
ATC Site Number	:	**411182**
Engineering Number	:	**14099474_C8_01**
Mount Elevation	:	**150.6 ft**
Carrier	:	**T-Mobile**
Carrier Site Name	:	**Antolini - Verizon Colo**
Carrier Site Number	:	**CTNH411A**
Site Location	:	**20 Antolini Road** **New Hartford, CT 06057-3326** **41.82806664 , -73.01568614**
County	:	**Litchfield**
Date	:	**May 23, 2022**
Max Usage	:	**79%**
Result	:	**Contingent Pass**

Prepared By:
Brittany Hucks
Structural Engineer I

Brittany Hucks

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 150.6 ft.

Supporting Documents

Specifications Sheets	Site Pro 1 RMQP-4XX, dated July 9, 2015
	Site Pro 1 HRK12, dated July 13, 2014
Radio Frequency Data Sheet	RFDS ID #CTNH411A, dated April 20, 2022
Reference Photos	Site photos from 2021

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	115 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00'' radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.174, S1 = 0.054
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs

*** Based on experience, it has been determined that the Lv load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.**

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:

- Install Site Pro 1 HRK12 handrail reinforcement kit (or similar) as requested by T-MOBILE.
- A handrail kit was modeled due to the Carrier's proposed Mount Type. The mount geometry before this addition was not assessed.

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.

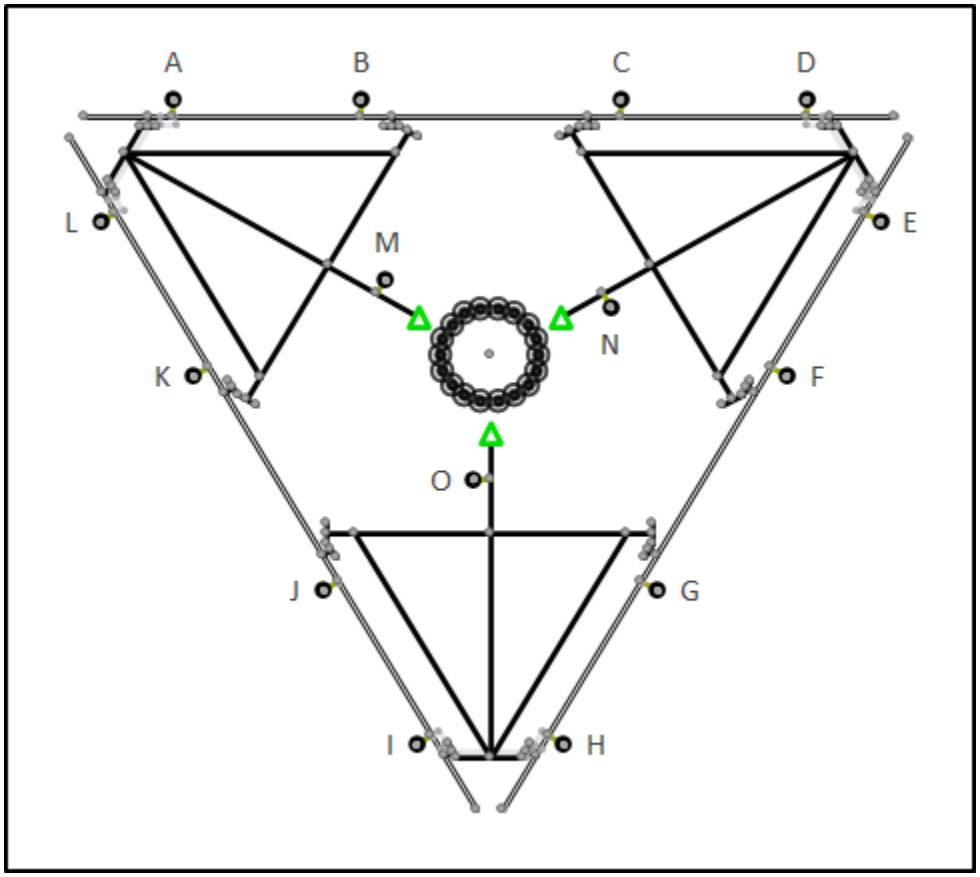
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
150.6	151.0	3	Ericsson AIR 6419 B41
		3	RFS APXVAALL24 43-U-NA20
		3	Commscope VV-65A-R1B
		3	Ericsson 4460 BAND 2/25
		3	Ericsson 4480 BAND 71

Structure Usages

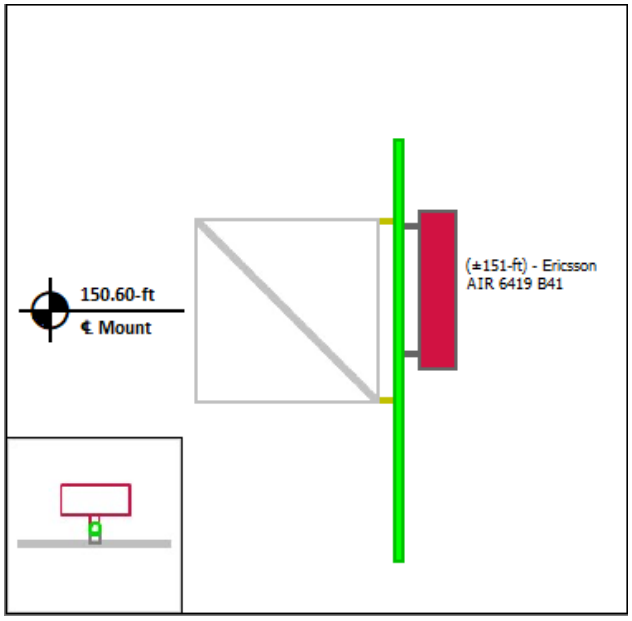
Structural Component	Controlling Usage	Pass/Fail
Horizontals	79%	Pass
Mount Pipes	43%	Pass
Connection Check	46%	Pass

Mount Layout

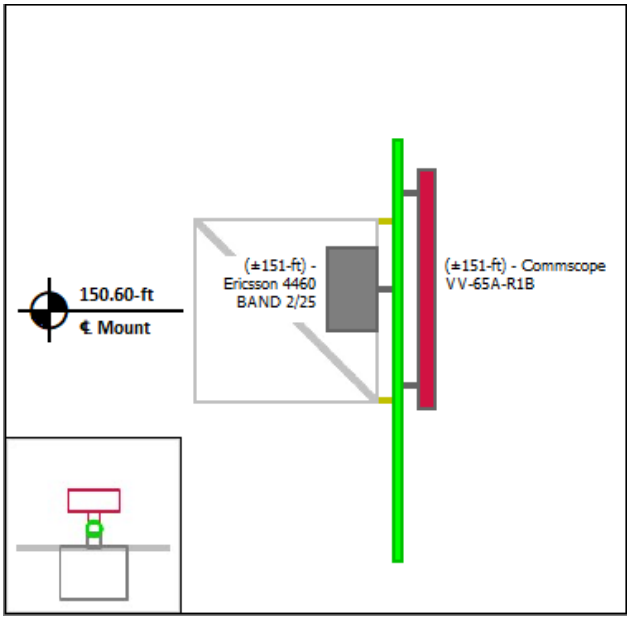


Equipment Layout

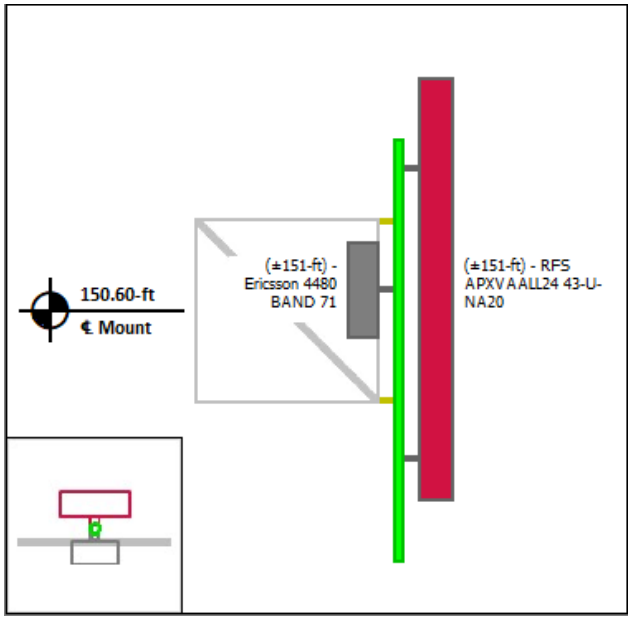
Mount Pipe A



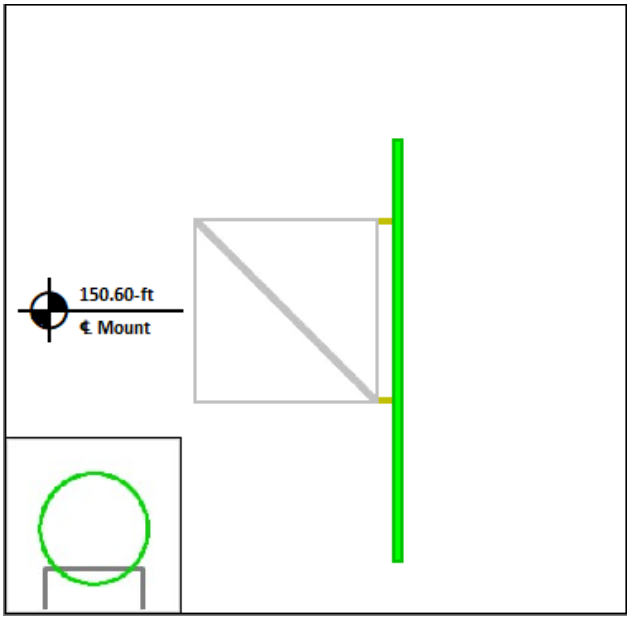
Mount Pipe B



Mount Pipe C

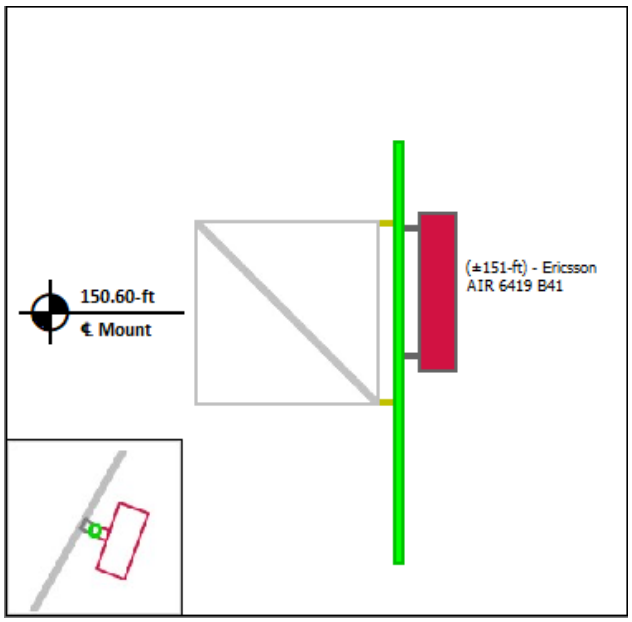


Mount Pipe D

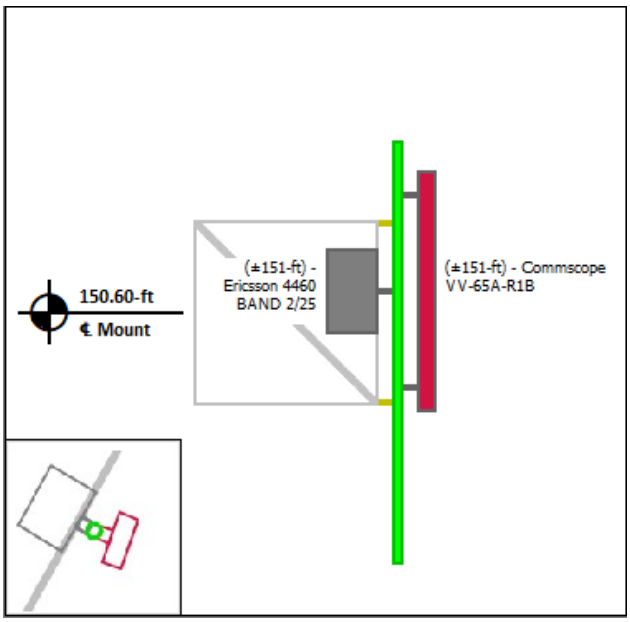


Equipment Layout Cont'd.

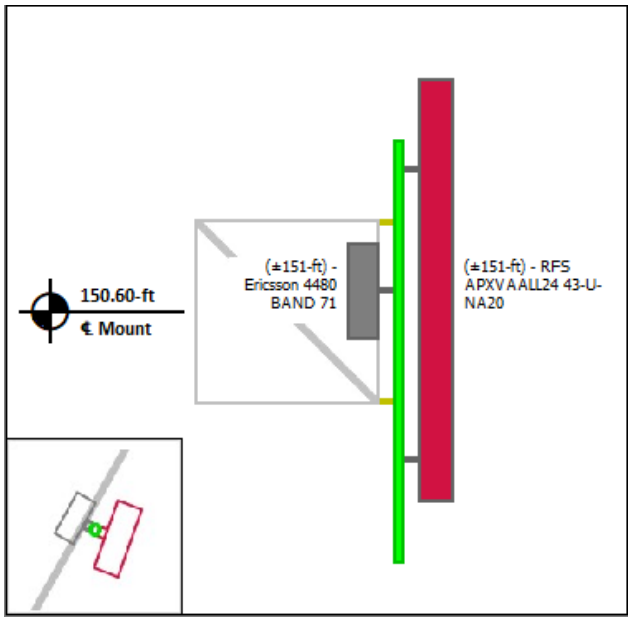
Mount Pipe E



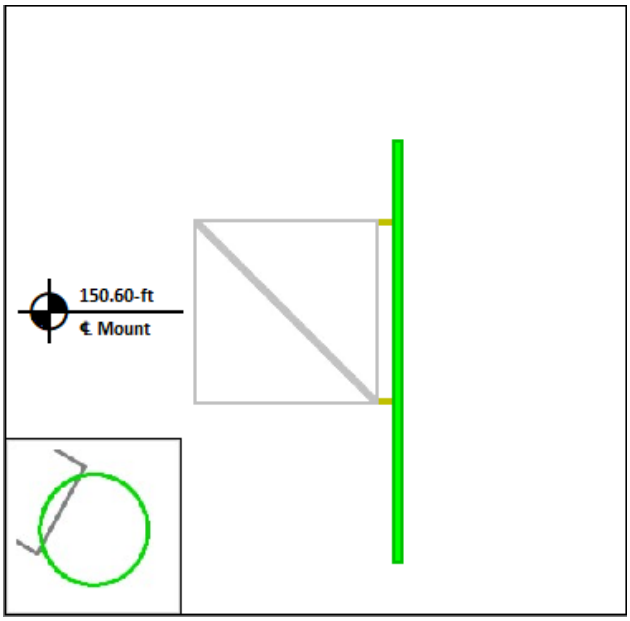
Mount Pipe F



Mount Pipe G

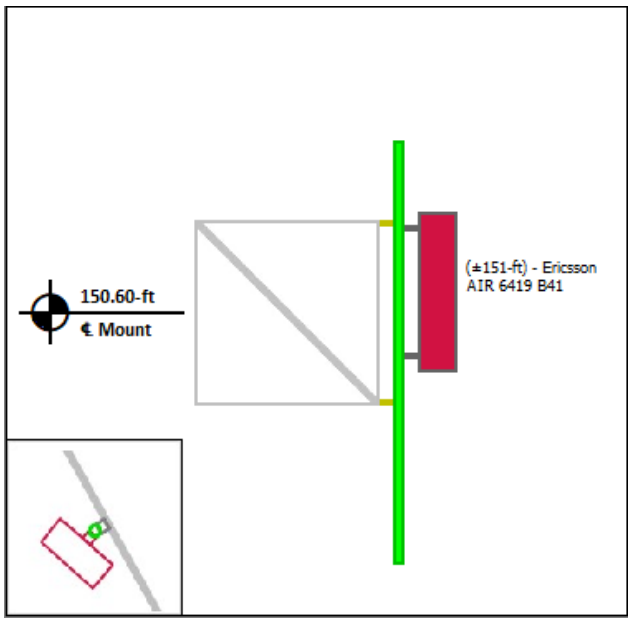


Mount Pipe H

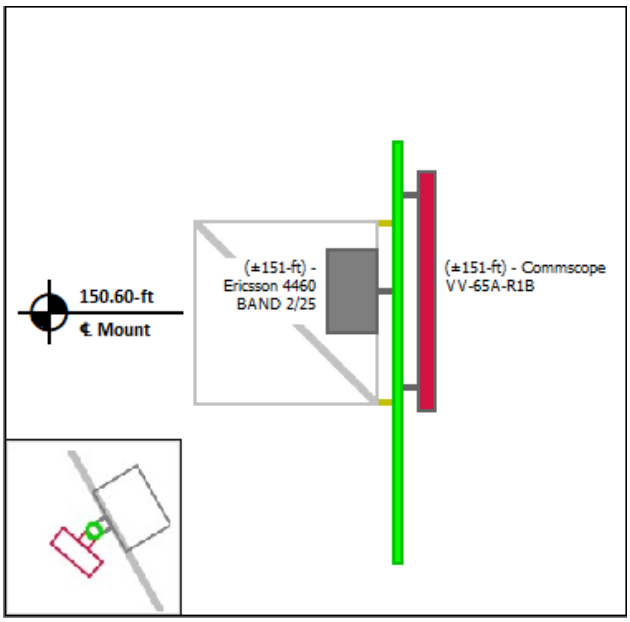


Equipment Layout Cont'd.

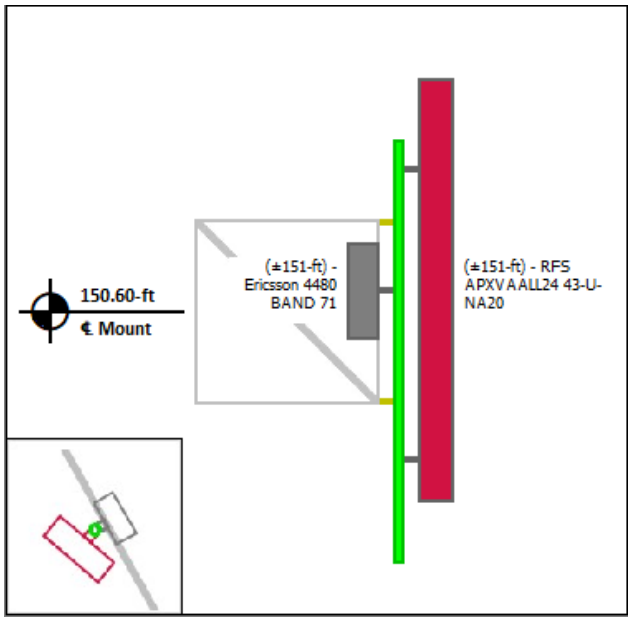
Mount Pipe I



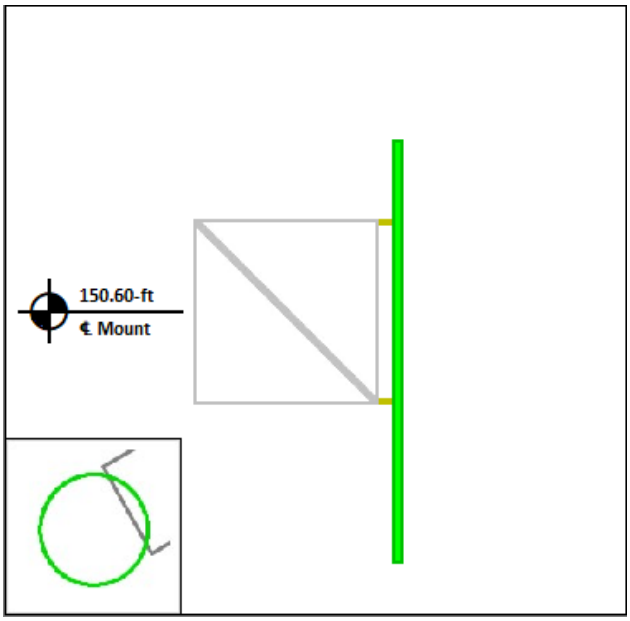
Mount Pipe J



Mount Pipe K

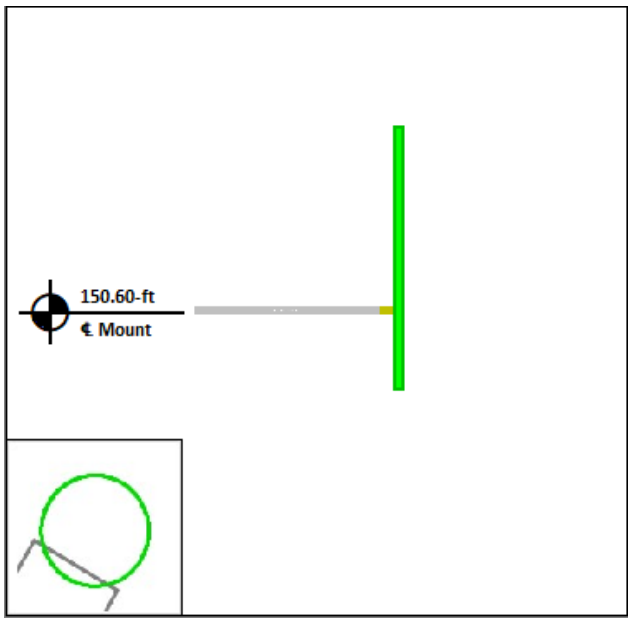


Mount Pipe L

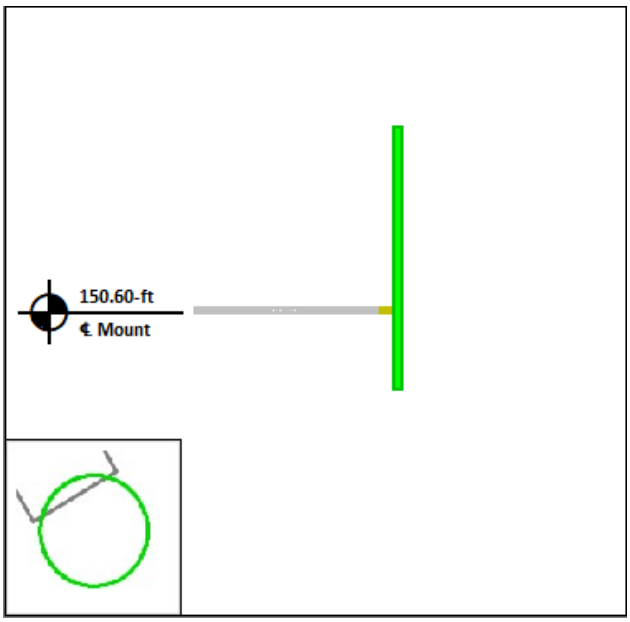


Equipment Layout Cont'd.

