June 30, 2022

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

Re: Exempt Modification Application – AT&T Site 13757764
AT&T Mobility Telecommunications Facility @ 650 Albany Turnpike, Collinsville, CT 06019

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, three (3) RRHs, twelve (12) diplexers, three (3_ TMAs, and six (6) coax cables.
- Install twelve (12) antennas, nine (9) RRHs, one (1) squid, six (6) Y cables three (3) control cables, and one (1) fiber trunk.
- Ground work includes removing two (2) 3418 Indoor and one (1) 6601 Indoor MU, and installing one (1) DC-12, one baseband 6630, one baseband 6630 with IDLe cable, and one (1) baseband 6648 with XCEDE cable.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; Lansford W. Perry as Property Owner; the Honorable Robert Bessel, Canton First Selectman, and Neil Pade, Canton Director of Planning and Community.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an 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.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 650 Albany Turnpike, Collinsville, (Canton) CT. If you have any questions, please feel free to contact me.

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card and GIS
Exhibit 3 – Construction Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report
Exhibit 6 – EME Study Report
Exhibit 7 – Four (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
Lansford W. Perry - Property Owner
The Honorable Robert Bessel – Town of Canton First Selectman
Neil Pade - Canton Director of Planning and Community

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION

CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

ATC Asset #	Site Name	Project Number	Site Address
283420	STONEYBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut

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88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Brrandford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: _____

Margaret Robinson, Vice President
US Tower Legal Division

See attached Notary Block

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30th day of June, 2022.

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public
My Commission Expires: March 14, 2025

Parcel Detail

Documents and Maps

Quick Map

eQuality

Assessor Map

FEMA Panels

Some of these PDF maps are large (2-3 MB) and may take 20 seconds or more to load, even on a DSL connection.

Scroll Down For More Info

Detailed Parcel Information

Parcel No
21/101/0650

Unique ID
1010650

Owner
PERRY LANSFORD W

Location
650 ALBANY TURNPIKE

MAILING ADDRESS
PO BOX 1
CANTON CENTER CT 06020

SUMMARY PARCEL INFORMATION & MAP DOCUMENTS

PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	140331	98230
Outbuildings	9664	6760

Town of Canton

Geographic Information System (GIS)

Date Printed: 6/30/2022

MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Canton and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 150 feet

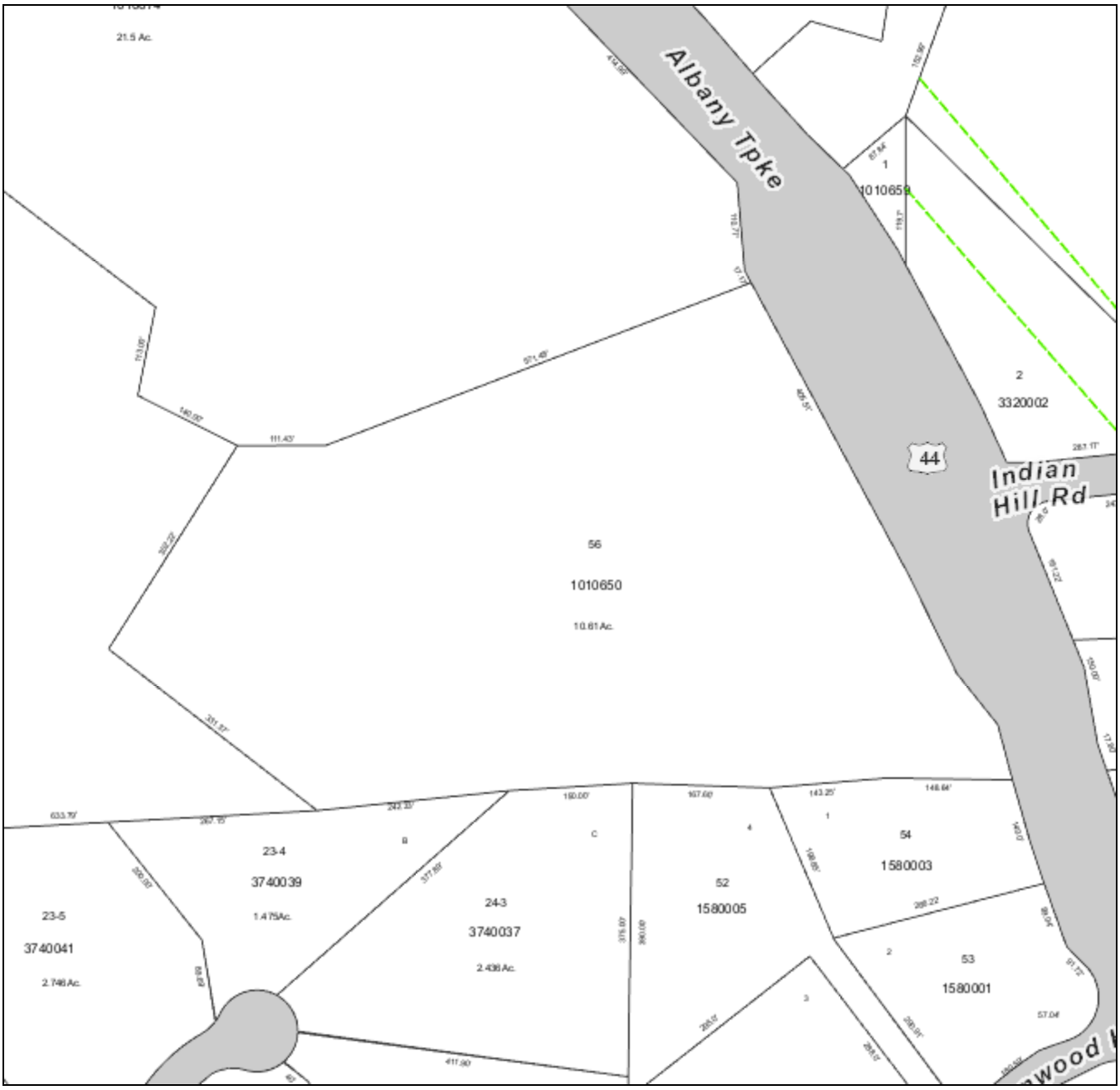
0 150 Feet

N W E S

Town of Canton

Geographic Information System (GIS)

Date Printed: 6/30/2022



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Approximate Scale: 1 inch = 200 feet

0 200 Feet

N W E S

Radio Frequency Exposure Analysis Report

June 27, 2022

American Tower on behalf of AT&T
Centerline Communications Project Number: 950035-005

AT&T Site Name: CT Collinsville CAC 802816 CT
Site Number: CTL01230
FA#: 10050765
USID: 59441

Site Address: 650 Albany Turnpike, Canton, CT 06019

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	16.36321 µW/cm^2
Cumulative General Population % MPE (Ground Level):	1.63691%

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

June 27, 2022

American Tower Corporation
Attn: John Luca, Associate Project Manager
3500 Regency Parkway
Cary, NC 27518

RF Exposure Analysis for Site: **CT Collinsville CAC 802816 CT**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **650 Albany Turnpike, Canton, CT 06019** 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 AT&T 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.

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 228' SE 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
AT&T A 1	CCI TPA65R-BU8D	700	12.95	110.00	4.00	30.00	2366.91	0.00000	466.67	0.00000
AT&T A 1	CCI TPA65R-BU8D	1900	15.15	110.00	2.00	30.00	1964.04	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU8D	1900	15.35	110.00	2.00	30.00	2056.61	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00000	1000.00	0.00000
AT&T A 1	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00000	1000.00	0.00000
AT&T A 2	Ericsson AIR6449	3700	23.45	112.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T A 3	Ericsson AIR6419	3450	23.45	108.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T A 4	CCI DMP65R-BU8D	700	12.25	110.00	2.00	30.00	1007.28	0.00000	466.67	0.00000
AT&T A 4	CCI DMP65R-BU8D	850	12.55	110.00	2.00	30.00	1079.32	0.00000	566.67	0.00000
AT&T B 5	CCI TPA65R-BU8D	700	12.95	110.00	4.00	30.00	2366.91	0.00003	466.67	0.00001
AT&T B 5	CCI TPA65R-BU8D	1900	15.15	110.00	2.00	30.00	1964.04	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU8D	1900	15.35	110.00	2.00	30.00	2056.61	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00000	1000.00	0.00000
AT&T B 6	Ericsson AIR6449	3700	23.45	112.00	1.00	108.40	23989.95	0.00041	1000.00	0.00004
AT&T B 7	Ericsson AIR6419	3450	23.45	108.00	1.00	108.40	23989.95	0.00034	1000.00	0.00003
AT&T B 8	CCI DMP65R-BU8D	700	12.25	110.00	2.00	30.00	1007.28	0.00001	466.67	0.00000
AT&T B 8	CCI DMP65R-BU8D	850	12.55	110.00	2.00	30.00	1079.32	0.00000	566.67	0.00000
AT&T C 9	CCI TPA65R-BU8D	700	12.95	110.00	4.00	30.00	2366.91	0.00107	466.67	0.00023
AT&T C 9	CCI TPA65R-BU8D	1900	15.15	110.00	2.00	30.00	1964.04	0.00052	1000.00	0.00005
AT&T C 9	CCI TPA65R-BU8D	1900	15.35	110.00	2.00	30.00	2056.61	0.00056	1000.00	0.00006
AT&T C 9	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00053	1000.00	0.00005
AT&T C 9	CCI TPA65R-BU8D	2100	15.85	110.00	2.00	30.00	2307.55	0.00053	1000.00	0.00005
AT&T C 10	Ericsson AIR6449	3700	23.45	112.00	1.00	108.40	23989.95	0.00646	1000.00	0.00065
AT&T C 11	Ericsson AIR6419	3450	23.45	108.00	1.00	108.40	23989.95	0.00603	1000.00	0.00060
AT&T C 12	CCI DMP65R-BU8D	700	12.25	110.00	2.00	30.00	1007.28	0.00066	466.67	0.00014
AT&T C 12	CCI DMP65R-BU8D	850	12.55	110.00	2.00	30.00	1079.32	0.00049	566.67	0.00009
Unknown A 13	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown A 14	GENERIC PANEL 6FT	1900	15.84	120.50	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Unknown A 15	GENERIC PANEL 6FT	2100	16.39	120.50	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Unknown A 16	GENERIC PANEL 6FT	700	12.33	120.50	4.00	40.00	2736.02	0.00000	466.67	0.00000
Unknown A 17	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown B 18	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00003	566.67	0.00001

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
Unknown B 19	GENERIC PANEL 6FT	1900	15.84	120.50	4.00	40.00	6139.32	0.00001	1000.00	0.00000
Unknown B 20	GENERIC PANEL 6FT	2100	16.39	120.50	4.00	40.00	6968.19	0.00001	1000.00	0.00000
Unknown B 21	GENERIC PANEL 6FT	700	12.33	120.50	4.00	40.00	2736.02	0.00004	466.67	0.00001
Unknown B 22	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00003	566.67	0.00001
Unknown C 23	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00055	566.67	0.00010
Unknown C 24	GENERIC PANEL 6FT	1900	15.84	120.50	4.00	40.00	6139.32	0.00055	1000.00	0.00006
Unknown C 25	GENERIC PANEL 6FT	2100	16.39	120.50	4.00	40.00	6968.19	0.00076	1000.00	0.00008
Unknown C 26	GENERIC PANEL 6FT	700	12.33	120.50	4.00	40.00	2736.02	0.00059	466.67	0.00013
Unknown C 27	GENERIC PANEL 6FT	850	12.62	120.50	4.00	40.00	2924.96	0.00055	566.67	0.00010
Unknown A 28	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown A 29	GENERIC PANEL 6FT	600	12.33	99.60	2.00	60.00	2052.02	0.00000	400.00	0.00000
Unknown A 30	GENERIC PANEL 6FT	700	12.33	99.60	2.00	60.00	2052.02	0.00000	466.67	0.00000
Unknown A 31	GENERIC PANEL 6FT	2100	16.39	99.60	2.00	60.00	5226.14	0.00000	1000.00	0.00000
Unknown A 32	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown B 33	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00002	1000.00	0.00000
Unknown B 34	GENERIC PANEL 6FT	600	12.33	99.60	2.00	60.00	2052.02	0.00005	400.00	0.00001
Unknown B 35	GENERIC PANEL 6FT	700	12.33	99.60	2.00	60.00	2052.02	0.00005	466.67	0.00001
Unknown B 36	GENERIC PANEL 6FT	2100	16.39	99.60	2.00	60.00	5226.14	0.00001	1000.00	0.00000
Unknown B 37	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00002	1000.00	0.00000
Unknown C 38	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00062	1000.00	0.00006
Unknown C 39	GENERIC PANEL 6FT	600	12.33	99.60	2.00	60.00	2052.02	0.00066	400.00	0.00017
Unknown C 40	GENERIC PANEL 6FT	700	12.33	99.60	2.00	60.00	2052.02	0.00066	466.67	0.00014
Unknown C 41	GENERIC PANEL 6FT	2100	16.39	99.60	2.00	60.00	5226.14	0.00085	1000.00	0.00009
Unknown C 42	GENERIC PANEL 6FT	1900	15.84	99.60	2.00	60.00	4604.49	0.00062	1000.00	0.00006
							Cumulative Power Density:	**16.36321 µW/cm²**	**Cumulative % MPE:**	**1.63691%**

Summary

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

Michelle Stone
RF EME Technical Writer II
Centerline Communications, LLC

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**120 ft Monopole**
ATC Site Name	:	**CT Collinsville CAC 802816 CT,CT**
ATC Site Number	:	**411259**
Engineering Number	:	**13757764_C3_03**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**MRCTB056040**
Carrier Site Number	:	**CT01230**
Site Location	:	**650 Albany Turnpike** **Collinsville, CT 06019-3522** **41.8506, -72.9487**
County	:	**Hartford**
Date	:	**March 28, 2022**
Max Usage	:	**62%**
Result	:	**Pass**

Prepared By:

Chris Tahara, E.I.
TEP

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RUCKER
32608
LICENSED PROFESSIONAL ENGINEER

COA : PEC.0001553

03/28/2022

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 120 ft Monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	EEI Project #11936 Rev 3, dated January 29, 2004
Foundation Drawing	EEI Project #11936, dated September 10, 2003
Geotechnical Report	CHA Project #11869.1006.1502, dated November 20, 2002
Mount Analysis	ATC Job #13757764_C8_01, dated March 21, 2022

Analysis

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

Basic Wind Speed:	115 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" 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
121.0	3	Samsung B2/B66A RRH-BR049	Triangular Platform with Handrails	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	1	VZW Unused Reserve (15340.47 sqin)			
	2	Antel LPA-80063/6CF			
	4	Antel LPA-80080/6CF ___			
	6	Commscope NHH-65B-R2B			
	3	Samsung MT6407-77A			
	2	Raycap RRFDC-3315-PF-48			
113.0	-	-	Triangular Low Profile Platform	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6	AT&T MOBILITY
100.0	3	RFS APXVAARR24_43-U-NA20	Triangular Platform with Handrails	(3) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax	T-MOBILE
	3	RFS APX16DWV-16DWV-S-E-ACU			
	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson KRY 112 144/1			
	3	Ericsson KRY 112 489/2			
89.0	3	JMA Wireless MX08FRO665-21	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	1	Commscope RDIDC-9181-PF-48			
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
110.0	1	Andrew ABT-DFDM-ADB	-	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 3" conduit	AT&T MOBILITY
	12	Powerwave Allgon TT19-08BP111-001			
	3	Powerwave Allgon P65-17-XLH-RR			
	6	Ericsson RRUS-11 (50 lbs.)			
	6	Powerwave Allgon P65-15-XLH-RR			
	1	Raycap DC6-48-60-0-8F			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
112.0	3	Ericsson Air 6449 B77D	Triangular Platform with Handrails	(3) 0.41" (10.3mm) Fiber (2) 0.82" (20.8mm) 8 AWG 6 (4) 0.92" (23.4mm) Cable (3) 2" conduit	AT&T MOBILITY
110.0	3	Ericsson RRUS 8843 B2, B66A			
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	2	Raycap DC9-48-60-24-8C-EV			
	1	CCI DMP65R-BU6DA			
	1	CCI TPA-65R-BU6DA-K			
	2	CCI DMP65R-BU8D			
	2	CCI TPA65R-BU8D			
108.0	3	Ericsson AIR 6419 B77G			

[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	38%	Pass
Shaft	47%	Pass
Base Plate	29%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3083.8	4163.1	2208.9	53%
Shear (Kips)	27.5	37.1	23.0	62%
* 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, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
112.0	Ericsson Air 6449 B77D	AT&T MOBILITY	0.781	0.710
110.0	Raycap DC6-48-60-18-8F	AT&T MOBILITY	0.757	0.710
	Ericsson RRUS 4449 B5, B12			
	Ericsson RRUS 4478 B14			
	Ericsson RRUS 8843 B2, B66A			
	Raycap DC9-48-60-24-8C-EV			
	CCI DMP65R-BU6DA			
	CCI TPA-65R-BU6DA-K			
	CCI DMP65R-BU8D			
	CCI TPA65R-BU8D			
108.0	Ericsson AIR 6419 B77G	AT&T MOBILITY	0.732	0.710

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

Standard Conditions

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

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

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

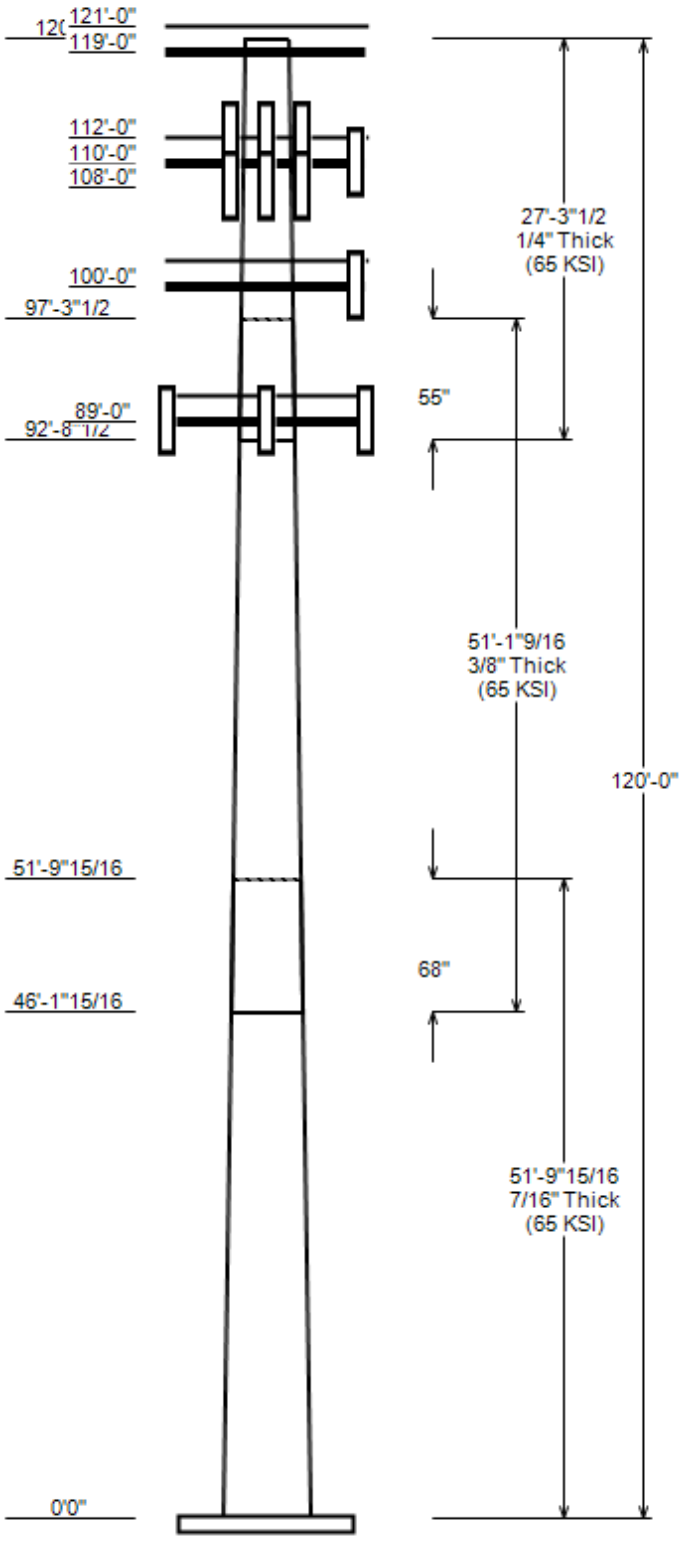
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

JOB INFORMATION

Asset :	411259, CT Collinsville CAC 802816 CT	Height :	120 ft
Client :	AT&T MOBILITY	Base Width :	49
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 1.5" radi **Topo Method:** Method 1

Base Elev (ft): 0.00 **Taper :** 0.19500(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	51.830	38.92	49.00	0.438		0.000	18 Sides	65
2	51.130	30.82	40.77	0.375	Slip Joint	68.000	18 Sides	65
3	27.290	26.90	32.21	0.250	Slip Joint	55.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
121.0	121.0	3	Samsung B5/B13 RRH-BR04C
121.0	121.0	3	Samsung B2/B66A RRH-BR049
121.0	121.0	2	Raycap RRFDC-3315-PF-48
121.0	121.0	3	Samsung MT6407-77A
121.0	121.0	6	Commscope NHH-65B-R2B
121.0	121.0	4	Antel LPA-80080/6CF ___
121.0	121.0	2	Antel LPA-80063/6CF
121.0	121.0	1	VZW Unused Reserve (15340.47 s
119.0	119.0	1	Generic Flat Platform with Han
112.0	112.0	3	Ericsson Air 6449 B77D
110.0	110.0	1	Raycap DC6-48-60-18-8F
110.0	110.0	3	Ericsson RRUS 8843 B2, B66A
110.0	110.0	3	Ericsson RRUS 4449 B5, B12
110.0	110.0	3	Ericsson RRUS 4478 B14
110.0	110.0	2	Raycap DC9-48-60-24-8C-EV
110.0	110.0	1	CCI DMP65R-BU6DA
110.0	110.0	1	CCI TPA-65R-BU6DA-K
110.0	110.0	2	CCI DMP65R-BU8D
110.0	110.0	2	CCI TPA65R-BU8D
110.0	110.0	1	Generic Round Platform with Ha
108.0	108.0	3	Ericsson AIR 6419 B77G
100.0	100.0	3	Ericsson KRY 112 144/1
100.0	100.0	3	Ericsson KRY 112 489/2
100.0	100.0	3	Ericsson Radio 4449 B12,B71
100.0	100.0	3	RFS APX16DWV-16DWV-S-E-ACU
100.0	100.0	3	RFS APXVAARR24_43-U-NA20
100.0	100.0	1	Site PRO 1 RMQP-4096-HK (Platf
89.0	89.0	1	Commscope RDIDC-9181-PF-48
89.0	89.0	3	Fujitsu TA08025-B604
89.0	89.0	3	Fujitsu TA08025-B605
89.0	89.0	3	JMA Wireless MX08FRO665-21
89.0	89.0	1	Generic Flat Platform with Han

