



May 8, 2023

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

Re: Notice of Exempt Modification – Antenna and RRU Add
Property Address: 353 Pumpkin Hill Road, Ashford, CT 06278
Applicant: AT&T Mobility, LLC

Dear Ms. Bachman:

On behalf of AT&T, please accept this application 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).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 204-feet on an existing 240 foot lattice tower, owned by American Tower Corporation. AT&T now intends to install (6) new antennas (2 per sector) to replace (6) existing antennas, (3) new 4478 RRUs to replacing (3) existing, and add (3) new 4449 RRUS, (3) new 8843 RRUs, (1) new raycap unit, (3) DC power cables, (1) fiber cable to their equipment configuration. All of the changes will take place on the existing antenna mount. This modification/proposal includes B2, B5, and B12 hardware that is both 4G(LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to American Tower Corporation, 10 Presidential Way, Woburn, MA 01801 and William A. Falletti – First Selectman, Town of Ashford, CT at 5 Town Hall Road. A copy of this letter is being sent to the property owner BUNTE IRENE D ESTATE OF BUNTE TIMOTHY EXECUTOR, PO Box 2549, Addison TX 75001

The following is a list of subsequent decisions by the Connecticut Siting Council:

[**EM-CING-003-090120**](#) - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 353 Pumpkin Hill Road, **Ashford**, Connecticut.

[**EM-CING-003-130214**](#)- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 353 Pumpkin Hill Road, **Ashford**, Connecticut.

[**EM-CING-003-160519**](#) – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 353 Pumpkin Hill Road, **Ashford**, Connecticut.

[**EM-CING-003-170417**](#) – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 353 Pumpkin Hill Road, **Ashford**, Connecticut.



EM-CING-003-200317 – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 353 Pumpkin Hill Road, **Ashford**, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 204-foot level of the 240' lattice tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Kelly Fay

CC w/enclosures:
BUNTE IRENE D ESTATE OF BUNTE TIMOTHY EXECUTOR – PROPERTY OWNER
American Tower Corporation – Tower Owner
William A. Falletti – First Selectman, town of Ashford

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2021. A plus sign (+) at the end of a Map Block Lot (e.g., 23 52 7+) means three or more lots have been merged.



Ashford, Connecticut

Information on the Property Records for the Municipality of Ashford was last updated on 5/8/2023.



Parcel Information

Location:	353 PUMPKIN HILL RD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	00205600	Map Block Lot:	46 B 1	Acres:	10.7300
490 Acres:	0.00	Zone:	RA	Volume / Page:	201/ 837
Developers Map / Lot:		Census:	8301000		

Value Information

	Appraised Value	Assessed Value
Land	621,900	435,330
Buildings	0	0
Detached Outbuildings	128,900	90,230

	Appraised Value	Assessed Value
Total	750,800	525,560

Owner's Information

Owner's Data

BUNTE IRENE D ESTATE OF
 BUNTE TIMOTHY EXECUTOR
 PROPERTY TAX DEPT
 PO BOX 2549
 ADDISON, TX 75001

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
8 Ft Chain Fence	1984	0.00	0.00	430
Generator	2020	0.00	0.00	1
Cell Shed	1984	0.00	0.00	100
Cell Shed	1990	12.00	21.00	252
Cell Tower	2015	0.00	0.00	240

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
BUNTE IRENE D ESTATE OF	0201	0837	03/08/2021	Probate	\$0
BUNTE IRENE D	0118	0924	11/01/1999		\$0

Building Permits

Permit Number	Permit Type	Date Opened	Reason
22-106B	Commercial	08/12/2022	INSTALL 9 ANTENNAS, A GENERATOR + ASSOC EQPMT

Permit Number	Permit Type	Date Opened	Reason
20-16E	Electrical	04/29/2020	GENERATOR
17-31B	Commercial	05/03/2017	INSTALL 3 ANTENNAS + 6 REMOTE RADIO UNITS + ASSOCIATED FIBER/CABLES + SURGE UNIT.
16-74B	Commercial	06/14/2016	AT+T MOLILITY-ADD 3 ANTENNAS TO TOWER + 6 REMOTE RADIO UNITS
16237	Electrical	08/24/2015	NEW ELECTRICAL SERVICES FOR EXISTING TOWER & DEMO EXISTING COMMERCIAL SERVICES 860-617-
16196	Commercial	07/21/2015	REPLACE 300' TOWER WITH 240' TOWER & 12 VERIZON WIRELESS ANTENNAS 860-617-7346. BLDG PLANS GIVEN TO
15635	Commercial	07/26/2013	SWAP 9 ANTENNAS, RMV 3 ANTENNAS, ADD 6 DIPLEXERS. THIS PERMIT WORK WAS DISPLACED BY PERMIT NO 16196
15534	Commercial	03/18/2013	3 LTE ANTENNAS/FIBER& POWER LINES

Information Published With Permission From The Assessor



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 240 ft Self Support Tower
ATC Asset Name : ASHFORD CT
ATC Asset Number : 411217
Engineering Number : OAA784906_C3_01
Proposed Carrier : AT&T MOBILITY
Carrier Site Name : ASHFORD-353 PUMKIN HILL RD
Carrier Site Number : CTL01068
Site Location : 353 Pumpkin Hill Rd.
Ashford, CT 06278-1711
41.8478, -72.1216
County : Windham
Date : March 9, 2023
Max Usage : 67%
Analysis Result : Pass

Prepared By:

Sarah Kramer
Structural Engineer I

Sarah D. Kramer

Reviewed By:



COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 240 ft Self Support tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawing:	Sabre Job #128805, dated September 21, 2015
Foundation Drawing:	Sabre Job #128805, dated September 21, 2015
Geotechnical Report:	Terracon Project #J2155118, dated February 23, 2015

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:	120 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
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.