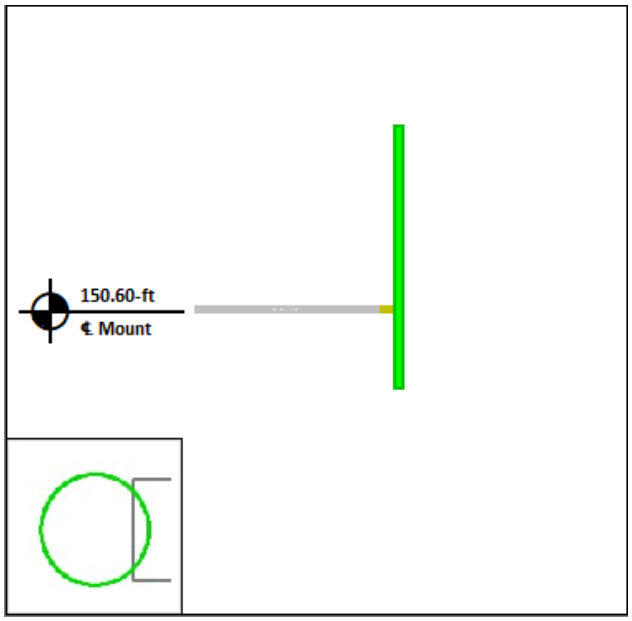
Mount Pipe M



Mount Pipe N



Mount Pipe O



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 equipment, 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.

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.

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.

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. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

AMERICAN TOWER®
CORPORATION

Site Number:	*411182*
Project Number:	*14099474_C8_01*
Carrier:	*T-Mobile*
Mount Elevation:	*150.6 ft*
Date:	5/23/2022

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.11	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.97	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	115	mph
Velocity Pressure	q_z	34.8	psf
Height Escalation Factor	K_{iz}	1.16	
Thickness of Radial Glaze Ice	T_{iz}	1.16	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.139	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.070	
Amplification Factor	A	1.0	
Total Weight	W	2688.5	lbs
Total Shear Force	V_S	187.1	lbs
Horizontal Seismic Load	Eh	187.1	lbs
Vertical Seismic Load	Ev	74.8	lbs

Antenna Calculations (Elevations per Application/RFDS)*

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.48	2.44
RFS APXVAALL24 43-U-NA20	95.9	24.0	8.5	122.8	20.24	3.40	22.75	4.43
Commscope VV-65A-R1B	54.7	12.0	4.6	24.7	5.89	1.44	7.33	2.26
Ericsson 4460 BAND 2/25	19.6	15.7	12.1	109.0	2.56	1.98	3.29	2.64
Ericsson 4480 BAND 71	22.0	15.7	7.5	81.0	2.88	1.40	3.65	2.02

**** Equipment with EPA values N/A were not considered in the mount analysis***

AMERICAN TOWER®
CORPORATION

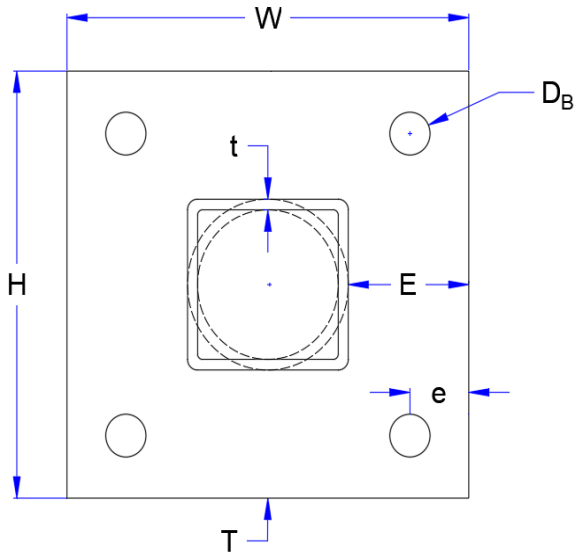
Site Number:	*411182*
Project Number:	*14099474_C8_01*
Carrier:	*T-Mobile*
Mount Elevation:	*150.6 ft*
Date:	5/23/2022

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D			
Controlling Load Combination		2	
Node Label		N002	
Force in X	Fx	134.1	lbs
Force in Y	Fy	1947.1	lbs
Force in Z	Fz	2189.3	lbs
Moment about X	Mx	5219.1	lb-ft
Moment about Y	My	-266.9	lb-ft
Moment about Z	Mz	-6.9	lb-ft

Bolt Shear and Tensile Capacity			
Bolt Quantity	n	4	
Bolt Diameter	D_B	5/8	in
Bolt Edge Distance	e	1	in
Bolt Grade		A325	
Bolt Fy	Fy_B	92	ksi
Bolt Fu	Fu_B	120	ksi
Applied Shear	Vu	0.49	k
Applied Tension	Tu	6.03	k
Tensile Strength	ϕTn	20.3	k
Interaction Capacity	(Tu+Vu)/ϕTn	32%	Pass

Plate Flexural Capacity			
Plate Height	H	8	in
Plate Width	W	8	in
Plate Thickness	T	1/2	in
Plate Grade		A36	
Plate Fy	Fy_P	36	ksi
Plate Fu	Fu_P	58	ksi
Shear Capacity	ϕVn	26.9	k
Applied Moment	Mu	12.1	k-in
Flexural Strength	ϕMn	26.1	k-in
Flexural Capacity	Mu/ϕMn	46%	Pass

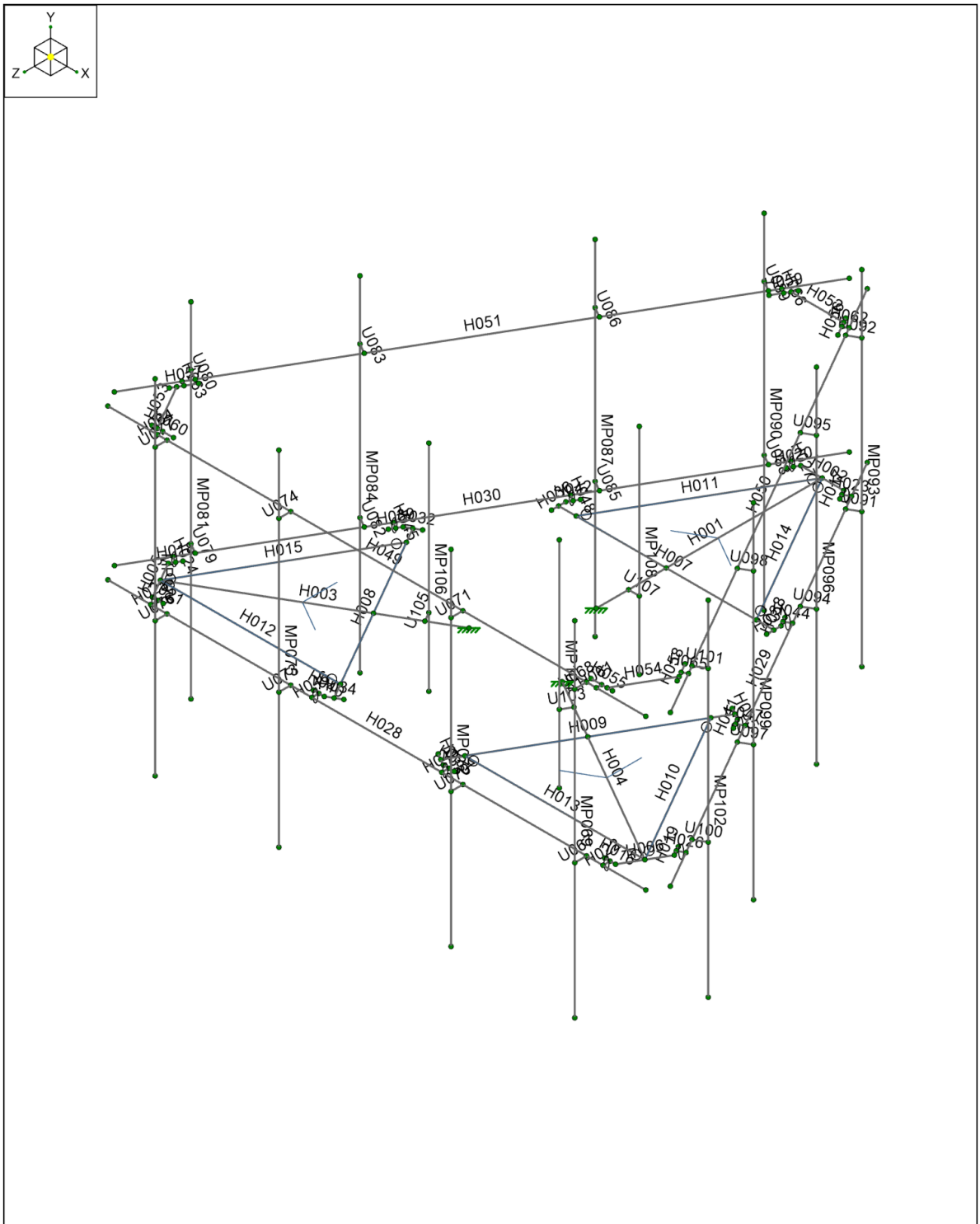


Weld and Base Metal Capacity			
Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	2	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A53 Gr. B	
Member Fy	Fy_M	35	ksi
Member Fu	Fu_M	60	ksi
Weld Size	a	1/4	in
Weld Length	l	16.0	in
Applied Load	Pu	12.1	k
Weld Strength	ϕRn	44.5	k
Weld Capacity	Pu/ϕRn	27%	Pass

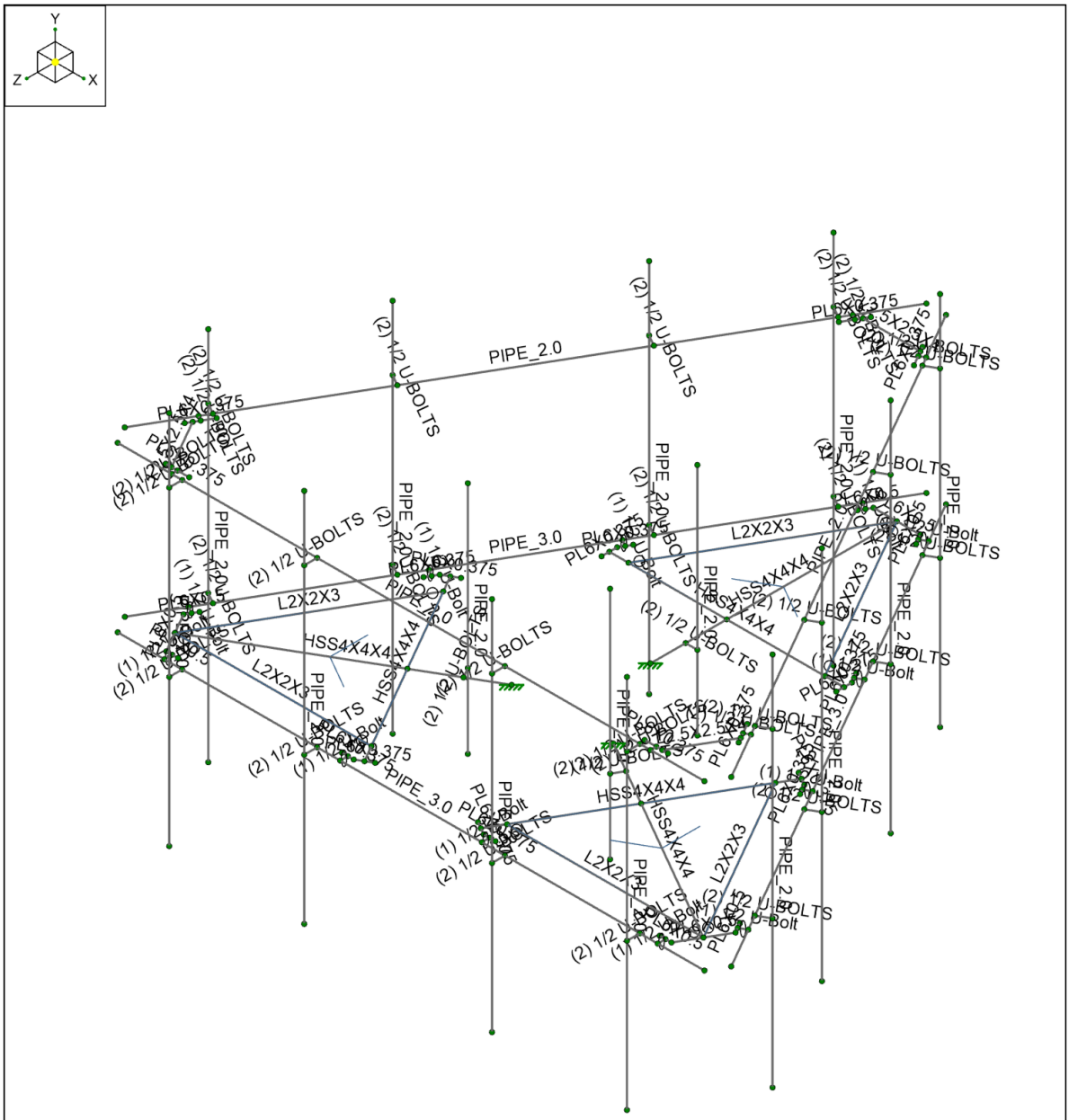
Minimum Base Metal Thickness	0.206	in
Controlling Base Metal Thickness	0.250	in
Base Metal Result	Acceptable	

Prying Action Considerations						
Moment Arm	b	1.00	in	Minimum Thickness	t_{min}	0.26	in
Effective Moment Arm	b'	0.69	in	No Prying Thickness	t_{np}	0.34	in
Tributary Length	p	2.75	in	Min Bolt Strength Thickness	t_c	0.62	k-in
Effective Edge Distance	a'	1.31	in	Prying Action Bolt Tension	T_{up}	0.00	k

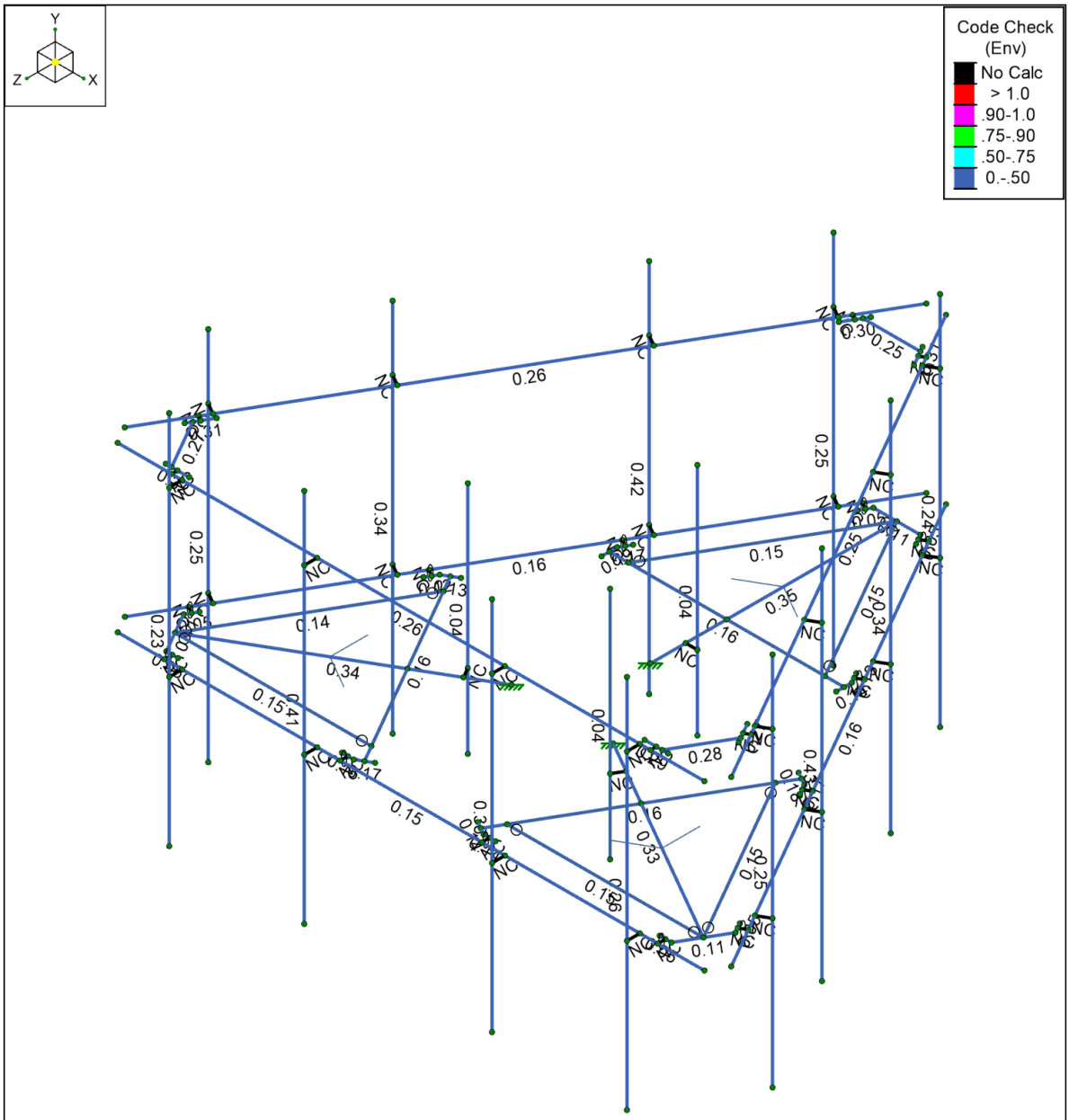
American Tower Corp.	411182, Nepaug CT	SK-1
Brittany.Hucks		May 23, 2022
14099474_C8_01		R3D. T-MOBILE @ 411182, Nepa…



American Tower Corp.	411182, Nepaug CT	SK-2
Brittany.Hucks		May 23, 2022
14099474_C8_01		R3D. T-MOBILE @ 411182, Nepa…

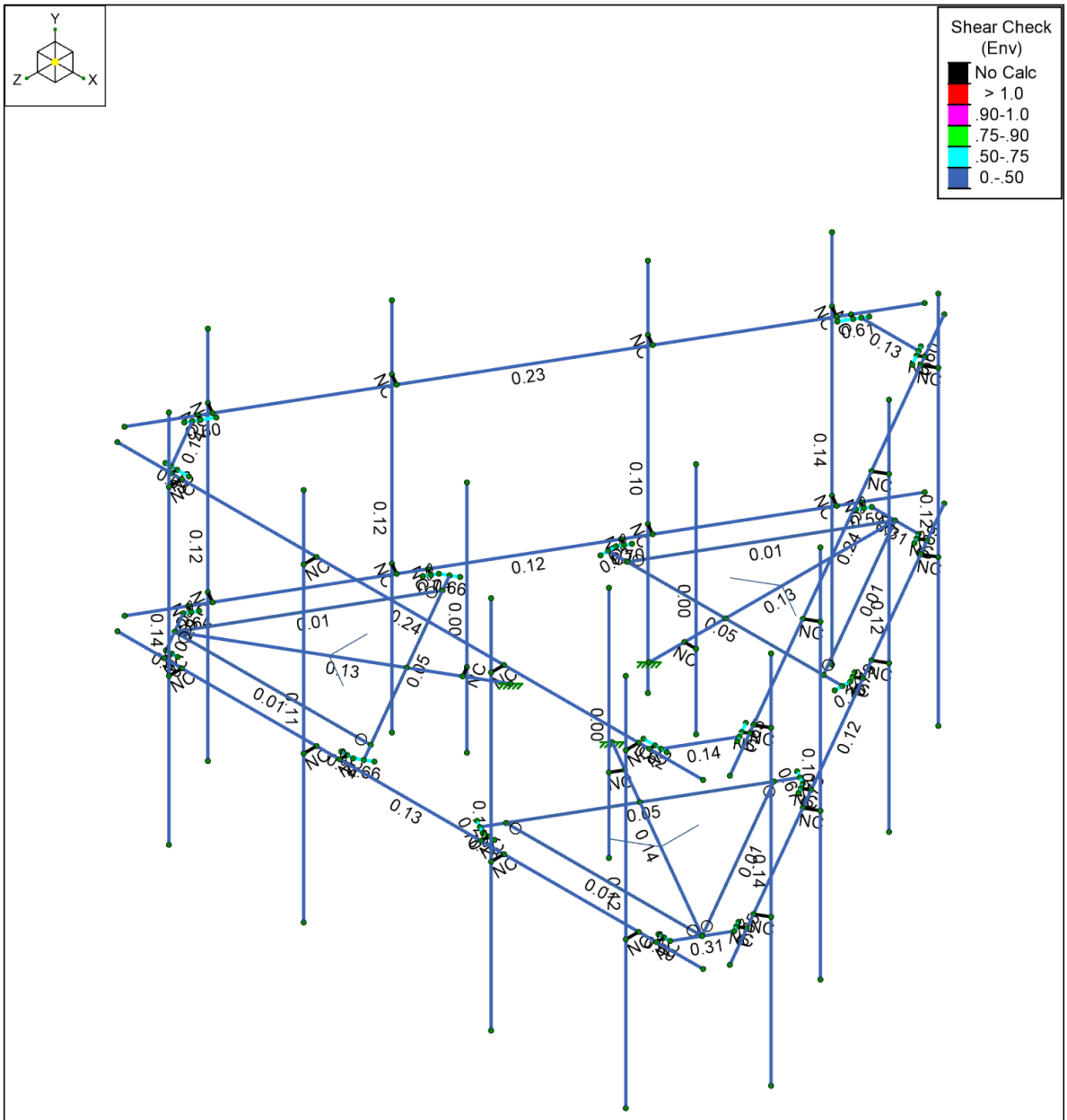


American Tower Corp.	411182, Nepaug CT	SK-3
Brittany.Hucks		May 23, 2022
14099474_C8_01		R3D. T-MOBILE @ 411182, Nepa…



Member Code Checks Displayed (Enveloped)

American Tower Corp.	411182, Nepaug CT	SK-4
Brittany.Hucks		May 23, 2022
14099474_C8_01		R3D. T-MOBILE @ 411182, Nepa…



Member Shear Checks Displayed (Enveloped)

American Tower Corp.	411182, Nepaug CT	SK-5
Brittany.Hucks		May 23, 2022
14099474_C8_01		R3D. T-MOBILE @ 411182, Nepa…