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	121.0	1 5/8" Hybriflex	No
0.0	121.0	1 5/8" Coax	No
0.0	113.0	0.78" (19.7mm) 8 AWG 6	No
0.0	113.0	0.39" (10mm) Fiber Trunk	No
0.0	110.0	2" conduit	No
0.0	110.0	0.92" (23.4mm) Cable	No
0.0	110.0	0.82" (20.8mm) 8 AWG 6	No

JOB INFORMATION			
Asset :	411259, CT Collinsville CAC 802816 CT	Height :	120 ft
Client :	AT&T MOBILITY	Base Width :	49
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	110.0	0.41" (10.3mm) Fiber	No
0.0	100.0	1 5/8" Coax	No
0.0	100.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	89.0	1.60" (40.6mm) Hybrid	Yes

LOAD CASES

1.2D + 1.0W Normal	115 mph wind with no ice
0.9D + 1.0W Normal	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1.5" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	2208.91	22.95	48.37
0.9D + 1.0W Normal	2186.65	22.93	36.27
1.2D + 1.0Di + 1.0Wi Normal	649.21	6.74	72.04
1.2D + 1.0Ev + 1.0Eh Normal	122.99	1.21	48.23
0.9D - 1.0Ev + 1.0Eh Normal	121.52	1.21	33.64
1.0D + 1.0W Service Normal	534.59	5.59	40.33

DISH DEFLECTIONS

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

ANALYSIS PARAMETERS

Location:	Hartford County,CT	**Height:**	120 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	49.00 in
Manufacturer:	EEI	**Top Diameter:**	26.90 in
K_d (non-service):	0.95	**Taper:**	0.1950 in/ft
K_e:	0.98	**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:**	1.50 in
Crest Height:	0 ft	**HMSL:**	492.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.98
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 Normal	115 mph wind with no ice
0.9D + 1.0W Normal	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1.5" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

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	51.83	0.4375	65		0.00	10,658	49.00	0.000	67.43	20,092.1	18.34	112.00	38.92	51.83	53.43	9,993.9	14.27	88.95	0.1946
2-18	51.13	0.3750	65	Slip	68.00	7,334	40.77	46.160	48.08	9,910.0	17.76	108.71	30.82	97.29	36.23	4,242.8	13.08	82.18	0.1946
3-18	27.29	0.2500	65	Slip	55.00	2,159	32.21	92.710	25.36	3,272.7	21.31	128.84	26.90	120.00	21.15	1,897.5	17.56	107.60	0.1946

Shaft Weight 20,151

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
121.00	Antel LPA-80063/6CF	2	0.75	0.000	27.00	9.593	0.82	307.66	10.920	0.82
121.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	126.33	2.759	0.50
121.00	Commscope NHH-65B-R2B	6	0.75	0.000	43.70	8.079	0.69	214.48	10.808	0.69
121.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	181.44	6.197	0.61
121.00	Raycap RRFDC-3315-PF-48	2	0.75	0.000	26.90	2.512	0.67	104.93	3.532	0.67
121.00	VZW Unused Reserve (15340.47 s	1	0.75	0.000	1337.10	106.531	0.90	2249.53	179.227	0.90
121.00	Antel LPA-80080/6CF ___	4	0.75	0.000	21.00	8.628	0.62	210.72	5.481	0.62
121.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	146.89	2.759	0.50
119.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	4236.44	62.899	1.00
112.00	Ericsson Air 6449 B77D	3	0.75	0.000	81.60	4.028	0.65	181.59	5.365	0.65
110.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.40	2.021	0.67	118.96	2.937	0.67
110.00	Raycap DC9-48-60-24-8C-EV	2	0.75	0.000	16.00	4.788	0.75	141.30	6.216	0.75
110.00	CCI DMP65R-BU6DA	1	0.75	0.000	79.40	12.709	1.00	329.42	15.416	1.00
110.00	CCI TPA-65R-BU6DA-K	1	0.75	0.000	79.60	15.270	1.00	370.18	18.047	1.00
110.00	CCI TPA65R-BU8D	2	0.75	0.000	82.50	18.089	0.72	417.14	21.673	0.72
110.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	4072.05	50.925	1.00
110.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	133.55	2.874	0.50
110.00	Ericsson RRUS 8843 B2, B66A	3	0.75	0.000	72.00	1.639	0.50	131.49	2.459	0.50
110.00	CCI DMP65R-BU8D	2	0.75	0.000	95.70	17.871	0.72	425.58	21.448	0.72
110.00	Raycap DC6-48-60-18-8F	1	0.75	0.000	20.00	1.260	0.50	71.10	1.899	0.50
108.00	Ericsson AIR 6419 B77G	3	0.75	0.000	66.10	3.797	0.65	160.05	5.073	0.65
100.00	Site PRO 1 RMQP-4096-HK (Platf	1	1.00	0.000	2645.80	27.200	1.00	4293.01	50.689	1.00
100.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	505.14	23.807	0.63
100.00	RFS APX16DWV-16DWV-S-E-ACU	3	0.75	0.000	39.60	6.077	0.60	118.41	8.054	0.60
100.00	Ericsson Radio 4449 B12,B71	3	0.75	0.000	74.00	1.639	0.50	127.80	2.450	0.50
100.00	Ericsson KRY 112 144/1	3	0.75	0.000	11.00	0.351	0.50	21.34	0.741	0.50
100.00	Ericsson KRY 112 489/2	3	0.75	0.000	15.40	0.559	0.50	32.37	1.063	0.50
89.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	75.90	2.721	1.00
89.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	134.45	2.835	0.50
89.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	119.24	2.835	0.50
89.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	308.40	15.156	0.64
89.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	4185.75	62.301	1.00
Totals	Num Loadings: 32	77			15,699.30			32,448.71		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : 90.00

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	121.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	121.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	113.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	113.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	110.00	4	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	110.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	110.00	3	0.41" (10.3mm) Fiber	0.41	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	110.00	2	0.82" (20.8mm) 8 AWG	0.82	0.62	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	100.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	T-MOBILE
0.00	100.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	T-MOBILE
0.00	89.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	1	0	0	90	0	Y	DISH WIRELESS

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	49.000	67.433	20,092.10	18.34	112.00	79.8	807.6	0.0	0.0
5.00		0.4375	48.027	66.082	18,908.50	17.95	109.78	80.3	775.4	0.0	1,135.8
10.00		0.4375	47.054	64.731	17,772.40	17.55	107.55	80.8	743.9	0.0	1,112.8
15.00		0.4375	46.081	63.380	16,682.70	17.16	105.33	81.2	713.1	0.0	1,089.8
20.00		0.4375	45.108	62.029	15,638.50	16.77	103.10	81.7	682.8	0.0	1,066.8
25.00		0.4375	44.135	60.678	14,638.80	16.38	100.88	82.1	653.3	0.0	1,043.9
30.00		0.4375	43.163	59.327	13,682.60	15.99	98.66	82.6	624.4	0.0	1,020.9
35.00		0.4375	42.190	57.976	12,769.00	15.59	96.43	82.6	596.1	0.0	997.9
40.00		0.4375	41.217	56.625	11,897.00	15.20	94.21	82.6	568.5	0.0	974.9
45.00		0.4375	40.244	55.274	11,065.60	14.81	91.99	82.6	541.6	0.0	951.9
46.16	Bot - Section 2	0.4375	40.017	54.960	10,877.90	14.72	91.47	82.6	535.4	0.0	218.2
50.00		0.4375	39.271	53.923	10,273.90	14.42	89.76	82.6	515.3	0.0	1,332.6
51.83	Top - Section 1	0.3750	39.665	46.763	9,120.40	17.24	105.77	81.1	452.9	0.0	626.8
55.00		0.3750	39.048	46.029	8,697.50	16.95	104.13	81.5	438.7	0.0	500.5
60.00		0.3750	38.075	44.871	8,057.50	16.49	101.53	82	416.8	0.0	773.3
65.00		0.3750	37.102	43.713	7,449.60	16.03	98.94	82.5	395.5	0.0	753.6
70.00		0.3750	36.129	42.555	6,873.10	15.58	96.34	82.6	374.7	0.0	733.9
75.00		0.3750	35.156	41.397	6,327.20	15.12	93.75	82.6	354.5	0.0	714.2
80.00		0.3750	34.183	40.239	5,810.90	14.66	91.16	82.6	334.8	0.0	694.5
85.00		0.3750	33.210	39.081	5,323.60	14.21	88.56	82.6	315.7	0.0	674.8
89.00		0.3750	32.432	38.155	4,953.90	13.84	86.49	82.6	300.9	0.0	525.6
90.00		0.3750	32.238	37.923	4,864.20	13.75	85.97	82.6	297.2	0.0	129.4
92.71	Bot - Section 3	0.3750	31.710	37.295	4,626.70	13.50	84.56	82.6	287.4	0.0	346.8
95.00		0.3750	31.265	36.765	4,432.10	13.29	83.37	82.6	279.2	0.0	484.8
97.29	Top - Section 2	0.2500	31.318	24.652	3,006.30	20.68	125.27	77.1	189.1	0.0	478.6
100.00		0.2500	30.792	24.234	2,856.00	20.31	123.17	77.5	182.7	0.0	225.1
105.00		0.2500	29.819	23.462	2,591.70	19.62	119.28	78.3	171.2	0.0	405.7
108.00		0.2500	29.235	22.999	2,441.20	19.21	116.94	78.8	164.5	0.0	237.1
110.00		0.2500	28.846	22.690	2,344.20	18.93	115.38	79.1	160.1	0.0	155.5
112.00		0.2500	28.457	22.381	2,249.80	18.66	113.83	79.5	155.7	0.0	153.4
115.00		0.2500	27.873	21.918	2,113.00	18.25	111.49	79.9	149.3	0.0	226.1
119.00		0.2500	27.095	21.300	1,939.30	17.70	108.38	80.6	141.0	0.0	294.1
120.00		0.2500	26.900	21.146	1,897.50	17.56	107.60	80.7	138.9	0.0	72.2
								Totals:			20,151.5

Load Case: 1.2D + 1.0W Normal 115 mph wind with no ice 21 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	-48.37	-22.95	0.00	-2,208.9	0.00	2,208.91	4,844.94	1,183.44	5,191.11	4,835.57	0	0	0.467
5.00	-46.69	-22.71	0.00	-2,094.2	0.00	2,094.17	4,775.31	1,159.73	4,985.22	4,669.74	0.08	-0.15	0.459
10.00	-45.05	-22.47	0.00	-1,980.6	0.00	1,980.62	4,704.55	1,136.02	4,783.50	4,505.63	0.32	-0.31	0.450
15.00	-43.43	-22.23	0.00	-1,868.3	0.00	1,868.27	4,632.67	1,112.31	4,585.94	4,343.33	0.73	-0.46	0.440
20.00	-41.84	-21.99	0.00	-1,757.1	0.00	1,757.12	4,559.67	1,088.61	4,392.55	4,182.90	1.29	-0.61	0.430
25.00	-40.29	-21.75	0.00	-1,647.2	0.00	1,647.17	4,485.55	1,064.90	4,203.32	4,024.42	2.02	-0.77	0.419
30.00	-38.76	-21.50	0.00	-1,538.4	0.00	1,538.42	4,407.69	1,041.19	4,018.26	3,865.64	2.91	-0.92	0.407
35.00	-37.26	-21.25	0.00	-1,430.9	0.00	1,430.90	4,307.32	1,017.48	3,837.37	3,690.72	3.96	-1.08	0.397
40.00	-35.79	-20.98	0.00	-1,324.7	0.00	1,324.66	4,206.95	993.77	3,660.64	3,519.85	5.17	-1.23	0.385
45.00	-34.37	-20.79	0.00	-1,219.8	0.00	1,219.77	4,106.58	970.06	3,488.08	3,353.03	6.54	-1.38	0.373
46.16	-34.02	-20.66	0.00	-1,195.6	0.00	1,195.58	4,083.23	964.54	3,448.53	3,314.80	6.88	-1.42	0.369
50.00	-32.21	-20.46	0.00	-1,116.3	0.00	1,116.32	4,006.21	946.35	3,319.69	3,190.26	8.07	-1.54	0.358
51.83	-31.34	-20.31	0.00	-1,078.9	0.00	1,078.87	3,414.21	820.69	2,912.57	2,755.48	8.67	-1.59	0.401
55.00	-30.55	-20.07	0.00	-1,014.5	0.00	1,014.49	3,374.74	807.81	2,821.85	2,680.46	9.76	-1.69	0.388
60.00	-29.33	-19.76	0.00	-914.2	0.00	914.15	3,311.56	787.48	2,681.68	2,563.48	11.61	-1.84	0.366
65.00	-28.13	-19.45	0.00	-815.3	0.00	815.34	3,247.27	767.16	2,545.07	2,448.20	13.63	-2	0.342
70.00	-26.97	-19.13	0.00	-718.1	0.00	718.09	3,161.61	746.84	2,412.04	2,319.84	15.8	-2.14	0.319
75.00	-25.83	-18.81	0.00	-622.4	0.00	622.44	3,075.58	726.52	2,282.58	2,194.67	18.12	-2.28	0.293
80.00	-24.72	-18.47	0.00	-528.4	0.00	528.42	2,989.55	706.19	2,156.68	2,072.97	20.58	-2.41	0.264
85.00	-23.64	-18.17	0.00	-436.0	0.00	436.05	2,903.52	685.87	2,034.36	1,954.74	23.16	-2.53	0.232
89.00	-19.15	-15.61	0.00	-363.4	0.00	363.38	2,834.69	669.61	1,939.08	1,862.66	25.32	-2.61	0.202
90.00	-18.94	-15.49	0.00	-347.8	0.00	347.76	2,817.49	665.55	1,915.61	1,839.98	25.87	-2.63	0.196
92.71	-18.39	-15.32	0.00	-305.8	0.00	305.77	2,770.86	654.53	1,852.74	1,779.24	27.38	-2.69	0.179
95.00	-17.70	-15.15	0.00	-270.7	0.00	270.69	2,731.46	645.23	1,800.43	1,728.70	28.68	-2.73	0.164
97.29	-17.02	-14.96	0.00	-236.0	0.00	235.96	1,710.13	432.64	1,214.07	1,093.00	30	-2.76	0.227
100.00	-12.60	-12.21	0.00	-195.5	0.00	195.47	1,690.67	425.31	1,173.26	1,062.10	31.58	-2.8	0.192
105.00	-11.96	-11.93	0.00	-134.4	0.00	134.44	1,653.85	411.76	1,099.71	1,005.60	34.56	-2.89	0.142
108.00	-11.36	-11.55	0.00	-98.6	0.00	98.65	1,631.22	403.63	1,056.72	972.10	36.39	-2.92	0.109
110.00	-6.90	-7.66	0.00	-75.6	0.00	75.55	1,615.92	398.21	1,028.54	949.94	37.62	-2.94	0.084
112.00	-6.42	-7.28	0.00	-60.2	0.00	60.22	1,600.43	392.79	1,000.74	927.92	38.85	-2.96	0.069
115.00	-6.13	-7.05	0.00	-38.4	0.00	38.39	1,576.86	384.66	959.75	895.16	40.72	-2.98	0.047
119.00	-2.83	-5.19	0.00	-10.2	0.00	10.20	1,544.80	373.82	906.44	852.04	43.22	-2.99	0.014
120.00	0.00	-5.04	0.00	-5.0	0.00	5.01	1,536.68	371.11	893.35	841.35	43.85	-2.99	0.006

Load Case: 0.9D + 1.0W Normal 115 mph wind with no ice 21 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	-36.27	-22.93	0.00	-2,186.6	0.00	2,186.65	4,844.94	1,183.44	5,191.11	4,835.57	0	0	0.460
5.00	-35.00	-22.66	0.00	-2,072.0	0.00	2,071.99	4,775.31	1,159.73	4,985.22	4,669.74	0.08	-0.15	0.451
10.00	-33.75	-22.39	0.00	-1,958.7	0.00	1,958.69	4,704.55	1,136.02	4,783.50	4,505.63	0.32	-0.3	0.442
15.00	-32.52	-22.13	0.00	-1,846.7	0.00	1,846.73	4,632.67	1,112.31	4,585.94	4,343.33	0.72	-0.45	0.433
20.00	-31.32	-21.86	0.00	-1,736.1	0.00	1,736.10	4,559.67	1,088.61	4,392.55	4,182.90	1.28	-0.61	0.422
25.00	-30.14	-21.59	0.00	-1,626.8	0.00	1,626.81	4,485.55	1,064.90	4,203.32	4,024.42	2	-0.76	0.411
30.00	-28.98	-21.33	0.00	-1,518.8	0.00	1,518.84	4,407.69	1,041.19	4,018.26	3,865.64	2.87	-0.91	0.400
35.00	-27.85	-21.05	0.00	-1,412.2	0.00	1,412.20	4,307.32	1,017.48	3,837.37	3,690.72	3.91	-1.07	0.390
40.00	-26.73	-20.76	0.00	-1,307.0	0.00	1,306.95	4,206.95	993.77	3,660.64	3,519.85	5.11	-1.22	0.378
45.00	-25.66	-20.57	0.00	-1,203.1	0.00	1,203.13	4,106.58	970.06	3,488.08	3,353.03	6.47	-1.37	0.366
46.16	-25.40	-20.43	0.00	-1,179.2	0.00	1,179.19	4,083.23	964.54	3,448.53	3,314.80	6.8	-1.4	0.362
50.00	-24.03	-20.23	0.00	-1,100.8	0.00	1,100.82	4,006.21	946.35	3,319.69	3,190.26	7.98	-1.52	0.352
51.83	-23.37	-20.07	0.00	-1,063.8	0.00	1,063.79	3,414.21	820.69	2,912.57	2,755.48	8.57	-1.57	0.394
55.00	-22.77	-19.82	0.00	-1,000.2	0.00	1,000.17	3,374.74	807.81	2,821.85	2,680.46	9.65	-1.67	0.380
60.00	-21.85	-19.50	0.00	-901.1	0.00	901.07	3,311.56	787.48	2,681.68	2,563.48	11.47	-1.82	0.359
65.00	-20.94	-19.18	0.00	-803.6	0.00	803.56	3,247.27	767.16	2,545.07	2,448.20	13.46	-1.97	0.335
70.00	-20.06	-18.85	0.00	-707.7	0.00	707.67	3,161.61	746.84	2,412.04	2,319.84	15.61	-2.12	0.312
75.00	-19.20	-18.52	0.00	-613.4	0.00	613.40	3,075.58	726.52	2,282.58	2,194.67	17.9	-2.25	0.286
80.00	-18.36	-18.19	0.00	-520.8	0.00	520.79	2,989.55	706.19	2,156.68	2,072.97	20.32	-2.38	0.258
85.00	-17.55	-17.88	0.00	-429.8	0.00	429.85	2,903.52	685.87	2,034.36	1,954.74	22.88	-2.5	0.227
89.00	-14.20	-15.38	0.00	-358.3	0.00	358.32	2,834.69	669.61	1,939.08	1,862.66	25.01	-2.58	0.198
90.00	-14.05	-15.26	0.00	-342.9	0.00	342.94	2,817.49	665.55	1,915.61	1,839.98	25.55	-2.6	0.192
92.71	-13.63	-15.08	0.00	-301.6	0.00	301.59	2,770.86	654.53	1,852.74	1,779.24	27.04	-2.65	0.175
95.00	-13.11	-14.92	0.00	-267.0	0.00	267.04	2,731.46	645.23	1,800.43	1,728.70	28.32	-2.69	0.160
97.29	-12.60	-14.74	0.00	-232.8	0.00	232.83	1,710.13	432.64	1,214.07	1,093.00	29.62	-2.73	0.222
100.00	-9.31	-12.04	0.00	-193.0	0.00	192.95	1,690.67	425.31	1,173.26	1,062.10	31.18	-2.77	0.188
105.00	-8.84	-11.76	0.00	-132.8	0.00	132.77	1,653.85	411.76	1,099.71	1,005.60	34.13	-2.85	0.138
108.00	-8.39	-11.39	0.00	-97.5	0.00	97.47	1,631.22	403.63	1,056.72	972.10	35.93	-2.89	0.106
110.00	-5.08	-7.57	0.00	-74.7	0.00	74.69	1,615.92	398.21	1,028.54	949.94	37.14	-2.91	0.082
112.00	-4.73	-7.19	0.00	-59.6	0.00	59.56	1,600.43	392.79	1,000.74	927.92	38.36	-2.92	0.067
115.00	-4.51	-6.96	0.00	-38.0	0.00	38.00	1,576.86	384.66	959.75	895.16	40.2	-2.94	0.046
119.00	-2.06	-5.15	0.00	-10.2	0.00	10.16	1,544.80	373.82	906.44	852.04	42.67	-2.95	0.013
120.00	0.00	-5.04	0.00	-5.0	0.00	5.01	1,536.68	371.11	893.35	841.35	43.29	-2.95	0.006