Proposed Carrier Final Loading

Elev.*	Qty	Equipment	Lines	Carrier
204.0'	1	Raycap DC6-48-60-18-8C	(2) 0.39" (10mm) Fiber Trunk (2) 0.69" (17.5mm) 6 AWG 3 (2) 0.78" (19.7mm) 8 AWG 6	AT&T MOBILITY
	1	Raycap DC6-48-60-18-8F(32.8 lbs)		
	3	CCI HPA-65R-BUU-H8		
	3	Ericsson RRUS 4449 B5, B12		
	6	CCI OPA65R-BU8BA-K		
	6	Ericsson RRUS 4478 B14		
196.0'	3	Sector Frame		

(If table breaks across pages, please see previous page for data in merged cells)

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

Install proposed lines in the place of the existing AT&T MOBILITY lines.

Other Existing/Reserved Loading

Elev.*	Qty	Equipment	Lines	Carrier
240.0'	1	VZW Unused Reserve (7582.89 sqin)	(2) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax (1) 1/2" Coax	VERIZON WIRELESS
	2	Raycap RRFDC-3315-PF-48		
	3	Andrew LNX-6514DS-VTM (72.7" height)		
	3	Sector Frame		
	3	Samsung B2/B66A RRH-BR049		
	3	Samsung B5/B13 RRH-BR04C		
	3	Samsung MT6407-77A		
	6	JMA Wireless MX06FRO660-03		
	3	Andrew LNX-6514DS-VTM (72.7" height)		
214.0'	3	Ericsson 4460 BAND 2/25	(3) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson 4480 BAND 71		
	3	Ericsson AIR 6419 B41		
	3	RFS APXVAALL24 43-U-NA20		
	3	Site Pro VFA12-HD		
184.0'	1	18' Omni	(1) 7/8" Coax	SBC COMMUNICATIONS INC
	1	Side Arm		
180.0'	1	Side Arm	(1) 7/8" Coax	
	1	12' Dipole		

(If table breaks across pages, please see previous page for data in merged cells)

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

Structure Usages

Structural Component	Usage	Pass/Fail
Legs	67%	Pass
Diagonals	61%	Pass
Horizontals	21%	Pass
Anchor Rods	42%	Pass

Foundation Reactions & Usages

Reaction Component	Analysis Reactions	Usage
Uplift (k)	297.3	43%
Compression (k)	354.0	57%
Total Shear (k)	51.4	26%

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

Standard Conditions

All engineering services performed by A.T. Engineering Services LLC 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 Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC 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.

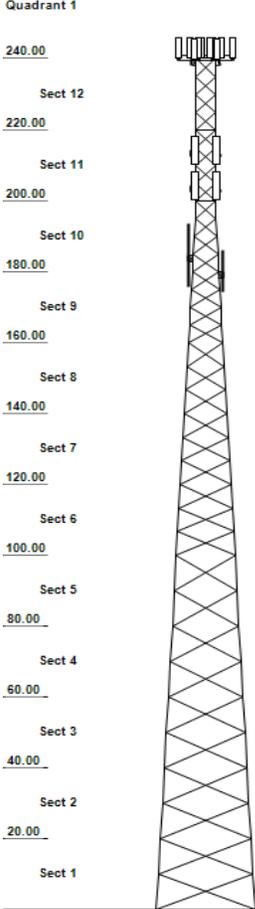
Unless explicitly agreed by both the client and A.T. Engineering Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

ANALYSIS PARAMETERS

Nominal Wind: 120 mph	Ice Wind: 50 mph w/ 1.5" ice	Service Wind: 60 mph
Risk Category: II	Exposure: B	S _s : 0.182 S _t : 0.055
Topo Category: 1	Topo Factor: Method 1	Topo Feature:
Structure Height: 240 ft	Base Elevation: 0 ft	Shape: Triangle
Base Width: 25 ft	Top Width: 5 ft	

Tower Elevation View



TOWER SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1-2	PX 50 ksi 10" DIA PIP	SAE 36 ksi 4X4X0.3125	
3	PX 50 ksi 10" DIA PIP	SAE 36 ksi 4X4X0.25	
4	PX 50 ksi 8" DIA PIPE	SAU 36 ksi 3.5X4X0.25	
5	PX 50 ksi 8" DIA PIPE	SAE 36 ksi 3.5X3.5X0.25	
6	PX 50 ksi 8" DIA PIPE	SAE 36 ksi 3X3X0.25	
7	PST 50 ksi 8" DIA PIP	SAE 36 ksi 3X3X0.1875	
8	PSP 50 ksi 5.563" OD	SAE 36 ksi 2.5X2.5X0.25	
9	PX 50 ksi 5" DIA PIPE	SAE 36 ksi 2.5X2.5X0.25	
10	PX 50 ksi 4" DIA PIPE	SAE 36 ksi 2X2X0.25	SAE 36 ksi 2X2X0.25
11	PX 50 ksi 3" DIA PIPE	SAE 36 ksi 2X2X0.3125	SAE 36 ksi 2X2X0.3125
12	PST 50 ksi 2.375" x 0	SAE 36 ksi 2X2X0.125	SAE 36 ksi 2X2X0.125