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
1	D	DL	-1		24		
2	Di	IL			24	63	3
3	W 0	WL			24	108	
4	W 30	WL			48	216	
5	W 60	WL			48	216	
6	W 90	WL			24	114	
7	W 120	WL			48	216	
8	W 150	WL			48	216	
9	W 180	WL			24	108	
10	W 210	WL			48	216	
11	W 240	WL			48	216	
12	W 270	WL			24	114	
13	W 300	WL			48	216	
14	W 330	WL			48	216	
15	Wi 0	WL			24	108	
16	Wi 30	WL			48	216	
17	Wi 60	WL			48	216	
18	Wi 90	WL			24	114	
19	Wi 120	WL			48	216	
20	Wi 150	WL			48	216	
21	Wi 180	WL			24	108	
22	Wi 210	WL			48	216	
23	Wi 240	WL			48	216	
24	Wi 270	WL			24	114	
25	Wi 300	WL			48	216	
26	Wi 330	WL			48	216	
27	Ws 0	WL			24	108	
28	Ws 30	WL			48	216	
29	Ws 60	WL			48	216	
30	Ws 90	WL			24	114	
31	Ws 120	WL			48	216	
32	Ws 150	WL			48	216	
33	Ws 180	WL			24	108	
34	Ws 210	WL			48	216	
35	Ws 240	WL			48	216	
36	Ws 270	WL			24	114	
37	Ws 300	WL			48	216	
38	Ws 330	WL			48	216	
39	Ev -Y	ELY				63	
40	Eh -Z	ELZ				63	
41	Eh -X	ELX				63	
42	Lm (1)	LL		1			
43	Lm (2)	LL		1			
44	Lm (3)	LL		1			
45	Lm (4)	LL		1			
46	Lm (5)	LL		1			
47	Lm (6)	LL		1			
48	Lm (7)	LL		1			
49	Lm (8)	LL		1			
50	Lm (9)	LL		1			
51	Lm (10)	LL		1			
52	Lm (11)	LL		1			
53	Lm (12)	LL		1			
54	Lm (13)	LL		1			
55	Lm (14)	LL		1			

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
56	Lm (15)	LL		1			

Node Boundary Conditions

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Y Rot [k-in/rad]	Z Rot [k-in/rad]
1	N002	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N006	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N007	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N002	N003		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
2	H002	N004	N005		PL6X0.5	Beam	None	A36	Typical
3	H003	N006	N012		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
4	H004	N007	N013		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
5	H005	N008	N010		PL6X0.5	Beam	None	A36	Typical
6	H006	N009	N011		PL6X0.5	Beam	None	A36	Typical
7	H007	N015	N016		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
8	H008	N021	N023		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
9	H009	N022	N024		HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
10	H010	N033	N013		L2X2X3	Beam	None	A36	Typical
11	H011	N034	N003		L2X2X3	Beam	None	A36	Typical
12	H012	N029	N012		L2X2X3	Beam	None	A36	Typical
13	H013	N030	N013	270	L2X2X3	Beam	None	A36	Typical
14	H014	N031	N003	270	L2X2X3	Beam	None	A36	Typical
15	H015	N032	N012	270	L2X2X3	Beam	None	A36	Typical
16	H016	N009	N036		PL6X0.5	Beam	None	A36	Typical
17	H017	N004	N042		PL6X0.5	Beam	None	A36	Typical
18	H018	N008	N043		PL6X0.5	Beam	None	A36	Typical
19	H019	N011	N048		PL6X0.5	Beam	None	A36	Typical
20	H020	N005	N049		PL6X0.5	Beam	None	A36	Typical
21	H021	N010	N037		PL6X0.5	Beam	None	A36	Typical
22	H022	N038	N040		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
23	H023	N044	N050		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
24	H024	N045	N051		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
25	H025	N039	N041		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
26	H026	N046	N052		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
27	H027	N047	N053		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
28	H028	N017	N018		PIPE_3.0	Beam	None	A53 Gr. B	Typical
29	H029	N025	N027		PIPE_3.0	Beam	None	A53 Gr. B	Typical
30	H030	N026	N028		PIPE_3.0	Beam	None	A53 Gr. B	Typical
31	H031	N054	N055		PL6X0.375	Beam	None	A36	Typical
32	H032	N056	N058		PL6X0.375	Beam	None	A36	Typical
33	H033	N057	N059		PL6X0.375	Beam	None	A36	Typical
34	H034	N060	N062		PL6X0.375	Beam	None	A36	Typical
35	H035	N061	N063		PL6X0.375	Beam	None	A36	Typical
36	H036	N064	N035		PL6X0.375	Beam	None	A36	Typical
37	H037	N059	N065		PL6X0.375	Beam	None	A36	Typical
38	H038	N055	N071		PL6X0.375	Beam	None	A36	Typical
39	H039	N058	N072		PL6X0.375	Beam	None	A36	Typical
40	H040	N062	N066		PL6X0.375	Beam	None	A36	Typical
41	H041	N063	N073		PL6X0.375	Beam	None	A36	Typical
42	H042	N035	N074		PL6X0.375	Beam	None	A36	Typical
43	H043	N067	N069		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
44	H044	N075	N079		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
45	H045	N076	N080		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
46	H046	N068	N070		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
47	H047	N077	N081		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
48	H048	N078	N082		(1) 1/2 U-Bolt	Beam	None	SAE J429 Gr. 2	Typical
49	H049	N083	N084		PIPE_2.0	Beam	None	A53 Gr. B	Typical
50	H050	N085	N087		PIPE_2.0	Beam	None	A53 Gr. B	Typical
51	H051	N086	N088		PIPE_2.0	Beam	None	A53 Gr. B	Typical
52	H052	N093	N094	90	L2.5X2.5X4	Beam	None	A36	Typical
53	H053	N090	N091	90	L2.5X2.5X4	Beam	None	A36	Typical
54	H054	N089	N092	90	L2.5X2.5X4	Beam	None	A36	Typical
55	H055	N095	N098		PL6X0.375	Beam	None	A36	Typical
56	H056	N096	N099		PL6X0.375	Beam	None	A36	Typical
57	H057	N097	N100		PL6X0.375	Beam	None	A36	Typical
58	H058	N102	N105		PL6X0.375	Beam	None	A36	Typical
59	H059	N103	N106		PL6X0.375	Beam	None	A36	Typical
60	H060	N101	N104		PL6X0.375	Beam	None	A36	Typical
61	H061	N107	N113		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
62	H062	N108	N114		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
63	H063	N109	N115		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
64	H064	N110	N116		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
65	H065	N111	N117		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
66	H066	N112	N118		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
67	U067	N119	N131		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
68	U068	N132	N133		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
69	MP069	N134	N135		PIPE_2.0	Column	None	A53 Gr. B	Typical
70	U070	N122	N136		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
71	U071	N137	N138		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
72	MP072	N139	N140		PIPE_2.0	Column	None	A53 Gr. B	Typical
73	U073	N121	N141		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
74	U074	N142	N143		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
75	MP075	N144	N145		PIPE_2.0	Column	None	A53 Gr. B	Typical
76	U076	N120	N146		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
77	U077	N147	N148		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
78	MP078	N149	N150		PIPE_2.0	Column	None	A53 Gr. B	Typical
79	U079	N124	N151		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
80	U080	N152	N153		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
81	MP081	N154	N155		PIPE_2.0	Column	None	A53 Gr. B	Typical
82	U082	N126	N156		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
83	U083	N157	N158		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
84	MP084	N159	N160		PIPE_2.0	Column	None	A53 Gr. B	Typical
85	U085	N128	N161		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
86	U086	N162	N163		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
87	MP087	N164	N165		PIPE_2.0	Column	None	A53 Gr. B	Typical
88	U088	N130	N166		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
89	U089	N167	N168		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
90	MP090	N169	N170		PIPE_2.0	Column	None	A53 Gr. B	Typical
91	U091	N123	N171		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
92	U092	N172	N173		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
93	MP093	N174	N175		PIPE_2.0	Column	None	A53 Gr. B	Typical
94	U094	N125	N176		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
95	U095	N177	N178		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
96	MP096	N179	N180		PIPE_2.0	Column	None	A53 Gr. B	Typical
97	U097	N127	N181		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
98	U098	N182	N183		(2) 1/2 U-BOLTS	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
99	MP099	N184	N185		PIPE_2.0	Column	None	A53 Gr. B	Typical
100	U100	N129	N186		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
101	U101	N187	N188		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
102	MP102	N189	N190		PIPE_2.0	Column	None	A53 Gr. B	Typical
103	U103	N193	N194		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
104	MP104	N195	N196		PIPE_2.0	Column	None	A53 Gr. B	Typical
105	U105	N192	N197		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
106	MP106	N198	N199		PIPE_2.0	Column	None	A53 Gr. B	Typical
107	U107	N191	N200		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
108	MP108	N201	N202		PIPE_2.0	Column	None	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001			Yes	N/A		None
2	H002			Yes	N/A		None
3	H003			Yes	N/A		None
4	H004			Yes	N/A		None
5	H005			Yes	N/A		None
6	H006			Yes	N/A		None
7	H007			Yes	N/A		None
8	H008			Yes	N/A		None
9	H009			Yes	N/A		None
10	H010	BenPIN	BenPIN	Yes	N/A		None
11	H011	BenPIN	BenPIN	Yes	N/A		None
12	H012	BenPIN	BenPIN	Yes	N/A		None
13	H013	BenPIN	BenPIN	Yes	N/A		None
14	H014	BenPIN	BenPIN	Yes	N/A		None
15	H015	BenPIN	BenPIN	Yes	N/A		None
16	H016			Yes	N/A		None
17	H017			Yes	N/A		None
18	H018			Yes	N/A		None
19	H019			Yes	N/A		None
20	H020			Yes	N/A		None
21	H021			Yes	N/A		None
22	H022	OOOXOO		Yes	Default	Exclude	None
23	H023	OOOXOO		Yes	Default	Exclude	None
24	H024	OOOXOO		Yes	Default	Exclude	None
25	H025	OOOXOO		Yes	Default	Exclude	None
26	H026	OOOXOO		Yes	Default	Exclude	None
27	H027	OOOXOO		Yes	Default	Exclude	None
28	H028			Yes	N/A		None
29	H029			Yes	N/A		None
30	H030			Yes	N/A		None
31	H031			Yes	N/A		None
32	H032			Yes	N/A		None
33	H033			Yes	N/A		None
34	H034			Yes	N/A		None
35	H035			Yes	N/A		None
36	H036			Yes	N/A		None
37	H037			Yes	N/A		None
38	H038			Yes	N/A		None
39	H039			Yes	N/A		None
40	H040			Yes	N/A		None
41	H041			Yes	N/A		None
42	H042			Yes	N/A		None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
43	H043	OOOXOO		Yes	Default	Exclude	None
44	H044	OOOXOO		Yes	Default	Exclude	None
45	H045	OOOXOO		Yes	Default	Exclude	None
46	H046	OOOXOO		Yes	Default	Exclude	None
47	H047	OOOXOO		Yes	Default	Exclude	None
48	H048	OOOXOO		Yes	Default	Exclude	None
49	H049			Yes	N/A		None
50	H050			Yes	N/A		None
51	H051			Yes	N/A		None
52	H052			Yes	N/A		None
53	H053			Yes	N/A		None
54	H054			Yes	N/A		None
55	H055			Yes	N/A		None
56	H056			Yes	N/A		None
57	H057			Yes	N/A		None
58	H058			Yes	N/A		None
59	H059			Yes	N/A		None
60	H060			Yes	N/A		None
61	H061			Yes	N/A	Exclude	None
62	H062			Yes	N/A	Exclude	None
63	H063			Yes	N/A	Exclude	None
64	H064			Yes	N/A	Exclude	None
65	H065			Yes	N/A	Exclude	None
66	H066			Yes	N/A	Exclude	None
67	U067			Yes	N/A	Exclude	None
68	U068			Yes	N/A	Exclude	None
69	MP069			Yes	** NA **		None
70	U070			Yes	N/A	Exclude	None
71	U071			Yes	N/A	Exclude	None
72	MP072			Yes	** NA **		None
73	U073			Yes	N/A	Exclude	None
74	U074			Yes	N/A	Exclude	None
75	MP075			Yes	** NA **		None
76	U076			Yes	N/A	Exclude	None
77	U077			Yes	N/A	Exclude	None
78	MP078			Yes	** NA **		None
79	U079			Yes	N/A	Exclude	None
80	U080			Yes	N/A	Exclude	None
81	MP081			Yes	** NA **		None
82	U082			Yes	N/A	Exclude	None
83	U083			Yes	N/A	Exclude	None
84	MP084			Yes	** NA **		None
85	U085			Yes	N/A	Exclude	None
86	U086			Yes	N/A	Exclude	None
87	MP087			Yes	** NA **		None
88	U088			Yes	N/A	Exclude	None
89	U089			Yes	N/A	Exclude	None
90	MP090			Yes	** NA **		None
91	U091			Yes	N/A	Exclude	None
92	U092			Yes	N/A	Exclude	None
93	MP093			Yes	** NA **		None
94	U094			Yes	N/A	Exclude	None
95	U095			Yes	N/A	Exclude	None
96	MP096			Yes	** NA **		None
97	U097			Yes	N/A	Exclude	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
98	U098			Yes	N/A	Exclude	None
99	MP099			Yes	** NA **		None
100	U100			Yes	N/A	Exclude	None
101	U101			Yes	N/A	Exclude	None
102	MP102			Yes	** NA **		None
103	U103			Yes	N/A	Exclude	None
104	MP104			Yes	** NA **		None
105	U105			Yes	N/A	Exclude	None
106	MP106			Yes	** NA **		None
107	U107			Yes	N/A	Exclude	None
108	MP108			Yes	** NA **		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
1	H001	HSS4X4X4	63			Lbyy		1	1	Lateral
2	H002	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
3	H003	HSS4X4X4	63			Lbyy		1	1	Lateral
4	H004	HSS4X4X4	63			Lbyy		1	1	Lateral
5	H005	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
6	H006	PL6X0.5	12			Lbyy		0.65	0.65	Lateral
7	H007	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral
8	H008	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral
9	H009	HSS4X4X4	60			Lbyy		0.65	0.65	Lateral
10	H010	L2X2X3	50.229			Lbyy		1	1	Lateral
11	H011	L2X2X3	50.229			Lbyy		1	1	Lateral
12	H012	L2X2X3	50.229			Lbyy		1	1	Lateral
13	H013	L2X2X3	50.229			Lbyy		1	1	Lateral
14	H014	L2X2X3	50.229			Lbyy		1	1	Lateral
15	H015	L2X2X3	50.229			Lbyy		1	1	Lateral
16	H016	PL6X0.5	3			Lbyy		1	1	Lateral
17	H017	PL6X0.5	3			Lbyy		1	1	Lateral
18	H018	PL6X0.5	3			Lbyy		1	1	Lateral
19	H019	PL6X0.5	3			Lbyy		1	1	Lateral
20	H020	PL6X0.5	3			Lbyy		1	1	Lateral
21	H021	PL6X0.5	3			Lbyy		1	1	Lateral
22	H022	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
23	H023	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
24	H024	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
25	H025	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
26	H026	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
27	H027	(1) 1/2 U-Bolt	2			Lbyy		0.65	0.65	Lateral
28	H028	PIPE_3.0	150.002			Lbyy		1	1	Lateral
29	H029	PIPE_3.0	150.002			Lbyy		1	1	Lateral
30	H030	PIPE_3.0	150.002			Lbyy		1	1	Lateral
31	H031	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
32	H032	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
33	H033	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
34	H034	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
35	H035	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
36	H036	PL6X0.375	4			Lbyy		0.65	0.65	Lateral
37	H037	PL6X0.375	3			Lbyy		1	1	Lateral
38	H038	PL6X0.375	3			Lbyy		1	1	Lateral
39	H039	PL6X0.375	3			Lbyy		1	1	Lateral
40	H040	PL6X0.375	3			Lbyy		1	1	Lateral
41	H041	PL6X0.375	3			Lbyy		1	1	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
42	H042	PL6X0.375	3			Lbyy		1	1	Lateral
43	H043	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
44	H044	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
45	H045	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
46	H046	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
47	H047	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
48	H048	(1) 1/2 U-Bolt	1.965			Lbyy		0.65	0.65	Lateral
49	H049	PIPE_2.0	150.002			Lbyy		0.65	0.65	Lateral
50	H050	PIPE_2.0	150.002			Lbyy		0.65	0.65	Lateral
51	H051	PIPE_2.0	150.002			Lbyy		0.65	0.65	Lateral
52	H052	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
53	H053	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
54	H054	L2.5X2.5X4	14.71			Lbyy		0.65	0.65	Lateral
55	H055	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
56	H056	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
57	H057	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
58	H058	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
59	H059	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
60	H060	PL6X0.375	6			Lbyy		0.65	0.65	Lateral
61	H061	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
62	H062	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
63	H063	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
64	H064	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
65	H065	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
66	H066	(2) 1/2 U-BOLTS	1.5			Lbyy		0.65	0.65	Lateral
67	U067	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
68	U068	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
69	MP069	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
70	U070	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
71	U071	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
72	MP072	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
73	U073	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
74	U074	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
75	MP075	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
76	U076	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
77	U077	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
78	MP078	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
79	U079	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
80	U080	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
81	MP081	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
82	U082	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
83	U083	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
84	MP084	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
85	U085	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
86	U086	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
87	MP087	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
88	U088	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
89	U089	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
90	MP090	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
91	U091	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
92	U092	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
93	MP093	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
94	U094	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
95	U095	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
96	MP096	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
97	U097	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
98	U098	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
99	MP099	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
100	U100	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
101	U101	(2) 1/2 U-BOLTS	3.304			Lbyy		0.5	0.5	Lateral
102	MP102	PIPE_2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
103	U103	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
104	MP104	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
105	U105	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
106	MP106	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
107	U107	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
108	MP108	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [lb/ft³]	Yield [psi]	Ry	Fu [psi]	Rt
1	A500 Gr. B [SQR]	2.9e+07	1.115e+07	0.3	0.65	490	46000	1.4	58000	1.3
2	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2
3	SAE J429 Gr. 2	2.9e+07	1.115e+07	0.3	0.65	490	57000	1.1	74000	1.1
4	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N002	max	1595.19	17	2380.033	26	2193.087	14	5276.59	26	1940.823	23	1166.043	11
2		min	-1595.403	23	-87.51	20	-2222.572	8	-1342.664	20	-1940.878	17	-1172.824	5
3	N006	max	1889.417	18	2383.518	30	1381.252	2	928.816	25	1721.305	15	1195.819	24
4		min	-1915.094	12	-101.582	24	-1366.848	20	-2956.484	103	-1721.41	21	-4735.187	114
5	N007	max	1796.64	4	2363.416	34	1556.999	2	922.54	15	1935.95	19	4720.474	202
6		min	-1771.317	22	0.081	16	-1542.579	20	-2949.134	69	-1936.046	25	-890.769	16
7	Totals:	max	4580.061	17	6514.394	29	5127.52	2						
8		min	-4580.061	23	2384.15	23	-5127.52	20						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	H001	HSS4X4X4	0.347	0	2	0.127	0	z	5	124317.885	139518	16180.5	16180.5	2.363	H1-1b
2	H002	PL6X0.5	0.11	6	2	0.315	0	y	6	83348.625	97200	1012.5	12150	1.125	H1-1b
3	H003	HSS4X4X4	0.341	0	6	0.13	0	z	9	124317.885	139518	16180.5	16180.5	2.36	H1-1b
4	H004	HSS4X4X4	0.327	0	34	0.135	0	z	13	124317.885	139518	16180.5	16180.5	2.843	H1-1b
5	H005	PL6X0.5	0.111	6	6	0.293	0	y	10	83348.625	97200	1012.5	12150	1.108	H1-1b
6	H006	PL6X0.5	0.11	6	9	0.314	0	y	2	83348.625	97200	1012.5	12150	1.357	H1-1b
7	H007	HSS4X4X4	0.156	30	27	0.047	30	y	27	133484.923	139518	16180.5	16180.5	1.339	H1-1b
8	H008	HSS4X4X4	0.156	30	31	0.047	30	y	31	133484.923	139518	16180.5	16180.5	1.339	H1-1b
9	H009	HSS4X4X4	0.155	30	35	0.047	30	y	33	133484.923	139518	16180.5	16180.5	1.339	H1-1b
10	H010	L2X2X3	0.155	25.115	12	0.009	50.229	z	7	9724.796	23392.8	557.717	1072.365	1.136	H2-1
11	H011	L2X2X3	0.153	25.638	3	0.009	50.229	z	11	9724.796	23392.8	557.717	1072.365	1.136	H2-1
12	H012	L2X2X3	0.153	25.115	8	0.009	50.229	z	3	9724.796	23392.8	557.717	1072.365	1.136	H2-1
13	H013	L2X2X3	0.151	25.638	9	0.009	50.229	y	13	9724.796	23392.8	557.717	1072.365	1.136	H2-1
14	H014	L2X2X3	0.15	25.638	13	0.009	50.229	y	6	9724.796	23392.8	557.717	1072.365	1.136	H2-1
15	H015	L2X2X3	0.143	25.638	5	0.009	50.229	y	9	9724.796	23392.8	557.717	1072.365	1.136	H2-1
16	H016	PL6X0.5	0.045	0	11	0.687	0	y	8	95014.386	97200	1012.5	12150	3	H1-1b
17	H017	PL6X0.5	0.049	0	3	0.686	0	y	12	95014.386	97200	1012.5	12150	3	H1-1b
18	H018	PL6X0.5	0.05	0	6	0.638	0	y	4	95014.386	97200	1012.5	12150	3	H1-1b
19	H019	PL6X0.5	0.048	0	10	0.646	1.5	y	6	95014.386	97200	1012.5	12150	3	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
20	H020	PL6X0.5	0.053	0	2	0.586	1.5	y	10	95014.386	97200	1012.5	12150	3	H1-1b
21	H021	PL6X0.5	0.05	0	6	0.63	1.5	y	2	95014.386	97200	1012.5	12150	3	H1-1b
22	H028	PIPE_3.0	0.15	57.813	10	0.126	56.251		13	28250.068	65205	5748.75	5748.75	2.132	H1-1b
23	H029	PIPE_3.0	0.161	57.813	2	0.12	56.251		5	28250.068	65205	5748.75	5748.75	2.126	H1-1b
24	H030	PIPE_3.0	0.161	57.813	6	0.12	56.251		9	28250.068	65205	5748.75	5748.75	2.134	H1-1b
25	H031	PL6X0.375	0.138	2	11	0.699	2	y	6	70719.442	72900	569.531	9112.5	1.366	H1-1b
26	H032	PL6X0.375	0.129	2	3	0.658	2	y	10	70719.442	72900	569.531	9112.5	1.364	H1-1b
27	H033	PL6X0.375	0.144	2	7	0.695	2	y	2	70719.442	72900	569.531	9112.5	1.363	H1-1b
28	H034	PL6X0.375	0.168	2	9	0.664	2	y	2	70719.442	72900	569.531	9112.5	1.367	H1-1b
29	H035	PL6X0.375	0.185	2	13	0.674	2	y	6	70719.442	72900	569.531	9112.5	1.366	H1-1b
30	H036	PL6X0.375	0.187	2	5	0.629	2	y	10	70719.442	72900	569.531	9112.5	1.369	H1-1b
31	H037	PL6X0.375	0.137	1.5	13	0.782	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
32	H038	PL6X0.375	0.134	1.5	5	0.787	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
33	H039	PL6X0.375	0.121	1.5	9	0.736	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
34	H040	PL6X0.375	0.153	1.5	3	0.742	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
35	H041	PL6X0.375	0.171	1.5	7	0.753	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
36	H042	PL6X0.375	0.174	1.5	11	0.698	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
37	H049	PIPE_2.0	0.256	100.001	8	0.237	14.063		13	14559.702	32130	1871.625	1871.625	1.81	H1-1b
38	H050	PIPE_2.0	0.252	100.001	12	0.243	135.939		7	14559.702	32130	1871.625	1871.625	1.847	H1-1b
39	H051	PIPE_2.0	0.262	100.001	4	0.231	14.063		9	14559.702	32130	1871.625	1871.625	1.786	H1-1b
40	H052	L2.5X2.5X4	0.253	14.71	10	0.133	0	z	11	37765.457	38556	1113.554	2537.388	1.5	H2-1
41	H053	L2.5X2.5X4	0.269	14.71	2	0.138	0	z	3	37765.457	38556	1113.554	2537.388	1.5	H2-1
42	H054	L2.5X2.5X4	0.276	14.71	6	0.143	0	z	7	37765.457	38556	1113.554	2537.388	1.5	H2-1
43	H055	PL6X0.375	0.289	1.5	11	0.617	1.5	y	13	68085.235	72900	569.531	9112.5	1.551	H1-1b
44	H056	PL6X0.375	0.308	1.5	4	0.602	1.5	y	6	68085.235	72900	569.531	9112.5	1.478	H1-1b
45	H057	PL6X0.375	0.312	1.5	7	0.602	1.5	y	9	68085.235	72900	569.531	9112.5	1.559	H1-1b
46	H058	PL6X0.375	0.273	1.5	9	0.648	1.5	y	7	68085.235	72900	569.531	9112.5	1.557	H1-1b
47	H059	PL6X0.375	0.302	1.5	13	0.607	1.5	y	11	68085.235	72900	569.531	9112.5	1.561	H1-1b
48	H060	PL6X0.375	0.32	1.5	5	0.63	1.5	y	3	68085.235	72900	569.531	9112.5	1.553	H1-1b
49	MP069	PIPE_2.0	0.256	58	6	0.117	58		7	16811.605	32130	1871.625	1871.625	2.325	H1-1b
50	MP072	PIPE_2.0	0.356	58	13	0.113	58		9	16811.605	32130	1871.625	1871.625	2.049	H1-1b
51	MP075	PIPE_2.0	0.413	58	3	0.107	58		7	16811.605	32130	1871.625	1871.625	2.388	H1-1b
52	MP078	PIPE_2.0	0.229	58	3	0.14	58		8	16811.605	32130	1871.625	1871.625	2.189	H1-1b
53	MP081	PIPE_2.0	0.246	58	2	0.12	17		5	16811.605	32130	1871.625	1871.625	2.103	H1-1b
54	MP084	PIPE_2.0	0.342	58	9	0.119	58		5	16811.605	32130	1871.625	1871.625	2.161	H1-1b
55	MP087	PIPE_2.0	0.416	58	11	0.101	58		4	16811.605	32130	1871.625	1871.625	2.31	H1-1b
56	MP090	PIPE_2.0	0.246	58	6	0.142	58		4	16811.605	32130	1871.625	1871.625	2.294	H1-1b
57	MP093	PIPE_2.0	0.237	58	5	0.118	58		12	16811.605	32130	1871.625	1871.625	2.595	H1-1b
58	MP096	PIPE_2.0	0.339	58	6	0.12	58		13	16811.605	32130	1871.625	1871.625	2.186	H1-1b
59	MP099	PIPE_2.0	0.429	58	7	0.099	58		11	16811.605	32130	1871.625	1871.625	1.768	H1-1b
60	MP102	PIPE_2.0	0.249	58	2	0.138	58		12	16811.605	32130	1871.625	1871.625	2.246	H1-1b
61	MP104	PIPE_2.0	0.044	40.625	217	0.003	40.625		10	17331.854	32130	1871.625	1871.625	2.017	H1-1b*
62	MP106	PIPE_2.0	0.044	40.625	229	0.003	40.625		6	17331.854	32130	1871.625	1871.625	1.326	H1-1b*
63	MP108	PIPE_2.0	0.044	40.625	241	0.003	40.625		2	17331.854	32130	1871.625	1871.625	2.137	H1-1b*