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1.5" radial ice			20 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	-72.04	-6.74	0.00	-649.2	0.00	649.21	4,844.94	1,183.44	5,191.11	4,835.57	0	0	0.149
5.00	-70.06	-6.68	0.00	-615.5	0.00	615.49	4,775.31	1,159.73	4,985.22	4,669.74	0.02	-0.04	0.147
10.00	-68.07	-6.61	0.00	-582.1	0.00	582.10	4,704.55	1,136.02	4,783.50	4,505.63	0.1	-0.09	0.144
15.00	-66.09	-6.55	0.00	-549.0	0.00	549.03	4,632.67	1,112.31	4,585.94	4,343.33	0.21	-0.14	0.141
20.00	-64.13	-6.48	0.00	-516.3	0.00	516.29	4,559.67	1,088.61	4,392.55	4,182.90	0.38	-0.18	0.138
25.00	-62.20	-6.41	0.00	-483.9	0.00	483.88	4,485.55	1,064.90	4,203.32	4,024.42	0.59	-0.23	0.134
30.00	-60.30	-6.35	0.00	-451.8	0.00	451.81	4,407.69	1,041.19	4,018.26	3,865.64	0.85	-0.27	0.131
35.00	-58.43	-6.27	0.00	-420.1	0.00	420.08	4,307.32	1,017.48	3,837.37	3,690.72	1.16	-0.32	0.127
40.00	-56.59	-6.19	0.00	-388.7	0.00	388.72	4,206.95	993.77	3,660.64	3,519.85	1.52	-0.36	0.124
45.00	-54.78	-6.14	0.00	-357.8	0.00	357.76	4,106.58	970.06	3,488.08	3,353.03	1.92	-0.41	0.120
46.16	-54.36	-6.10	0.00	-350.6	0.00	350.62	4,083.23	964.54	3,448.53	3,314.80	2.02	-0.42	0.119
50.00	-52.24	-6.04	0.00	-327.2	0.00	327.22	4,006.21	946.35	3,319.69	3,190.26	2.37	-0.45	0.116
51.83	-51.25	-5.99	0.00	-316.2	0.00	316.17	3,414.21	820.69	2,912.57	2,755.48	2.55	-0.47	0.130
55.00	-50.22	-5.92	0.00	-297.2	0.00	297.18	3,374.74	807.81	2,821.85	2,680.46	2.87	-0.5	0.126
60.00	-48.64	-5.83	0.00	-267.6	0.00	267.58	3,311.56	787.48	2,681.68	2,563.48	3.41	-0.54	0.119
65.00	-47.08	-5.73	0.00	-238.4	0.00	238.44	3,247.27	767.16	2,545.07	2,448.20	4	-0.59	0.112
70.00	-45.55	-5.63	0.00	-209.8	0.00	209.79	3,161.61	746.84	2,412.04	2,319.84	4.64	-0.63	0.105
75.00	-44.06	-5.53	0.00	-181.6	0.00	181.64	3,075.58	726.52	2,282.58	2,194.67	5.32	-0.67	0.097
80.00	-42.59	-5.42	0.00	-154.0	0.00	154.00	2,989.55	706.19	2,156.68	2,072.97	6.04	-0.71	0.089
85.00	-41.16	-5.32	0.00	-126.9	0.00	126.90	2,903.52	685.87	2,034.36	1,954.74	6.8	-0.74	0.079
89.00	-33.89	-4.60	0.00	-105.6	0.00	105.62	2,834.69	669.61	1,939.08	1,862.66	7.43	-0.77	0.069
90.00	-33.62	-4.56	0.00	-101.0	0.00	101.02	2,817.49	665.55	1,915.61	1,839.98	7.59	-0.77	0.067
92.71	-32.89	-4.50	0.00	-88.7	0.00	88.67	2,770.86	654.53	1,852.74	1,779.24	8.04	-0.79	0.062
95.00	-32.04	-4.44	0.00	-78.4	0.00	78.37	2,731.46	645.23	1,800.43	1,728.70	8.42	-0.8	0.057
97.29	-31.20	-4.38	0.00	-68.2	0.00	68.19	1,710.13	432.64	1,214.07	1,093.00	8.8	-0.81	0.081
100.00	-23.71	-3.54	0.00	-56.4	0.00	56.35	1,690.67	425.31	1,173.26	1,062.10	9.27	-0.82	0.067
105.00	-22.75	-3.45	0.00	-38.6	0.00	38.64	1,653.85	411.76	1,099.71	1,005.60	10.14	-0.84	0.052
108.00	-21.70	-3.33	0.00	-28.3	0.00	28.30	1,631.22	403.63	1,056.72	972.10	10.67	-0.86	0.042
110.00	-13.28	-2.22	0.00	-21.6	0.00	21.64	1,615.92	398.21	1,028.54	949.94	11.03	-0.86	0.031
112.00	-12.40	-2.10	0.00	-17.2	0.00	17.20	1,600.43	392.79	1,000.74	927.92	11.4	-0.87	0.026
115.00	-11.91	-2.02	0.00	-10.9	0.00	10.89	1,576.86	384.66	959.75	895.16	11.94	-0.87	0.020
119.00	-6.80	-1.46	0.00	-2.8	0.00	2.81	1,544.80	373.82	906.44	852.04	12.68	-0.88	0.008
120.00	0.00	-1.36	0.00	-1.4	0.00	1.35	1,536.68	371.11	893.35	841.35	12.86	-0.88	0.002

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 20 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	-40.33	-5.59	0.00	-534.6	0.00	534.59	4,844.94	1,183.44	5,191.11	4,835.57	0	0	0.119
5.00	-38.98	-5.52	0.00	-506.7	0.00	506.66	4,775.31	1,159.73	4,985.22	4,669.74	0.02	-0.04	0.117
10.00	-37.66	-5.46	0.00	-479.0	0.00	479.04	4,704.55	1,136.02	4,783.50	4,505.63	0.08	-0.07	0.114
15.00	-36.35	-5.40	0.00	-451.7	0.00	451.74	4,632.67	1,112.31	4,585.94	4,343.33	0.18	-0.11	0.112
20.00	-35.07	-5.33	0.00	-424.8	0.00	424.76	4,559.67	1,088.61	4,392.55	4,182.90	0.31	-0.15	0.109
25.00	-33.82	-5.27	0.00	-398.1	0.00	398.08	4,485.55	1,064.90	4,203.32	4,024.42	0.49	-0.19	0.106
30.00	-32.59	-5.21	0.00	-371.7	0.00	371.72	4,407.69	1,041.19	4,018.26	3,865.64	0.7	-0.22	0.104
35.00	-31.38	-5.14	0.00	-345.7	0.00	345.68	4,307.32	1,017.48	3,837.37	3,690.72	0.96	-0.26	0.101
40.00	-30.19	-5.08	0.00	-320.0	0.00	319.96	4,206.95	993.77	3,660.64	3,519.85	1.25	-0.3	0.098
45.00	-29.03	-5.03	0.00	-294.6	0.00	294.58	4,106.58	970.06	3,488.08	3,353.03	1.58	-0.33	0.095
46.16	-28.76	-5.00	0.00	-288.7	0.00	288.73	4,083.23	964.54	3,448.53	3,314.80	1.66	-0.34	0.094
50.00	-27.26	-4.95	0.00	-269.6	0.00	269.56	4,006.21	946.35	3,319.69	3,190.26	1.95	-0.37	0.091
51.83	-26.56	-4.91	0.00	-260.5	0.00	260.51	3,414.21	820.69	2,912.57	2,755.48	2.1	-0.38	0.102
55.00	-25.92	-4.85	0.00	-245.0	0.00	244.95	3,374.74	807.81	2,821.85	2,680.46	2.36	-0.41	0.099
60.00	-24.94	-4.77	0.00	-220.7	0.00	220.70	3,311.56	787.48	2,681.68	2,563.48	2.81	-0.45	0.094
65.00	-23.97	-4.70	0.00	-196.8	0.00	196.84	3,247.27	767.16	2,545.07	2,448.20	3.29	-0.48	0.088
70.00	-23.03	-4.62	0.00	-173.4	0.00	173.36	3,161.61	746.84	2,412.04	2,319.84	3.82	-0.52	0.082
75.00	-22.10	-4.54	0.00	-150.3	0.00	150.27	3,075.58	726.52	2,282.58	2,194.67	4.38	-0.55	0.076
80.00	-21.20	-4.46	0.00	-127.6	0.00	127.58	2,989.55	706.19	2,156.68	2,072.97	4.97	-0.58	0.069
85.00	-20.32	-4.38	0.00	-105.3	0.00	105.30	2,903.52	685.87	2,034.36	1,954.74	5.6	-0.61	0.061
89.00	-16.50	-3.77	0.00	-87.8	0.00	87.77	2,834.69	669.61	1,939.08	1,862.66	6.12	-0.63	0.053
90.00	-16.33	-3.74	0.00	-84.0	0.00	84.00	2,817.49	665.55	1,915.61	1,839.98	6.25	-0.64	0.051
92.71	-15.87	-3.70	0.00	-73.9	0.00	73.87	2,770.86	654.53	1,852.74	1,779.24	6.62	-0.65	0.047
95.00	-15.30	-3.66	0.00	-65.4	0.00	65.41	2,731.46	645.23	1,800.43	1,728.70	6.93	-0.66	0.043
97.29	-14.73	-3.61	0.00	-57.0	0.00	57.02	1,710.13	432.64	1,214.07	1,093.00	7.25	-0.67	0.061
100.00	-10.95	-2.95	0.00	-47.2	0.00	47.25	1,690.67	425.31	1,173.26	1,062.10	7.63	-0.68	0.051
105.00	-10.42	-2.88	0.00	-32.5	0.00	32.51	1,653.85	411.76	1,099.71	1,005.60	8.35	-0.7	0.039
108.00	-9.92	-2.79	0.00	-23.9	0.00	23.86	1,631.22	403.63	1,056.72	972.10	8.8	-0.71	0.031
110.00	-6.05	-1.85	0.00	-18.3	0.00	18.28	1,615.92	398.21	1,028.54	949.94	9.09	-0.71	0.023
112.00	-5.63	-1.76	0.00	-14.6	0.00	14.58	1,600.43	392.79	1,000.74	927.92	9.39	-0.72	0.019
115.00	-5.38	-1.70	0.00	-9.3	0.00	9.30	1,576.86	384.66	959.75	895.16	9.84	-0.72	0.014
119.00	-2.56	-1.26	0.00	-2.5	0.00	2.48	1,544.80	373.82	906.44	852.04	10.45	-0.72	0.005
120.00	0.00	-1.23	0.00	-1.2	0.00	1.22	1,536.68	371.11	893.35	841.35	10.6	-0.72	0.001

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):	1.980
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.740
Total Unfactored Dead Load:	40.330 k
Seismic Base Shear (E):	1.210 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
32	119.5	80	328	0.004	5	99
31	117	324	1,285	0.016	19	401
30	113.5	250	940	0.011	14	309
29	111	171	618	0.008	9	211
28	109	205	719	0.009	11	254
27	106.5	311	1,049	0.013	15	385
26	102.5	530	1,668	0.020	25	655
25	98.6467	332	978	0.012	14	411
24	96.1467	569	1,603	0.020	24	704
23	93.855	575	1,554	0.019	23	711
22	91.355	454	1,170	0.014	17	561
21	89.5	169	420	0.005	6	209
20	87	693	1,640	0.020	24	857
19	82.5	884	1,908	0.023	28	1,093
18	77.5	903	1,749	0.021	26	1,118
17	72.5	923	1,592	0.019	23	1,142
16	67.5	943	1,436	0.018	21	1,166
15	62.5	963	1,282	0.016	19	1,191
14	57.5	982	1,131	0.014	17	1,215
13	53.415	633	641	0.008	9	783
12	50.915	703	656	0.008	10	870
11	48.0817	1,493	1,260	0.015	19	1,847
10	45.5817	267	205	0.002	3	330
9	42.5	1,161	790	0.010	12	1,436
8	37.5	1,184	648	0.008	10	1,465
7	32.5	1,207	515	0.006	8	1,493
6	27.5	1,230	393	0.005	6	1,521
5	22.5	1,253	282	0.003	4	1,550
4	17.5	1,276	186	0.002	3	1,578
3	12.5	1,299	105	0.001	2	1,607
2	7.5	1,322	44	0.000	1	1,635
1	2.5	1,345	7	0.000	0	1,664
Samsung B2/B66A RRH-BR049	120	253	1,049	0.013	15	313
Samsung B5/B13 RRH-BR04C	120	211	874	0.011	13	261

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Raycap RRFDC-3315-PF-48	120	54	223	0.003	3	67
Samsung MT6407-77A	120	245	1,014	0.012	15	303
Commscope NHH-65B-R2B	120	262	1,086	0.013	16	324
Antel LPA-80080/6CF ___	120	84	348	0.004	5	104
Antel LPA-80063/6CF	120	54	224	0.003	3	67
VZW Unused Reserve (15340.47 sqin)	120	1,337	5,540	0.067	82	1,654
Generic Flat Platform with Handrails	119	2,500	10,208	0.124	150	3,093
Generic Flat Platform with Handrails	89	2,500	6,158	0.075	91	3,093
Ericsson Air 6449 B77D	112	245	899	0.011	13	303
Raycap DC6-48-60-18-8F	110	20	71	0.001	1	25
Ericsson RRUS 8843 B2, B66A	110	216	769	0.009	11	267
Ericsson RRUS 4449 B5, B12	110	213	758	0.009	11	264
Ericsson RRUS 4478 B14	110	178	635	0.008	9	220
Raycap DC9-48-60-24-8C-EV	110	32	114	0.001	2	40
CCI DMP65R-BU6DA	110	79	283	0.003	4	98
CCI TPA-65R-BU6DA-K	110	80	283	0.004	4	98
CCI DMP65R-BU8D	110	191	682	0.008	10	237
CCI TPA65R-BU8D	110	165	588	0.007	9	204
Generic Round Platform with Handrails	110	2,500	8,902	0.108	131	3,093
Ericsson AIR 6419 B77G	108	198	684	0.008	10	245
Ericsson KRY 112 144/1	100	33	100	0.001	1	41
Ericsson KRY 112 489/2	100	46	139	0.002	2	57
Ericsson Radio 4449 B12,B71	100	222	670	0.008	10	275
RFS APX16DWV-16DWV-S-E-ACU	100	119	358	0.004	5	147
RFS APXVAARR24_43-U-NA20	100	384	1,158	0.014	17	475
Site PRO 1 RMQP-4096-HK (Platfrom w/ Handrail)	100	2,646	7,982	0.097	118	3,273
Commscope RDIDC-9181-PF-48	89	22	54	0.001	1	27
Fujitsu TA08025-B605	89	225	554	0.007	8	278
Fujitsu TA08025-B604	89	192	472	0.006	7	237
JMA Wireless MX08FRO665-21	89	194	477	0.006	7	239
		40,331	82,156	1.000	1,210	49,894

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
32	119.5	80	328	0.004	5	69
31	117	324	1,285	0.016	19	280
30	113.5	250	940	0.011	14	216
29	111	171	618	0.008	9	147
28	109	205	719	0.009	11	177
27	106.5	311	1,049	0.013	15	269
26	102.5	530	1,668	0.020	25	457
25	98.6467	332	978	0.012	14	286
24	96.1467	569	1,603	0.020	24	491
23	93.855	575	1,554	0.019	23	496
22	91.355	454	1,170	0.014	17	392
21	89.5	169	420	0.005	6	146
20	87	693	1,640	0.020	24	598
19	82.5	884	1,908	0.023	28	763
18	77.5	903	1,749	0.021	26	780
17	72.5	923	1,592	0.019	23	797
16	67.5	943	1,436	0.018	21	814
15	62.5	963	1,282	0.016	19	831
14	57.5	982	1,131	0.014	17	848
13	53.415	633	641	0.008	9	546
12	50.915	703	656	0.008	10	607
11	48.0817	1,493	1,260	0.015	19	1,288
10	45.5817	267	205	0.002	3	230
9	42.5	1,161	790	0.010	12	1,002
8	37.5	1,184	648	0.008	10	1,022
7	32.5	1,207	515	0.006	8	1,041

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
6	27.5	1,230	393	0.005	6	1,061
5	22.5	1,253	282	0.003	4	1,081
4	17.5	1,276	186	0.002	3	1,101
3	12.5	1,299	105	0.001	2	1,121
2	7.5	1,322	44	0.000	1	1,141
1	2.5	1,345	7	0.000	0	1,160
Samsung B2/B66A RRH-BR049	120	253	1,049	0.013	15	218
Samsung B5/B13 RRH-BR04C	120	211	874	0.011	13	182
Raycap RRFDC-3315-PF-48	120	54	223	0.003	3	46
Samsung MT6407-77A	120	245	1,014	0.012	15	211
Commscope NHH-65B-R2B	120	262	1,086	0.013	16	226
Antel LPA-80080/6CF ___	120	84	348	0.004	5	72
Antel LPA-80063/6CF	120	54	224	0.003	3	47
VZW Unused Reserve (15340.47 sqin)	120	1,337	5,540	0.067	82	1,154
Generic Flat Platform with Handrails	119	2,500	10,208	0.124	150	2,157
Generic Flat Platform with Handrails	89	2,500	6,158	0.075	91	2,157
Ericsson Air 6449 B77D	112	245	899	0.011	13	211
Raycap DC6-48-60-18-8F	110	20	71	0.001	1	17
Ericsson RRUS 8843 B2, B66A	110	216	769	0.009	11	186
Ericsson RRUS 4449 B5, B12	110	213	758	0.009	11	184
Ericsson RRUS 4478 B14	110	178	635	0.008	9	154
Raycap DC9-48-60-24-8C-EV	110	32	114	0.001	2	28
CCI DMP65R-BU6DA	110	79	283	0.003	4	69
CCI TPA-65R-BU6DA-K	110	80	283	0.004	4	69
CCI DMP65R-BU8D	110	191	682	0.008	10	165
CCI TPA65R-BU8D	110	165	588	0.007	9	142
Generic Round Platform with Handrails	110	2,500	8,902	0.108	131	2,157
Ericsson AIR 6419 B77G	108	198	684	0.008	10	171
Ericsson KRY 112 144/1	100	33	100	0.001	1	28
Ericsson KRY 112 489/2	100	46	139	0.002	2	40
Ericsson Radio 4449 B12,B71	100	222	670	0.008	10	192
RFS APX16DWV-16DWV-S-E-ACU	100	119	358	0.004	5	103
RFS APXVAARR24_43-U-NA20	100	384	1,158	0.014	17	331
Site PRO 1 RMQP-4096-HK (Platfrom w/ Handrail)	100	2,646	7,982	0.097	118	2,283
Commscope RDIDC-9181-PF-48	89	22	54	0.001	1	19
Fujitsu TA08025-B605	89	225	554	0.007	8	194
Fujitsu TA08025-B604	89	192	472	0.006	7	165
JMA Wireless MX08FRO665-21	89	194	477	0.006	7	167
		40,331	82,156	1.000	1,210	34,801

1.2D + 1.0Ev + 1.0Eh Normal **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
0.00	-48.23	-1.21	0.00	-122.99	0.00	122.99	4,844.94	1,183.44	5,191	4,835.57	0.00	0.00	0.04
5.00	-46.59	-1.22	0.00	-116.93	0.00	116.93	4,775.31	1,159.73	4,985	4,669.74	0.00	-0.01	0.04
10.00	-44.99	-1.22	0.00	-110.84	0.00	110.84	4,704.55	1,136.02	4,784	4,505.63	0.02	-0.02	0.03
15.00	-43.41	-1.23	0.00	-104.72	0.00	104.72	4,632.67	1,112.31	4,586	4,343.33	0.04	-0.03	0.03
20.00	-41.86	-1.23	0.00	-98.59	0.00	98.59	4,559.67	1,088.61	4,393	4,182.90	0.07	-0.03	0.03
25.00	-40.34	-1.23	0.00	-92.45	0.00	92.45	4,485.55	1,064.90	4,203	4,024.42	0.11	-0.04	0.03
30.00	-38.84	-1.22	0.00	-86.32	0.00	86.32	4,407.69	1,041.19	4,018	3,865.64	0.16	-0.05	0.03
35.00	-37.38	-1.22	0.00	-80.20	0.00	80.20	4,307.32	1,017.48	3,837	3,690.72	0.22	-0.06	0.03
40.00	-35.94	-1.21	0.00	-74.10	0.00	74.10	4,206.95	993.77	3,661	3,519.85	0.29	-0.07	0.03
45.00	-35.61	-1.21	0.00	-68.05	0.00	68.05	4,106.58	970.06	3,488	3,353.03	0.37	-0.08	0.03
46.16	-33.77	-1.19	0.00	-66.64	0.00	66.64	4,083.23	964.54	3,449	3,314.80	0.39	-0.08	0.03
50.00	-32.90	-1.18	0.00	-62.06	0.00	62.06	4,006.21	946.35	3,320	3,190.26	0.45	-0.09	0.03
51.83	-32.11	-1.18	0.00	-59.90	0.00	59.90	3,414.21	820.69	2,913	2,755.48	0.49	-0.09	0.03
55.00	-30.90	-1.16	0.00	-56.17	0.00	56.17	3,374.74	807.81	2,822	2,680.46	0.55	-0.09	0.03
60.00	-29.71	-1.14	0.00	-50.37	0.00	50.37	3,311.56	787.48	2,682	2,563.48	0.65	-0.10	0.03
65.00	-28.54	-1.13	0.00	-44.64	0.00	44.64	3,247.27	767.16	2,545	2,448.20	0.76	-0.11	0.03
70.00	-27.40	-1.10	0.00	-39.02	0.00	39.02	3,161.61	746.84	2,412	2,319.84	0.88	-0.12	0.03
75.00	-26.28	-1.08	0.00	-33.50	0.00	33.50	3,075.58	726.52	2,283	2,194.67	1.01	-0.13	0.02

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
80.00	-25.19	-1.05	0.00	-28.11	0.00	28.11	2,989.55	706.19	2,157	2,072.97	1.15	-0.13	0.02
85.00	-24.33	-1.03	0.00	-22.85	0.00	22.85	2,903.52	685.87	2,034	1,954.74	1.29	-0.14	0.02
89.00	-20.25	-0.90	0.00	-18.75	0.00	18.75	2,834.69	669.61	1,939	1,862.66	1.41	-0.14	0.02
90.00	-19.69	-0.88	0.00	-17.85	0.00	17.85	2,817.49	665.55	1,916	1,839.98	1.44	-0.15	0.02
92.71	-18.97	-0.86	0.00	-15.46	0.00	15.46	2,770.86	654.53	1,853	1,779.24	1.53	-0.15	0.02
95.00	-18.27	-0.83	0.00	-13.50	0.00	13.50	2,731.46	645.23	1,800	1,728.70	1.60	-0.15	0.02
97.29	-17.86	-0.82	0.00	-11.60	0.00	11.60	1,710.13	432.64	1,214	1,093.00	1.67	-0.15	0.02
100.00	-12.94	-0.63	0.00	-9.39	0.00	9.39	1,690.67	425.31	1,173	1,062.10	1.76	-0.15	0.02
105.00	-12.55	-0.61	0.00	-6.25	0.00	6.25	1,653.85	411.76	1,100	1,005.60	1.92	-0.16	0.01
108.00	-12.05	-0.59	0.00	-4.42	0.00	4.42	1,631.22	403.63	1,057	972.10	2.02	-0.16	0.01
110.00	-7.30	-0.37	0.00	-3.25	0.00	3.25	1,615.92	398.21	1,029	949.94	2.09	-0.16	0.01
112.00	-6.68	-0.35	0.00	-2.50	0.00	2.50	1,600.43	392.79	1,001	927.92	2.15	-0.16	0.01
115.00	-6.28	-0.33	0.00	-1.46	0.00	1.46	1,576.86	384.66	960	895.16	2.26	-0.16	0.01
119.00	-3.09	-0.16	0.00	-0.16	0.00	0.16	1,544.80	373.82	906	852.04	2.39	-0.16	0.00
120.00	0.00	-0.15	0.00	0.00	0.00	0.00	1,536.68	371.11	893	841.35	2.43	-0.16	0.00