SECONDARY BRACING MEMBERS

Section	Sub Diagonal 1	Sub Diagonal 2	Sub Diagonal 3
1 - 12	-	-	-

Section	Sub Horizontal 1	Sub Horizontal 2	Sub Horizontal 3
1 - 12	-	-	-

DISCRETE APPURTENANCE

LINEAR APPURTENANCE

Elev (ft)	Description	Elev To (ft)	Description
240.0	(6) JMA Wireless MX06FRO660-03	240.0	(12) 1 5/8" Coax
240.0	(3) Generic Round Sector Frame	240.0	(2) 1 5/8" (1.63"-41.3mm) Fiber
240.0	(3) Andrew LNX-6514DS-VTM (72.7" h	240.0	(1) Waveguide
240.0	(3) Samsung MT6407-77A	240.0	(1) 1/2" Coax
240.0	(3) Samsung B2/B66A RRH-BR049	214.0	(3) 1.99" (50.7mm) Hybrid
240.0	(3) Samsung B5/B13 RRH-BR04C	214.0	(1) Waveguide
240.0	(2) Raycap RRFDC-3315-PF-48	204.0	(2) 0.78" (19.7mm) 8 AWG 6
240.0	(1) VZW Unused Reserve (7582.89 sq	204.0	(2) 0.69" (17.5mm) 6 AWG 3
239.8	(3) Andrew LNX-6514DS-VTM (72.7" h	204.0	(2) 0.39" (10mm) Fiber Trunk
214.0	(3) Ericsson AIR 6419 B41	196.0	(1) Waveguide
214.0	(3) RFS APXVAALL24 43-U-NA20	184.0	(1) 7/8" Coax
214.0	(3) Ericsson 4460 BAND 2/25	179.0	(1) 7/8" Coax
214.0	(3) Site Pro VFA12-HD		
214.0	(3) Ericsson 4480 BAND 71		
204.0	(6) CCI OPA65R-BU8BA-K		
204.0	(6) Ericsson RRUS 4478 B14		
204.0	(3) CCI HPA-65R-BUU-H8		
204.0	(3) Ericsson RRUS 4449 B5, B12		
204.0	(1) Raycap DC6-48-60-18-8C		
204.0	(1) Raycap DC6-48-60-18-8F(32.8 lb		
196.0	(3) Generic Round Sector Frame		
184.7	(1) Generic 18' Omni		
183.0	(1) Generic Round Side Arm		
180.0	(1) Generic Round Side Arm		
179.9	(1) Generic 12' Dipole		

GLOBAL BASE REACTIONS

	DL+WL	DL+WL+IL
Moment (k-ft):	7163.43	2358.74
Axial (k):	69.30	158.87
Shear (k):	51.40	17.09

INDIVIDUAL BASE REACTIONS

Comp (k):	353.96
Uplift (k):	297.34
Shear (k):	32.76

ASSET: 411217, ASHFORD CT
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
PROJECT: OAA784906_C3_01

ANALYSIS PARAMETERS

Location:	Windham County, CT	Height:	240 ft
Type and Shape:	Self Support, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Sabre	Bottom Face Width:	25.00 ft
Kd:	0.85	Top Face Width:	5.00 ft
Ke:	0.97	Anchor Bolt Detail Type:	c

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	120 mph
Risk Category:	II	Design Wind Speed with Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	Flat	Design Ice Thickness:	1.50 in
Crest Height:	0 ft	HMSL:	762 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	1.17
T_L (sec):	6	P:	1.3
S_s:	0.182	S₁:	0.055
F_a:	1.600	F_v:	2.400
S_{ds}:	0.194	S_{d1}:	0.088
		C_s:	0.030
		C_{s, Max}:	0.030
		C_{s, Min}:	0.030

LOAD CASES

1.2D + 1.0W Normal	1.2D + 1.0W Normal120 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60°120 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90°120 mph Wind with No Ice
0.9D + 1.0W Normal	0.9D + 1.0W Normal120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 60°	0.9D + 1.0W 60°120 mph Wind with No Ice (Reduced DL)
0.9D + 1.0W 90°	0.9D + 1.0W 90°120 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	1.2D + 1.0Di + 1.0Wi Normal50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60°50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90°50 mph Wind with 1.5" Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	1.2D + 1.0Ev + 1.0Eh NormalSeismic
1.2D + 1.0Ev + 1.0Eh 60°	1.2D + 1.0Ev + 1.0Eh 60°Seismic
1.2D + 1.0Ev + 1.0Eh 90°	1.2D + 1.0Ev + 1.0Eh 90°Seismic
0.9D - 1.0Ev + 1.0Eh Normal	0.9D - 1.0Ev + 1.0Eh NormalSeismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	0.9D - 1.0Ev + 1.0Eh 60°Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	0.9D - 1.0Ev + 1.0Eh 90°Seismic (Reduced DL)
1.0D + 1.0W Service Normal	1.0D + 1.0W Service Normal60 mph Wind with No Ice
1.0D + 1.0W Service 60°	1.0D + 1.0W Service 60°60 mph Wind with No Ice
1.0D + 1.0W Service 90°	1.0D + 1.0W Service 90°60 mph Wind with No Ice

TOWER LOADING – DISCRETE APPURTENANCE

Discrete Appurtenance Properties for LC: 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.00	38.68	74	253
240.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	38.68	74	304
240.0	Raycap RRFDC-3315-PF-48	2	27	2.5	1.6	15.7	10.3	0.80	0.67	0.0	0.00	38.68	89	65
240.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	38.68	227	294
240.0	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	445.56	38.73	446	140
240.0	JMA Wireless MX06FRO660-03	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.00	38.68	1106	432
240.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	38.68	799	1080
240.0	VZW Unused Reserve (7582.89 sq	1	562	52.7	0.0	0.0	0.0	0.80	0.90	0.0	0.00	38.68	1247	674
239.8	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	445.46	38.72	445	140
214.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	37.44	98	392
214.0	Ericsson 4480 BAND 71	3	81	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	37.44	110	292
214.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	37.44	304	300
214.0	Site Pro VFA12-HD	3	959	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.44	859	3451
214.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	37.44	974	442
204.0	Raycap DC6-48-60-18-8F(32.8 lb	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	36.93	37	39
204.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	36.93	74	256
204.0	Ericsson RRUS 4478 B14	6	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.00	36.93	204	428
204.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	36.93	51	19
204.0	CCI OPA65R-BU8BA-K	6	69	10.9	8.0	11.7	8.4	0.80	0.72	0.0	0.00	36.93	1184	497
204.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.00	36.93	655	245
196.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	36.51	754	1080
184.7	Generic 18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	0.0	0.00	35.90	165	66
183.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.80	158	225
180.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.63	157	225
179.9	Generic 12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.00	35.63	137	48
Totals		69	9,488	573.7									10,427	11,385