Exhibit D

Mount & Structural Analysis Report

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**145 ft Monopole**
ATC Site Name	:	**Nepaug CT,CT**
ATC Site Number	:	**411182**
Engineering Number	:	**14099474_C3_03**
Proposed Carrier	:	**T-MOBILE**
Carrier Site Name	:	**Antolini - Verizon Colo**
Carrier Site Number	:	**CTNH411A**
Site Location	:	**20 Antolini Road** **New Hartford, CT 06057-3326** **41.8281, -73.0157**
County	:	**Litchfield**
Date	:	**May 26, 2022**
Max Usage	:	**64%**
Result	:	**Pass**

Prepared By:

Taylor Kellner
Structural Engineer I

Reviewed By:

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 145 ft Monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	EEI Project #8859 Rev. 2, dated March 30, 2001 Tower Mapping by TEP, Poject#05598, dated July 7, 2005
Foundation Drawing	URS Grenier Woodward Clyde Project #F301682.04, dated October 13, 2000
Geotechnical Report	Dr. Clarence Welti Site Location: 20 Antolini Road, New Hartford, CT., dated March 27, 2000
Mount Analysis	ATC Project #14099474_C8_01

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:	115 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 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 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 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
160.1	1	Generic 21' Omni	Flush	(2) 7/8" Coax	OTHER
159.7	1	RFS PD620-2			
142.0	1	RFS DB-C1-12C-24AB-0Z	T-Arm	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	1	VZW Unused Reserve (0 sqin)			
	6	JMA Wireless MX06FRO640-02			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung MT6407-77A			
	6	Amphenol Antel LPA-80040-4CF-EDIN-X			
139.8	3	Generic TTA			
114.0	1	Commscope RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	JMA Wireless MX08FRO665-21			
90.0	-	-	Triangular Low Profile Platform	-	Other
82.0	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)	Triangular Platform with Handrails	(1) 0.39" (10mm) Fiber Trunk (1) 0.45" (11.5mm) Fiber (5) 0.78" (19.7mm) 8 AWG 6 (2) 2" conduit (1) 3" conduit (12) 7/8" Coax	AT&T MOBILITY
	1	Raycap DC9-48-60-24-8C-EV			
	3	Powerwave Allgon 7770.00			
	4	CCI DMP65R-BU6DA			
	2	CCI DMP65R-BU8D			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	1	Raycap DC6-48-60-18-8F(32.8 lbs)			
	6	Powerwave Allgon LGP21401			
	3	Spinner 756529			
	6	Powerwave Allgon LGP21901			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
151.0	3	Ericsson 4460 BAND 2/25	-	(3) 1 5/8" (1.63"-41.3mm) Fiber (3) 1 ¼" Hybriflex Cable	SPRINT-NEXTEL
	3	Ericsson Radio 4480 B71+B85A			
	3	Ericsson Air6449 B41			
	3	Commscope VV-65A-R1			
	3	RFS APXVAALL24 43-U-NA20			
125.0	1	Generic E-911 GPS	T-Arm	(18) 1 5/8" Coax (1) 1/2" Coax	T-MOBILE
	3	RFS ATM1900D-1CWA			
	3	Commscope LNX-6515DS-A1M (43.7 lb)			
	6	RFS APX16DWV-16DWV-S-E-ACU			
	3	RFS ATMAA1412D-1A20			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
151.0	3	Ericsson 4460 BAND 2/25	Triangular Platform with Handrails	(3) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson 4480 BAND 71			
	3	Commscope VV-65A-R1B			
	3	Ericsson AIR 6419 B41			
	3	RFS APXVAALL24 43-U-NA20			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	32%	Pass
Shaft	58%	Pass
Base Plate	53%	Pass
Flanges	64%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3128.4	4223.3	2398.9	57%
Shear (Kips)	29.2	39.4	22.4	57%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
151.0	Ericsson 4460 BAND 2/25	T-MOBILE	1.729	1.460
	Ericsson 4480 BAND 71			
	RFS APXVAALL24 43-U-NA20			
	Ericsson AIR 6419 B41			
	Commscope VV-65A-R1B			

***Deflection 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.

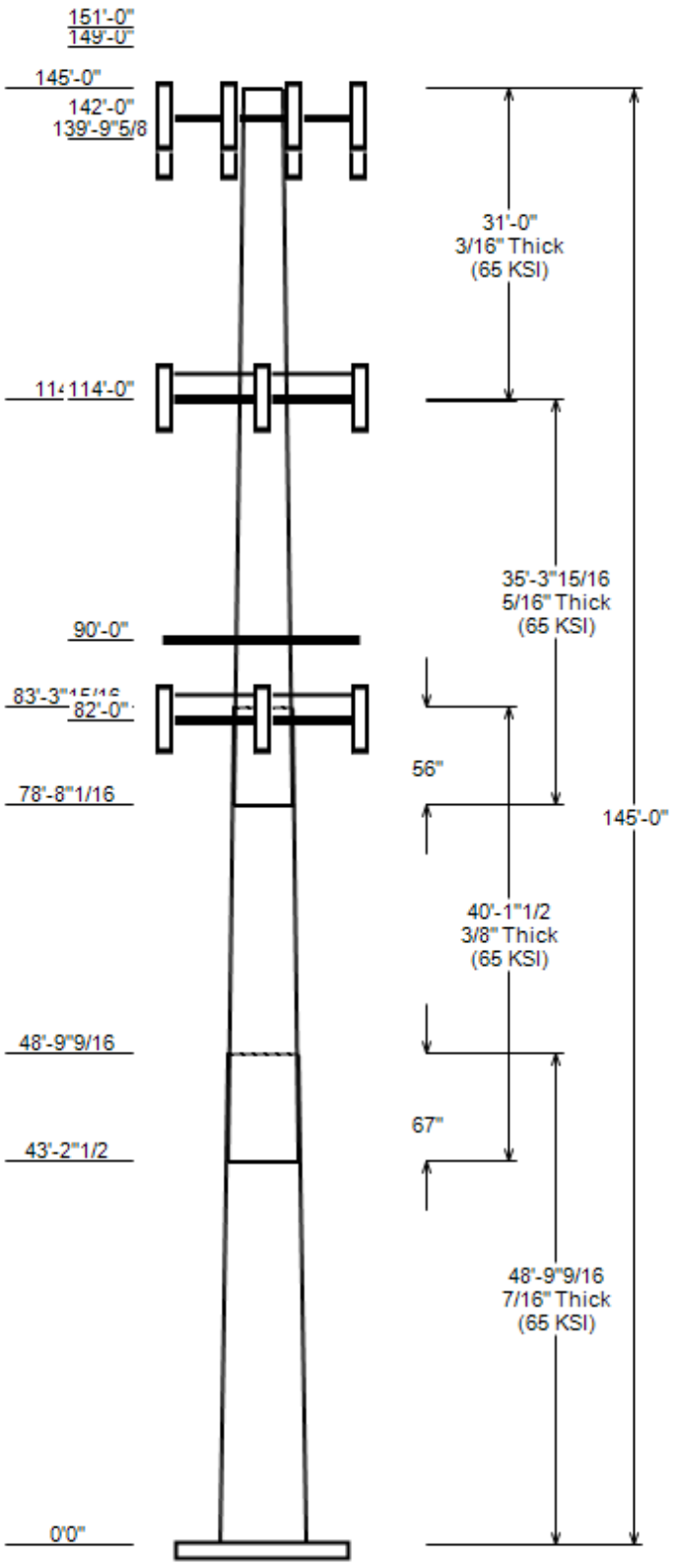
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with 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 :	411182, Nepaug CT	Height :	145 ft
Client :	T-MOBILE	Base Width :	49.75
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Nominal Wind: 115 mph wind with no ice **Topo Category:** 1

Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1

Base Elev (ft): 0.00 **Taper :** 0.22800(In/ft) **Topo Feature:**

Structure Class: II **Exposure :** B **S_s :** 0.174 **S_1** : 0.054

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	48.794	38.60	49.75	0.438		0.000	18 Sides	65
2	40.122	31.46	40.63	0.375	Slip Joint	67.060	18 Sides	65
3	35.328	25.08	33.15	0.312	Slip Joint	55.910	18 Sides	65
4	31.003	18.00	25.08	0.188	Butt Joint	0.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
160.1	160.1	1	Generic 21' Omni
159.7	159.7	1	RFS PD620-2
151.0	151.0	3	Ericsson 4460 BAND 2/25
151.0	151.0	3	Ericsson 4480 BAND 71
151.0	151.0	3	Commscope VV-65A-R1B
151.0	151.0	3	Ericsson AIR 6419 B41
151.0	151.0	3	RFS APXVAALL24 43-U-NA20
149.0	149.0	1	Generic Flat Platform with Han
142.0	142.0	1	VZW Unused Reserve (0 sqin)
142.0	142.0	3	Samsung B2/B66A RRH-BR049
142.0	142.0	3	Samsung B5/B13 RRH-BR04C
142.0	142.0	1	RFS DB-C1-12C-24AB-0Z
142.0	142.0	3	Samsung MT6407-77A
142.0	141.0	6	Amphenol Antel LPA-80040-4CF-E
142.0	142.0	3	Generic Round T-Arm
142.0	142.0	6	JMA Wireless MX06FRO640-02
139.8	139.8	3	Generic TTA
114.0	114.0	1	Commscope RDIDC-9181-PF-48
114.0	114.0	3	Fujitsu TA08025-B604
114.0	114.0	3	Fujitsu TA08025-B605
114.0	114.0	3	JMA Wireless MX08FRO665-21
114.0	114.0	1	Generic Round Platform with Ha
90.0	90.0	1	Generic Flat Low Profile Platf
82.0	82.0	3	Spinner 756529
82.0	82.0	6	Powerwave Allgon LGP21901
82.0	82.0	6	Powerwave Allgon LGP21401
82.0	82.0	1	Raycap DC6-48-60-18-8F(32.8 lb
82.0	82.0	3	Ericsson RRUS 4478 B14
82.0	82.0	3	Ericsson RRUS 4449 B5, B12
82.0	82.0	3	Ericsson Radio 8843 - B2 + B66
82.0	82.0	1	Raycap DC9-48-60-24-8C-EV
82.0	82.0	3	Powerwave Allgon 7770.00
82.0	82.0	4	CCI DMP65R-BU6DA
82.0	82.0	2	CCI DMP65R-BU8D
82.0	82.0	1	Generic Flat Platform with Han

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	160.0	7/8" Coax	No
0.0	151.0	1.99" (50.7mm) Hybrid	No
0.0	142.0	1 5/8" Hybriflex	No

© 2007 - 2020 by ATC LLC. All rights reserved.

JOB INFORMATION			
Asset :	411182, Nepaug CT	Height :	145 ft
Client :	T-MOBILE	Base Width :	49.75
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	142.0	1 5/8" Coax	No
0.0	141.0	1 5/8" Coax	No
0.0	114.0	1.60" (40.6mm) Hybrid	No
0.0	82.0	7/8" Coax	No
0.0	82.0	3" conduit	No
0.0	82.0	2" conduit	No
0.0	82.0	0.78" (19.7mm) 8 AWG 6	No
0.0	82.0	0.45" (11.5mm) Fiber	No
0.0	82.0	0.39" (10mm) Fiber Trunk	No

LOAD CASES

1.2D + 1.0W	115 mph wind with no ice
0.9D + 1.0W	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	2398.93	22.44	48.50
0.9D + 1.0W	2365.60	22.43	36.36
1.2D + 1.0Di + 1.0Wi	662.86	6.26	63.73
1.2D + 1.0Ev + 1.0Eh	146.61	1.22	48.34
0.9D - 1.0Ev + 1.0Eh	144.11	1.22	33.72
1.0D + 1.0W	579.39	5.46	40.44

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)

© 2007 - 2020 by ATC LLC. All rights reserved.

ANALYSIS PARAMETERS

Location:	Litchfield County,CT	**Height:**	145 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	49.75 in
Manufacturer:	EEI	**Top Diameter:**	18.00 in
K_d (non-service):	0.95	**Taper:**	0.2280 in/ft
K_e:	0.97	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed w/o Ice:**	115 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	744.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	2.50
T_L (sec):	6	**P:**	1	**C_s:**	0.030
S_s:	0.174	**S_1:**	0.054	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.186	**S_{d1}:**	0.086		

LOAD CASES

1.2D + 1.0W	115 mph wind with no ice
0.9D + 1.0W	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

©2007 - 2020 by ATC LLC. All rights reserved.

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	48.79	0.4375	65		0.00	10,084	49.75	-0.004	68.47	21,037.5	18.29	113.71	38.60	48.79	53.00	9,753.0	13.80	88.24	0.2284
2-18	40.12	0.3750	65	Slip	67.06	5,797	40.63	43.208	47.91	9,809.0	17.34	108.35	31.46	83.33	37.00	4,518.4	13.03	83.90	0.2284
3-18	35.33	0.3125	65	Slip	55.91	3,435	33.15	78.672	32.57	4,438.4	16.94	106.09	25.08	114.00	24.57	1,904.5	12.39	80.27	0.2284
								113.99								426.0			
4-18	31.00	0.1880	65	Butt	0.00	1,344	25.08	7	14.85	1,163.1	21.76	133.42	18.00	145.00	10.63		15.12	95.74	0.2284

Shaft Weight 20,660

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
160.10	Generic 21' Omni	1	1.00	0.000	70.00	6.300	1.00	174.95	11.242	1.00
159.70	RFS PD620-2	1	1.00	0.000	53.00	7.170	1.00	170.23	12.004	1.00
151.00	Commscope VV-65A-R1B	3	0.75	0.000	24.70	5.887	0.63	102.44	7.294	0.63
151.00	Ericsson AIR 6419 B41	3	0.75	0.000	83.30	6.322	0.63	183.96	7.447	0.63
151.00	Ericsson 4480 BAND 71	3	0.75	0.000	81.00	2.878	0.67	131.63	3.625	0.67
151.00	RFS APXVAALL24 43-U-NA20	3	0.75	0.000	122.80	20.243	0.63	381.85	22.710	0.63
151.00	Ericsson 4460 BAND 2/25	3	0.75	0.000	109.00	2.564	0.67	167.79	3.265	0.67
149.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3681.50	56.348	1.00
142.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	108.28	2.474	0.50
142.00	RFS DB-C1-12C-24AB-0Z	1	0.80	0.000	32.00	4.056	0.67	116.38	4.962	0.67
142.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	149.27	5.717	0.61
142.00	Generic Round T-Arm	3	0.75	0.000	312.50	9.700	0.67	485.94	15.173	0.67
142.00	JMA Wireless MX06FRO640-02	6	0.80	0.000	70.00	12.380	0.67	258.20	14.241	0.67
142.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	126.75	2.474	0.50
142.00	Amphenol Antel LPA-80040-4CF-E	6	0.80	-1.000	18.00	4.995	0.74	109.52	6.222	0.74
142.00	VZW Unused Reserve (0 sqin)	1	0.80	0.000	0.00	0.000	0.90	0.00	0.000	0.90
139.80	Generic TTA	3	0.80	0.000	10.00	1.200	0.50	33.85	1.681	0.50
114.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3552.74	43.088	1.00
114.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	231.55	14.316	0.64
114.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	115.72	2.560	0.50
114.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	58.89	2.452	1.00
114.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	101.80	2.560	0.50
90.00	Generic Flat Low Profile Platf	1	1.00	0.000	1875.00	26.100	1.00	2387.63	38.185	1.00
82.00	Powerwave Allgon LGP21901	6	0.75	0.000	5.50	0.200	0.50	10.32	0.401	0.50
82.00	Powerwave Allgon LGP21401	6	0.75	0.000	14.10	1.104	0.50	29.77	1.552	0.50
82.00	Raycap DC6-48-60-18-8F(32.8 lb	1	0.75	0.000	32.80	1.470	1.00	71.55	1.909	1.00
82.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.90	1.842	0.50	94.63	2.405	0.50
82.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	111.48	2.555	0.50
82.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	4.788	1.00	97.09	5.712	1.00
82.00	Powerwave Allgon 7770.00	3	0.75	0.000	35.00	5.508	0.65	106.40	6.843	0.65
82.00	CCI DMP65R-BU6DA	4	0.75	0.000	79.40	12.709	0.63	241.20	14.461	0.63
82.00	CCI DMP65R-BU8D	2	0.75	0.000	95.70	17.871	0.72	309.19	20.186	0.72
82.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3615.83	55.573	1.00
82.00	Spinner 756529	3	0.75	0.000	1.50	0.142	0.50	4.90	0.324	0.50
82.00	Ericsson Radio 8843 - B2 + B66	3	0.75	0.000	75.00	1.980	0.50	119.93	2.567	0.50
Totals	Num Loadings: 35	95			15,031.50			26,231.34		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	160.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	Other
0.00	151.00	3	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	0	N	T-MOBILE
0.00	142.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	142.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	141.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	114.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS
0.00	82.00	12	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	82.00	5	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	82.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY

©2007 - 2020 by ATC LLC. All rights reserved.

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	82.00	1	0.45" (11.5mm) Fiber	0.45	0.08	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	82.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	82.00	1	3" conduit	3.5	7.58	N	0	0	0	0	0	N	AT&T MOBILITY

©2007 - 2020 by ATC LLC. All rights reserved.