0.9D - 1.0Ev + 1.0Eh Normal **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	-33.64	-1.21	0.00	-121.52	0.00	121.52	4,844.94	1,183.44	5,191	4,835.57	0.00	0.00	0.03
5.00	-32.50	-1.22	0.00	-115.46	0.00	115.46	4,775.31	1,159.73	4,985	4,669.74	0.00	-0.01	0.03
10.00	-31.38	-1.22	0.00	-109.38	0.00	109.38	4,704.55	1,136.02	4,784	4,505.63	0.02	-0.02	0.03
15.00	-30.28	-1.22	0.00	-103.29	0.00	103.29	4,632.67	1,112.31	4,586	4,343.33	0.04	-0.03	0.03
20.00	-29.20	-1.22	0.00	-97.20	0.00	97.20	4,559.67	1,088.61	4,393	4,182.90	0.07	-0.03	0.03
25.00	-28.13	-1.22	0.00	-91.10	0.00	91.10	4,485.55	1,064.90	4,203	4,024.42	0.11	-0.04	0.03
30.00	-27.09	-1.21	0.00	-85.02	0.00	85.02	4,407.69	1,041.19	4,018	3,865.64	0.16	-0.05	0.03
35.00	-26.07	-1.21	0.00	-78.96	0.00	78.96	4,307.32	1,017.48	3,837	3,690.72	0.22	-0.06	0.03
40.00	-25.07	-1.20	0.00	-72.93	0.00	72.93	4,206.95	993.77	3,661	3,519.85	0.29	-0.07	0.03
45.00	-24.84	-1.20	0.00	-66.94	0.00	66.94	4,106.58	970.06	3,488	3,353.03	0.36	-0.08	0.03
46.16	-23.55	-1.18	0.00	-65.55	0.00	65.55	4,083.23	964.54	3,449	3,314.80	0.38	-0.08	0.03
50.00	-22.94	-1.17	0.00	-61.04	0.00	61.04	4,006.21	946.35	3,320	3,190.26	0.45	-0.08	0.03
51.83	-22.40	-1.16	0.00	-58.90	0.00	58.90	3,414.21	820.69	2,913	2,755.48	0.48	-0.09	0.03
55.00	-21.55	-1.14	0.00	-55.22	0.00	55.22	3,374.74	807.81	2,822	2,680.46	0.54	-0.09	0.03
60.00	-20.72	-1.13	0.00	-49.50	0.00	49.50	3,311.56	787.48	2,682	2,563.48	0.64	-0.10	0.03
65.00	-19.91	-1.11	0.00	-43.87	0.00	43.87	3,247.27	767.16	2,545	2,448.20	0.75	-0.11	0.02
70.00	-19.11	-1.08	0.00	-38.33	0.00	38.33	3,161.61	746.84	2,412	2,319.84	0.87	-0.12	0.02
75.00	-18.33	-1.06	0.00	-32.90	0.00	32.90	3,075.58	726.52	2,283	2,194.67	1.00	-0.12	0.02
80.00	-17.57	-1.03	0.00	-27.61	0.00	27.61	2,989.55	706.19	2,157	2,072.97	1.13	-0.13	0.02
85.00	-16.97	-1.01	0.00	-22.45	0.00	22.45	2,903.52	685.87	2,034	1,954.74	1.27	-0.14	0.02
89.00	-14.12	-0.88	0.00	-18.41	0.00	18.41	2,834.69	669.61	1,939	1,862.66	1.39	-0.14	0.02
90.00	-13.73	-0.86	0.00	-17.53	0.00	17.53	2,817.49	665.55	1,916	1,839.98	1.42	-0.14	0.01
92.71	-13.23	-0.84	0.00	-15.19	0.00	15.19	2,770.86	654.53	1,853	1,779.24	1.50	-0.15	0.01
95.00	-12.74	-0.82	0.00	-13.26	0.00	13.26	2,731.46	645.23	1,800	1,728.70	1.57	-0.15	0.01
97.29	-12.46	-0.80	0.00	-11.39	0.00	11.39	1,710.13	432.64	1,214	1,093.00	1.65	-0.15	0.02
100.00	-9.02	-0.62	0.00	-9.22	0.00	9.22	1,690.67	425.31	1,173	1,062.10	1.73	-0.15	0.01
105.00	-8.75	-0.60	0.00	-6.15	0.00	6.15	1,653.85	411.76	1,100	1,005.60	1.89	-0.16	0.01
108.00	-8.41	-0.58	0.00	-4.35	0.00	4.35	1,631.22	403.63	1,057	972.10	1.99	-0.16	0.01
110.00	-5.09	-0.37	0.00	-3.19	0.00	3.19	1,615.92	398.21	1,029	949.94	2.06	-0.16	0.01
112.00	-4.66	-0.34	0.00	-2.46	0.00	2.46	1,600.43	392.79	1,001	927.92	2.12	-0.16	0.01
115.00	-4.38	-0.32	0.00	-1.44	0.00	1.44	1,576.86	384.66	960	895.16	2.22	-0.16	0.00
119.00	-2.16	-0.16	0.00	-0.16	0.00	0.16	1,544.80	373.82	906	852.04	2.36	-0.16	0.00
120.00	0.00	-0.15	0.00	0.00	0.00	0.00	1,536.68	371.11	893	841.35	2.39	-0.16	0.00

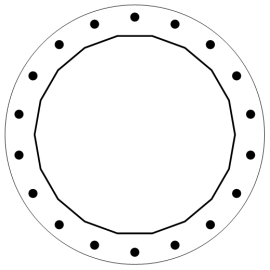
ANALYSIS SUMMARY

	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 Normal	22.95	0.00	48.37	0.00	0.00	2208.91	0.00	0.47
0.9D + 1.0W Normal	22.93	0.00	36.27	0.00	0.00	2186.65	0.00	0.46
1.2D + 1.0Di + 1.0Wi Normal	6.74	0.00	72.04	0.00	0.00	649.21	0.00	0.15
1.2D + 1.0Ev + 1.0Eh Normal	1.23	0.00	48.23	0.00	0.00	122.99	0.00	0.04
0.9D - 1.0Ev + 1.0Eh Normal	1.22	0.00	33.64	0.00	0.00	121.52	0.00	0.03
1.0D + 1.0W Service Normal	5.59	0.00	40.33	0.00	0.00	534.59	0.00	0.12

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 10224)

Diameter:	64	in
Shape:	Round	
Thickness:	2.25	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	220	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 8081]	Radial	18	2.25	58	A615-75	75	100	-	10

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (18) 2.25"ø [ID 8081]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.524	25.12	14.50	4.808	75.912	88.50	1.96
2	0.873	18.64	22.22	-4.808	75.912	-77.75	1.96
3	1.222	9.92	27.25	-13.844	623.256	-77.75	1.73
4	1.571	0.00	29.00	-21.210	1461.838	-77.75	1.28
5	1.920	-9.92	27.25	-26.018	2199.274	-77.75	0.68
6	2.269	-18.64	22.22	-27.688	2490.511	-77.75	0.00
7	2.618	-25.12	14.50	-26.018	2199.274	-77.75	0.68
8	2.967	-28.56	5.04	-21.210	1461.838	-77.75	1.28
9	3.316	-28.56	-5.04	-13.844	623.256	-77.75	1.73
10	3.665	-25.12	-14.50	-4.808	75.912	-77.75	1.96
11	4.014	-18.64	-22.22	4.808	75.912	88.50	1.96
12	4.363	-9.92	-27.25	13.844	623.257	88.50	1.73
13	4.712	0.00	-29.00	21.210	1461.838	88.50	1.28
14	5.061	9.92	-27.25	26.018	2199.275	88.50	0.68
15	5.411	18.64	-22.22	27.688	2490.511	88.50	0.00
16	5.760	25.12	-14.50	26.018	2199.274	88.50	0.68
17	6.109	28.56	-5.04	21.210	1461.839	88.50	1.28
18	0.175	28.56	5.04	13.844	623.257	88.50	1.73

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	49"ø x 0.4375" (18 Sides)	2208.9	48.37	22.95	1.000
Bolt Group	Original (18) 2.25"ø	2208.9	-	22.95	1.000
	TOTALS	**2208.91**	**48.37**	**22.95**	

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"ø x 0.4375" (18 Sides)	66.4082	-	-	19580.70	-
Bolt Group	Original (18) 2.25"ø	3.9761	3.2477	0.8393	22422.15	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	49.12	in
Point-to-Point Diameter:	49.88	in
Flat Width:	8.662	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	220	°
Bend Line Lower Limit:	4.898	rad
Bend Line Upper Limit:	5.923	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	36.817	0.00	46.596	639.1	2516.2	0.254
Corner	35.783	0.00	45.288	520.1	2445.6	0.213
Circumferential	42.951	0.00	54.360	862.7	2935.4	0.294

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	18	2.25	88.4	2.0	243.6	0.379

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	**CT Collinsville CAC 802816 CT, CT**
ATC Site Number	:	**411259**
Engineering Number	:	**13757764_C8_01**
Mount Elevation	:	**111.5 ft**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB056040**
Carrier Site Number	:	**CT01230**
Site Location	:	**650 Albany Turnpike** **Collinsville, CT 06019-3522** **41.85056685 , -72.94872612**
County	:	**Hartford**
Date	:	**March 21, 2022**
Max Usage	:	**50%**
Result	:	**Contingent Pass**

Prepared By:
Michael Ellis
Structural Engineer I

Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of the mount analysis performed for AT&T Mobility at 111.5 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 RMQP, dated July 7, 2015
Radio Frequency Data Sheet	RFDS ID #10050765, dated February 10, 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/ 1.50'' 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
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 P2 (2.375" x 60") antenna mounting pipe (Mount Pipe J and K) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.
- Install Site Pro 1 HRK12 handrail reinforcement kit (or similar) as requested by AT&T MOBILITY.
- No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

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.

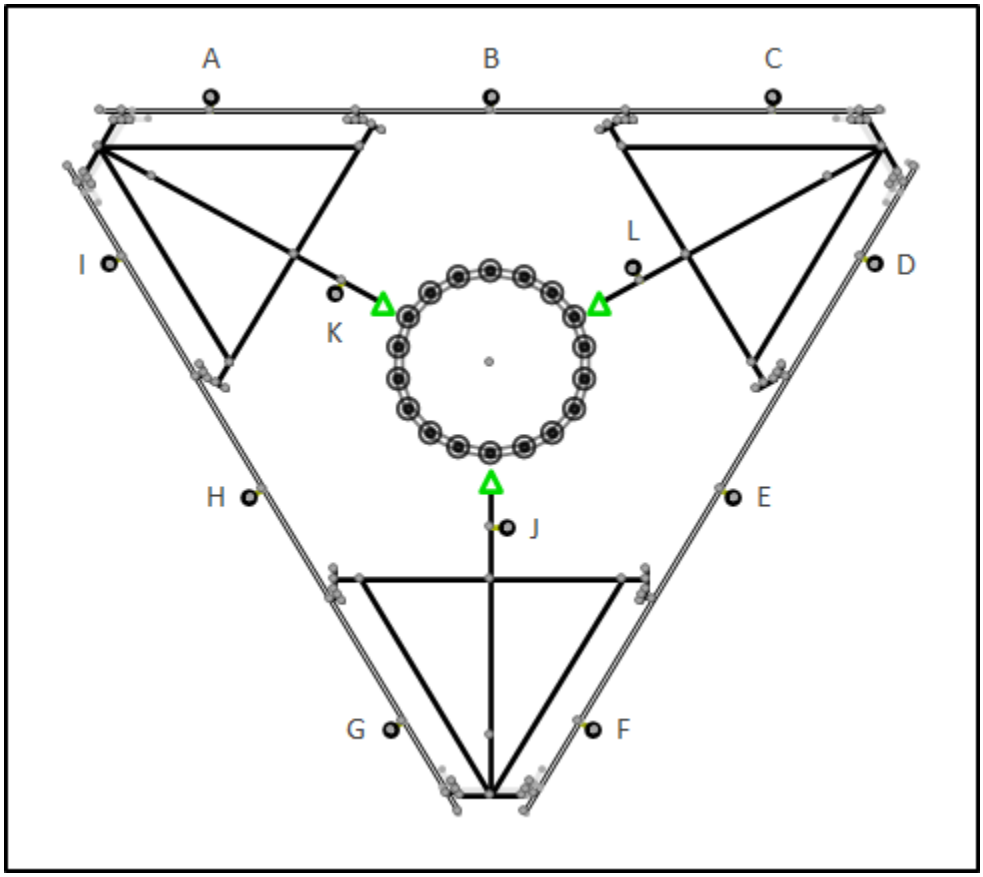
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
111.5	112.0	3	Ericsson Air 6449 B77D
	110.0	2	CCI DMP65R-BU8D
		1	CCI DMP65R-BU6DA
		2	CCI TPA65R-BU8D
		1	CCI TPA-65R-BU6DA-K
		2	Raycap DC9-48-60-24-8C-EV
		1	Raycap DC6-48-60-18-8F
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 8843 B2, B66A
	108.0	3	Ericsson AIR 6419 B77G

Structure Usages

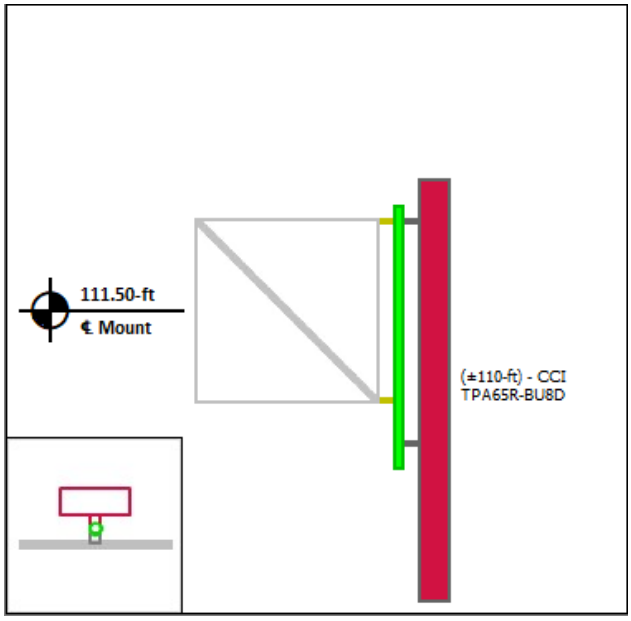
Structural Component	Controlling Usage	Pass/Fail
Horizontals	42%	Pass
Mount Pipes	42%	Pass
Connection Check	50%	Pass

Mount Layout

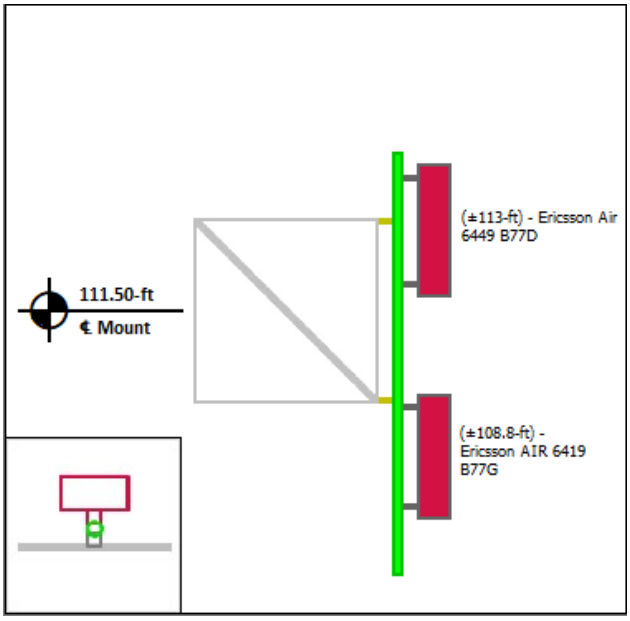


Equipment Layout

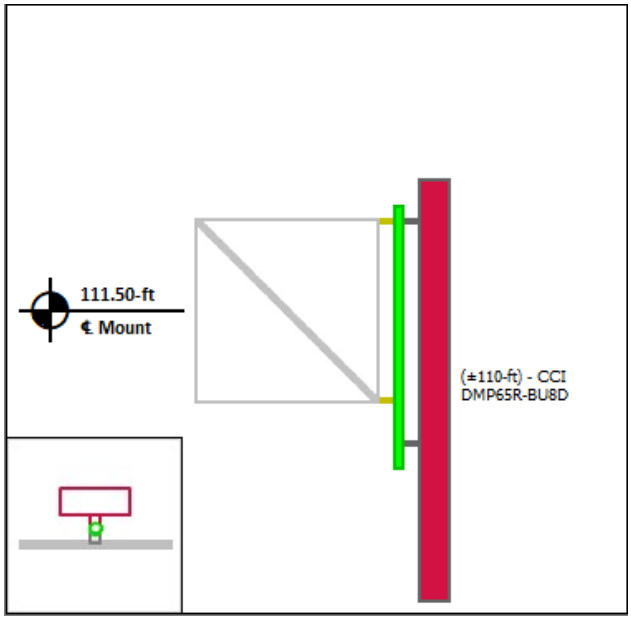
Mount Pipe A



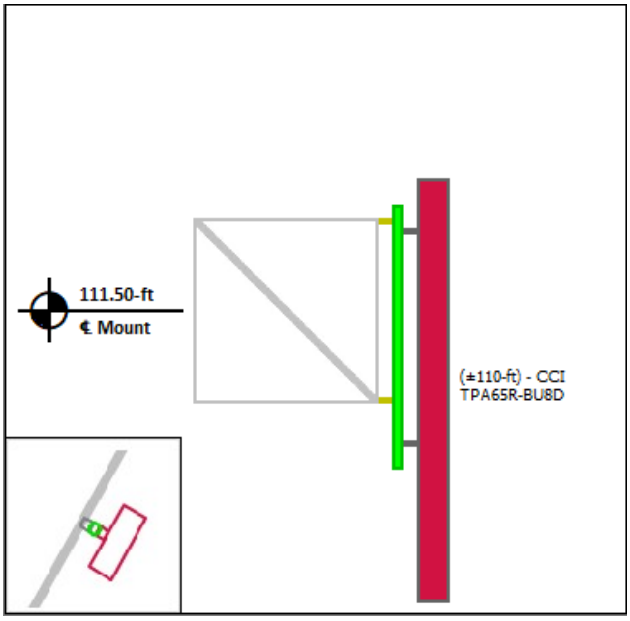
Mount Pipe B



Mount Pipe C

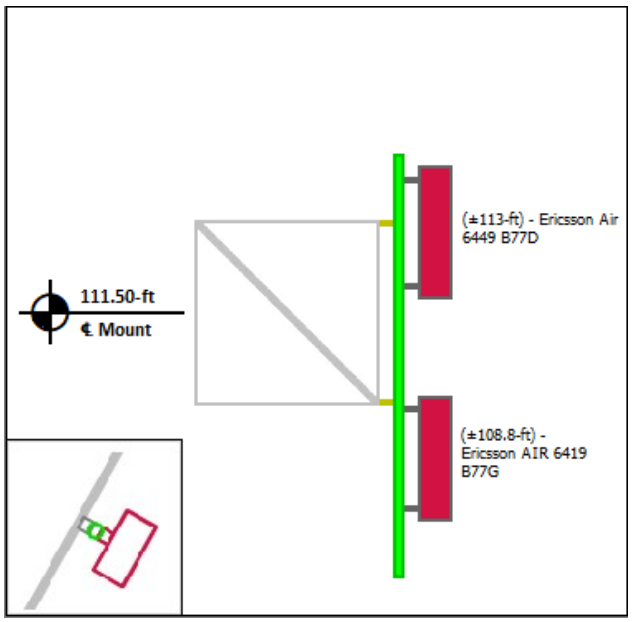


Mount Pipe D

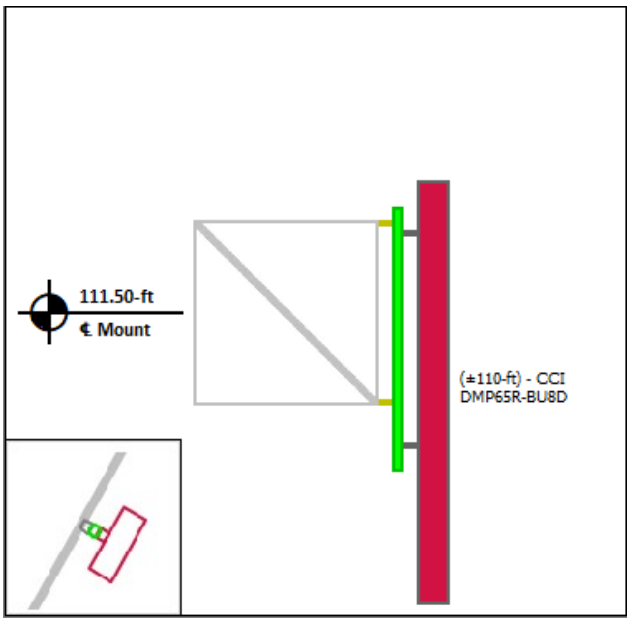


Equipment Layout Cont'd.