Discrete Appurtenance Properties for LC: 0.9D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.00	38.68	74	190
240.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	38.68	74	228
240.0	Raycap RRFDC-3315-PF-48	2	27	2.5	1.6	15.7	10.3	0.80	0.67	0.0	0.00	38.68	89	48
240.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	38.68	227	220
240.0	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	445.56	38.73	446	105
240.0	JMA Wireless MX06FRO660-03	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.00	38.68	1106	324
240.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	38.68	799	810
240.0	VZW Unused Reserve (7582.89 sq	1	562	52.7	0.0	0.0	0.0	0.80	0.90	0.0	0.00	38.68	1247	506
239.8	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	445.46	38.72	445	105
214.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	37.44	98	294
214.0	Ericsson 4480 BAND 71	3	81	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	37.44	110	219
214.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	37.44	304	225
214.0	Site Pro VFA12-HD	3	959	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	37.44	859	2588
214.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	37.44	974	332
204.0	Raycap DC6-48-60-18-8F(32.8 lb	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	36.93	37	30
204.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	36.93	74	192
204.0	Ericsson RRUS 4478 B14	6	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.00	36.93	204	321
204.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	36.93	51	14
204.0	CCI OPA65R-BU8BA-K	6	69	10.9	8.0	11.7	8.4	0.80	0.72	0.0	0.00	36.93	1184	373
204.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.00	36.93	655	184
196.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	36.51	754	810
184.7	Generic 18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	0.0	0.00	35.90	165	50
183.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.80	158	169
180.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	35.63	157	169
179.9	Generic 12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.00	35.63	137	36
Totals		69	9,488	573.7									10,427	8,539

Discrete Appurtenance Properties for LC: 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Samsung B5/B13 RRH-BR04C	3	130	2.8	1.3	15.0	8.1	0.80	0.50	0.0	0.00	6.72	19	433
240.0	Samsung B2/B66A RRH-BR049	3	151	2.8	1.3	15.0	10.0	0.80	0.50	0.0	0.00	6.72	19	504
240.0	Raycap RRFDC-3315-PF-48	2	110	3.6	1.6	15.7	10.3	0.80	0.67	0.0	0.00	6.72	22	231
240.0	Samsung MT6407-77A	3	188	6.3	2.9	16.1	5.5	0.80	0.61	0.0	0.00	6.72	53	614
240.0	Andrew LNX-6514DS-VTM (72.7" h)	3	223	11.1	6.1	11.9	7.1	0.80	0.69	1.0	105.25	6.72	105	692
240.0	JMA Wireless MX06FRO660-03	6	311	12.7	5.9	15.4	10.7	0.80	0.71	0.0	0.00	6.72	248	1936
240.0	Generic Round Sector Frame	3	685	31.7	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.72	305	2234
240.0	VZW Unused Reserve (7582.89 sq	1	971	91.0	0.0	0.0	0.0	0.80	0.90	0.0	0.00	6.72	374	1084
239.8	Andrew LNX-6514DS-VTM (72.7" h)	3	223	11.1	6.1	11.9	7.1	0.80	0.69	1.0	105.23	6.72	105	692
214.0	Ericsson 4460 BAND 2/25	3	201	3.7	1.6	15.7	12.1	0.80	0.50	0.0	0.00	6.50	24	667
214.0	Ericsson 4480 BAND 71	3	160	4.0	1.8	15.7	7.5	0.80	0.50	0.0	0.00	6.50	27	528
214.0	Ericsson AIR 6419 B41	3	240	8.1	3.0	20.9	9.0	0.80	0.63	0.0	0.00	6.50	67	770
214.0	Site Pro VFA12-HD	3	1651	30.8	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.50	257	5527

ASSET: 411217, ASHFORD CT

CODE: ANSI/TIA-222-H

CUSTOMER: AT&T MOBILITY

PROJECT: OAA784906_C3_01

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
214.0	RFS APXVAALL24 43-U-NA20	3	526	24.1	8.0	24.0	8.5	0.80	0.63	0.0	0.00	6.50	201	1653
204.0	Raycap DC6-48-60-18-8F(32.8 lb)	1	97	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.00	6.41	10	103
204.0	Ericsson RRUS 4449 B5, B12	3	138	2.9	1.5	13.2	9.4	0.80	0.50	0.0	0.00	6.41	19	456
204.0	Ericsson RRUS 4478 B14	6	123	3.0	1.5	13.4	8.3	0.80	0.67	0.0	0.00	6.41	53	809
204.0	Raycap DC6-48-60-18-8C	1	76	2.8	1.7	18.2	6.4	0.80	1.00	0.0	0.00	6.41	12	80
204.0	CCI OPA65R-BU8BA-K	6	320	14.2	8.0	11.7	8.4	0.80	0.72	0.0	0.00	6.41	267	2002
204.0	CCI HPA-65R-BUU-H8	3	334	16.7	7.7	14.8	7.4	0.80	0.67	0.0	0.00	6.41	146	1044
196.0	Generic Round Sector Frame	3	677	31.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	6.34	285	2212
184.7	Generic 18' Omni	1	194	12.0	18.0	3.0	3.0	1.00	1.00	0.0	0.00	6.23	63	205
183.0	Generic Round Side Arm	1	281	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.22	42	319
180.0	Generic Round Side Arm	1	280	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.19	42	318
179.9	Generic 12' Dipole	1	175	11.8	12.0	3.0	3.0	1.00	1.00	0.0	0.00	6.19	62	183
Totals		69	23,399	885.0									2829	25,296