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	49.750	68.474	21,037.50	18.29	113.71	79.9	832.9	0.0	0.0
5.00		0.4375	48.608	66.888	19,609.20	17.83	111.10	80.4	794.6	0.0	1,151.5
10.00		0.4375	47.466	65.302	18,247.00	17.37	108.49	81	757.2	0.0	1,124.5
15.00		0.4375	46.323	63.716	16,949.50	16.91	105.88	81.5	720.7	0.0	1,097.5
20.00		0.4375	45.181	62.130	15,715.00	16.45	103.27	82.1	685.1	0.0	1,070.6
25.00		0.4375	44.039	60.544	14,541.90	15.99	100.66	82.6	650.4	0.0	1,043.6
30.00		0.4375	42.897	58.958	13,428.70	15.53	98.05	82.6	616.6	0.0	1,016.6
35.00		0.4375	41.754	57.371	12,373.80	15.07	95.44	82.6	583.7	0.0	989.6
40.00		0.4375	40.612	55.785	11,375.60	14.60	92.83	82.6	551.7	0.0	962.6
43.21	Bot - Section 2	0.4375	39.880	54.768	10,764.80	14.31	91.15	82.6	531.7	0.0	603.0
45.00		0.4375	39.470	54.199	10,432.70	14.14	90.22	82.6	520.6	0.0	623.7
48.79	Top - Section 1	0.3750	39.353	46.392	8,905.00	16.74	104.94	81.7	445.7	0.0	1,297.6
50.00		0.3750	39.078	46.064	8,717.60	16.61	104.21	81.9	439.4	0.0	189.7
55.00		0.3750	37.935	44.705	7,968.30	16.07	101.16	82.5	413.7	0.0	772.2
60.00		0.3750	36.793	43.345	7,263.20	15.54	98.11	82.6	388.8	0.0	749.0
65.00		0.3750	35.651	41.986	6,601.00	15.00	95.07	82.6	364.7	0.0	725.9
70.00		0.3750	34.509	40.626	5,980.30	14.46	92.02	82.6	341.3	0.0	702.8
75.00		0.3750	33.366	39.267	5,399.80	13.93	88.98	82.6	318.7	0.0	679.6
78.67	Bot - Section 3	0.3750	32.528	38.269	4,998.60	13.53	86.74	82.6	302.7	0.0	484.0
80.00		0.3750	32.224	37.907	4,858.10	13.39	85.93	82.6	296.9	0.0	319.3
82.00		0.3750	31.767	37.363	4,652.00	13.17	84.71	82.6	288.4	0.0	474.2
83.33	Top - Section 2	0.3125	32.089	31.517	4,020.70	16.34	102.68	82.2	246.8	0.0	311.2
85.00		0.3125	31.707	31.138	3,877.50	16.13	101.46	82.4	240.9	0.0	178.2
90.00		0.3125	30.565	30.005	3,469.50	15.48	97.81	82.6	223.6	0.0	520.1
95.00		0.3125	29.422	28.872	3,091.10	14.84	94.15	82.6	206.9	0.0	500.9
100.00		0.3125	28.280	27.739	2,741.30	14.19	90.50	82.6	190.9	0.0	481.6
105.00		0.3125	27.138	26.607	2,419.00	13.55	86.84	82.6	175.6	0.0	462.3
110.00		0.3125	25.996	25.474	2,123.00	12.90	83.19	82.6	160.9	0.0	443.0
114.00	Top - Section 3	0.3125	25.082	24.568	1,904.50	12.39	80.26	82.6	149.5	0.0	340.3
114.00	Bot - Section 4	0.1880	25.082	14.854	1,163.10	21.76	133.42	75.8	91.3	0.0	
114.00		0.1880	25.082	14.854	1,163.00	21.76	133.41	75.8	91.3	0.0	0.1
115.00		0.1880	24.853	14.718	1,131.30	21.55	132.20	76.1	89.7	0.0	50.3
120.00		0.1880	23.711	14.036	981.30	20.48	126.12	77.3	81.5	0.0	244.6
125.00		0.1880	22.569	13.355	845.20	19.40	120.05	78.6	73.8	0.0	233.0
130.00		0.1880	21.427	12.673	722.20	18.33	113.97	79.8	66.4	0.0	221.4
135.00		0.1880	20.284	11.991	611.90	17.26	107.90	81.1	59.4	0.0	209.8
139.80		0.1880	19.188	11.337	517.10	16.23	102.06	82.3	53.1	0.0	190.5
140.00		0.1880	19.142	11.310	513.40	16.19	101.82	82.4	52.8	0.0	7.7
142.00		0.1880	18.685	11.037	477.10	15.76	99.39	82.6	50.3	0.0	76.0
145.00		0.1880	18.000	10.628	426.00	15.12	95.74	82.6	46.6	0.0	110.6
									Totals:		20,659.1

©2007 - 2020 by ATC LLC. All rights reserved.

Load Case: 1.2D + 1.0W 115 mph wind with no ice 25 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.50	-22.44	0.00	-2,398.9	0.00	2,398.93	4,923.42	1,201.72	5,352.67	4,990.47	0	0	0.491
5.00	-46.79	-22.21	0.00	-2,286.7	0.00	2,286.72	4,841.97	1,173.88	5,107.60	4,793.23	0.08	-0.16	0.487
10.00	-45.13	-21.98	0.00	-2,175.7	0.00	2,175.67	4,758.98	1,146.05	4,868.28	4,598.35	0.34	-0.32	0.483
15.00	-43.49	-21.75	0.00	-2,065.8	0.00	2,065.77	4,674.44	1,118.21	4,634.70	4,405.95	0.76	-0.49	0.479
20.00	-41.89	-21.52	0.00	-1,957.0	0.00	1,957.03	4,588.36	1,090.38	4,406.86	4,216.14	1.36	-0.65	0.474
25.00	-40.31	-21.30	0.00	-1,849.4	0.00	1,849.41	4,498.09	1,062.54	4,184.76	4,026.66	2.14	-0.83	0.469
30.00	-38.78	-21.07	0.00	-1,742.9	0.00	1,742.92	4,380.25	1,034.71	3,968.40	3,817.43	3.1	-1	0.466
35.00	-37.27	-20.84	0.00	-1,637.6	0.00	1,637.57	4,262.41	1,006.87	3,757.79	3,613.78	4.24	-1.18	0.462
40.00	-35.81	-20.63	0.00	-1,533.4	0.00	1,533.38	4,144.58	979.03	3,552.92	3,415.71	5.58	-1.36	0.458
43.21	-34.89	-20.50	0.00	-1,467.2	0.00	1,467.25	4,069.02	961.19	3,424.59	3,291.65	6.54	-1.48	0.455
45.00	-34.02	-20.35	0.00	-1,430.5	0.00	1,430.47	4,026.74	951.20	3,353.79	3,223.22	7.11	-1.55	0.453
48.79	-32.24	-20.19	0.00	-1,353.2	0.00	1,353.24	3,411.63	814.18	2,866.55	2,731.35	8.4	-1.7	0.506
50.00	-31.91	-20.04	0.00	-1,328.9	0.00	1,328.90	3,393.84	808.42	2,826.18	2,697.72	8.84	-1.74	0.503
55.00	-30.66	-19.78	0.00	-1,228.7	0.00	1,228.69	3,319.09	784.57	2,661.85	2,559.69	10.77	-1.95	0.490
60.00	-29.45	-19.51	0.00	-1,129.8	0.00	1,129.78	3,220.32	760.71	2,502.44	2,407.25	12.93	-2.16	0.479
65.00	-28.26	-19.24	0.00	-1,032.2	0.00	1,032.21	3,119.32	736.85	2,347.95	2,257.87	15.31	-2.37	0.467
70.00	-27.10	-18.97	0.00	-936.0	0.00	936.00	3,018.31	712.99	2,198.38	2,113.27	17.91	-2.59	0.453
75.00	-25.98	-18.72	0.00	-841.2	0.00	841.15	2,917.31	689.13	2,053.73	1,973.46	20.73	-2.8	0.436
78.67	-25.19	-18.57	0.00	-772.5	0.00	772.46	2,843.19	671.62	1,950.71	1,873.90	22.95	-2.95	0.422
80.00	-24.72	-18.47	0.00	-747.8	0.00	747.75	2,816.31	665.27	1,914.01	1,838.43	23.78	-3.01	0.416
82.00	-19.54	-14.63	0.00	-710.8	0.00	710.82	2,775.90	655.73	1,859.49	1,785.76	25.06	-3.1	0.406
83.33	-19.13	-14.53	0.00	-691.4	0.00	691.39	2,331.02	553.12	1,587.63	1,521.08	25.93	-3.15	0.463
85.00	-18.84	-14.36	0.00	-667.1	0.00	667.09	2,310.11	546.48	1,549.70	1,489.14	27.04	-3.23	0.457
90.00	-15.86	-13.08	0.00	-595.3	0.00	595.31	2,229.24	526.59	1,439.00	1,384.22	30.54	-3.46	0.438
95.00	-15.11	-12.79	0.00	-529.9	0.00	529.93	2,145.07	506.71	1,332.40	1,281.15	34.29	-3.69	0.421
100.00	-14.37	-12.50	0.00	-466.0	0.00	466.00	2,060.90	486.83	1,229.90	1,182.06	38.27	-3.92	0.402
105.00	-13.67	-12.22	0.00	-403.5	0.00	403.50	1,976.73	466.94	1,131.51	1,086.97	42.49	-4.14	0.379
110.00	-12.99	-11.96	0.00	-342.4	0.00	342.41	1,892.56	447.06	1,037.22	995.86	46.95	-4.36	0.351
114.00	-12.47	-11.83	0.00	-294.6	0.00	294.60	1,825.27	431.17	964.78	925.89	50.67	-4.53	0.326
114.00	-8.86	-9.71	0.00	-294.6	0.00	294.57	1,013.41	260.69	586.14	519.24	50.67	-4.53	0.577
114.00	-12.47	-11.83	0.00	-294.6	0.00	294.60	1,013.43	260.69	586.17	519.26	50.67	-4.53	0.582
115.00	-8.76	-9.58	0.00	-284.9	0.00	284.86	1,007.45	258.29	575.44	511.41	51.63	-4.6	0.567
120.00	-8.32	-9.33	0.00	-237.0	0.00	236.97	976.71	246.33	523.38	472.67	56.62	-4.93	0.511
125.00	-7.91	-9.08	0.00	-190.3	0.00	190.33	944.43	234.37	473.79	434.68	61.95	-5.24	0.448
130.00	-7.51	-8.84	0.00	-144.9	0.00	144.92	910.60	222.41	426.67	397.54	67.59	-5.52	0.374
135.00	-7.14	-8.60	0.00	-100.7	0.00	100.72	875.23	210.45	382.02	361.37	73.5	-5.77	0.289
139.80	-6.77	-8.41	0.00	-59.4	0.00	59.43	839.81	198.97	341.47	327.65	79.39	-5.94	0.191
140.00	-6.76	-8.36	0.00	-57.7	0.00	57.74	838.31	198.49	339.83	326.27	79.63	-5.95	0.187
142.00	-4.34	-4.76	0.00	-41.0	0.00	41.02	820.01	193.70	323.65	311.38	82.14	-6.01	0.138
145.00	0.00	-4.28	0.00	-26.7	0.00	26.72	789.63	186.53	300.11	288.62	85.92	-6.07	0.093

©2007 - 2020 by ATC LLC. All rights reserved.

Load Case: 0.9D + 1.0W 115 mph wind with no ice 24 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-36.36	-22.43	0.00	-2,365.6	0.00	2,365.60	4,923.42	1,201.72	5,352.67	4,990.47	0	0	0.482
5.00	-35.07	-22.16	0.00	-2,253.5	0.00	2,253.47	4,841.97	1,173.88	5,107.60	4,793.23	0.08	-0.16	0.478
10.00	-33.81	-21.89	0.00	-2,142.7	0.00	2,142.68	4,758.98	1,146.05	4,868.28	4,598.35	0.33	-0.32	0.473
15.00	-32.57	-21.64	0.00	-2,033.2	0.00	2,033.21	4,674.44	1,118.21	4,634.70	4,405.95	0.75	-0.48	0.469
20.00	-31.35	-21.38	0.00	-1,925.0	0.00	1,925.04	4,588.36	1,090.38	4,406.86	4,216.14	1.34	-0.64	0.464
25.00	-30.16	-21.13	0.00	-1,818.1	0.00	1,818.14	4,498.09	1,062.54	4,184.76	4,026.66	2.11	-0.81	0.459
30.00	-28.99	-20.88	0.00	-1,712.5	0.00	1,712.50	4,380.25	1,034.71	3,968.40	3,817.43	3.05	-0.99	0.456
35.00	-27.85	-20.62	0.00	-1,608.1	0.00	1,608.13	4,262.41	1,006.87	3,757.79	3,613.78	4.18	-1.16	0.452
40.00	-26.74	-20.39	0.00	-1,505.0	0.00	1,505.05	4,144.58	979.03	3,552.92	3,415.71	5.49	-1.34	0.448
43.21	-26.05	-20.25	0.00	-1,439.7	0.00	1,439.68	4,069.02	961.19	3,424.59	3,291.65	6.43	-1.46	0.444
45.00	-25.39	-20.10	0.00	-1,403.3	0.00	1,403.34	4,026.74	951.20	3,353.79	3,223.22	7	-1.53	0.442
48.79	-24.04	-19.93	0.00	-1,327.1	0.00	1,327.09	3,411.63	814.18	2,866.55	2,731.35	8.27	-1.67	0.494
50.00	-23.79	-19.77	0.00	-1,303.1	0.00	1,303.07	3,393.84	808.42	2,826.18	2,697.72	8.69	-1.71	0.491
55.00	-22.84	-19.48	0.00	-1,204.2	0.00	1,204.24	3,319.09	784.57	2,661.85	2,559.69	10.6	-1.92	0.478
60.00	-21.92	-19.20	0.00	-1,106.8	0.00	1,106.81	3,220.32	760.71	2,502.44	2,407.25	12.72	-2.13	0.467
65.00	-21.01	-18.91	0.00	-1,010.8	0.00	1,010.82	3,119.32	736.85	2,347.95	2,257.87	15.06	-2.33	0.455
70.00	-20.14	-18.62	0.00	-916.3	0.00	916.26	3,018.31	712.99	2,198.38	2,113.27	17.61	-2.54	0.441
75.00	-19.29	-18.37	0.00	-823.2	0.00	823.15	2,917.31	689.13	2,053.73	1,973.46	20.38	-2.75	0.424
78.67	-18.68	-18.21	0.00	-755.8	0.00	755.77	2,843.19	671.62	1,950.71	1,873.90	22.55	-2.9	0.411
80.00	-18.33	-18.11	0.00	-731.5	0.00	731.54	2,816.31	665.27	1,914.01	1,838.43	23.37	-2.96	0.405
82.00	-14.49	-14.34	0.00	-695.3	0.00	695.32	2,775.90	655.73	1,859.49	1,785.76	24.63	-3.04	0.395
83.33	-14.17	-14.24	0.00	-676.3	0.00	676.28	2,331.02	553.12	1,587.63	1,521.08	25.48	-3.1	0.451
85.00	-13.96	-14.06	0.00	-652.5	0.00	652.48	2,310.11	546.48	1,549.70	1,489.14	26.58	-3.17	0.445
90.00	-11.73	-12.80	0.00	-582.2	0.00	582.20	2,229.24	526.59	1,439.00	1,384.22	30.01	-3.39	0.426
95.00	-11.15	-12.51	0.00	-518.2	0.00	518.20	2,145.07	506.71	1,332.40	1,281.15	33.68	-3.62	0.410
100.00	-10.59	-12.22	0.00	-455.7	0.00	455.66	2,060.90	486.83	1,229.90	1,182.06	37.59	-3.84	0.391
105.00	-10.06	-11.93	0.00	-394.6	0.00	394.57	1,976.73	466.94	1,131.51	1,086.97	41.73	-4.06	0.369
110.00	-9.55	-11.68	0.00	-334.9	0.00	334.91	1,892.56	447.06	1,037.22	995.86	46.1	-4.28	0.342
114.00	-9.16	-11.55	0.00	-288.2	0.00	288.24	1,825.27	431.17	964.78	925.89	49.75	-4.44	0.317
114.00	-6.48	-9.51	0.00	-288.2	0.00	288.21	1,013.41	260.69	586.14	519.24	49.75	-4.44	0.563
114.00	-9.16	-11.55	0.00	-288.2	0.00	288.24	1,013.43	260.69	586.17	519.26	49.75	-4.44	0.566
115.00	-6.40	-9.37	0.00	-278.7	0.00	278.70	1,007.45	258.29	575.44	511.41	50.69	-4.51	0.553
120.00	-6.07	-9.11	0.00	-231.9	0.00	231.86	976.71	246.33	523.38	472.67	55.58	-4.83	0.498
125.00	-5.75	-8.87	0.00	-186.3	0.00	186.28	944.43	234.37	473.79	434.68	60.8	-5.14	0.436
130.00	-5.45	-8.62	0.00	-142.0	0.00	141.95	910.60	222.41	426.67	397.54	66.33	-5.41	0.365
135.00	-5.17	-8.39	0.00	-98.8	0.00	98.83	875.23	210.45	382.02	361.37	72.12	-5.65	0.281
139.80	-4.90	-8.20	0.00	-58.6	0.00	58.57	839.81	198.97	341.47	327.65	77.89	-5.83	0.186
140.00	-4.89	-8.16	0.00	-56.9	0.00	56.93	838.31	198.49	339.83	326.27	78.14	-5.83	0.182
142.00	-3.15	-4.63	0.00	-40.6	0.00	40.62	820.01	193.70	323.65	311.38	80.59	-5.89	0.135
145.00	0.00	-4.28	0.00	-26.7	0.00	26.72	789.63	186.53	300.11	288.62	84.3	-5.95	0.093

©2007 - 2020 by ATC LLC. All rights reserved.

Load Case: 1.2D + 1.0Di + 1.0Wi		50 mph wind with 1" radial ice			24 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-63.73	-6.26	0.00	-662.9	0.00	662.86	4,923.42	1,201.72	5,352.67	4,990.47	0	0	0.146
5.00	-61.85	-6.19	0.00	-631.6	0.00	631.55	4,841.97	1,173.88	5,107.60	4,793.23	0.02	-0.04	0.145
10.00	-59.98	-6.12	0.00	-600.6	0.00	600.59	4,758.98	1,146.05	4,868.28	4,598.35	0.09	-0.09	0.143
15.00	-58.13	-6.06	0.00	-570.0	0.00	569.97	4,674.44	1,118.21	4,634.70	4,405.95	0.21	-0.13	0.142
20.00	-56.31	-5.99	0.00	-539.7	0.00	539.70	4,588.36	1,090.38	4,406.86	4,216.14	0.38	-0.18	0.140
25.00	-54.52	-5.92	0.00	-509.8	0.00	509.76	4,498.09	1,062.54	4,184.76	4,026.66	0.59	-0.23	0.139
30.00	-52.77	-5.85	0.00	-480.2	0.00	480.15	4,380.25	1,034.71	3,968.40	3,817.43	0.86	-0.28	0.138
35.00	-51.05	-5.78	0.00	-450.9	0.00	450.89	4,262.41	1,006.87	3,757.79	3,613.78	1.17	-0.33	0.137
40.00	-49.37	-5.72	0.00	-422.0	0.00	421.98	4,144.58	979.03	3,552.92	3,415.71	1.54	-0.38	0.135
43.21	-48.31	-5.68	0.00	-403.6	0.00	403.64	4,069.02	961.19	3,424.59	3,291.65	1.8	-0.41	0.135
45.00	-47.37	-5.64	0.00	-393.4	0.00	393.45	4,026.74	951.20	3,353.79	3,223.22	1.96	-0.43	0.134
48.79	-45.42	-5.59	0.00	-372.1	0.00	372.06	3,411.63	814.18	2,866.55	2,731.35	2.32	-0.47	0.150
50.00	-45.06	-5.54	0.00	-365.3	0.00	365.32	3,393.84	808.42	2,826.18	2,697.72	2.44	-0.48	0.149
55.00	-43.62	-5.46	0.00	-337.6	0.00	337.60	3,319.09	784.57	2,661.85	2,559.69	2.97	-0.54	0.145
60.00	-42.20	-5.38	0.00	-310.3	0.00	310.28	3,220.32	760.71	2,502.44	2,407.25	3.57	-0.6	0.142
65.00	-40.83	-5.30	0.00	-283.4	0.00	283.36	3,119.32	736.85	2,347.95	2,257.87	4.22	-0.65	0.139
70.00	-39.48	-5.22	0.00	-256.8	0.00	256.85	3,018.31	712.99	2,198.38	2,113.27	4.94	-0.71	0.135
75.00	-38.17	-5.14	0.00	-230.8	0.00	230.77	2,917.31	689.13	2,053.73	1,973.46	5.71	-0.77	0.130
78.67	-37.23	-5.09	0.00	-211.9	0.00	211.90	2,843.19	671.62	1,950.71	1,873.90	6.32	-0.81	0.126
80.00	-36.71	-5.06	0.00	-205.1	0.00	205.12	2,816.31	665.27	1,914.01	1,838.43	6.55	-0.83	0.125
82.00	-28.95	-4.11	0.00	-195.0	0.00	195.00	2,775.90	655.73	1,859.49	1,785.76	6.9	-0.85	0.120
83.33	-28.48	-4.08	0.00	-189.5	0.00	189.54	2,331.02	553.12	1,587.63	1,521.08	7.14	-0.87	0.137
85.00	-28.15	-4.03	0.00	-182.7	0.00	182.71	2,310.11	546.48	1,549.70	1,489.14	7.45	-0.89	0.135
90.00	-24.54	-3.65	0.00	-162.6	0.00	162.58	2,229.24	526.59	1,439.00	1,384.22	8.42	-0.95	0.129
95.00	-23.59	-3.56	0.00	-144.3	0.00	144.31	2,145.07	506.71	1,332.40	1,281.15	9.44	-1.01	0.124
100.00	-22.68	-3.47	0.00	-126.5	0.00	126.51	2,060.90	486.83	1,229.90	1,182.06	10.54	-1.08	0.118
105.00	-21.80	-3.38	0.00	-109.2	0.00	109.16	1,976.73	466.94	1,131.51	1,086.97	11.7	-1.14	0.112
110.00	-20.95	-3.30	0.00	-92.3	0.00	92.26	1,892.56	447.06	1,037.22	995.86	12.92	-1.2	0.104
114.00	-20.29	-3.25	0.00	-79.1	0.00	79.09	1,825.27	431.17	964.78	925.89	13.94	-1.24	0.097
114.00	-15.12	-2.66	0.00	-79.1	0.00	79.09	1,013.41	260.69	586.14	519.24	13.95	-1.24	0.167
114.00	-20.29	-3.25	0.00	-79.1	0.00	79.09	1,013.43	260.69	586.17	519.26	13.94	-1.24	0.172
115.00	-15.00	-2.61	0.00	-76.4	0.00	76.43	1,007.45	258.29	575.44	511.41	14.21	-1.26	0.164
120.00	-14.41	-2.53	0.00	-63.4	0.00	63.36	976.71	246.33	523.38	472.67	15.58	-1.35	0.149
125.00	-13.85	-2.45	0.00	-50.7	0.00	50.70	944.43	234.37	473.79	434.68	17.03	-1.43	0.131
130.00	-13.31	-2.37	0.00	-38.4	0.00	38.44	910.60	222.41	426.67	397.54	18.58	-1.51	0.111
135.00	-12.79	-2.29	0.00	-26.6	0.00	26.59	875.23	210.45	382.02	361.37	20.19	-1.57	0.088
139.80	-12.22	-2.23	0.00	-15.6	0.00	15.60	839.81	198.97	341.47	327.65	21.79	-1.62	0.062
140.00	-12.20	-2.21	0.00	-15.2	0.00	15.15	838.31	198.49	339.83	326.27	21.86	-1.62	0.061
142.00	-7.26	-1.27	0.00	-10.7	0.00	10.73	820.01	193.70	323.65	311.38	22.54	-1.63	0.043
145.00	0.00	-1.06	0.00	-6.9	0.00	6.93	789.63	186.53	300.11	288.62	23.58	-1.65	0.024

©2007 - 2020 by ATC LLC. All rights reserved.