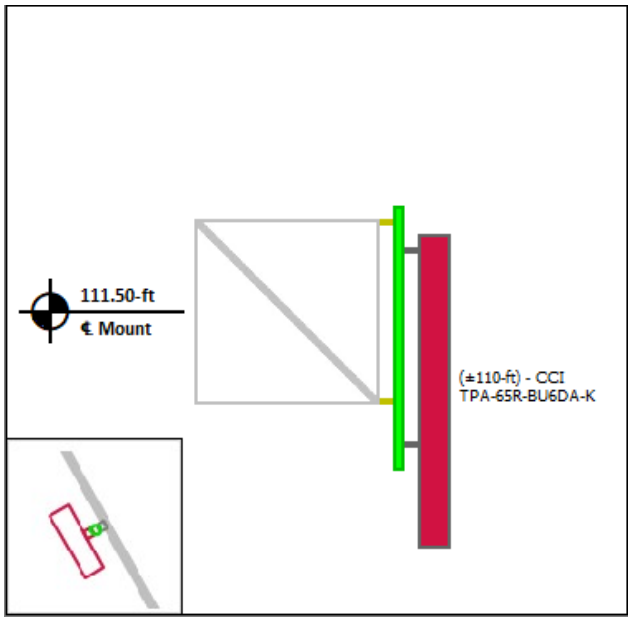
Mount Pipe E



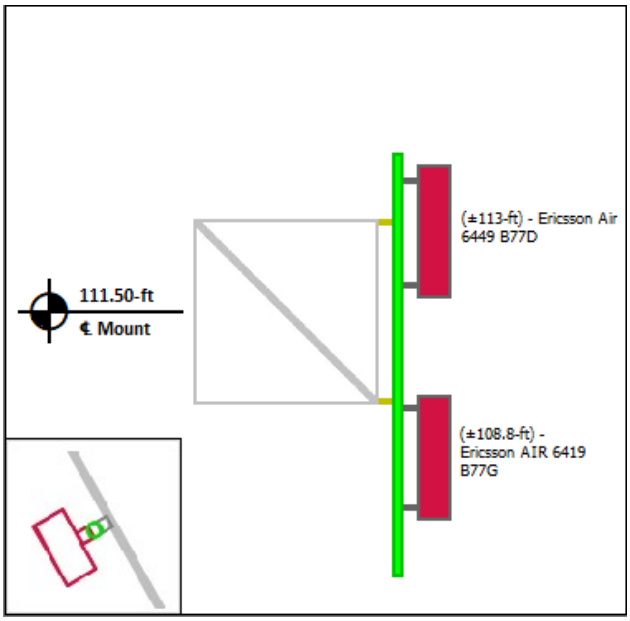
Mount Pipe F



Mount Pipe G

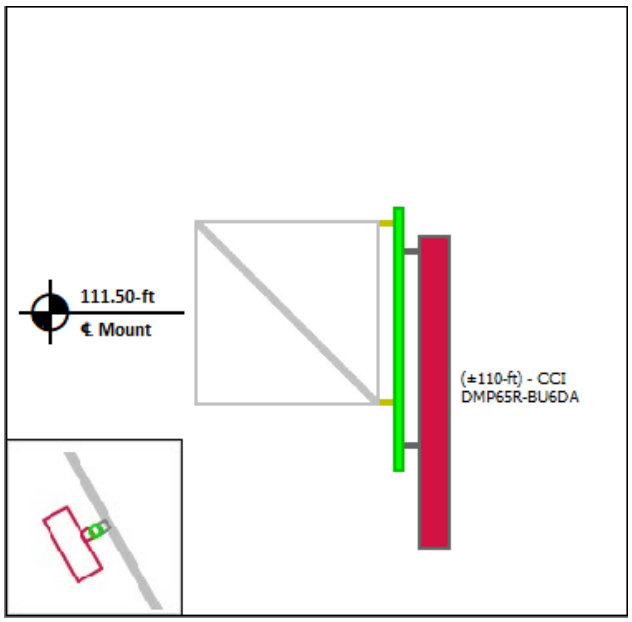


Mount Pipe H

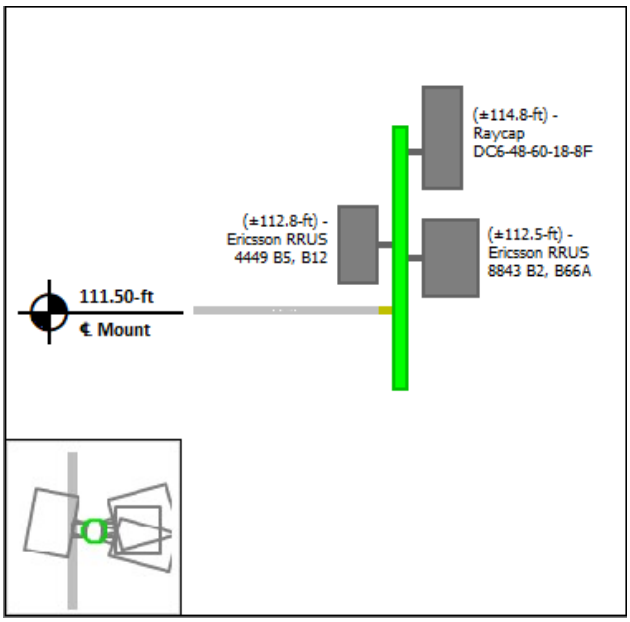


Equipment Layout Cont'd.

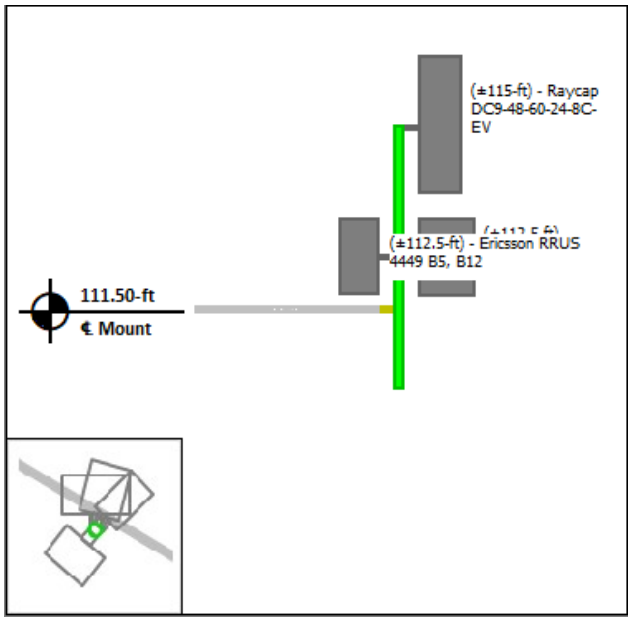
Mount Pipe I



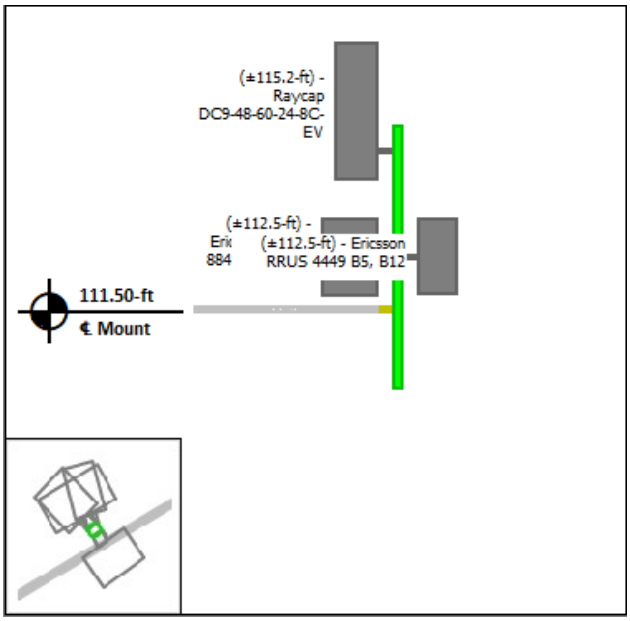
Mount Pipe J



Mount Pipe K



Mount Pipe L



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:	*411259*
Project Number:	*13757764_C8_01*
Carrier:	*AT&T Mobility*
Mount Elevation:	*111.5 ft*
Date:	3/21/2022

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.02	
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	0.98	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	115	mph
Velocity Pressure	q_z	32.2	psf
Height Escalation Factor	K_{iz}	1.13	
Thickness of Radial Glaze Ice	T_{iz}	1.69	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.186	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.093	
Amplification Factor	A	1.0	
Total Weight	W	2904.5	lbs
Total Shear Force	V_S	269.5	lbs
Horizontal Seismic Load	Eh	269.5	lbs
Vertical Seismic Load	Ev	107.8	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 6449 B77D	30.4	15.9	8.1	81.6	4.03	0.90	5.43	1.43
CCI DMP65R-BU8D	96.0	20.7	7.7	95.7	17.87	3.19	21.53	4.75
CCI DMP65R-BU6DA	71.2	20.7	7.7	79.4	12.71	2.35	15.49	3.54
CCI TPA65R-BU8D	96.0	21.0	7.8	82.5	18.09	3.20	21.75	4.76
CCI TPA-65R-BU6DA-K	71.1	25.5	7.6	79.6	15.27	2.33	18.12	3.53
Raycap DC9-48-60-24-8C-EV	31.4	18.3	10.2	16.0	4.79	2.73	6.29	4.02
Raycap DC6-48-60-18-8F	23.5	9.7	9.7	20.0	1.90	1.90	2.93	2.93
Ericsson RRUS 4449 B5, B12	17.9	13.2	9.4	71.0	1.97	1.40	2.94	2.27
Ericsson RRUS 4478 B14	18.1	13.4	8.3	59.4	2.02	1.25	3.01	2.09
Ericsson RRUS 8843 B2, B66A	14.9	13.2	10.9	72.0	1.64	1.35	2.53	2.18
Ericsson AIR 6419 B77G	28.3	16.1	7.9	66.1	3.80	0.83	5.15	1.32

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

AMERICAN TOWER®
CORPORATION

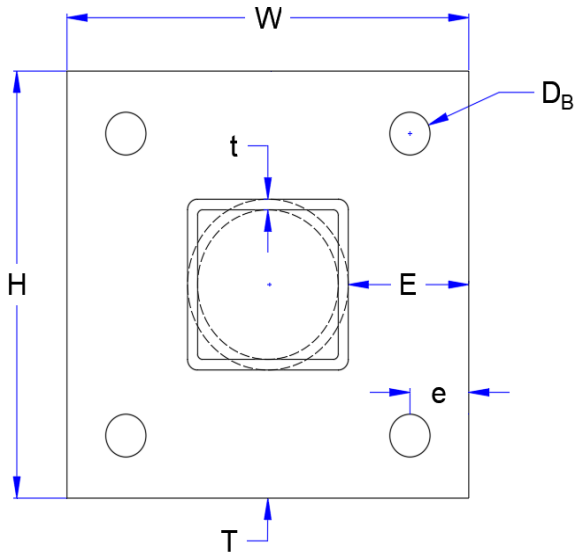
Site Number:	*411259*
Project Number:	*13757764_C8_01*
Carrier:	*AT&T Mobility*
Mount Elevation:	*111.5 ft*
Date:	3/21/2022

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D			
Controlling Load Combination		35	
Node Label		N002	
Force in X	Fx	-409.0	lbs
Force in Y	Fy	3123.6	lbs
Force in Z	Fz	-22.3	lbs
Moment about X	Mx	6056.2	lb-ft
Moment about Y	My	492.8	lb-ft
Moment about Z	Mz	-40.3	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	0.78	k
Applied Tension	Tu	6.54	k
Tensile Strength	ϕTn	20.3	k
Interaction Capacity	(Tu+Vu)/ϕTn	36%	Pass

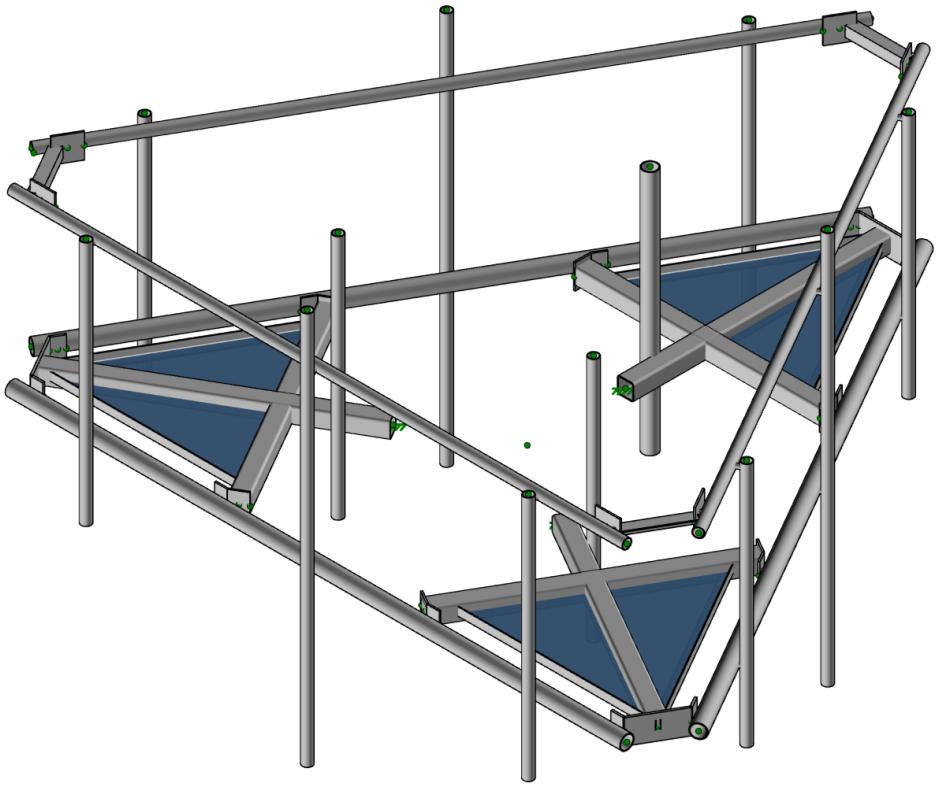
Plate Flexural Capacity			
Plate Height	H	8	in
Plate Width	W	8	in
Plate Thickness	T	1/2	in
Plate Grade		A36	
Plate Fy	Fy_P	36	ksi
Plate Fu	Fu_P	58	ksi
Shear Capacity	ϕVn	26.9	k
Applied Moment	Mu	13.1	k-in
Flexural Strength	ϕMn	26.1	k-in
Flexural Capacity	Mu/ϕMn	50%	Pass



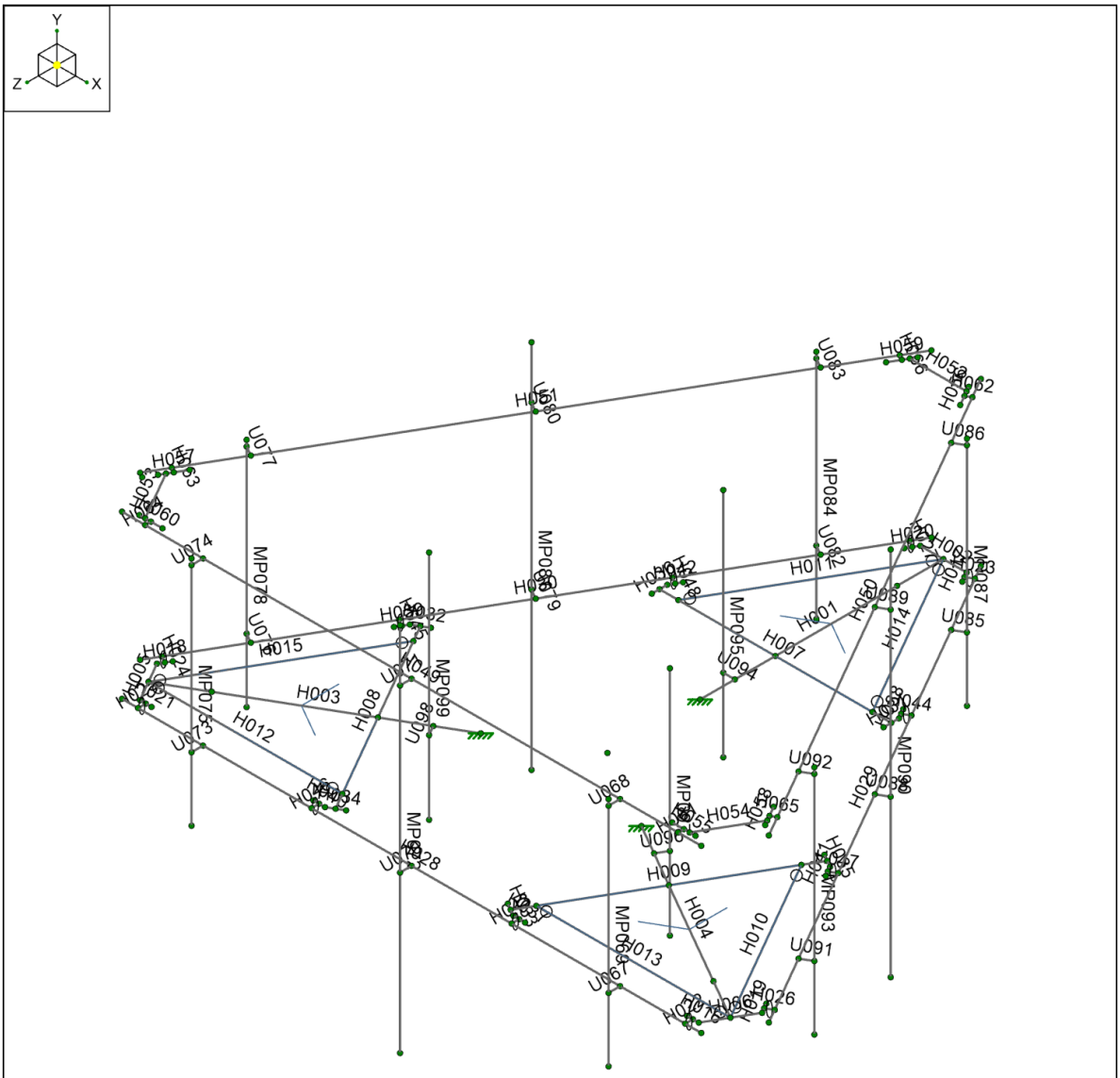
Weld and Base Metal Capacity			
Standoff Type		Tube	
Standoff Member		HSS4x4x4	
Member Edge Distance	E	2	in
Member Width	w	4	in
Member Thickness	t	0.250	in
Member Grade		A53 Gr. B	
Member Fy	Fy_M	35	ksi
Member Fu	Fu_M	60	ksi
Weld Size	a	1/4	in
Weld Length	l	16.0	in
Applied Load	Pu	13.1	k
Weld Strength	ϕRn	44.5	k
Weld Capacity	Pu/ϕRn	29%	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}	0.27	in
Effective Moment Arm	b'	0.69	in	No Prying Thickness	t_{np}	0.35	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.	411259, CT Collinsville CAC 802816 CT	SK-1
Michael.Ellis		Mar 21, 2022
13757764_C8_01		R3D. AT&T MOBILITY @ 411259, …