Discrete Appurtenance Properties for LC: 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
240.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.00	9.67	18	211
240.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	9.67	18	253
240.0	Raycap RRFDC-3315-PF-48	2	27	2.5	1.6	15.7	10.3	0.80	0.67	0.0	0.00	9.67	22	54
240.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	9.67	57	245
240.0	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	111.39	9.68	111	116
240.0	JMA Wireless MX06FRO660-03	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.00	9.67	277	360
240.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	9.67	200	900
240.0	VZW Unused Reserve (7582.89 sq	1	562	52.7	0.0	0.0	0.0	0.80	0.90	0.0	0.00	9.67	312	562
239.8	Andrew LNX-6514DS-VTM (72.7" h)	3	39	8.2	6.1	11.9	7.1	0.80	0.69	1.0	111.36	9.68	111	116
214.0	Ericsson 4460 BAND 2/25	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	9.36	24	327
214.0	Ericsson 4480 BAND 71	3	81	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	9.36	27	243
214.0	Ericsson AIR 6419 B41	3	83	6.3	3.0	20.9	9.0	0.80	0.63	0.0	0.00	9.36	76	250
214.0	Site Pro VFA12-HD	3	959	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	9.36	215	2876
214.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	9.36	243	368
204.0	Raycap DC6-48-60-18-8F(32.8 lb)	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	9.23	9	33
204.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	9.23	19	213
204.0	Ericsson RRUS 4478 B14	6	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.00	9.23	51	356
204.0	Raycap DC6-48-60-18-8C	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.00	9.23	13	16
204.0	CCI OPA65R-BU8BA-K	6	69	10.9	8.0	11.7	8.4	0.80	0.72	0.0	0.00	9.23	296	414
204.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.00	9.23	164	204
196.0	Generic Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.00	9.13	189	900
184.7	Generic 18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	0.0	0.00	8.97	41	55
183.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.95	40	188
180.0	Generic Round Side Arm	1	188	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.91	39	188
179.9	Generic 12' Dipole	1	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.00	8.91	34	40
Totals		69	9,488	573.7									2,607	9,488

ASSET: 411217, ASHFORD CT

CODE: ANSI/TIA-222-H

CUSTOMER: AT&T MOBILITY

PROJECT: OAA784906_C3_01

TOWER LOADING – LINEAR APPURTENANCE

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient. Factor	K _a Override
0.0	240.0	1 5/8" Coax	12	1.98	0.82	83	3	Block	0.00	N	1.00	1.00	0.00
0.0	240.0	1/2" Coax	1	0.63	0.15	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	240.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	240.0	1 5/8" (1.63"-41.3mm) Fiber	2	1.63	1.61	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	214.0	1.99" (50.7mm) Hybrid	3	1.99	1.90	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	214.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.0	204.0	0.78" (19.7mm) 8 AWG 6	2	0.78	0.59	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	204.0	0.69" (17.5mm) 6 AWG 3	2	0.69	0.39	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	204.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	196.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	184.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	179.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal
120 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 18 columns: Section #, Elev (ft), Qz (psf), Ar (sf), A_r (sf), Ice A_r (sf), e, Cr, Df, Dr, T_iz (in), Ae (sf), EPA_a (sf), EPA_ai (sf), Wt (lb), Ice Wt (lb), F_st (lb), Fa (lb), Force (lb). Rows 1-12 and Totals.

1.2D + 1.0W 60°
120 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 18 columns: Section #, Elev (ft), Qz (psf), Ar (sf), A_r (sf), Ice A_r (sf), e, Cr, Df, Dr, T_iz (in), Ae (sf), EPA_a (sf), EPA_ai (sf), Wt (lb), Ice Wt (lb), F_st (lb), Fa (lb), Force (lb). Rows 1-12 and Totals.

1.2D + 1.0W 90°
120 mph Wind with No Ice

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 18 columns: Section #, Elev (ft), Qz (psf), Ar (sf), A_r (sf), Ice A_r (sf), e, Cr, Df, Dr, T_iz (in), Ae (sf), EPA_a (sf), EPA_ai (sf), Wt (lb), Ice Wt (lb), F_st (lb), Fa (lb), Force (lb). Rows 1-12 and Totals.

0.9D + 1.0W Normal
120 mph Wind with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 18 columns: Section #, Elev (ft), Qz (psf), Ar (sf), A_r (sf), Ice A_r (sf), e, Cr, Df, Dr, T_iz (in), Ae (sf), EPA_a (sf), EPA_ai (sf), Wt (lb), Ice Wt (lb), F_st (lb), Fa (lb), Force (lb). Rows 1-12 and Totals.

0.9D + 1.0W 60°
120 mph Wind with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Table with 18 columns: Section #, Elev (ft), Qz (psf), Ar (sf), A_r (sf), Ice A_r (sf), e, Cr, Df, Dr, T_iz (in), Ae (sf), EPA_a (sf), EPA_ai (sf), Wt (lb), Ice Wt (lb), F_st (lb), Fa (lb), Force (lb). Rows 1-12 and Totals.

SECTION FORCES

0.9D + 1.0W 60°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice (Reduced DL)

Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
11	210	37.24	9.810	11.667	0.00	0.203	2.59	0.80	1.00	0.0	14.56	37.65	0.00	1706	0	1192	1402	2593
10	190	36.19	10.682	15.025	0.00	0.202	2.59	0.80	1.00	0.0	16.73	43.33	0.00	2074	0	1333	1642	2975
9	170	35.05	14.960	18.574	0.00	0.198	2.60	0.80	1.00	0.0	21.42	55.75	0.00	2673	0	1661	1673	3335
8	150	33.82	14.397	18.574	0.00	0.158	2.74	0.80	1.00	0.0	20.80	57.06	0.00	2975	0	1641	1616	3257
7	130	32.47	19.519	28.798	0.00	0.190	2.63	0.80	1.00	0.0	28.29	74.40	0.00	3083	0	2053	1552	3605
6	110	30.95	22.186	28.798	0.00	0.173	2.69	0.80	1.00	0.0	30.16	81.06	0.00	4292	0	2133	1479	3612
5	90	29.23	21.179	28.798	0.00	0.150	2.77	0.80	1.00	0.0	28.99	80.41	0.00	4243	0	1998	1397	3395
4	70	27.20	23.137	28.798	0.00	0.139	2.81	0.80	1.00	0.0	30.44	85.65	0.00	4440	0	1981	1300	3281
3	50	24.71	28.624	35.893	0.00	0.154	2.76	0.80	1.00	0.0	38.01	104.73	0.00	5269	0	2200	1181	3381
2	30	21.36	31.030	35.893	0.00	0.146	2.79	0.80	1.00	0.0	39.78	110.82	0.00	5815	0	2012	1021	3032
1	10	21.34	33.475	35.893	0.00	0.139	2.81	0.80	1.00	0.0	41.62	116.99	0.00	5977	0	2122	1020	3142
Totals														43,437	0			37,853