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 23 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-40.44	-5.46	0.00	-579.4	0.00	579.39	4,923.42	1,201.72	5,352.67	4,990.47	0	0	0.124
5.00	-39.07	-5.40	0.00	-552.1	0.00	552.08	4,841.97	1,173.88	5,107.60	4,793.23	0.02	-0.04	0.123
10.00	-37.72	-5.34	0.00	-525.1	0.00	525.08	4,758.98	1,146.05	4,868.28	4,598.35	0.08	-0.08	0.122
15.00	-36.41	-5.28	0.00	-498.4	0.00	498.38	4,674.44	1,118.21	4,634.70	4,405.95	0.18	-0.12	0.121
20.00	-35.12	-5.22	0.00	-472.0	0.00	471.99	4,588.36	1,090.38	4,406.86	4,216.14	0.33	-0.16	0.120
25.00	-33.86	-5.16	0.00	-445.9	0.00	445.90	4,498.09	1,062.54	4,184.76	4,026.66	0.52	-0.2	0.118
30.00	-32.62	-5.10	0.00	-420.1	0.00	420.10	4,380.25	1,034.71	3,968.40	3,817.43	0.75	-0.24	0.118
35.00	-31.41	-5.04	0.00	-394.6	0.00	394.60	4,262.41	1,006.87	3,757.79	3,613.78	1.02	-0.28	0.117
40.00	-30.23	-4.99	0.00	-369.4	0.00	369.40	4,144.58	979.03	3,552.92	3,415.71	1.35	-0.33	0.115
43.21	-29.49	-4.95	0.00	-353.4	0.00	353.42	4,069.02	961.19	3,424.59	3,291.65	1.58	-0.36	0.115
45.00	-28.79	-4.92	0.00	-344.5	0.00	344.53	4,026.74	951.20	3,353.79	3,223.22	1.71	-0.37	0.114
48.79	-27.32	-4.88	0.00	-325.9	0.00	325.88	3,411.63	814.18	2,866.55	2,731.35	2.03	-0.41	0.127
50.00	-27.08	-4.84	0.00	-320.0	0.00	320.00	3,393.84	808.42	2,826.18	2,697.72	2.13	-0.42	0.127
55.00	-26.09	-4.77	0.00	-295.8	0.00	295.81	3,319.09	784.57	2,661.85	2,559.69	2.6	-0.47	0.123
60.00	-25.12	-4.70	0.00	-272.0	0.00	271.95	3,220.32	760.71	2,502.44	2,407.25	3.12	-0.52	0.121
65.00	-24.18	-4.64	0.00	-248.4	0.00	248.43	3,119.32	736.85	2,347.95	2,257.87	3.69	-0.57	0.118
70.00	-23.25	-4.57	0.00	-225.2	0.00	225.24	3,018.31	712.99	2,198.38	2,113.27	4.32	-0.62	0.114
75.00	-22.36	-4.51	0.00	-202.4	0.00	202.41	2,917.31	689.13	2,053.73	1,973.46	5	-0.67	0.110
78.67	-21.71	-4.47	0.00	-185.9	0.00	185.87	2,843.19	671.62	1,950.71	1,873.90	5.53	-0.71	0.107
80.00	-21.34	-4.44	0.00	-179.9	0.00	179.93	2,816.31	665.27	1,914.01	1,838.43	5.73	-0.73	0.105
82.00	-16.88	-3.52	0.00	-171.0	0.00	171.04	2,775.90	655.73	1,859.49	1,785.76	6.04	-0.75	0.102
83.33	-16.54	-3.50	0.00	-166.4	0.00	166.36	2,331.02	553.12	1,587.63	1,521.08	6.25	-0.76	0.117
85.00	-16.33	-3.45	0.00	-160.5	0.00	160.52	2,310.11	546.48	1,549.70	1,489.14	6.52	-0.78	0.115
90.00	-13.83	-3.15	0.00	-143.2	0.00	143.25	2,229.24	526.59	1,439.00	1,384.22	7.36	-0.83	0.110
95.00	-13.22	-3.07	0.00	-127.5	0.00	127.53	2,145.07	506.71	1,332.40	1,281.15	8.27	-0.89	0.106
100.00	-12.63	-3.00	0.00	-112.2	0.00	112.16	2,060.90	486.83	1,229.90	1,182.06	9.23	-0.94	0.101
105.00	-12.06	-2.94	0.00	-97.1	0.00	97.13	1,976.73	466.94	1,131.51	1,086.97	10.24	-1	0.096
110.00	-11.51	-2.87	0.00	-82.4	0.00	82.45	1,892.56	447.06	1,037.22	995.86	11.32	-1.05	0.089
114.00	-11.09	-2.84	0.00	-71.0	0.00	70.97	1,825.27	431.17	964.78	925.89	12.22	-1.09	0.083
114.00	-7.96	-2.34	0.00	-71.0	0.00	70.96	1,013.41	260.69	586.14	519.24	12.22	-1.09	0.145
114.00	-11.09	-2.84	0.00	-71.0	0.00	70.97	1,013.43	260.69	586.17	519.26	12.22	-1.09	0.148
115.00	-7.89	-2.31	0.00	-68.6	0.00	68.62	1,007.45	258.29	575.44	511.41	12.45	-1.11	0.142
120.00	-7.55	-2.24	0.00	-57.1	0.00	57.09	976.71	246.33	523.38	472.67	13.65	-1.19	0.129
125.00	-7.22	-2.19	0.00	-45.9	0.00	45.87	944.43	234.37	473.79	434.68	14.94	-1.26	0.113
130.00	-6.91	-2.13	0.00	-34.9	0.00	34.94	910.60	222.41	426.67	397.54	16.3	-1.33	0.096
135.00	-6.60	-2.07	0.00	-24.3	0.00	24.31	875.23	210.45	382.02	361.37	17.72	-1.39	0.075
139.80	-6.29	-2.02	0.00	-14.4	0.00	14.37	839.81	198.97	341.47	327.65	19.14	-1.43	0.051
140.00	-6.28	-2.01	0.00	-14.0	0.00	13.97	838.31	198.49	339.83	326.27	19.2	-1.43	0.050
142.00	-3.99	-1.14	0.00	-9.9	0.00	9.94	820.01	193.70	323.65	311.38	19.81	-1.45	0.037
145.00	0.00	-1.04	0.00	-6.5	0.00	6.51	789.63	186.53	300.11	288.62	20.72	-1.46	0.023

©2007 - 2020 by ATC LLC. All rights reserved.

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.174
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.186
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	2.500
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	40.440 k
Seismic Base Shear (E):	1.210 k

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	143.5	130	2,670	0.008	10	160
37	141	109	2,162	0.007	8	135
36	139.9	11	224	0.001	1	14
35	137.4	281	5,300	0.017	20	347
34	132.5	304	5,334	0.017	20	376
33	127.5	315	5,127	0.016	20	390
32	122.5	327	4,907	0.016	19	405
31	117.5	339	4,675	0.015	18	419
30	114.5	69	906	0.003	3	86
29	113.9987	0	2	0.000	0	0
28	111.9987	425	5,329	0.017	20	526
27	107.5	549	6,341	0.020	24	679
26	102.5	568	5,968	0.019	23	703
25	97.5	587	5,583	0.018	21	727
24	92.5	607	5,190	0.016	20	750
23	87.5	626	4,792	0.015	18	774
22	84.1641	214	1,513	0.005	6	264
21	82.6641	339	2,318	0.007	9	420
20	81	560	3,676	0.012	14	693
19	79.3347	377	2,370	0.008	9	466
18	76.8347	642	3,791	0.012	14	794
17	72.5	895	4,704	0.015	18	1,107
16	67.5	918	4,183	0.013	16	1,136
15	62.5	941	3,677	0.012	14	1,164
14	57.5	964	3,188	0.010	12	1,193
13	52.5	988	2,722	0.009	10	1,222
12	49.3972	242	589	0.002	2	299
11	46.8972	1,461	3,213	0.010	12	1,808
10	44.1029	701	1,363	0.004	5	867
9	41.6029	741	1,283	0.004	5	917
8	37.5	1,178	1,657	0.005	6	1,457
7	32.5	1,205	1,273	0.004	5	1,491
6	27.5	1,232	932	0.003	4	1,524
5	22.5	1,259	637	0.002	2	1,557

©2007 - 2020 by ATC LLC. All rights reserved.

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
4	17.5	1,286	394	0.001	2	1,591
3	12.5	1,313	205	0.001	1	1,624
2	7.5	1,340	75	0.000	0	1,658
1	2.5	1,367	9	0.000	0	1,691
Generic 21' Omni	145	70	1,472	0.005	6	87
RFS PD620-2	145	53	1,114	0.004	4	66
Ericsson 4460 BAND 2/25	145	327	6,875	0.022	26	405
Ericsson 4480 BAND 71	145	243	5,109	0.016	20	301
Commscope VV-65A-R1B	145	74	1,558	0.005	6	92
Ericsson AIR 6419 B41	145	250	5,254	0.017	20	309
RFS APXVAALL24 43-U-NA20	145	368	7,746	0.024	30	456
Generic Flat Platform with Handrails	145	2,500	52,562	0.166	201	3,093
Generic Flat Platform with Handrails	82	2,500	16,810	0.053	64	3,093
VZW Unused Reserve (0 sqin)	142	0	0	0.000	0	0
Samsung B2/B66A RRH-BR049	142	253	5,106	0.016	20	313
Samsung B5/B13 RRH-BR04C	142	211	4,253	0.013	16	261
RFS DB-C1-12C-24AB-0Z	142	32	645	0.002	2	40
Samsung MT6407-77A	142	245	4,936	0.016	19	303
Amphenol Antel LPA-80040-4CF-EDIN-X	142	108	2,178	0.007	8	134
Generic Round T-Arm	142	938	18,904	0.060	72	1,160
JMA Wireless MX06FRO640-02	142	420	8,469	0.027	32	520
Generic TTA	139.8	30	586	0.002	2	37
Commscope RDIDC-9181-PF-48	114	22	285	0.001	1	27
Fujitsu TA08025-B604	114	192	2,491	0.008	10	237
Fujitsu TA08025-B605	114	225	2,924	0.009	11	278
JMA Wireless MX08FRO665-21	114	194	2,515	0.008	10	239
Generic Round Platform with Handrails	114	2,500	32,490	0.102	124	3,093
Generic Flat Low Profile Platform	90	1,875	15,188	0.048	58	2,320
Spinner 756529	82	4	30	0.000	0	6
Powerwave Allgon LGP21901	82	33	222	0.001	1	41
Powerwave Allgon LGP21401	82	85	569	0.002	2	105
Raycap DC6-48-60-18-8F(32.8 lbs)	82	33	221	0.001	1	41
Ericsson RRUS 4478 B14	82	180	1,208	0.004	5	222
Ericsson RRUS 4449 B5, B12	82	213	1,432	0.004	5	264
Ericsson Radio 8843 - B2 + B66A (w/ protruding items)	82	225	1,513	0.005	6	278
Raycap DC9-48-60-24-8C-EV	82	16	108	0.000	0	20
Powerwave Allgon 7770.00	82	105	706	0.002	3	130
CCI DMP65R-BU6DA	82	318	2,136	0.007	8	393
CCI DMP65R-BU8D	82	191	1,287	0.004	5	237
		40,440	317,184	1.000	1,213	50,029

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	143.5	130	2,670	0.008	10	112
37	141	109	2,162	0.007	8	94
36	139.9	11	224	0.001	1	10
35	137.4	281	5,300	0.017	20	242
34	132.5	304	5,334	0.017	20	262
33	127.5	315	5,127	0.016	20	272
32	122.5	327	4,907	0.016	19	282
31	117.5	339	4,675	0.015	18	292
30	114.5	69	906	0.003	3	60
29	113.9987	0	2	0.000	0	0
28	111.9987	425	5,329	0.017	20	367
27	107.5	549	6,341	0.020	24	473
26	102.5	568	5,968	0.019	23	490
25	97.5	587	5,583	0.018	21	507
24	92.5	607	5,190	0.016	20	523
23	87.5	626	4,792	0.015	18	540
22	84.1641	214	1,513	0.005	6	184

©2007 - 2020 by ATC LLC. All rights reserved.

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
21	82.6641	339	2,318	0.007	9	293
20	81	560	3,676	0.012	14	484
19	79.3347	377	2,370	0.008	9	325
18	76.8347	642	3,791	0.012	14	554
17	72.5	895	4,704	0.015	18	772
16	67.5	918	4,183	0.013	16	792
15	62.5	941	3,677	0.012	14	812
14	57.5	964	3,188	0.010	12	832
13	52.5	988	2,722	0.009	10	852
12	49.3972	242	589	0.002	2	208
11	46.8972	1,461	3,213	0.010	12	1,261
10	44.1029	701	1,363	0.004	5	605
9	41.6029	741	1,283	0.004	5	639
8	37.5	1,178	1,657	0.005	6	1,016
7	32.5	1,205	1,273	0.004	5	1,040
6	27.5	1,232	932	0.003	4	1,063
5	22.5	1,259	637	0.002	2	1,086
4	17.5	1,286	394	0.001	2	1,110
3	12.5	1,313	205	0.001	1	1,133
2	7.5	1,340	75	0.000	0	1,156
1	2.5	1,367	9	0.000	0	1,179
Generic 21' Omni	145	70	1,472	0.005	6	60
RFS PD620-2	145	53	1,114	0.004	4	46
Ericsson 4460 BAND 2/25	145	327	6,875	0.022	26	282
Ericsson 4480 BAND 71	145	243	5,109	0.016	20	210
Commscope VV-65A-R1B	145	74	1,558	0.005	6	64
Ericsson AIR 6419 B41	145	250	5,254	0.017	20	216
RFS APXVAALL24 43-U-NA20	145	368	7,746	0.024	30	318
Generic Flat Platform with Handrails	145	2,500	52,562	0.166	201	2,157
Generic Flat Platform with Handrails	82	2,500	16,810	0.053	64	2,157
VZW Unused Reserve (0 sqin)	142	0	0	0.000	0	0
Samsung B2/B66A RRH-BR049	142	253	5,106	0.016	20	218
Samsung B5/B13 RRH-BR04C	142	211	4,253	0.013	16	182
RFS DB-C1-12C-24AB-0Z	142	32	645	0.002	2	28
Samsung MT6407-77A	142	245	4,936	0.016	19	211
Amphenol Antel LPA-80040-4CF-EDIN-X	142	108	2,178	0.007	8	93
Generic Round T-Arm	142	938	18,904	0.060	72	809
JMA Wireless MX06FRO640-02	142	420	8,469	0.027	32	362
Generic TTA	139.8	30	586	0.002	2	26
Commscope RDIDC-9181-PF-48	114	22	285	0.001	1	19
Fujitsu TA08025-B604	114	192	2,491	0.008	10	165
Fujitsu TA08025-B605	114	225	2,924	0.009	11	194
JMA Wireless MX08FRO665-21	114	194	2,515	0.008	10	167
Generic Round Platform with Handrails	114	2,500	32,490	0.102	124	2,157
Generic Flat Low Profile Platform	90	1,875	15,188	0.048	58	1,618
Spinner 756529	82	4	30	0.000	0	4
Powerwave Allgon LGP21901	82	33	222	0.001	1	28
Powerwave Allgon LGP21401	82	85	569	0.002	2	73
Raycap DC6-48-60-18-8F(32.8 lbs)	82	33	221	0.001	1	28
Ericsson RRUS 4478 B14	82	180	1,208	0.004	5	155
Ericsson RRUS 4449 B5, B12	82	213	1,432	0.004	5	184
Ericsson Radio 8843 - B2 + B66A (w/ protruding items)	82	225	1,513	0.005	6	194
Raycap DC9-48-60-24-8C-EV	82	16	108	0.000	0	14
Powerwave Allgon 7770.00	82	105	706	0.002	3	91
CCI DMP65R-BU6DA	82	318	2,136	0.007	8	274
CCI DMP65R-BU8D	82	191	1,287	0.004	5	165
		40,440	317,184	1.000	1,213	34,895

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio

©2007 - 2020 by ATC LLC. All rights reserved.

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.34	-1.22	0.00	-146.61	0.00	146.61	4,923.42	1,201.72	5,353	4,990.47	0.00	0.00	0.04
5.00	-46.68	-1.22	0.00	-140.53	0.00	140.53	4,841.97	1,173.88	5,108	4,793.23	0.01	-0.01	0.04
10.00	-45.06	-1.23	0.00	-134.41	0.00	134.41	4,758.98	1,146.05	4,868	4,598.35	0.02	-0.02	0.04
15.00	-43.46	-1.24	0.00	-128.25	0.00	128.25	4,674.44	1,118.21	4,635	4,405.95	0.05	-0.03	0.04
20.00	-41.91	-1.24	0.00	-122.07	0.00	122.07	4,588.36	1,090.38	4,407	4,216.14	0.08	-0.04	0.04
25.00	-40.38	-1.24	0.00	-115.87	0.00	115.87	4,498.09	1,062.54	4,185	4,026.66	0.13	-0.05	0.04
30.00	-38.89	-1.25	0.00	-109.65	0.00	109.65	4,380.25	1,034.71	3,968	3,817.43	0.19	-0.06	0.04
35.00	-37.43	-1.24	0.00	-103.42	0.00	103.42	4,262.41	1,006.87	3,758	3,613.78	0.26	-0.07	0.04
40.00	-36.52	-1.24	0.00	-97.20	0.00	97.20	4,144.58	979.03	3,553	3,415.71	0.35	-0.09	0.04
43.21	-35.65	-1.24	0.00	-93.21	0.00	93.21	4,069.02	961.19	3,425	3,291.65	0.41	-0.09	0.04
45.00	-33.84	-1.23	0.00	-90.98	0.00	90.98	4,026.74	951.20	3,354	3,223.22	0.44	-0.10	0.04
48.79	-33.54	-1.23	0.00	-86.32	0.00	86.32	3,411.63	814.18	2,867	2,731.35	0.52	-0.11	0.04
50.00	-32.32	-1.22	0.00	-84.83	0.00	84.83	3,393.84	808.42	2,826	2,697.72	0.55	-0.11	0.04
55.00	-31.13	-1.22	0.00	-78.72	0.00	78.72	3,319.09	784.57	2,662	2,559.69	0.67	-0.12	0.04
60.00	-29.96	-1.21	0.00	-72.64	0.00	72.64	3,220.32	760.71	2,502	2,407.25	0.81	-0.14	0.04
65.00	-28.83	-1.19	0.00	-66.61	0.00	66.61	3,119.32	736.85	2,348	2,257.87	0.96	-0.15	0.04
70.00	-27.72	-1.18	0.00	-60.64	0.00	60.64	3,018.31	712.99	2,198	2,113.27	1.12	-0.16	0.04
75.00	-26.93	-1.17	0.00	-54.74	0.00	54.74	2,917.31	689.13	2,054	1,973.46	1.30	-0.18	0.04
78.67	-26.46	-1.16	0.00	-50.45	0.00	50.45	2,843.19	671.62	1,951	1,873.90	1.44	-0.19	0.04
80.00	-25.77	-1.15	0.00	-48.90	0.00	48.90	2,816.31	665.27	1,914	1,838.43	1.49	-0.19	0.04
82.00	-20.52	-1.02	0.00	-46.61	0.00	46.61	2,775.90	655.73	1,859	1,785.76	1.57	-0.20	0.03
83.33	-20.25	-1.02	0.00	-45.25	0.00	45.25	2,331.02	553.12	1,588	1,521.08	1.63	-0.20	0.04
85.00	-19.48	-1.00	0.00	-43.55	0.00	43.55	2,310.11	546.48	1,550	1,489.14	1.70	-0.21	0.04
90.00	-16.41	-0.91	0.00	-38.56	0.00	38.56	2,229.24	526.59	1,439	1,384.22	1.92	-0.22	0.04
95.00	-15.68	-0.89	0.00	-33.99	0.00	33.99	2,145.07	506.71	1,332	1,281.15	2.16	-0.24	0.03
100.00	-14.98	-0.87	0.00	-29.52	0.00	29.52	2,060.90	486.83	1,230	1,182.06	2.42	-0.25	0.03
105.00	-14.30	-0.85	0.00	-25.17	0.00	25.17	1,976.73	466.94	1,132	1,086.97	2.68	-0.26	0.03
110.00	-13.78	-0.83	0.00	-20.93	0.00	20.93	1,892.56	447.06	1,037	995.86	2.97	-0.28	0.03
114.00	-13.78	-0.83	0.00	-17.62	0.00	17.62	1,825.27	431.17	965	925.89	3.20	-0.29	0.03
114.00	-13.78	-0.83	0.00	-17.62	0.00	17.62	1,013.43	260.69	586	519.26	3.20	-0.29	0.05
114.00	-9.82	-0.65	0.00	-17.62	0.00	17.62	1,013.41	260.69	586	519.24	3.20	-0.29	0.04
115.00	-9.40	-0.63	0.00	-16.97	0.00	16.97	1,007.45	258.29	575	511.41	3.27	-0.29	0.04
120.00	-8.99	-0.61	0.00	-13.80	0.00	13.80	976.71	246.33	523	472.67	3.58	-0.31	0.04
125.00	-8.60	-0.60	0.00	-10.73	0.00	10.73	944.43	234.37	474	434.68	3.92	-0.33	0.03
130.00	-8.23	-0.57	0.00	-7.75	0.00	7.75	910.60	222.41	427	397.54	4.27	-0.34	0.03
135.00	-7.88	-0.55	0.00	-4.88	0.00	4.88	875.23	210.45	382	361.37	4.64	-0.36	0.02
139.80	-7.83	-0.55	0.00	-2.22	0.00	2.22	839.81	198.97	341	327.65	5.00	-0.36	0.02
140.00	-7.69	-0.54	0.00	-2.11	0.00	2.11	838.31	198.49	340	326.27	5.02	-0.37	0.02
142.00	-4.80	-0.34	0.00	-1.03	0.00	1.03	820.01	193.70	324	311.38	5.17	-0.37	0.01
145.00	0.00	-0.31	0.00	0.00	0.00	0.00	789.63	186.53	300	288.62	5.40	-0.37	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.72	-1.22	0.00	-144.11	0.00	144.11	4,923.42	1,201.72	5,353	4,990.47	0.00	0.00	0.04
5.00	-32.56	-1.22	0.00	-138.03	0.00	138.03	4,841.97	1,173.88	5,108	4,793.23	0.01	-0.01	0.04
10.00	-31.43	-1.22	0.00	-131.93	0.00	131.93	4,758.98	1,146.05	4,868	4,598.35	0.02	-0.02	0.04
15.00	-30.32	-1.23	0.00	-125.81	0.00	125.81	4,674.44	1,118.21	4,635	4,405.95	0.05	-0.03	0.04
20.00	-29.23	-1.23	0.00	-119.67	0.00	119.67	4,588.36	1,090.38	4,407	4,216.14	0.08	-0.04	0.04
25.00	-28.17	-1.23	0.00	-113.52	0.00	113.52	4,498.09	1,062.54	4,185	4,026.66	0.13	-0.05	0.03
30.00	-27.13	-1.23	0.00	-107.36	0.00	107.36	4,380.25	1,034.71	3,968	3,817.43	0.19	-0.06	0.03
35.00	-26.11	-1.23	0.00	-101.21	0.00	101.21	4,262.41	1,006.87	3,758	3,613.78	0.26	-0.07	0.03
40.00	-25.47	-1.23	0.00	-95.07	0.00	95.07	4,144.58	979.03	3,553	3,415.71	0.34	-0.08	0.03
43.21	-24.86	-1.22	0.00	-91.13	0.00	91.13	4,069.02	961.19	3,425	3,291.65	0.40	-0.09	0.03
45.00	-23.60	-1.21	0.00	-88.94	0.00	88.94	4,026.74	951.20	3,354	3,223.22	0.43	-0.10	0.03
48.79	-23.40	-1.21	0.00	-84.34	0.00	84.34	3,411.63	814.18	2,867	2,731.35	0.51	-0.10	0.04
50.00	-22.54	-1.20	0.00	-82.88	0.00	82.88	3,393.84	808.42	2,826	2,697.72	0.54	-0.11	0.04
55.00	-21.71	-1.19	0.00	-76.87	0.00	76.87	3,319.09	784.57	2,662	2,559.69	0.66	-0.12	0.04
60.00	-20.90	-1.18	0.00	-70.90	0.00	70.90	3,220.32	760.71	2,502	2,407.25	0.79	-0.13	0.04
65.00	-20.11	-1.17	0.00	-64.99	0.00	64.99	3,119.32	736.85	2,348	2,257.87	0.94	-0.15	0.04
70.00	-19.33	-1.15	0.00	-59.15	0.00	59.15	3,018.31	712.99	2,198	2,113.27	1.10	-0.16	0.03
75.00	-18.78	-1.14	0.00	-53.38	0.00	53.38	2,917.31	689.13	2,054	1,973.46	1.27	-0.17	0.03
78.67	-18.45	-1.13	0.00	-49.19	0.00	49.19	2,843.19	671.62	1,951	1,873.90	1.41	-0.18	0.03
80.00	-17.97	-1.12	0.00	-47.68	0.00	47.68	2,816.31	665.27	1,914	1,838.43	1.46	-0.19	0.03
82.00	-14.31	-1.00	0.00	-45.44	0.00	45.44	2,775.90	655.73	1,859	1,785.76	1.54	-0.19	0.03
83.33	-14.13	-0.99	0.00	-44.12	0.00	44.12	2,331.02	553.12	1,588	1,521.08	1.59	-0.20	0.04