American Tower Corp.	411259, CT Collinsville CAC 802816 CT	SK-2
Michael.Ellis		Mar 21, 2022
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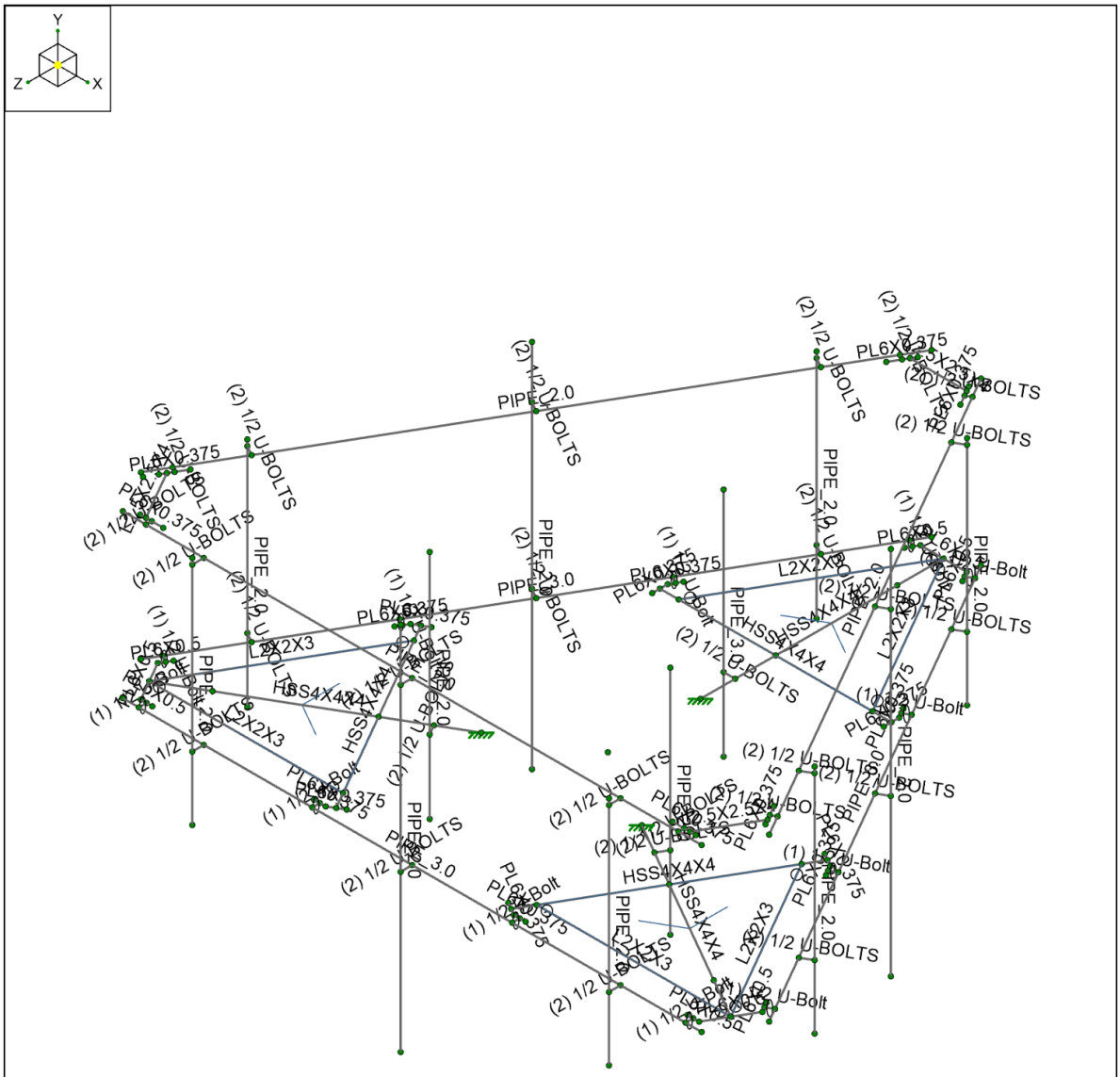
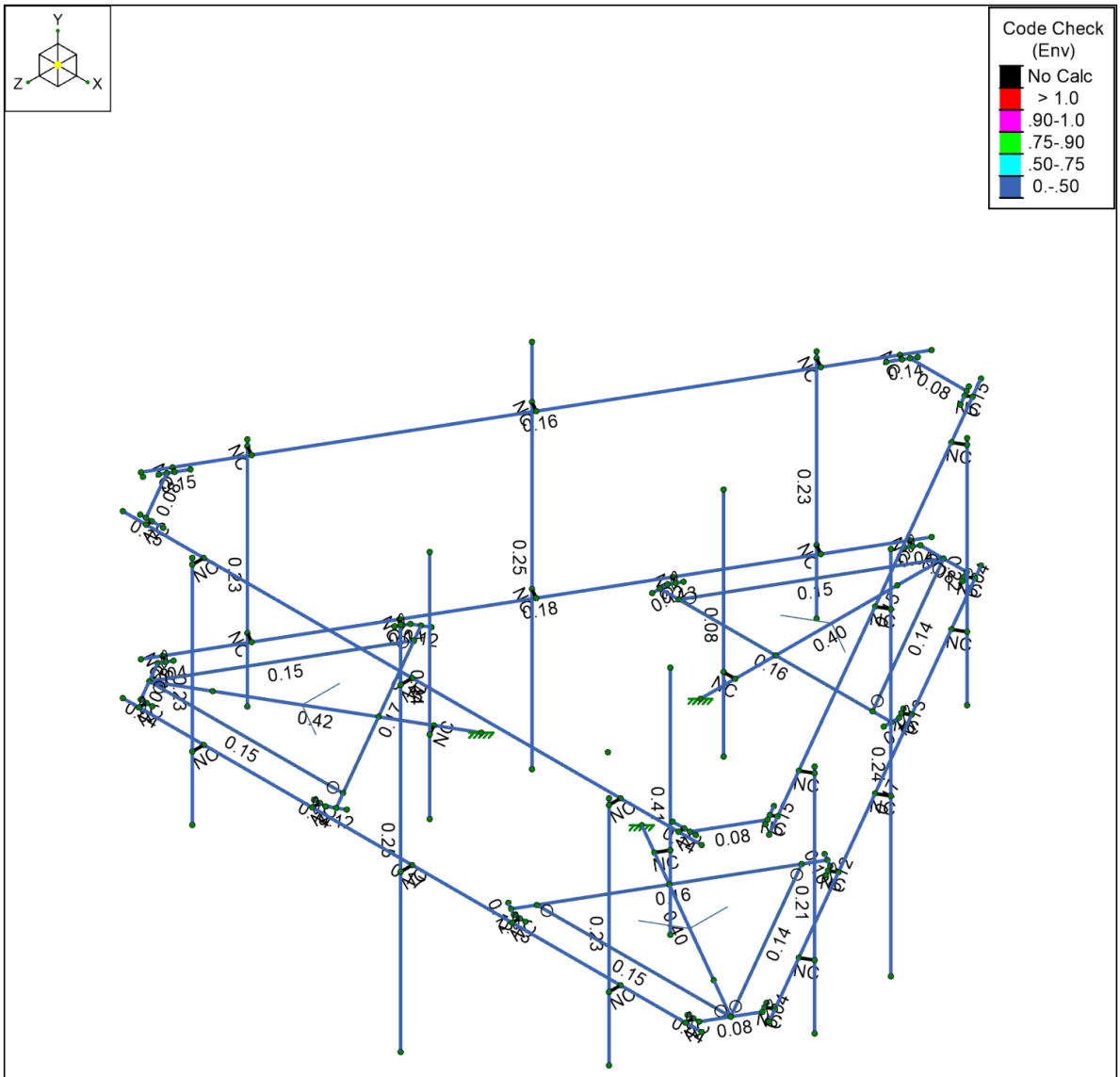
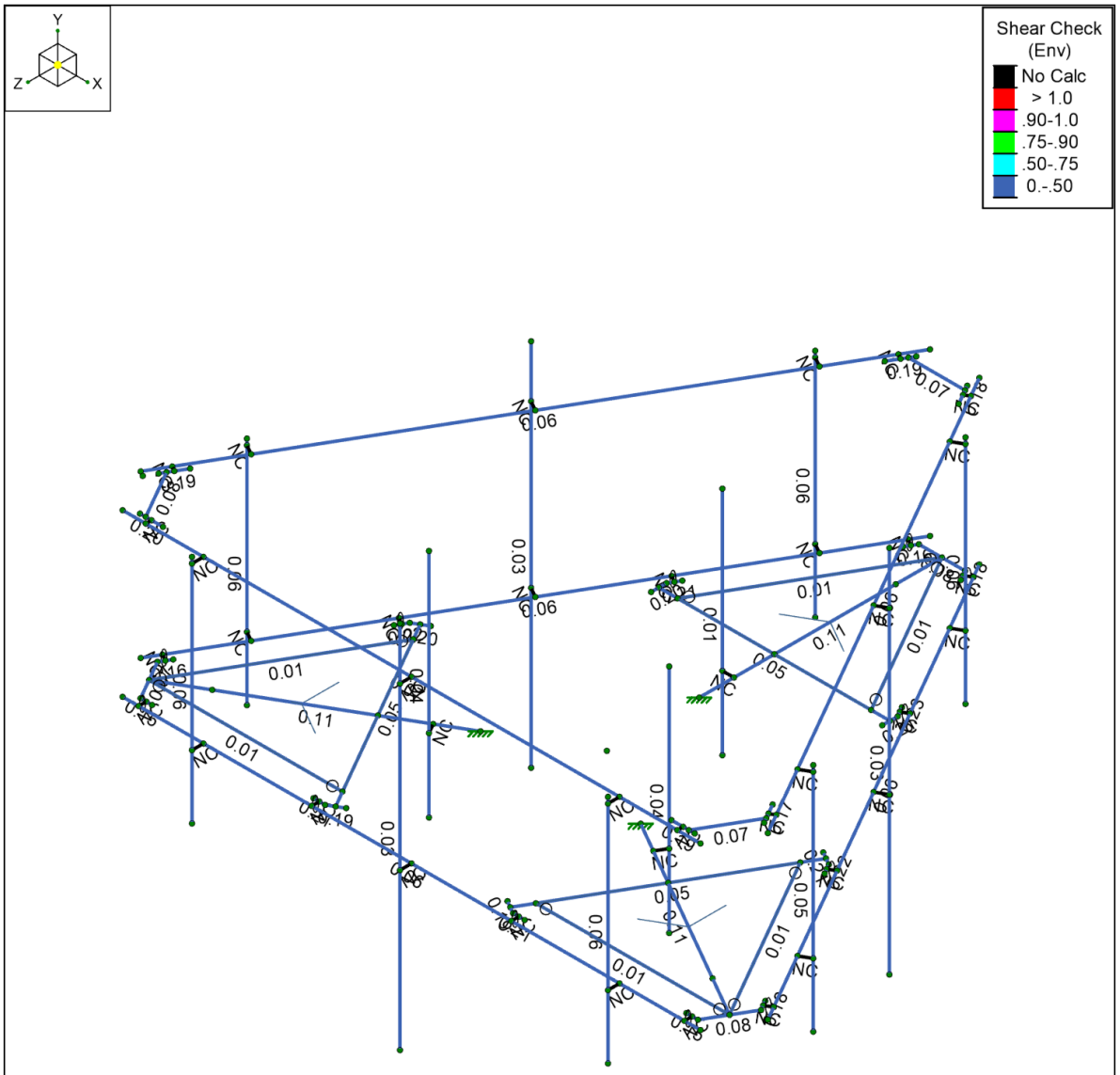


American Tower Corp.	411259, CT Collinsville CAC 802816 CT	SK-3
Michael.Ellis		Mar 21, 2022
13757764_C8_01		R3D. AT&T MOBILITY @ 411259, …



Member Code Checks Displayed (Enveloped)

American Tower Corp.	411259, CT Collinsville CAC 802816 CT	SK-4
Michael.Ellis		Mar 21, 2022
13757764_C8_01		R3D. AT&T MOBILITY @ 411259, …



Member Shear Checks Displayed (Enveloped)

American Tower Corp.	411259, CT Collinsville CAC 802816 CT	SK-5
Michael.Ellis		Mar 21, 2022
13757764_C8_01		R3D. AT&T MOBILITY @ 411259, …

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
1	D	DL	-1		36		
2	Di	IL			36	60	3
3	W 0	WL			38	99	
4	W 30	WL			74	198	
5	W 60	WL			74	198	
6	W 90	WL			36	99	
7	W 120	WL			74	198	
8	W 150	WL			74	198	
9	W 180	WL			38	99	
10	W 210	WL			74	198	
11	W 240	WL			74	198	
12	W 270	WL			36	99	
13	W 300	WL			74	198	
14	W 330	WL			74	198	
15	Wi 0	WL			36	99	
16	Wi 30	WL			72	198	
17	Wi 60	WL			72	198	
18	Wi 90	WL			36	99	
19	Wi 120	WL			72	198	
20	Wi 150	WL			72	198	
21	Wi 180	WL			36	99	
22	Wi 210	WL			72	198	
23	Wi 240	WL			72	198	
24	Wi 270	WL			36	99	
25	Wi 300	WL			72	198	
26	Wi 330	WL			72	198	
27	Ws 0	WL			38	99	
28	Ws 30	WL			74	198	
29	Ws 60	WL			74	198	
30	Ws 90	WL			36	99	
31	Ws 120	WL			74	198	
32	Ws 150	WL			74	198	
33	Ws 180	WL			38	99	
34	Ws 210	WL			74	198	
35	Ws 240	WL			74	198	
36	Ws 270	WL			36	99	
37	Ws 300	WL			74	198	
38	Ws 330	WL			74	198	
39	Ev -Y	ELY				60	
40	Eh -Z	ELZ				60	
41	Eh -X	ELX				60	
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			

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
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

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
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	N094	N095	90	L2.5X2.5X4	Beam	None	A36	Typical
53	H053	N091	N092	90	L2.5X2.5X4	Beam	None	A36	Typical
54	H054	N090	N093	90	L2.5X2.5X4	Beam	None	A36	Typical
55	H055	N096	N099		PL6X0.375	Beam	None	A36	Typical
56	H056	N097	N100		PL6X0.375	Beam	None	A36	Typical
57	H057	N098	N101		PL6X0.375	Beam	None	A36	Typical
58	H058	N103	N106		PL6X0.375	Beam	None	A36	Typical
59	H059	N104	N107		PL6X0.375	Beam	None	A36	Typical
60	H060	N102	N105		PL6X0.375	Beam	None	A36	Typical
61	H061	N108	N114		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
62	H062	N109	N115		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
63	H063	N110	N116		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
64	H064	N111	N117		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
65	H065	N112	N118		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
66	H066	N113	N119		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
67	U067	N129	N132		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
68	U068	N133	N134		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
69	MP069	N135	N136		PIPE_2.0	Column	None	A53 Gr. B	Typical
70	U070	N123	N137		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
71	U071	N138	N139		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
72	MP072	N140	N141		PIPE_2.0	Column	None	A53 Gr. B	Typical
73	U073	N126	N142		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
74	U074	N143	N144		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
75	MP075	N145	N146		PIPE_2.0	Column	None	A53 Gr. B	Typical
76	U076	N131	N147		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
77	U077	N148	N149		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
78	MP078	N150	N151		PIPE_2.0	Column	None	A53 Gr. B	Typical
79	U079	N125	N152		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
80	U080	N153	N154		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
81	MP081	N155	N156		PIPE_2.0	Column	None	A53 Gr. B	Typical
82	U082	N128	N157		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
83	U083	N158	N159		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
84	MP084	N160	N161		PIPE_2.0	Column	None	A53 Gr. B	Typical
85	U085	N130	N162		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
86	U086	N163	N164		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
87	MP087	N165	N166		PIPE_2.0	Column	None	A53 Gr. B	Typical
88	U088	N124	N167		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
89	U089	N168	N169		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
90	MP090	N170	N171		PIPE_2.0	Column	None	A53 Gr. B	Typical
91	U091	N127	N172		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
92	U092	N173	N174		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
93	MP093	N175	N176		PIPE_2.0	Column	None	A53 Gr. B	Typical
94	U094	N177	N180		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
95	MP095	N181	N182		PIPE_3.0	Column	None	A53 Gr. B	Typical
96	U096	N179	N183		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
97	MP097	N184	N185		PIPE_2.0	Column	None	A53 Gr. B	Typical
98	U098	N178	N186		(2) 1/2 U-BOLTS	Beam	None	A36	Typical
99	MP099	N187	N188		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
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

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
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	MP095			Yes	** NA **		None
96	U096			Yes	N/A	Exclude	None
97	MP097			Yes	** NA **		None
98	U098			Yes	N/A	Exclude	None
99	MP099			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

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
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			Lbyy		1	1	Lateral
29	H029	PIPE_3.0	150			Lbyy		1	1	Lateral
30	H030	PIPE_3.0	150			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
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			Lbyy		0.65	0.65	Lateral
50	H050	PIPE_2.0	150			Lbyy		0.65	0.65	Lateral
51	H051	PIPE_2.0	150			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

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
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			Lbyy		0.5	0.5	Lateral
68	U068	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
69	MP069	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
70	U070	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
71	U071	(2) 1/2 U-BOLTS	3			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			Lbyy		0.5	0.5	Lateral
74	U074	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
75	MP075	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
76	U076	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
77	U077	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
78	MP078	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
79	U079	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
80	U080	(2) 1/2 U-BOLTS	3			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			Lbyy		0.5	0.5	Lateral
83	U083	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
84	MP084	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
85	U085	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
86	U086	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
87	MP087	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
88	U088	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
89	U089	(2) 1/2 U-BOLTS	3			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			Lbyy		0.5	0.5	Lateral
92	U092	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
93	MP093	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
94	U094	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
95	MP095	PIPE_3.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
96	U096	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
97	MP097	PIPE_2.0	60	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
98	U098	(2) 1/2 U-BOLTS	3			Lbyy		0.5	0.5	Lateral
99	MP099	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	527	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	1573.361	17	3206.812	26	2164.211	14	6369.789	26	1957.415	23	648.839	155
2		min	-1573.573	23	599.128	20	-2178.521	8	379.686	20	-1957.349	17	-790.156	113
3	N006	max	1813.727	18	3327.904	30	1675.595	2	286.689	14	2136.741	15	-542.825	24
4		min	-1825.372	12	602.453	24	-1668.458	20	-3485.32	32	-2136.476	21	-5646.691	30
5	N007	max	1942.234	4	3169.62	34	1526.922	2	294.354	14	1960.308	19	5478.279	34
6		min	-1930.513	22	587.233	16	-1519.887	20	-3205.156	33	-1960.913	13	116.529	16
7	Totals:	max	4658.118	17	9454.023	32	5364.754	2						

Envelope Node Reactions (Continued)

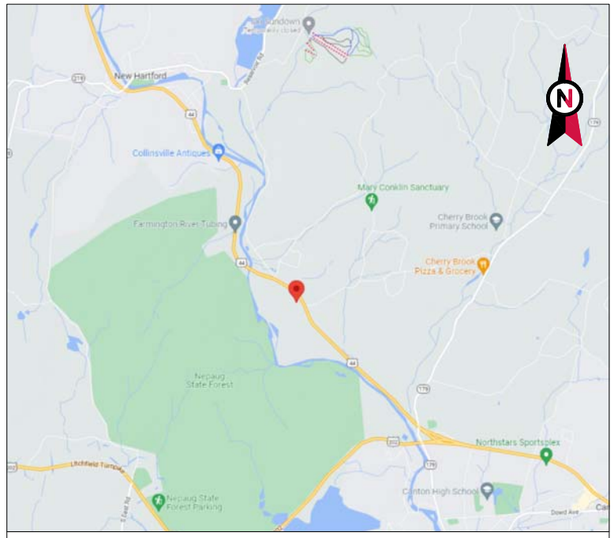
Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
8	min	-4658.118	11	2607.739	14	-5364.754	20						

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	0.405	0	35	0.106	0	y	29	124317.885	139518	16180.5	16180.5	2.891	H1-1b
2	H002	PL6X0.5	0.077	6	2	0.082	6	y	12	83348.625	97200	1012.5	12150	1.067	H1-1b
3	H003	HSS4X4X4	0.423	0	33	0.107	0	y	32	124317.885	139518	16180.5	16180.5	2.888	H1-1b
4	H004	HSS4X4X4	0.396	0	37	0.113	0	z	13	124317.885	139518	16180.5	16180.5	2.921	H1-1b
5	H005	PL6X0.5	0.076	6	6	0.073	6	y	4	83348.625	97200	1012.5	12150	1.078	H1-1b
6	H006	PL6X0.5	0.077	6	10	0.081	6	y	12	83348.625	97200	1012.5	12150	1.07	H1-1b
7	H007	HSS4X4X4	0.162	30	37	0.049	30	y	27	133484.923	139518	16180.5	16180.5	1.332	H1-1b
8	H008	HSS4X4X4	0.169	30	29	0.051	30	y	30	133484.923	139518	16180.5	16180.5	1.334	H1-1b
9	H009	HSS4X4X4	0.161	30	33	0.048	30	y	34	133484.923	139518	16180.5	16180.5	1.339	H1-1b
10	H010	L2X2X3	0.136	25.115	12	0.007	50.229	y	31	9724.796	23392.8	557.717	1072.365	1.136	H2-1
11	H011	L2X2X3	0.15	25.638	3	0.007	50.229	y	35	9724.796	23392.8	557.717	1072.365	1.136	H2-1
12	H012	L2X2X3	0.147	25.115	8	0.007	50.229	y	27	9724.796	23392.8	557.717	1072.365	1.136	H2-1
13	H013	L2X2X3	0.15	25.638	9	0.007	50.229	z	37	9724.796	23392.8	557.717	1072.365	1.136	H2-1
14	H014	L2X2X3	0.142	25.115	12	0.007	50.229	z	29	9724.796	23392.8	557.717	1072.365	1.136	H2-1
15	H015	L2X2X3	0.148	25.115	4	0.007	50.229	z	33	9724.796	23392.8	557.717	1072.365	1.136	H2-1
16	H016	PL6X0.5	0.038	1.5	4	0.15	0	y	8	95014.386	97200	1012.5	12150	2.954	H1-1b
17	H017	PL6X0.5	0.039	0	2	0.177	0	y	12	95014.386	97200	1012.5	12150	3	H1-1b
18	H018	PL6X0.5	0.038	1.5	12	0.163	0	y	4	95014.386	97200	1012.5	12150	3	H1-1b
19	H019	PL6X0.5	0.039	0	10	0.176	0	y	12	95014.386	97200	1012.5	12150	3	H1-1b
20	H020	PL6X0.5	0.037	1.5	8	0.158	0	y	4	95014.386	97200	1012.5	12150	2.865	H1-1b
21	H021	PL6X0.5	0.037	1.5	12	0.152	0	y	8	95014.386	97200	1012.5	12150	2.952	H1-1b
22	H028	PIPE_3.0	0.17	100	30	0.06	101.562		31	28250.554	65205	5748.75	5748.75	2.171	H1-1b
23	H029	PIPE_3.0	0.167	50	26	0.058	48.437		37	28250.554	65205	5748.75	5748.75	2.14	H1-1b
24	H030	PIPE_3.0	0.175	50	30	0.061	48.437		29	28250.554	65205	5748.75	5748.75	2.156	H1-1b
25	H031	PL6X0.375	0.113	2	11	0.211	2	y	6	70719.442	72900	569.531	9112.5	1.405	H1-1b
26	H032	PL6X0.375	0.122	2	9	0.202	2	y	10	70719.442	72900	569.531	9112.5	1.537	H1-1b
27	H033	PL6X0.375	0.117	2	13	0.19	2	y	2	70719.442	72900	569.531	9112.5	1.531	H1-1b
28	H034	PL6X0.375	0.122	2	9	0.194	2	y	2	70719.442	72900	569.531	9112.5	1.406	H1-1b
29	H035	PL6X0.375	0.105	2	13	0.211	2	y	6	70719.442	72900	569.531	9112.5	1.4	H1-1b
30	H036	PL6X0.375	0.119	2	5	0.197	2	y	10	70719.442	72900	569.531	9112.5	1.405	H1-1b
31	H037	PL6X0.375	0.13	1.5	13	0.208	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
32	H038	PL6X0.375	0.129	1.5	5	0.228	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
33	H039	PL6X0.375	0.139	1.5	9	0.219	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
34	H040	PL6X0.375	0.139	1.5	3	0.206	0	y	8	70011.374	72900	569.531	9112.5	3	H1-1b
35	H041	PL6X0.375	0.122	1.5	7	0.222	0	y	12	70011.374	72900	569.531	9112.5	3	H1-1b
36	H042	PL6X0.375	0.133	1.5	11	0.214	0	y	4	70011.374	72900	569.531	9112.5	3	H1-1b
37	H049	PIPE_2.0	0.152	75	28	0.066	143.75		3	14559.939	32130	1871.625	1871.625	1.741	H1-1b
38	H050	PIPE_2.0	0.148	75	32	0.059	6.25		6	14559.939	32130	1871.625	1871.625	1.756	H1-1b
39	H051	PIPE_2.0	0.156	75	32	0.064	143.75		10	14559.939	32130	1871.625	1871.625	1.75	H1-1b
40	H052	L2.5X2.5X4	0.08	0	3	0.074	14.71	z	5	37765.457	38556	1113.554	2537.388	1.5	H2-1
41	H053	L2.5X2.5X4	0.081	0	7	0.078	0	z	3	37765.457	38556	1113.554	2537.388	1.5	H2-1
42	H054	L2.5X2.5X4	0.081	14.71	9	0.073	0	z	7	37765.457	38556	1113.554	2537.388	1.5	H2-1
43	H055	PL6X0.375	0.141	1.5	35	0.194	1.5	y	2	68085.235	72900	569.531	9112.5	1.318	H1-1b
44	H056	PL6X0.375	0.15	1.5	3	0.178	1.5	y	6	68085.235	72900	569.531	9112.5	1.842	H1-1b
45	H057	PL6X0.375	0.153	1.5	31	0.191	1.5	y	10	68085.235	72900	569.531	9112.5	1.335	H1-1b
46	H058	PL6X0.375	0.152	1.5	9	0.171	1.5	y	6	68085.235	72900	569.531	9112.5	1.841	H1-1b
47	H059	PL6X0.375	0.143	1.5	37	0.194	1.5	y	10	68085.235	72900	569.531	9112.5	1.317	H1-1b
48	H060	PL6X0.375	0.149	1.5	29	0.198	1.5	y	2	68085.235	72900	569.531	9112.5	1.314	H1-1b
49	MP069	PIPE_2.0	0.226	43.125	13	0.058	1.875		32	16811.605	32130	1871.625	1871.625	1.694	H1-1b
50	MP072	PIPE_2.0	0.254	55	2	0.032	55		3	16811.605	32130	1871.625	1871.625	2.186	H1-1b
51	MP075	PIPE_2.0	0.234	43.125	3	0.058	1.875		32	16811.605	32130	1871.625	1871.625	2.299	H1-1b