0.9D + 1.0W 90°

Gust Response Factor (Gh): 0.85

120 mph Wind with No Ice (Reduced DL)

Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
12	230	38.22	9.949	7.917	0.00	0.172	2.69	0.85	1.00	0.0	12.97	34.92	0.00	891	0	1134	1156	2290
11	210	37.24	9.810	11.667	0.00	0.203	2.59	0.85	1.00	0.0	15.05	38.91	0.00	1706	0	1232	1402	2633
10	190	36.19	10.682	15.025	0.00	0.202	2.59	0.85	1.00	0.0	17.26	44.71	0.00	2074	0	1375	1642	3017
9	170	35.05	14.960	18.574	0.00	0.198	2.60	0.85	1.00	0.0	22.17	57.70	0.00	2673	0	1719	1673	3393
8	150	33.82	14.397	18.574	0.00	0.158	2.74	0.85	1.00	0.0	21.52	59.04	0.00	2975	0	1697	1616	3314
7	130	32.47	19.519	28.798	0.00	0.190	2.63	0.85	1.00	0.0	29.26	76.96	0.00	3083	0	2124	1552	3676
6	110	30.95	22.186	28.798	0.00	0.173	2.69	0.85	1.00	0.0	31.27	84.04	0.00	4292	0	2211	1479	3691
5	90	29.23	21.179	28.798	0.00	0.150	2.77	0.85	1.00	0.0	30.05	83.35	0.00	4243	0	2071	1397	3468
4	70	27.20	23.137	28.798	0.00	0.139	2.81	0.85	1.00	0.0	31.60	88.91	0.00	4440	0	2056	1300	3356
3	50	24.71	28.624	35.893	0.00	0.154	2.76	0.85	1.00	0.0	39.44	108.67	0.00	5269	0	2283	1181	3464
2	30	21.36	31.030	35.893	0.00	0.146	2.79	0.85	1.00	0.0	41.33	115.15	0.00	5815	0	2090	1021	3111
1	10	21.34	33.475	35.893	0.00	0.139	2.81	0.85	1.00	0.0	43.29	121.70	0.00	5977	0	2207	1020	3227
Totals														43,437	0			38,638

1.2D + 1.0Di + 1.0Wi Normal

Gust Response Factor (Gh): 0.85

50 mph Wind with 1.5" Radial Ice

Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00

Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
12	230	6.63	9.949	38.750	30.83	0.443	1.99	1.00	1.00	1.8	35.36	70.21	30.83	4990	3801	396	384	780
11	210	6.46	9.810	42.221	30.55	0.465	1.95	1.00	1.00	1.8	37.96	74.01	30.55	6779	4504	407	495	902
10	190	6.28	10.682	47.079	32.05	0.433	2.00	1.00	1.00	1.8	41.33	82.78	32.05	8348	5583	442	710	1152
9	170	6.09	14.960	52.618	34.04	0.386	2.09	1.00	1.00	1.8	48.12	100.71	34.04	9953	6389	521	792	1313
8	150	5.87	14.397	51.213	32.64	0.305	2.28	1.00	1.00	1.7	45.15	103.06	32.64	10164	6198	514	821	1336
7	130	5.64	19.519	63.910	35.11	0.321	2.24	1.00	1.00	1.7	58.23	130.56	35.11	11187	7076	626	771	1396
6	110	5.37	22.186	66.336	37.54	0.295	2.31	1.00	1.00	1.7	61.82	142.74	37.54	12974	7251	652	746	1398
5	90	5.07	21.179	60.735	31.94	0.241	2.46	1.00	1.00	1.7	56.58	139.45	31.94	12498	6841	602	731	1332
4	70	4.72	23.137	61.800	33.00	0.224	2.52	1.00	1.00	1.6	58.92	148.41	33.00	12928	7008	596	681	1276
3	50	4.29	28.624	69.647	33.75	0.232	2.49	1.00	1.00	1.6	69.08	172.13	33.75	14388	7363	628	603	1231
2	30	3.71	31.030	69.754	33.86	0.218	2.54	1.00	1.00	1.5	71.34	181.04	33.86	14910	7157	571	513	1084
1	10	3.70	33.475	67.858	31.97	0.202	2.59	1.00	1.00	1.3	72.48	187.74	31.97	14458	6488	591	491	1083
Totals														133,577	75,660			14,281