©2007 - 2020 by ATC LLC. All rights reserved.

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
85.00	-13.59	-0.98	0.00	-42.45	0.00	42.45	2,310.11	546.48	1,550	1,489.14	1.66	-0.20	0.03
90.00	-11.44	-0.89	0.00	-37.57	0.00	37.57	2,229.24	526.59	1,439	1,384.22	1.88	-0.22	0.03
95.00	-10.94	-0.87	0.00	-33.11	0.00	33.11	2,145.07	506.71	1,332	1,281.15	2.12	-0.23	0.03
100.00	-10.45	-0.85	0.00	-28.75	0.00	28.75	2,060.90	486.83	1,230	1,182.06	2.36	-0.24	0.03
105.00	-9.97	-0.83	0.00	-24.50	0.00	24.50	1,976.73	466.94	1,132	1,086.97	2.63	-0.26	0.03
110.00	-9.61	-0.81	0.00	-20.36	0.00	20.36	1,892.56	447.06	1,037	995.86	2.90	-0.27	0.03
114.00	-9.61	-0.81	0.00	-17.14	0.00	17.14	1,825.27	431.17	965	925.89	3.14	-0.28	0.02
114.00	-9.61	-0.81	0.00	-17.14	0.00	17.14	1,013.43	260.69	586	519.26	3.14	-0.28	0.04
114.00	-6.85	-0.63	0.00	-17.14	0.00	17.14	1,013.41	260.69	586	519.24	3.14	-0.28	0.04
115.00	-6.55	-0.62	0.00	-16.51	0.00	16.51	1,007.45	258.29	575	511.41	3.19	-0.29	0.04
120.00	-6.27	-0.60	0.00	-13.42	0.00	13.42	976.71	246.33	523	472.67	3.50	-0.30	0.04
125.00	-6.00	-0.58	0.00	-10.43	0.00	10.43	944.43	234.37	474	434.68	3.83	-0.32	0.03
130.00	-5.74	-0.56	0.00	-7.53	0.00	7.53	910.60	222.41	427	397.54	4.18	-0.34	0.03
135.00	-5.49	-0.54	0.00	-4.74	0.00	4.74	875.23	210.45	382	361.37	4.54	-0.35	0.02
139.80	-5.46	-0.53	0.00	-2.16	0.00	2.16	839.81	198.97	341	327.65	4.89	-0.36	0.01
140.00	-5.37	-0.53	0.00	-2.05	0.00	2.05	838.31	198.49	340	326.27	4.91	-0.36	0.01
142.00	-3.35	-0.33	0.00	-1.00	0.00	1.00	820.01	193.70	324	311.38	5.05	-0.36	0.01
145.00	0.00	-0.31	0.00	0.00	0.00	0.00	789.63	186.53	300	288.62	5.28	-0.36	0.00

©2007 - 2020 by ATC LLC. All rights reserved.

ANALYSIS SUMMARY

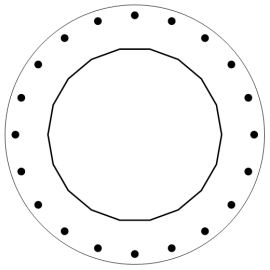
	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	22.44	0.00	48.50	0.00	0.00	2398.93	114.00	0.58
0.9D + 1.0W	22.43	0.00	36.36	0.00	0.00	2365.60	114.00	0.57
1.2D + 1.0Di + 1.0Wi	6.26	0.00	63.73	0.00	0.00	662.86	114.00	0.17
1.2D + 1.0Ev + 1.0Eh	1.25	0.00	48.34	0.00	0.00	146.61	114.00	0.05
0.9D - 1.0Ev + 1.0Eh	1.23	0.00	33.72	0.00	0.00	144.11	114.00	0.04
1.0D + 1.0W	5.46	0.00	40.44	0.00	0.00	579.39	114.00	0.15

©2007 - 2020 by ATC LLC. All rights reserved.

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 1544)

Diameter:	75	in
Shape:	Round	
Thickness:	2.75	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Rod Detail Type:	d	
Clear Distance	4	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	144	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 7999]	Radial	20	2.25	69	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (20) 2.25"ø [ID 7999]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.314	32.81	10.66	-26.849	2342.040	-63.84	1.04
2	0.628	27.91	20.28	-31.563	3236.302	-63.84	0.55
3	0.942	20.28	27.91	-33.188	3577.878	-63.84	0.00
4	1.257	10.66	32.81	-31.563	3236.301	-63.84	0.55
5	1.571	0.00	34.50	-26.849	2342.042	-63.84	1.04
6	1.885	-10.66	32.81	-19.507	1236.674	-63.84	1.44
7	2.199	-20.28	27.91	-10.256	342.416	-63.84	1.69
8	2.513	-27.91	20.28	0.000	0.839	-63.84	1.78
9	2.827	-32.81	10.66	10.255	342.415	73.54	1.69
10	3.142	-34.50	0.00	19.507	1236.677	73.54	1.44
11	3.456	-32.81	-10.66	26.849	2342.042	73.54	1.04
12	3.770	-27.91	-20.28	31.563	3236.300	73.54	0.55
13	4.084	-20.28	-27.91	33.188	3577.878	73.54	0.00
14	4.398	-10.66	-32.81	31.563	3236.300	73.54	0.55
15	4.712	0.00	-34.50	26.849	2342.041	73.54	1.04
16	5.027	10.66	-32.81	19.507	1236.676	73.54	1.44
17	5.341	20.28	-27.91	10.255	342.415	73.54	1.69
18	5.655	27.91	-20.28	0.000	0.839	-63.84	1.78
19	5.969	32.81	-10.66	-10.256	342.416	-63.84	1.69
20	6.283	34.50	0.00	-19.507	1236.675	-63.84	1.44

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	49.75"ø x 0.4375" (18 Sides)	2398.9	48.50	22.44	1.000
Bolt Group	Original (20) 2.25"ø	2398.9	-	22.44	1.000
	TOTALS	**2398.93**	**48.5**	**22.44**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	49.75"ø x 0.4375" (18 Sides)	67.4338	-	-	20501.87	-
Bolt Group	Original (20) 2.25"ø	3.9761	3.2477	0.8393	35787.17	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	49.88	in
Point-to-Point Diameter:	50.64	in
Flat Width:	8.794	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	144	°
Bend Line Lower Limit:	3.549	rad
Bend Line Upper Limit:	4.619	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	52.467	0.00	99.196	2137.5	5356.6	0.399
Corner	51.725	0.00	97.792	1982.1	5280.8	0.375
Circumferential	58.976	0.00	111.501	3177.8	6021.0	0.528

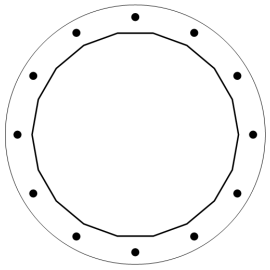
PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	20	2.25	73.6	1.8	243.6	0.317

UPPER FLANGE PLATE ANALYSIS @ 113.9974 FT

PLATE PARAMETERS (ID# 872)

Diameter:	32	in
Shape:	Round	
Thickness:	1.5	in
Grade:	A572-65	
Yield Strength:	65	ksi
Tensile Strength:	80	ksi
Pole Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	346	°



FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 8000]	Radial	12	1	29	A325	92	120	-	-

FLANGE BOLT GEOMETRY AND APPLIED LOADS --- ORIGINAL (12) 1"ø [ID 8000]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.524	12.56	7.25	9.638	56.302	35.06	1.10
2	1.047	7.25	12.56	13.338	107.785	35.06	0.42
3	1.571	0.00	14.50	13.463	109.820	35.06	0.37
4	2.094	-7.25	12.56	9.981	60.372	35.06	1.06
5	2.618	-12.56	7.25	3.824	8.889	35.06	1.47
6	3.142	-14.50	0.00	-3.357	6.854	-30.90	1.49
7	3.665	-12.56	-7.25	-9.638	56.302	-30.90	1.10
8	4.189	-7.25	-12.56	-13.338	107.785	-30.90	0.42
9	4.712	0.00	-14.50	-13.463	109.820	-30.90	0.37
10	5.236	7.25	-12.56	-9.981	60.372	-30.90	1.06
11	5.760	12.56	-7.25	-3.824	8.889	-30.90	1.47
12	6.283	14.50	0.00	3.357	6.854	35.06	1.49

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	25.0825"ø x 0.188" (18 Sides)	294.6	12.47	11.83	1.000
Bolt Group	Original (12) 1"ø	294.6	-	11.83	1.000
	TOTALS	**294.6**	**12.47**	**11.83**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	25.0825"ø x 0.188" (18 Sides)	14.6286	-	-	1133.41	-
Bolt Group	Original (12) 1"ø	0.7854	0.6057	0.0292	700.04	8.0

EXTERNAL UPPER FLANGE PLATE BEND LINE ANALYSIS @ 113.9974 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	25.21	in
Point-to-Point Diameter:	25.60	in
Flat Width:	4.445	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	346	°
Bend Line Lower Limit:	0.681	rad
Bend Line Upper Limit:	1.937	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	17.304	0.00	9.733	67.0	569.4	0.118
Corner	16.723	0.00	9.407	50.6	550.3	0.092
Circumferential	23.759	0.00	13.364	90.5	781.8	0.116

PLASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	12	1	35.0	1.5	54.5	0.643

Exhibit E

Power Density/RF Emissions Report

Radio Frequency Exposure Analysis Report

July 14, 2022

Centerline on behalf of T-Mobile
Centerline Communications Project Number: N/A

T-Mobile Site Name: Antolini - Verizon Colo
Site Number: CTNH411A

Site Address: 20 Antolini Road, New Hartford, CT 06057

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	33.95936 µW/cm^2
Cumulative General Population % MPE (Ground Level):	3.3959800000000002%

750 West Center Street | Suite 301 | West Bridgewater | MA | 02379

July 14, 2022

Centerline
Attn: Jessica Meyer, Project Coordinator
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Antolini - Verizon Colo**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed T-Mobile facility at **20 Antolini Road, New Hartford, CT 06057** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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, 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.

Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the T-Mobile antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

Maximum Calculated Cumulative Power Density (Location: approximately 433' southwest of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
T-Mobile A 1	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	0.00129	1000.00	0.00013
T-Mobile A 1	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	0.00129	1000.00	0.00013
T-Mobile A 2	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	2.00	140.00	9379.03	0.00000	1000.00	0.00000
T-Mobile A 2	COMMSCOPE VV-65A-R1B	2100	15.87	151.00	2.00	140.00	10818.28	0.00000	1000.00	0.00000
T-Mobile A 2	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	1.00	15.00	502.45	0.00000	1000.00	0.00000
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	700	13.65	151.00	2.00	40.00	1853.92	0.00000	466.67	0.00000
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	4.00	60.00	4733.81	0.00000	400.00	0.00000
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile B 4	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	6.92966	1000.00	0.69297
T-Mobile B 4	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	6.92966	1000.00	0.69297
T-Mobile B 5	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	2.00	140.00	9379.03	0.00002	1000.00	0.00000
T-Mobile B 5	COMMSCOPE VV-65A-R1B	2100	15.87	151.00	2.00	140.00	10818.28	0.00002	1000.00	0.00000
T-Mobile B 5	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	1.00	15.00	502.45	0.00000	1000.00	0.00000
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	700	13.65	151.00	2.00	40.00	1853.92	0.00001	466.67	0.00000
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	4.00	60.00	4733.81	0.00001	400.00	0.00000
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile C 7	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	10.04769	1000.00	1.00477
T-Mobile C 7	ERICSSON AIR6419	2500	22.05	151.00	2.00	80.00	25651.93	10.04769	1000.00	1.00477
T-Mobile C 8	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	2.00	140.00	9379.03	0.00005	1000.00	0.00001
T-Mobile C 8	COMMSCOPE VV-65A-R1B	2100	15.87	151.00	2.00	140.00	10818.28	0.00005	1000.00	0.00001
T-Mobile C 8	COMMSCOPE VV-65A-R1B	1900	15.25	151.00	1.00	15.00	502.45	0.00000	1000.00	0.00000
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	700	13.65	151.00	2.00	40.00	1853.92	0.00001	466.67	0.00000
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	4.00	60.00	4733.81	0.00004	400.00	0.00001
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	600	12.95	151.00	2.00	40.00	1577.94	0.00001	400.00	0.00000
Unknown 10	GENERIC OMNI 12FT	850	8.96	160.10	1.00	12.70	99.95	0.00000	566.67	0.00000
Verizon A 11	AMPHENOL LPA-80040-4CF	850	16.00	142.00	4.00	20.00	3184.86	0.00000	566.67	0.00000
Verizon A 12	SAMSUNG MT6407	3700	23.35	142.00	4.00	50.00	43254.37	0.00001	1000.00	0.00000
Verizon A 13	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon A 13	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon A 13	JMA MX06FRO640-02	1900	15.95	142.00	4.00	40.00	6296.80	0.00000	1000.00	0.00000
Verizon A 14	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon A 14	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon A 14	JMA MX06FRO640-02	2100	16.95	142.00	4.00	40.00	7927.20	0.00000	1000.00	0.00000
Verizon A 15	AMPHENOL LPA-80040-4CF	850	16.00	142.00	3.00	20.00	2388.64	0.00000	566.67	0.00000
Verizon B 16	AMPHENOL LPA-80040-4CF	850	16.00	142.00	4.00	20.00	3184.86	0.00000	566.67	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
Verizon B 17	SAMSUNG MT6407	3700	23.35	142.00	4.00	50.00	43254.37	0.00034	1000.00	0.00003
Verizon B 18	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon B 18	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon B 18	JMA MX06FRO640-02	1900	15.95	142.00	4.00	40.00	6296.80	0.00000	1000.00	0.00000
Verizon B 19	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon B 19	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon B 19	JMA MX06FRO640-02	2100	16.95	142.00	4.00	40.00	7927.20	0.00000	1000.00	0.00000
Verizon B 20	AMPHENOL LPA-80040-4CF	850	16.00	142.00	3.00	20.00	2388.64	0.00000	566.67	0.00000
Verizon C 21	AMPHENOL LPA-80040-4CF	850	16.00	142.00	4.00	20.00	3184.86	0.00000	566.67	0.00000
Verizon C 22	SAMSUNG MT6407	3700	23.35	142.00	4.00	50.00	43254.37	0.00070	1000.00	0.00007
Verizon C 23	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon C 23	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon C 23	JMA MX06FRO640-02	1900	15.95	142.00	4.00	40.00	6296.80	0.00001	1000.00	0.00000
Verizon C 24	JMA MX06FRO640-02	700	14.45	142.00	2.00	40.00	2228.90	0.00000	466.67	0.00000
Verizon C 24	JMA MX06FRO640-02	850	14.95	142.00	2.00	40.00	2500.86	0.00000	566.67	0.00000
Verizon C 24	JMA MX06FRO640-02	2100	16.95	142.00	4.00	40.00	7927.20	0.00000	1000.00	0.00000
Verizon C 25	AMPHENOL LPA-80040-4CF	850	16.00	142.00	3.00	20.00	2388.64	0.00000	566.67	0.00000
Dish A 26	JMA MX08FRO665-21	1900	15.75	114.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish A 26	JMA MX08FRO665-21	2000	15.75	114.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish A 26	JMA MX08FRO665-21	2100	16.75	114.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Dish B 27	JMA MX08FRO665-21	1900	15.75	114.00	4.00	40.00	6013.40	0.00001	1000.00	0.00000
Dish B 27	JMA MX08FRO665-21	2000	15.75	114.00	4.00	40.00	6013.40	0.00002	1000.00	0.00000
Dish B 27	JMA MX08FRO665-21	2100	16.75	114.00	4.00	40.00	7570.42	0.00001	1000.00	0.00000
Dish C 28	JMA MX08FRO665-21	1900	15.75	114.00	4.00	40.00	6013.40	0.00003	1000.00	0.00000
Dish C 28	JMA MX08FRO665-21	2000	15.75	114.00	4.00	40.00	6013.40	0.00005	1000.00	0.00001
Dish C 28	JMA MX08FRO665-21	2100	16.75	114.00	4.00	40.00	7570.42	0.00006	1000.00	0.00001
AT&T A 29	POWERWAVE 7770	850	11.35	82.00	1.00	40.00	545.83	0.00000	566.67	0.00000
AT&T A 30	CCI DMP65R-BU6D	700	11.75	82.00	4.00	40.00	2393.98	0.00000	466.67	0.00000
AT&T A 30	CCI DMP65R-BU6D	1900	14.05	82.00	4.00	40.00	4065.56	0.00000	1000.00	0.00000
AT&T A 30	CCI DMP65R-BU6D	2100	14.75	82.00	4.00	40.00	4776.61	0.00000	1000.00	0.00000
AT&T A 31	CCI DMP65R-BU6D	850	11.45	82.00	4.00	40.00	2234.19	0.00000	566.67	0.00000
AT&T A 31	CCI DMP65R-BU6D	2300	14.15	82.00	4.00	25.00	2600.16	0.00000	1000.00	0.00000
AT&T B 32	POWERWAVE 7770	850	11.35	82.00	1.00	40.00	545.83	0.00001	566.67	0.00000
AT&T B 33	CCI DMP65R-BU8D	700	12.25	82.00	4.00	40.00	2686.09	0.00005	466.67	0.00001
AT&T B 33	CCI DMP65R-BU8D	1900	14.55	82.00	4.00	40.00	4561.63	0.00003	1000.00	0.00000
AT&T B 33	CCI DMP65R-BU8D	2100	15.35	82.00	4.00	40.00	5484.28	0.00003	1000.00	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
AT&T B 34	CCI DMP65R-BU8D	850	12.55	82.00	4.00	40.00	2878.19	0.00000	566.67	0.00001
AT&T B 34	CCI DMP65R-BU8D	2300	14.65	82.00	4.00	25.00	2917.43	0.00002	1000.00	0.00000
AT&T C 35	POWERWAVE 7770	850	11.35	82.00	1.00	40.00	545.83	0.00002	566.67	0.00000
AT&T C 36	CCI DMP65R-BU6D	700	11.75	82.00	4.00	40.00	2393.98	0.00012	466.67	0.00003
AT&T C 36	CCI DMP65R-BU6D	1900	14.05	82.00	4.00	40.00	4065.56	0.00007	1000.00	0.00001
AT&T C 36	CCI DMP65R-BU6D	2100	14.75	82.00	4.00	40.00	4776.61	0.00007	1000.00	0.00001
AT&T C 37	CCI DMP65R-BU6D	850	11.45	82.00	4.00	40.00	2234.19	0.00011	566.67	0.00002
AT&T C 37	CCI DMP65R-BU6D	2300	14.15	82.00	4.00	25.00	2600.16	0.00006	1000.00	0.00001
							Cumulative Power Density:	**33.95936 $\mu W/cm^2$**	**Cumulative % MPE:**	**3.39598%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC