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

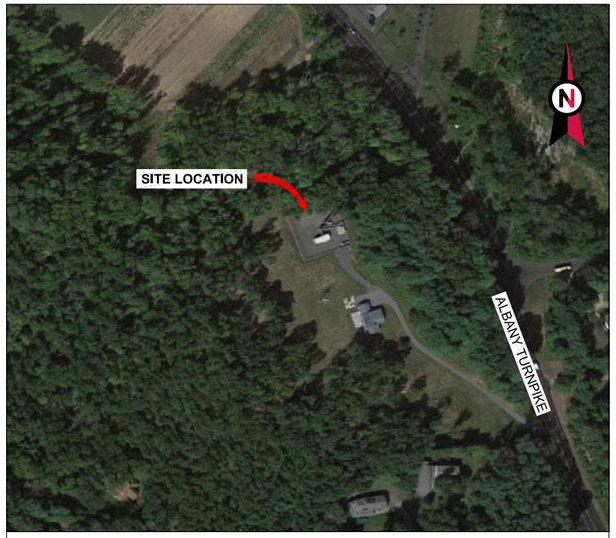
	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
52	MP078	PIPE_2.0	0.235	43.125	9	0.058	1.875		28	16811.605	32130	1871.625	1871.625	1.762	H1-1b
53	MP081	PIPE_2.0	0.252	55	10	0.033	55		9	16811.605	32130	1871.625	1871.625	1.964	H1-1b
54	MP084	PIPE_2.0	0.231	43.125	11	0.057	1.875		28	16811.605	32130	1871.625	1871.625	1.904	H1-1b
55	MP087	PIPE_2.0	0.218	43.125	5	0.056	43.125		12	16811.605	32130	1871.625	1871.625	2.211	H1-1b
56	MP090	PIPE_2.0	0.235	55	6	0.032	55		5	16811.605	32130	1871.625	1871.625	2.004	H1-1b
57	MP093	PIPE_2.0	0.205	43.125	7	0.055	1.875		36	16811.605	32130	1871.625	1871.625	1.924	H1-1b
58	MP095	PIPE_3.0	0.078	40.625	3	0.015	40.625		3	49499.116	65205	5748.75	5748.75	3	H1-1b
59	MP097	PIPE_2.0	0.415	40.625	9	0.038	40.625		9	17331.854	32130	1871.625	1871.625	2.216	H1-1b
60	MP099	PIPE_2.0	0.438	40.625	8	0.038	40.625		8	17331.854	32130	1871.625	1871.625	1.684	H1-1b



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: CT COLLINSVILLE CAC 802816 CT
ATC SITE NUMBER: 411259
AT&T PACE NUMBERS: MRCTB056048, MRCTB054534, MRCTB054720, MRCTB056040, MRCTB054505, MRCTB055206, MRCTB054780
AT&T SITE ID: CTL01230
AT&T FA CODE: 10050765
AT&T SITE NAME: CTL01230
SITE ADDRESS: 650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522



LOCATION MAP

AT&T LTE 2C ADD
AT&T 5G NR RADIO/5G NR 1SR C-BAND AMENDMENT PLAN

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: UNKNOWN
PHONE: (XXX) XXX-XXXX

TELEPHONE COMPANY: UNKNOWN
PHONE: (XXX) XXX-XXXX

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

PROJECT SUMMARY

SITE ADDRESS:

650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522
COUNTY: HARTFORD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.85056685
LONGITUDE: -72.94872612
GROUND ELEVATION: 492' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

AT&T MOBILITY

ENGINEER:

NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615

PROPERTY OWNER:

LANDMARK INFRASTRUCTURE INC
650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

REMOVE (9) ANTENNA(S), (3) RRH(S), (12) DIPLEXERS, (3) TMA(S), AND (6) COAX CABLE(S)

INSTALL (12) ANTENNA(S), (9) RRH(S), (1) SQUID(S), (6) Y-CABLE(s), (2) 0.82" 8AWG6, (3) 0.92" CONTROL CABLE(S) AND (1) 0.41" FIBER TRUNK(S)

EXISTING (1) SQUID(S), (6) COAX CABLE(s), (1) FIBER TRUNK CABLE(s), (2) DC TRUNK CABLE(s) AND (1) 2" CONDUIT TO REMAIN

GROUND WORK:

REMOVE (2) 3418 INDOOR, AND (1) 6601 INDOOR MU

INSTALL (1) DC 12, (1) BASEBAND 6630, (1) BASEBAND 6630 W/ IDLE CABLE AND (1) BASEBAND 6648 W/ XCEDE CABLE

PROJECT NOTES

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

PROJECT LOCATION DIRECTIONS

FROM 99 EAST RIVER DR....I-84 WEST TO US-44 WEST/MAIN ST. (I-91) CONTINUE ON US-44 WEST....US-WEST/US 202 BECOMES US-44 WEST/US-202 SOUTH...CONTINUE ON US-44 WEST...ARRIVE AT 650 ALBANY TPKE COLLINSVILLE LOOK FOR MAILBOX WITH 650 ON IT GO UP THE DRIVEWAY AND SITE IS PAST THE HOUSE

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	06/17/22	CCC
G-002	GENERAL NOTES	0	06/17/22	CCC
C-101	DETAILED SITE PLAN	0	06/17/22	CCC
C-201	TOWER ELEVATION	0	06/17/22	CCC
C-401	ANTENNA INSTALLATION	0	06/17/22	CCC
C-402	RF SCHEDULE	0	06/17/22	CCC
C-501	CONSTRUCTION DETAILS	0	06/17/22	CCC
E-501	GROUNDING DETAILS	0	06/17/22	CCC
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			
R-604	SUPPLEMENTAL			
R-605	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: 0012746

NB+C™ TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

REV.	DESCRIPTION	BY	DATE
A	PRELIM	CCC	03/31/22
B	PRELIM	AMT	05/16/22
0	FOR CONSTRUCTION	CCC	06/17/22

ATC SITE NUMBER:
411259

ATC SITE NAME:
CT COLLINSVILLE CAC 802816 CT

AT&T SITE NAME:
CTL01230

SITE ADDRESS:
650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522

SEAL:

AT&T

DATE DRAWN:	06/17/22
ATC JOB NO:	13757764
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "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 AT&T 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 AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T 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 AT&T 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 AT&T 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 AT&T 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 AT&T 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 AT&T REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T 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 AT&T 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 AT&T REP. ANY WORK FOUND BY THE AT&T 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. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T 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. AT&T 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 AT&T 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 AT&T 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 AT&T 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®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
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RALEIGH, NC 27615
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	CCC	03/31/22
B	PRELIM	AMT	05/16/22
0	FOR CONSTRUCTION	CCC	06/17/22

ATC SITE NUMBER:
411259

ATC SITE NAME:
CT COLLINSVILLE CAC 802816 CT

AT&T SITE NAME:
CTL01230

SITE ADDRESS:
650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522

SEAL:

AT&T

DATE DRAWN:	06/17/22
ATC JOB NO:	13757764
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

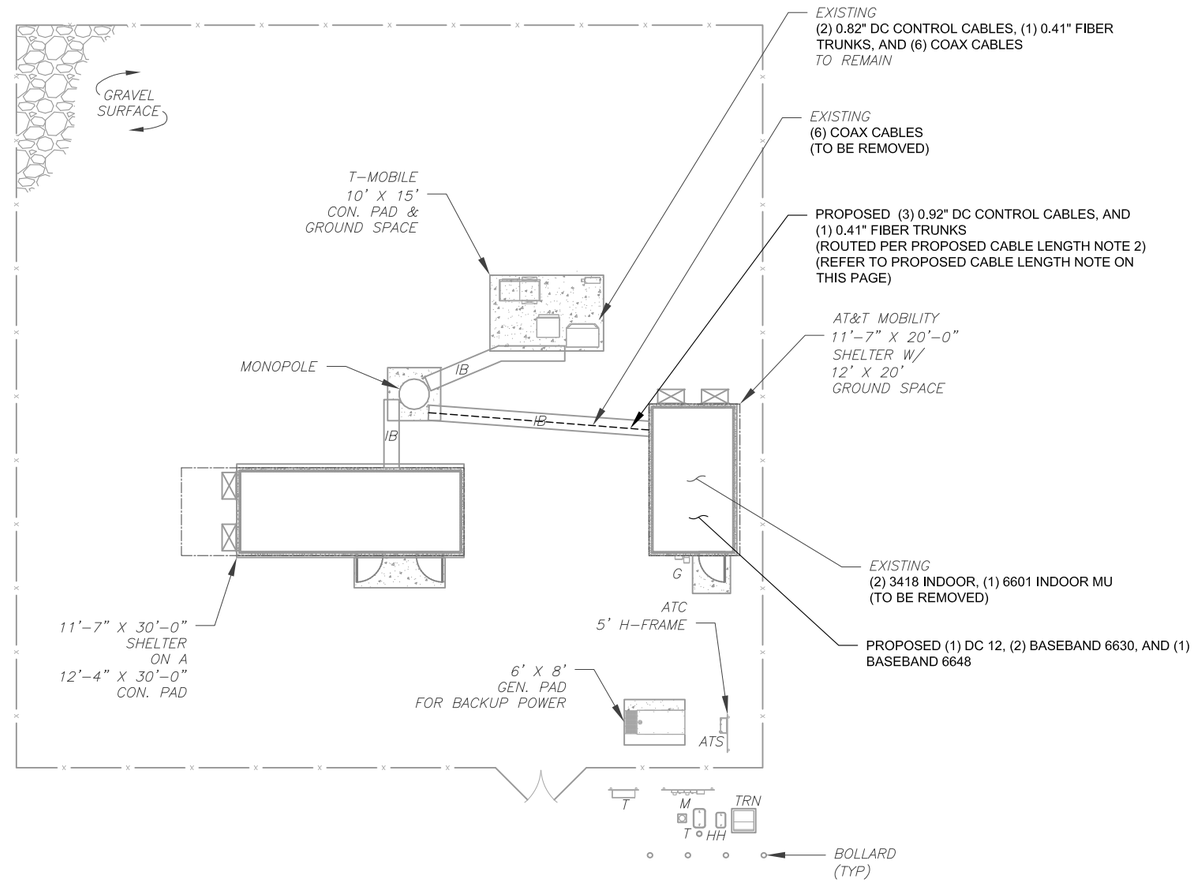
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

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



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **160'**. 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

20 0 10 20

(IN FEET)
1 UNIT = 20 FEET

N

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COA: 0012746

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RALEIGH, NC 27615
(919) 657-9131

REV.	DESCRIPTION	BY	DATE
A	PRELIM	CCC	03/31/22
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0	FOR CONSTRUCTION	CCC	06/17/22

ATC SITE NUMBER:
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AT&T SITE NAME:
CTL01230

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650 ALBANY TURNPIKE
COLLINSVILLE, CT 06019-3522

SEAL:

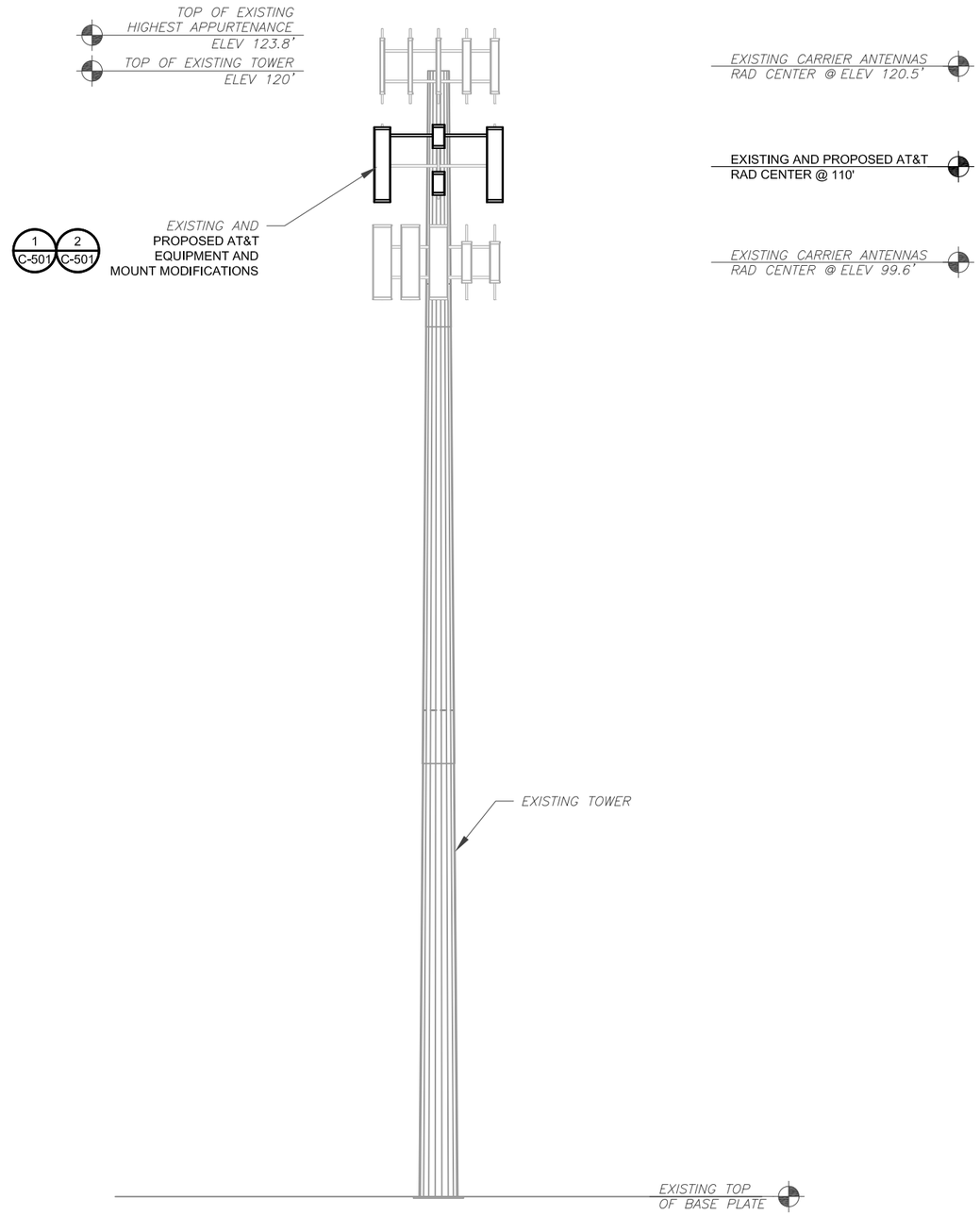
AT&T

DATE DRAWN:	06/17/22
ATC JOB NO:	13757764
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 03/21/22, 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.

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SEAL:

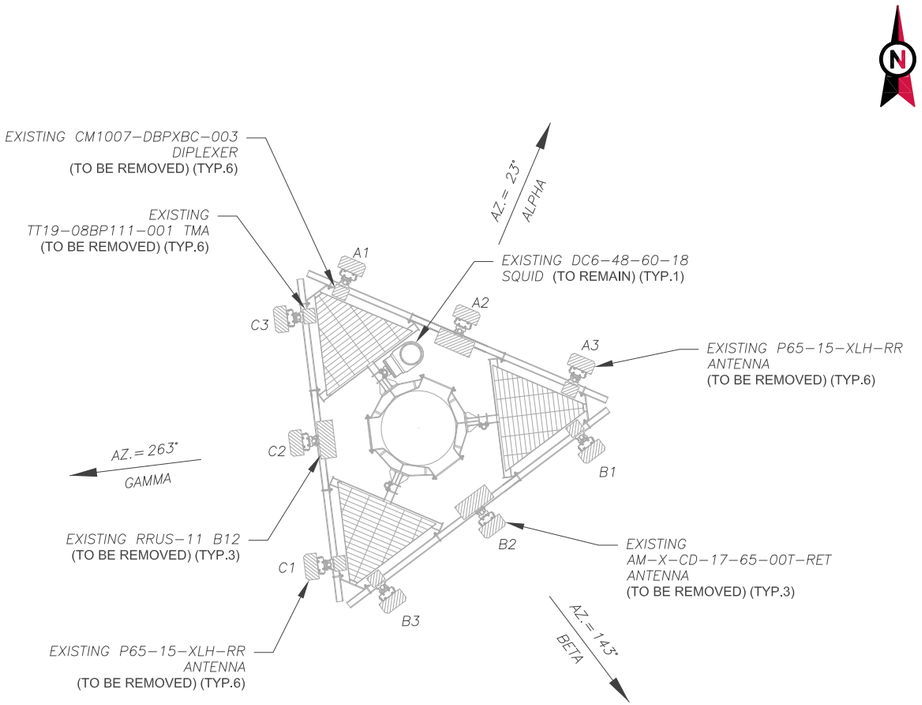
AT&T

DATE DRAWN:	06/17/22
ATC JOB NO:	13757764
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

TOWER ELEVATION

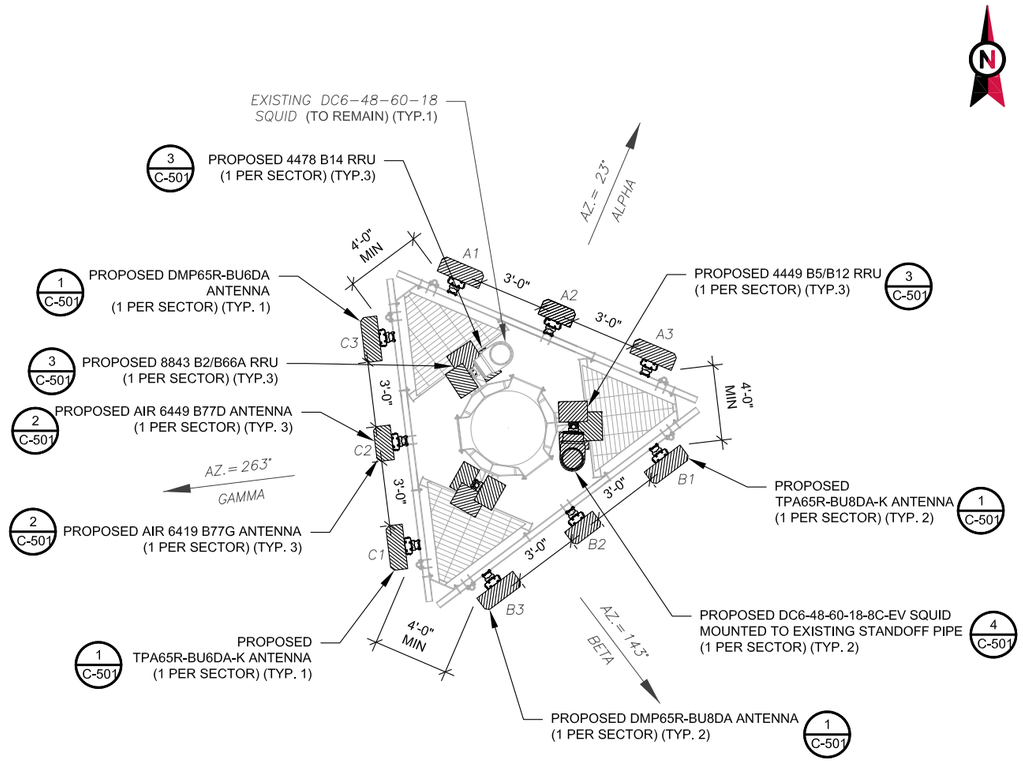
SHEET NUMBER:	REVISION:
C-201	0

EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 CURRENT ANTENNA PLAN
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 03/21/22, 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.

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AT&T

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CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-401	0

EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	110'	23°	A1	P65-15-XLH-RR	UMTS 850 UMTS 1900	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV
			A2	AM-X-CD-17-65-00T-RET	LTE 700	RMV	(1) RRUS-11 B12	–
			A3	P65-15-XLH-RR	GSM 850	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV
BETA	110'	143°	B1	P65-15-XLH-RR	UMTS 850 UMTS 1900	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV
			B2	AM-X-CD-17-65-00T-RET	LTE 700	RMV	(1) RRUS-11 B12	–
			B3	P65-15-XLH-RR	GSM 850	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV
GAMMA	110'	263°	C1	P65-15-XLH-RR	UMTS 850 UMTS 1900	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV
			C2	AM-X-CD-17-65-00T-RET	LTE 700	RMV	(1) RRUS-11 B12	–
			C3	P65-15-XLH-RR	GSM 850	RMV	(2) CM1007-DBPXBC-003 (1) TT19-08BP111-001	RMV RMV

NOTES

1. CONFIRM WITH AT&T 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.
3. THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

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	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	110'	23°	A1	TPA65R-BU8DA-K	LTE 700 LTE 1900 LTE AWS 5G AWS 5G 1900	ADD	(1) 4478 B14 RRU (1) 8843 B2/B66A RRU	ADD ADD
	113'		A2	AIR 6419 B77G	5G DOD	ADD	-	-
	108'		A2	AIR 6449 B77D	5G C-BAND	ADD	-	-
	110'		A3	DMP65R-BU8DA	LTE 700 5G 850	ADD	(1) 4449 B5/B12 RRU	ADD
BETA	110'	143°	B1	TPA65R-BU8DA-K	LTE 700 LTE 1900 LTE AWS 5G AWS 5G 1900	ADD	(1) 4478 B14 RRU (1) 8843 B2/B66A RRU	ADD ADD
	113'		B2	AIR 6419 B77G	5G DOD	ADD	-	-
	108'		B2	AIR 6449 B77D	5G C-BAND	ADD	-	-
	110'		B3	DMP65R-BU8DA	LTE 700 5G 850	ADD	(1) 4449 B5/B12 RRU	ADD
GAMMA	110'	263°	C1	TPA65R-BU8DA-K	LTE 700 LTE 1900 LTE AWS 5G AWS 5G 1900	ADD	(1) 4478 B14 RRU (1) 8843 B2/B66A RRU	ADD ADD
	113'		C2	AIR 6419 B77G	5G DOD	ADD	-	-
	108'		C2	AIR 6449 B77D	5G C-BAND	ADD	-	-
	110'		C3	DMP65R-BU8DA	LTE 700 5G 850	ADD	(1) 4449 B5/B12 RRU	ADD

1 EQUIPMENT SCHEDULES

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY				
MODEL NUMBER	STATUS	COAX	DC	CONDUIT	FIBER	STATUS
(1) DC6-48-60-18-8F	RMN	(6) 1-5/8"	(2) 0.82"	(1) 2"	(1) 0.405" TRUNK	RMN
–	–	(6) 1-5/8"	–	–	–	RMV

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY				
MODEL NUMBER	STATUS	COAX	DC	CONDUIT	FIBER	STATUS
(1) DC6-48-60-18-8F	RMN	(6) 1-5/8"	(2) 0.82"	(1) 2"	(1) 0.405" TRUNK	RMN
(1) DC9-48-60-24-8C-EV	ADD	-	(3) 0.92"	(2) 2"	(1) 0.405" TRUNK	ADD

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RALEIGH, NC 27615
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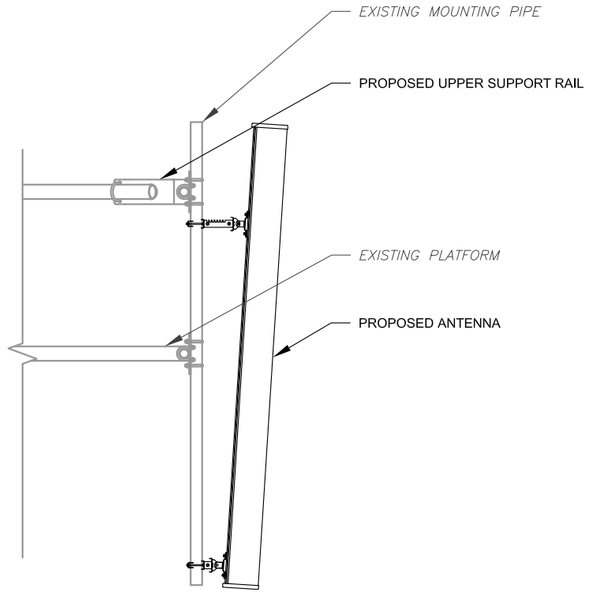
SEAL:

AT&T

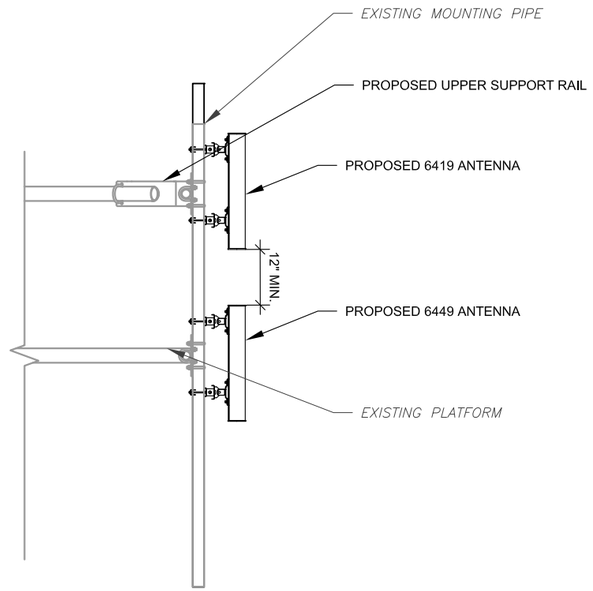
DATE DRAWN:	06/17/22
ATC JOB NO:	13757764
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

RF SCHEDULE

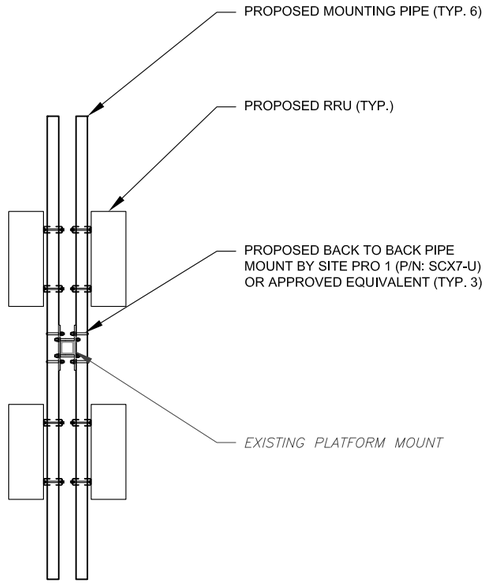
SHEET NUMBER:	REVISION:
C-402	0



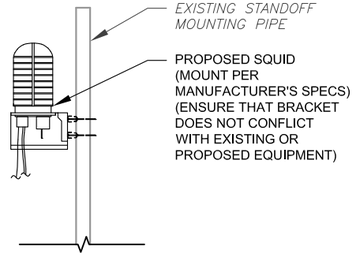
1 ANTENNA DETAIL
SCALE: N.T.S.