1.2D + 1.0Di + 1.0Wi 60°

Gust Response Factor (Gh): 0.85

50 mph Wind with 1.5" Radial Ice

Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00

Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
12	230	6.63	9.949	38.750	30.83	0.443	1.99	0.80	1.00	1.8	33.37	66.26	30.83	4990	3801	374	384	757
11	210	6.46	9.810	42.221	30.55	0.465	1.95	0.80	1.00	1.8	36.00	70.18	30.55	6779	4504	386	495	881
10	190	6.28	10.682	47.079	32.05	0.433	2.00	0.80	1.00	1.8	39.20	78.50	32.05	8348	5583	419	710	1129
9	170	6.09	14.960	52.618	34.04	0.386	2.09	0.80	1.00	1.8	45.13	94.44	34.04	9953	6389	489	792	1280
8	150	5.87	14.397	51.213	32.64	0.305	2.28	0.80	1.00	1.7	42.27	96.49	32.64	10164	6198	482	821	1303
7	130	5.64	19.519	63.910	35.11	0.321	2.24	0.80	1.00	1.7	54.32	121.81	35.11	11187	7076	584	771	1354
6	110	5.37	22.186	66.336	37.54	0.295	2.31	0.80	1.00	1.7	57.38	132.50	37.54	12974	7251	605	746	1351
5	90	5.07	21.179	60.735	31.94	0.241	2.46	0.80	1.00	1.7	52.34	129.01	31.94	12498	6841	556	731	1287
4	70	4.72	23.137	61.800	33.00	0.224	2.52	0.80	1.00	1.6	54.29	136.76	33.00	12928	7008	549	681	1230
3	50	4.29	28.624	69.647	33.75	0.232	2.49	0.80	1.00	1.6	63.35	157.87	33.75	14388	7363	576	603	1179
2	30	3.71	31.030	69.754	33.86	0.218	2.54	0.80	1.00	1.5	65.13	165.29	33.86	14910	7157	521	513	1034
1	10	3.70	33.475	67.858	31.97	0.202	2.59	0.80	1.00	1.3	65.78	170.40	31.97	14458	6488	537	491	1028
Totals														133,577	75,660			13,813

1.2D + 1.0Di + 1.0Wi 90°

Gust Response Factor (Gh): 0.85

50 mph Wind with 1.5" Radial Ice

Wind Importance Factor (Iw): 1.00

Ice Importance Factor: 1.00

Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
12	230	6.63	9.949	38.750	30.83	0.443	1.99	0.85	1.00	1.8	33.86	67.25	30.83	4990	3801	379	384	763
11	210	6.46	9.810	42.221	30.55	0.465	1.95	0.85	1.00	1.8	36.49	71.14	30.55	6779	4504	391	495	886

SECTION FORCES

1.2D + 1.0Di + 1.0Wi 90°

Gust Response Factor (Gh): 0.85

Ice Importance Factor: 1.00

50 mph Wind with 1.5" Radial Ice

Wind Importance Factor (Iw): 1.00

Ice Dead Load Factor: 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _s (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
10	190	6.28	10.682	47.079	32.05	0.433	2.00	0.85	1.00	1.8	39.73	79.57	32.05	8348	5583	425	710	1135													
9	170	6.09	14.960	52.618	34.04	0.386	2.09	0.85	1.00	1.8	45.88	96.01	34.04	9953	6389	497	792	1288													
8	150	5.87	14.397	51.213	32.64	0.305	2.28	0.85	1.00	1.7	42.99	98.14	32.64	10164	6198	490	821	1311													
7	130	5.64	19.519	63.910	35.11	0.321	2.24	0.85	1.00	1.7	55.30	123.99	35.11	11187	7076	594	771	1365													
6	110	5.37	22.186	66.336	37.54	0.295	2.31	0.85	1.00	1.7	58.49	135.06	37.54	12974	7251	617	746	1363													
5	90	5.07	21.179	60.735	31.94	0.241	2.46	0.85	1.00	1.7	53.40	131.62	31.94	12498	6841	568	731	1298													
4	70	4.72	23.137	61.800	33.00	0.224	2.52	0.85	1.00	1.6	55.45	139.67	33.00	12928	7008	561	681	1241													
3	50	4.29	28.624	69.647	33.75	0.232	2.49	0.85	1.00	1.6	64.79	161.44	33.75	14388	7363	589	603	1192													
2	30	3.71	31.030	69.754	33.86	0.218	2.54	0.85	1.00	1.5	66.68	169.22	33.86	14910	7157	533	513	1047													
1	10	3.70	33.475	67.858	31.97	0.202	2.59	0.85	1.00	1.3	67.46	174.73	31.97	14458	6488	550	491	1042													
														Totals	133,577	75,660															13,930

1.0D + 1.0W Service Normal

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _s (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
12	230	9.55	9.949	7.917	0.00	0.172	2.69	1.00	1.00	0.0	14.46	38.94	0.00	990	0	316	289	605													
11	210	9.31	9.810	11.667	0.00	0.203	2.59	1.00	1.00	0.0	16.52	42.72	0.00	1895	0	338	350	688													
10	190	9.05	10.682	15.025	0.00	0.202	2.59	1.00	1.00	0.0	19.32	50.05	0.00	2304	0	385	411	795													
9	170	8.76	14.960	18.574	0.00	0.198	2.60	1.00	1.00	0.0	25.62	66.68	0.00	2970	0	497	418	915													
8	150	8.46	14.397	18.574	0.00	0.158	2.74	1.00	1.00	0.0	24.95	68.47	0.00	3305	0	492	404	896													
7	130	8.12	19.519	28.798	0.00	0.190	2.63	1.00	1.00	0.0	35.58	93.57	0.00	3426	0	646	388	1033													
6	110	7.74	22.186	28.798	0.00	0.173	2.69	1.00	1.00	0.0	38.28	102.89	0.00	4769	0	677	370	1047													
5	90	7.31	21.179	28.798	0.00	0.150	2.77	1.00	1.00	0.0	37.33	103.53	0.00	4714	0	643	349	992													
4	70	6.80	23.137	28.798	0.00	0.139	2.81	1.00	1.00	0.0	39.45	110.99	0.00	4933	0	642	325	967													
3	50	6.18	28.624	35.893	0.00	0.154	2.76	1.00	1.00	0.0	48.20	132.81	0.00	5854	0	697	295	993													
2	30	5.34	31.030	35.893	0.00	0.146	2.79	1.00	1.00	0.0	50.56	140.85	0.00	6461	0	639	255	894													
1	10	5.33	33.475	35.893	0.00	0.139	2.81	1.00	1.00	0.0	51.12	143.70	0.00	6641	0	652	255	906													
														Totals	48,264	0															10,733