Exhibit F

Mailing Receipts/ Proof Postage

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

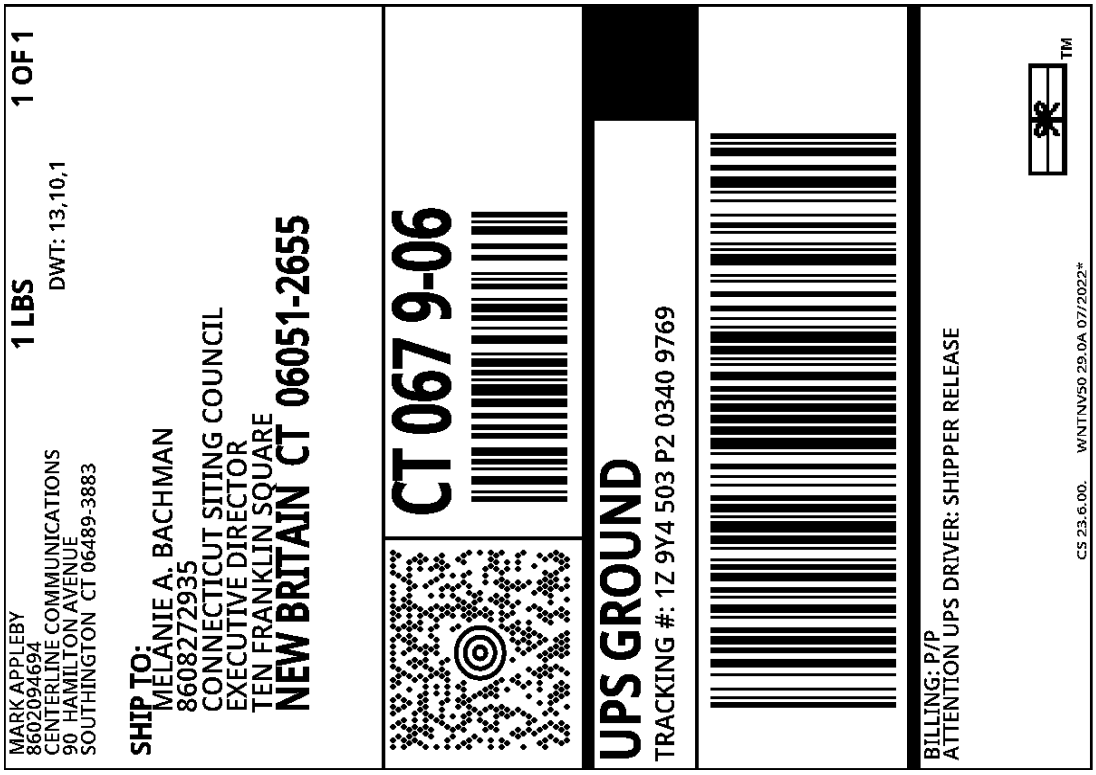
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 1060
326 MAIN ST
SOUTHINGTON ,CT 06489

UPS Access Point™
MICHAELS STORE # 1279
99 EXECUTIVE BLVD
SOUTHINGTON ,CT 06489

UPS Access Point™
ADVANCE AUTO PARTS STORE 8525
151 QUEEN ST
SOUTHINGTON ,CT 06489

FOLD HERE



Shipment Receipt

Transaction Date: 14 Jul 2022 **Tracking Number:** 1Z9Y4503P203409769

1 Address Information

Ship To:
Connecticut Siting Council
Melanie A. Bachman
Ten Franklin Square
Executive Director
NEW BRITAIN CT 060512655
Telephone:8608272935

Ship From:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694
email:mappleby@clinellc.com
Residential

Return Address:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694 email:mappleby@clinellc.com
Residential

2 Package Information

	Weight	Dimensions / Packaging	Declared Value	Reference Numbers	
1.	1.0 lbs (1.0 lbs billable)	13 x 10 x 1in. Other Packaging			

3 UPS Shipping Service and Shipping Options

Service: UPS Ground Service

Guaranteed By: End of Day Friday, Jul 15, 2022

Shipping Fees Subtotal: 11.04 USD

Transportation 9.36 USD

Fuel Surcharge 1.68 USD

Additional Shipping Options

Deliver Without Signature

Package1: Deliver Without Signature 0.00 USD

4 Payment Information

Bill Shipping Charges to: Shipper's Account 9Y4503

Shipping Charges:	**11.04 USD**
Subtotal Shipping Charges:	**11.04 USD**
Total Charged:	**11.04 USD**

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({0}). To speak to a customer service representative, call 1-800-PICK-UPS for domest services and 1-800-782-7892 for international services.

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

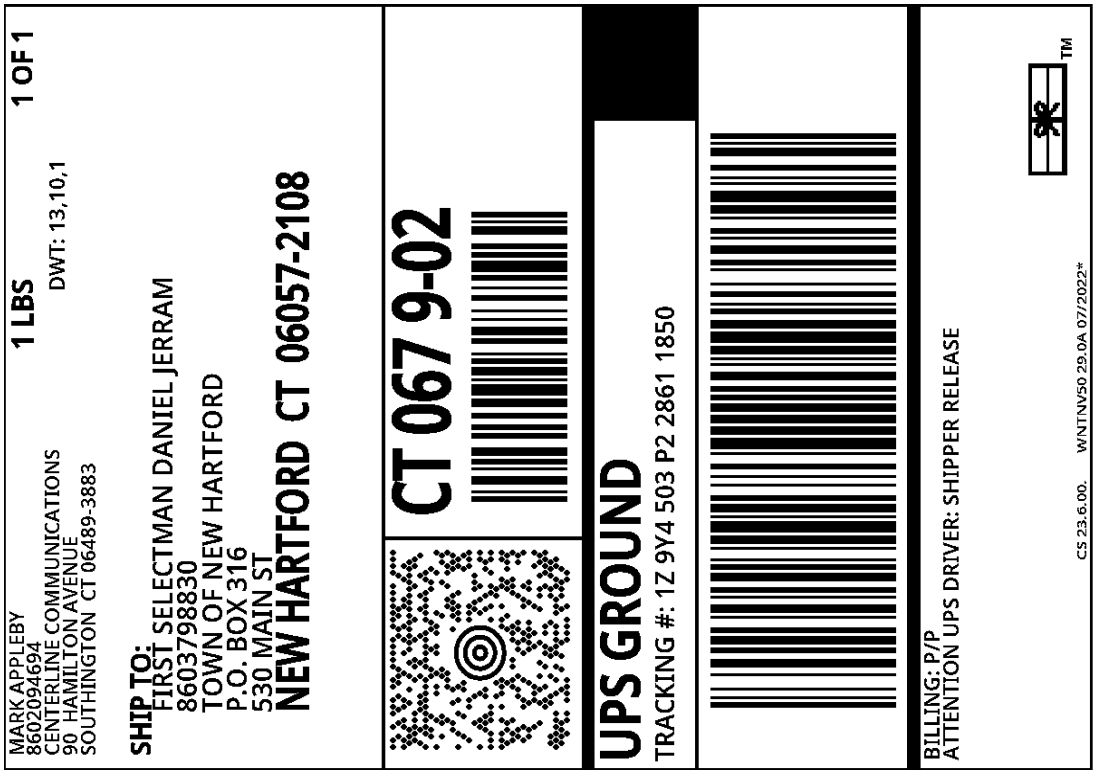
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 1060
326 MAIN ST
SOUTHINGTON ,CT 06489

UPS Access Point™
MICHAELS STORE # 1279
99 EXECUTIVE BLVD
SOUTHINGTON ,CT 06489

UPS Access Point™
ADVANCE AUTO PARTS STORE 8525
151 QUEEN ST
SOUTHINGTON ,CT 06489

FOLD HERE



Shipment Receipt

Transaction Date: 14 Jul 2022 **Tracking Number:** 1Z9Y4503P228611850

1 Address Information

Ship To:
Town of New Hartford
First Selectman Daniel Jerram
530 Main St
P.O. Box 316
NEW HARTFORD CT 060572108
Telephone:8603798830

Ship From:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694
email:mappleby@clinellc.com
Residential

Return Address:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694 email:mappleby@clinellc.com
Residential

2 Package Information

	Weight	Dimensions / Packaging	Declared Value	Reference Numbers	
1.	1.0 lbs (1.0 lbs billable)	13 x 10 x 1in. Other Packaging			

3 UPS Shipping Service and Shipping Options

Service: UPS Ground Service

Guaranteed By: End of Day Friday, Jul 15, 2022

Shipping Fees Subtotal: 15.06 USD

Transportation 9.36 USD

Fuel Surcharge 2.30 USD

Delivery Area Surcharge 3.40 USD

Package 1

Additional Shipping Options

Deliver Without Signature

Package1: Deliver Without Signature 0.00 USD

4 Payment Information

Bill Shipping Charges to: Shipper's Account 9Y4503

Shipping Charges:	**15.06 USD**
Subtotal Shipping Charges:	**15.06 USD**
Total Charged:	**15.06 USD**

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({0}). To speak to a customer service representative, call 1-800-PICK-UPS for domest services and 1-800-782-7892 for international services.

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

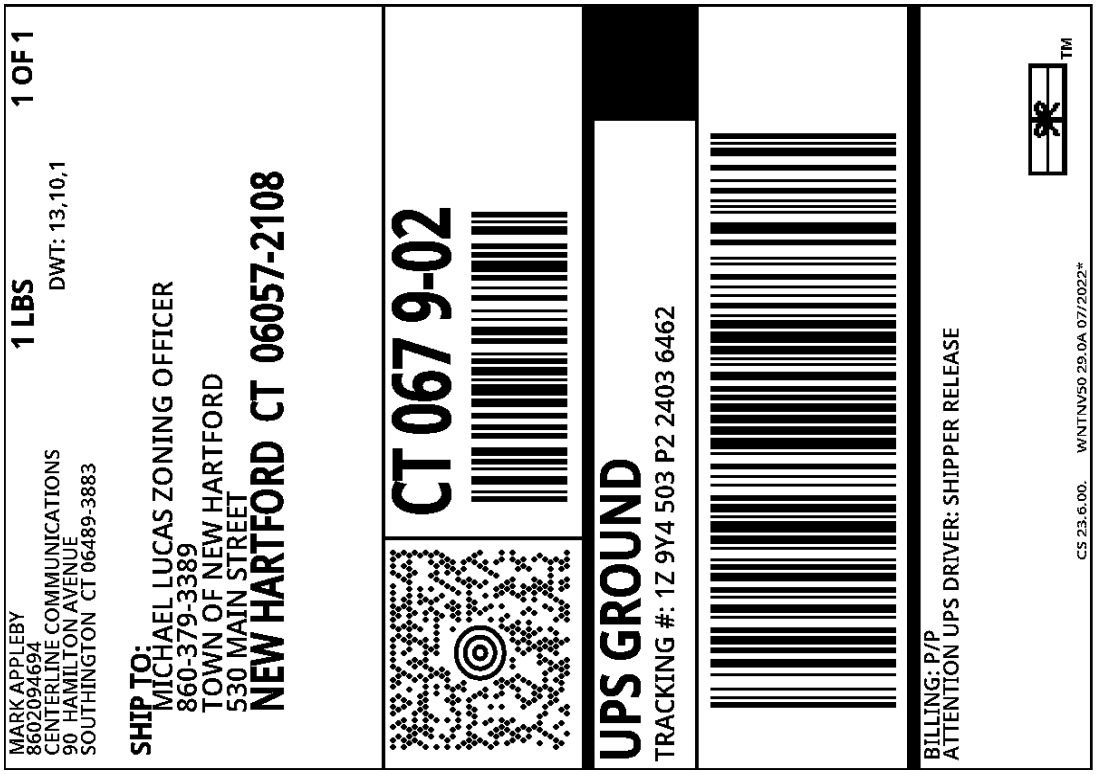
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 1060
326 MAIN ST
SOUTHINGTON ,CT 06489

UPS Access Point™
MICHAELS STORE # 1279
99 EXECUTIVE BLVD
SOUTHINGTON ,CT 06489

UPS Access Point™
ADVANCE AUTO PARTS STORE 8525
151 QUEEN ST
SOUTHINGTON ,CT 06489

FOLD HERE



Shipment Receipt

Transaction Date: 14 Jul 2022 **Tracking Number:** 1Z9Y4503P224036462

1 Address Information

Ship To:
Town of New Hartford
Michael Lucas Zoning Officer
530 Main Street
NEW HARTFORD CT 060572108
Telephone:860-379-3389

Ship From:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694
email:mappleby@clinellc.com
Residential

Return Address:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694 email:mappleby@clinellc.com
Residential

2 Package Information

	Weight	Dimensions / Packaging	Declared Value	Reference Numbers	
1.	1.0 lbs (1.0 lbs billable)	13 x 10 x 1in. Other Packaging			

3 UPS Shipping Service and Shipping Options

Service: UPS Ground Service

Guaranteed By: End of Day Friday, Jul 15, 2022

Shipping Fees Subtotal: 15.06 USD

Transportation 9.36 USD

Fuel Surcharge 2.30 USD

Delivery Area Surcharge 3.40 USD

Package 1

Additional Shipping Options

Deliver Without Signature

Package1: Deliver Without Signature 0.00 USD

4 Payment Information

Bill Shipping Charges to: Shipper's Account 9Y4503

Shipping Charges:	**15.06 USD**
Subtotal Shipping Charges:	**15.06 USD**
Total Charged:	**15.06 USD**

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({0}). To speak to a customer service representative, call 1-800-PICK-UPS for domest services and 1-800-782-7892 for international services.

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

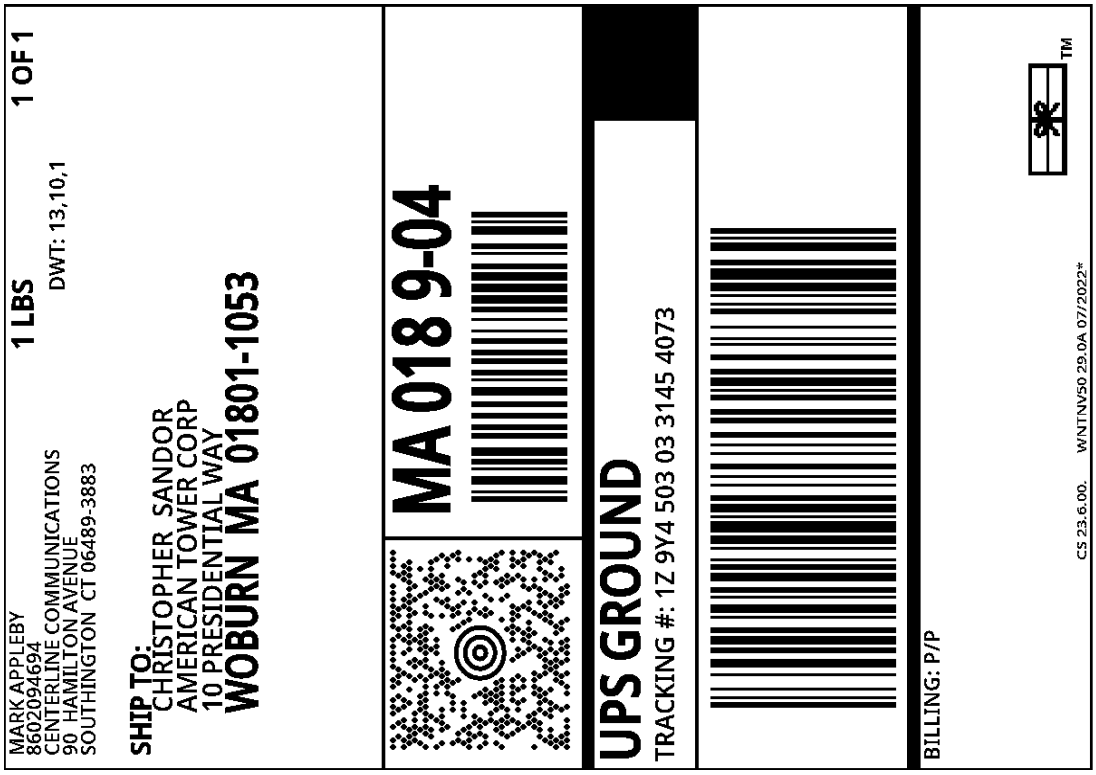
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 1060
326 MAIN ST
SOUTHINGTON ,CT 06489

UPS Access Point™
MICHAELS STORE # 1279
99 EXECUTIVE BLVD
SOUTHINGTON ,CT 06489

UPS Access Point™
ADVANCE AUTO PARTS STORE 8525
151 QUEEN ST
SOUTHINGTON ,CT 06489

FOLD HERE



Shipment Receipt

Transaction Date: 14 Jul 2022 **Tracking Number:** 1Z9Y45030331454073

1 Address Information

Ship To:
American Tower Corp
Christopher Sandor
10 Presidential Way
WOBURN MA 018011053

Ship From:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694
email:mappleby@clinellc.com
Residential

Return Address:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694 email:mappleby@clinellc.com
Residential

2 Package Information

	Weight	Dimensions / Packaging	Declared Value	Reference Numbers	
1.	1.0 lbs (1.0 lbs billable)	13 x 10 x 1in. Other Packaging			

3 UPS Shipping Service and Shipping Options

Service: UPS Ground Service

Guaranteed By: End of Day Friday, Jul 15, 2022

Shipping Fees Subtotal: 11.04 USD

Transportation 9.36 USD

Fuel Surcharge 1.68 USD

4 Payment Information

Bill Shipping Charges to: Shipper's Account 9Y4503

Shipping Charges: 11.04 USD

Subtotal Shipping Charges: 11.04 USD

Total Charged: 11.04 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({0}). To speak to a customer service representative, call 1-800-PICK-UPS for domest services and 1-800-782-7892 for international services.

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

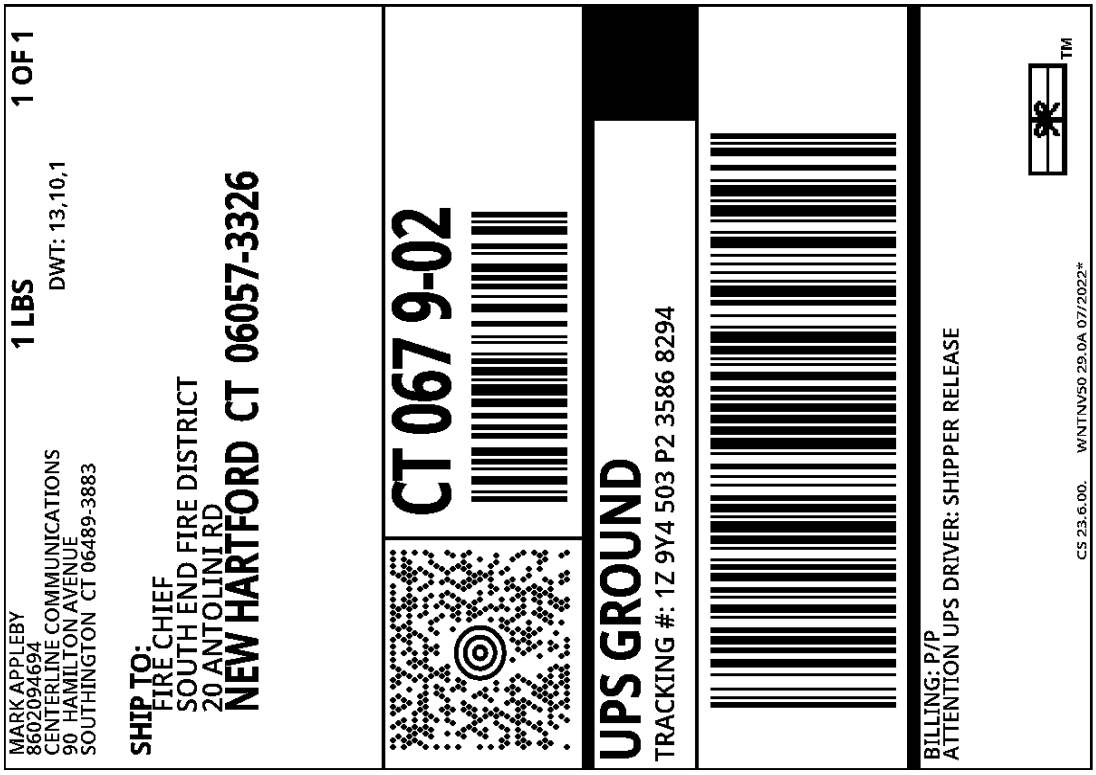
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 1060
326 MAIN ST
SOUTHINGTON ,CT 06489

UPS Access Point™
MICHAELS STORE # 1279
99 EXECUTIVE BLVD
SOUTHINGTON ,CT 06489

UPS Access Point™
ADVANCE AUTO PARTS STORE 8525
151 QUEEN ST
SOUTHINGTON ,CT 06489

FOLD HERE



Shipment Receipt

Transaction Date: 14 Jul 2022 **Tracking Number:** 1Z9Y4503P235868294

1 Address Information

Ship To:
South End Fire District
Fire Chief
20 Antolini Rd
NEW HARTFORD CT 060573326
email:mappleby@clinellc.com

Ship From:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694
email:mappleby@clinellc.com
Residential

Return Address:
Centerline Communications
Mark Appleby
90 Hamilton Avenue
SOUTHINGTON CT 064893883
Telephone:8602094694 email:mappleby@clinellc.com
Residential

2 Package Information

	Weight	Dimensions / Packaging	Declared Value	Reference Numbers	
1.	1.0 lbs (1.0 lbs billable)	13 x 10 x 1in. Other Packaging			

3 UPS Shipping Service and Shipping Options

Service: UPS Ground Service

Guaranteed By: End of Day Friday, Jul 15, 2022

Shipping Fees Subtotal: 15.06 USD

Transportation	9.36 USD
Fuel Surcharge	2.30 USD
Delivery Area Surcharge	3.40 USD
Package 1	

Additional Shipping Options

Deliver Without Signature

Package1: Deliver Without Signature 0.00 USD

4 Payment Information

Bill Shipping Charges to: Shipper's Account 9Y4503

Shipping Charges:	**15.06 USD**
Subtotal Shipping Charges:	**15.06 USD**
Total Charged:	**15.06 USD**

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({0}). To speak to a customer service representative, call 1-800-PICK-UPS for domest services and 1-800-782-7892 for international services.