2 ANTENNA DETAIL
SCALE: N.T.S.



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



4 PROPOSED SQUID MOUNTING
SCALE: N.T.S.

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AT&T SITE NAME:
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COLLINSVILLE, CT 06019-3522

SEAL:

06/17/22

AT&T

DATE DRAWN:	06/17/22
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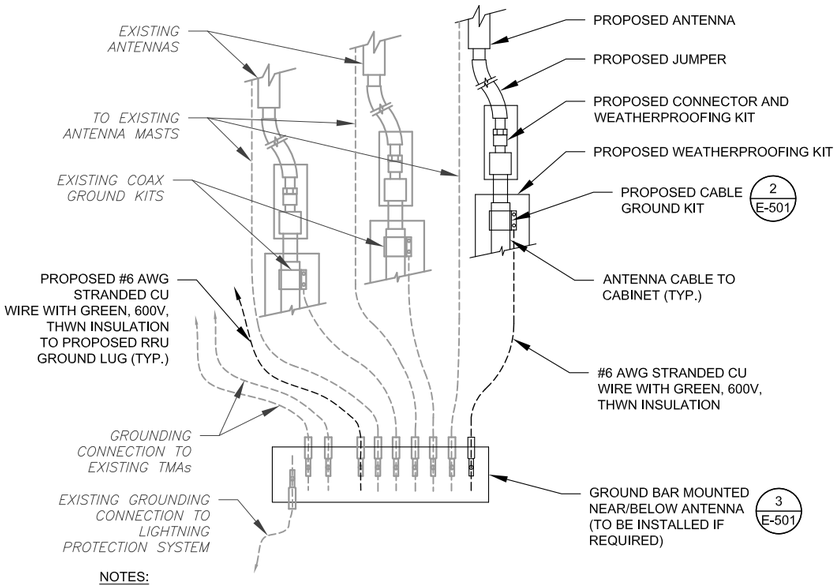
CUSTOMER ID:	CTL01230
CUSTOMER #:	10050765

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

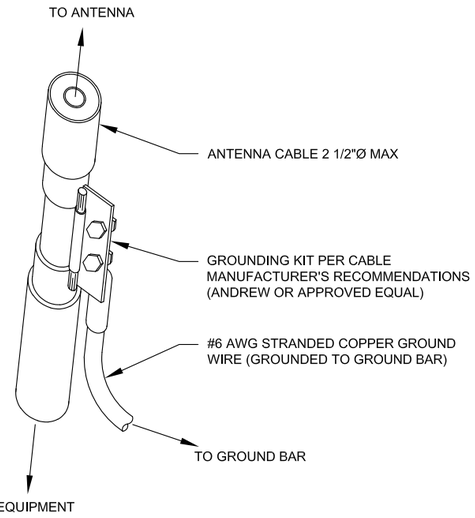


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T 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.

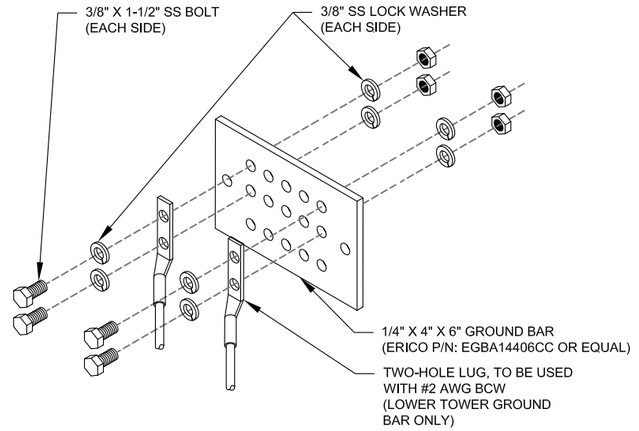


GROUND KIT NOTES:

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.

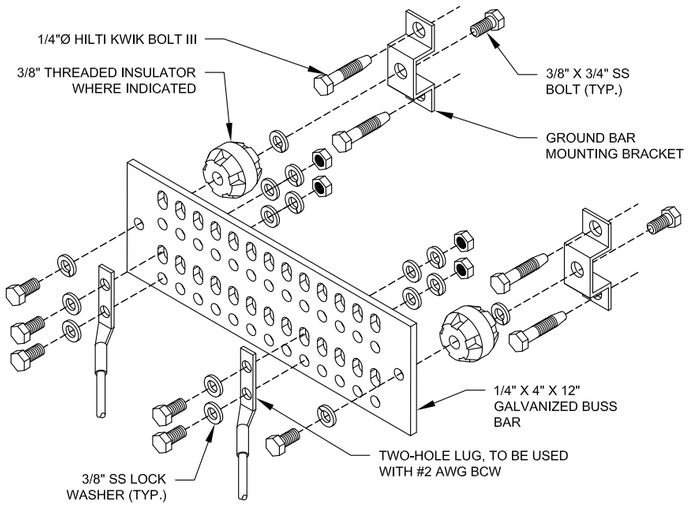


GROUND BAR NOTES:

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.

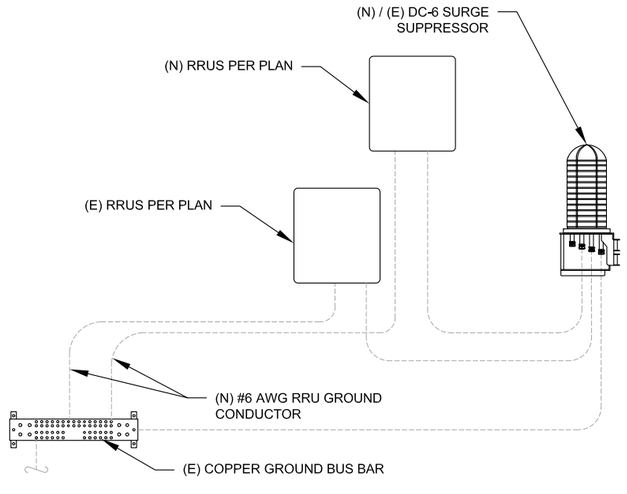


GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

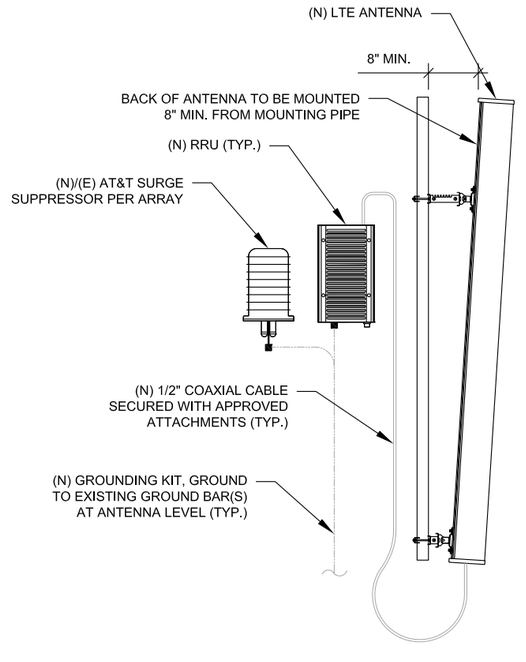
4 MAIN GROUND BAR DETAIL

SCALE: N.T.S.



5 RRU GROUNDING

SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING

SCALE: N.T.S.

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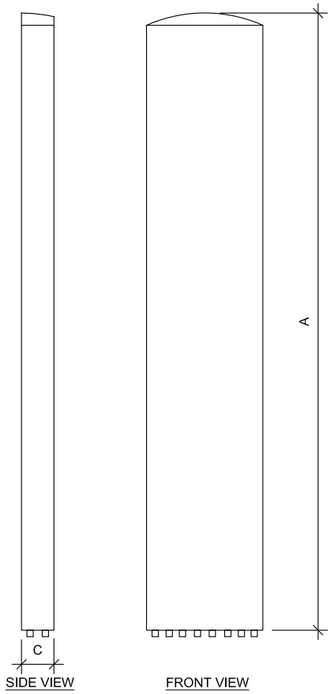
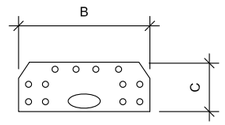
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

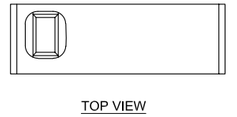


SIDE VIEW FRONT VIEW

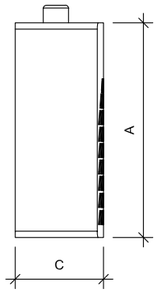


TOP VIEW

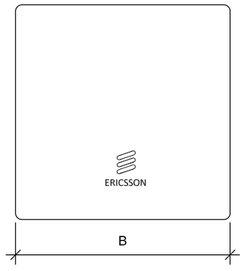
ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
DMP65R-BU8DA	96.0	20.7	7.7	95.7
DMP65R-BU6DA	71.2	20.7	7.7	79.4
AIR 6449 B77D / C-BAND	30.4	15.9	10.6	81.6
AIR 6419 B77G	28.3	16.1	7.9	66.1
TPA65R-BU8DA-K	71.1	25.5	7.6	79.6
TPA65R-BU8D	96.0	21.0	7.8	82.5



TOP VIEW

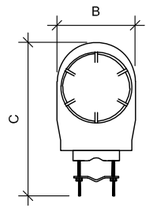


SIDW VIEW

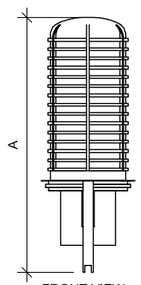


FRONT VIEW

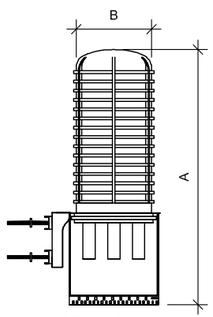
RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RRUS 4478 B14	18.1	13.4	8.3	59.4
RRUS 8843 B2/B66A	14.9	13.2	10.9	72.0
RRUS 4449 B5/B12	17.9	13.2	9.4	71.0



PLAN VIEW



FRONT VIEW



SIDW VIEW

RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC6-48-60-18-8C-EV	31.4	18.3	10.2	16.0

1 EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

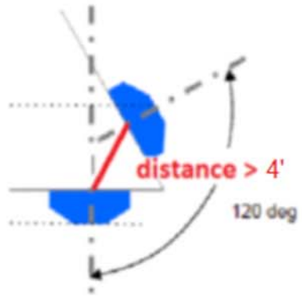
SUPPLEMENTAL

SHEET NUMBER: R-601

REVISION: 0

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ❑ Horizontal separation (side to side of antenna): >= 3’
- ❑ Vertical separation (between the tips of the antennas): > 3’
- ❑ Inter-sector separation: >4’ between the center of the antenna backplanes.



- ❑ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ❑ Typical 3' horizontal separation can tolerate skew angle up to 6°.

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

SUPPLEMENTAL

SHEET NUMBER: R-602

REVISION: 0

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	**CT Collinsville CAC 802816 CT, CT**
ATC Site Number	:	**411259**
Engineering Number	:	**13757764_C8_01**
Mount Elevation	:	**111.5 ft**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB056040**
Carrier Site Number	:	**CT01230**
Site Location	:	**650 Albany Turnpike** **Collinsville, CT 06019-3522** **41.85056685 , -72.94872612**
County	:	**Hartford**
Date	:	**March 21, 2022**
Max Usage	:	**50%**
Result	:	**Contingent Pass**

Prepared By:
Michael Ellis
Structural Engineer I

Michael Ellis

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
21 Mar 2022 03:59:25 cosign

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the mount analysis performed for AT&T Mobility at 111.5 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 RMQP, dated July 7, 2015
Radio Frequency Data Sheet	RFDS ID #10050765, dated February 10, 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/ 1.50" 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
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 P2 (2.375" x 60") antenna mounting pipe (Mount Pipe J and K) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.
- Install Site Pro 1 HRK12 handrail reinforcement kit (or similar) as requested by AT&T MOBILITY.
- No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

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.

1 MOUNT ANALYSIS

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-603	0

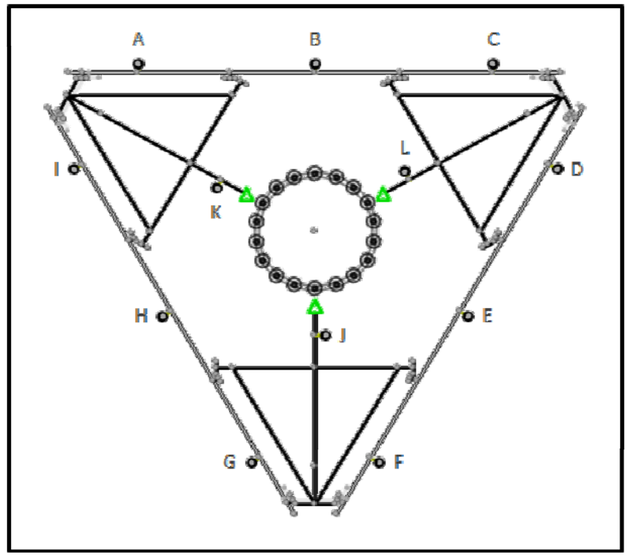
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
111.5	112.0	3	Ericsson Air 6449 B77D
	110.0	2	CCI DMP65R-BU8D
		1	CCI DMP65R-BU6DA
		2	CCI TPA65R-BU8D
		1	CCI TPA-65R-BU6DA-K
		2	Raycap DC9-48-60-24-8C-EV
		1	Raycap DC6-48-60-18-8F
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 8843 B2, B66A
	108.0	3	Ericsson AIR 6419 B77G

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	42%	Pass
Mount Pipes	42%	Pass
Connection Check	50%	Pass

Mount Layout



A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

1 MOUNT ANALYSIS

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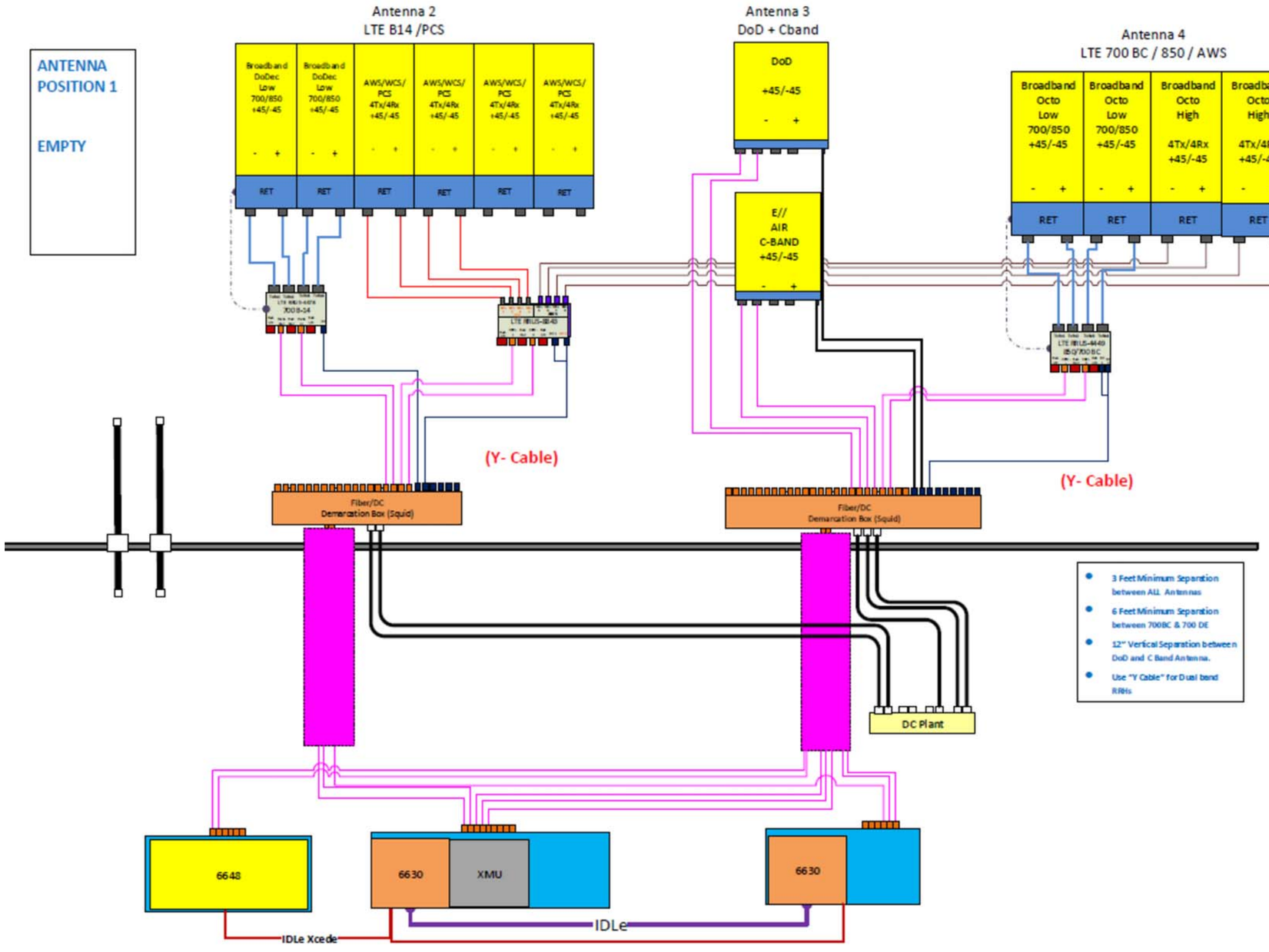
SUPPLEMENTAL

SHEET NUMBER: R-604

REVISION: 0



1 RFDS PLUMBING DIAGRAM

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-605	0

June 30, 2022

Jacqueline Hall
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Exempt Modification Application – AT&T Site 13757764
AT&T Mobility Telecommunications Facility @ 650 Albany Turnpike, Collinsville, CT 06019

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, three (3) RRHs, twelve (12) diplexers, three (3_ TMAs, and six (6) coax cables.
- Install twelve (12) antennas, nine (9) RRHs, one (1) squid, six (6) Y cables three (3) control cables, and one (1) fiber trunk.
- Ground work includes removing two (2) 3418 Indoor and one (1) 6601 Indoor MU, and installing one (1) DC-12, one baseband 6630, one baseband 6630 with IDLe cable, and one (1) baseband 6648 with XCEDE cable.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 30, 2022

Lansford W. Perry
PO Box 1
Canton Center, CT 06020

Re: Exempt Modification Application – AT&T Site 13757764
AT&T Mobility Telecommunications Facility @ 650 Albany Turnpike, Collinsville, CT 06019

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

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Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 30, 2022

The Honorable Robert Bessel
Canton Town Hall
P.O. Box 168
4 Market Street
Canton, CT 06022

Re: Exempt Modification Application – AT&T Site 13757764
AT&T Mobility Telecommunications Facility @ 650 Albany Turnpike, Collinsville, CT 06019

Dear First Selectman Bessel:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

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This letter is intended to serve as the required notice to the chief elected official of the municipality. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

June 30, 2022

Neil Pade, Director
Planning and Community Development
Canton Town Hall
P.O. Box 168
4 Market Street
Canton, CT 06022

Re: Exempt Modification Application – AT&T Site 13757764
AT&T Mobility Telecommunications Facility @ 650 Albany Turnpike, Collinsville, CT 06019

Dear Mr. Pade:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, three (3) RRHs, twelve (12) diplexers, three (3_ TMAs, and six (6) coax cables.
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This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures

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