1.0D + 1.0W Service 60°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _s (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
12	230	9.55	9.949	7.917	0.00	0.172	2.69	0.80	1.00	0.0	12.47	33.58	0.00	990	0	273	289	562													
11	210	9.31	9.810	11.667	0.00	0.203	2.59	0.80	1.00	0.0	14.56	37.65	0.00	1895	0	298	350	648													
10	190	9.05	10.682	15.025	0.00	0.202	2.59	0.80	1.00	0.0	17.18	44.51	0.00	2304	0	342	411	753													
9	170	8.76	14.960	18.574	0.00	0.198	2.60	0.80	1.00	0.0	22.63	58.90	0.00	2970	0	439	418	857													
8	150	8.46	14.397	18.574	0.00	0.158	2.74	0.80	1.00	0.0	22.07	60.57	0.00	3305	0	435	404	839													
7	130	8.12	19.519	28.798	0.00	0.190	2.63	0.80	1.00	0.0	31.67	83.30	0.00	3426	0	575	388	963													
6	110	7.74	22.186	28.798	0.00	0.173	2.69	0.80	1.00	0.0	33.84	90.96	0.00	4769	0	598	370	968													
5	90	7.31	21.179	28.798	0.00	0.150	2.77	0.80	1.00	0.0	33.09	91.79	0.00	4714	0	570	349	919													
4	70	6.80	23.137	28.798	0.00	0.139	2.81	0.80	1.00	0.0	34.82	97.97	0.00	4933	0	566	325	891													
3	50	6.18	28.624	35.893	0.00	0.154	2.76	0.80	1.00	0.0	42.48	117.04	0.00	5854	0	615	295	910													
2	30	5.34	31.030	35.893	0.00	0.146	2.79	0.80	1.00	0.0	44.36	123.56	0.00	6461	0	561	255	816													
1	10	5.33	33.475	35.893	0.00	0.139	2.81	0.80	1.00	0.0	44.42	124.88	0.00	6641	0	566	255	821													
														Totals	48,264	0															9,948

1.0D + 1.0W Service 90°

Gust Response Factor (Gh): 0.85

60 mph Wind with No Ice

Wind Importance Factor (Iw): 1.00

Section #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _s (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)													
12	230	9.55	9.949	7.917	0.00	0.172	2.69	0.85	1.00	0.0	12.97	34.92	0.00	990	0	284	289	573													
11	210	9.31	9.810	11.667	0.00	0.203	2.59	0.85	1.00	0.0	15.05	38.91	0.00	1895	0	308	350	658													
10	190	9.05	10.682	15.025	0.00	0.202	2.59	0.85	1.00	0.0	17.72	45.89	0.00	2304	0	353	411	763													
9	170	8.76	14.960	18.574	0.00	0.198	2.60	0.85	1.00	0.0	23.38	60.84	0.00	2970	0	453	418	872													
8	150	8.46	14.397	18.574	0.00	0.158	2.74	0.85	1.00	0.0	22.79	62.55	0.00	3305	0	450	404	854													
7	130	8.12	19.519	28.798	0.00	0.190	2.63	0.85	1.00	0.0	32.65	85.87	0.00	3426	0	592	388	980													
6	110	7.74	22.186	28.798	0.00	0.173	2.69	0.85	1.00	0.0	34.95	93.94	0.00	4769	0	618	370	988													
5	90	7.31	21.179	28.798	0.00	0.150	2.77	0.85	1.00	0.0	34.15	94.72	0.00	4714	0	588	349	938													
4	70	6.80	23.137	28.798	0.00	0.139	2.81	0.85	1.00	0.0	35.98	101.23	0.00	4933	0	585	325	910													
3	50	6.18	28.624	35.893	0.00	0.154	2.76	0.85	1.00	0.0	43.91	120.98	0.00	5854	0	635	295	931													
2	30	5.34	31.030	35.893	0.00	0.146	2.79	0.85	1.00	0.0	45.91	127.88	0.00	6461	0	580	255	835													
1	10	5.33	33.475	35.893	0.00	0.139	2.81	0.85	1.00	0.0	46.09	129.58	0.00	6641	0	588	255	842													
														Totals	48,264	0															10,144

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s :	0.03
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	1.17
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.33
Total Unfactored Dead Load:	57.75 k
Seismic Base Shear (E):	2.25 k

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_2 (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
12	230.00	990	1,395,472	0.041	92	853
11	210.00	1,895	2,366,075	0.070	157	1,632
10	190.00	2,304	2,516,826	0.074	167	1,984
9	170.00	2,970	2,797,629	0.082	185	2,558
8	150.00	3,305	2,634,669	0.077	174	2,847
7	130.00	3,426	2,256,297	0.066	149	2,950
6	110.00	4,769	2,513,562	0.074	166	4,107
5	90.00	4,714	1,901,529	0.056	126	4,060
4	70.00	4,933	1,423,226	0.042	94	4,248
3	50.00	5,854	1,078,406	0.032	71	5,041
2	30.00	6,461	602,319	0.018	40	5,564
1	10.00	6,641	143,093	0.004	9	5,719
Samsung B5/B13 RRH-BR04C	240.00	211	314,583	0.009	21	182
Samsung B2/B66A RRH-BR049	240.00	253	377,678	0.011	25	218
Raycap RRFDC-3315-PF-48	240.00	54	80,249	0.002	5	46
Samsung MT6407-77A	240.00	245	365,149	0.011	24	211
Andrew LNX-6514DS-VTM (72.7" height)	240.00	116	173,625	0.005	11	100
JMA Wireless MX06FRO660-03	240.00	360	536,983	0.016	36	310
Generic Round Sector Frame	240.00	900	1,342,458	0.040	89	775
VZW Unused Reserve (7582.89 sqin)	240.00	562	838,290	0.025	55	484
Andrew LNX-6514DS-VTM (72.7" height)	239.80	116	173,432	0.005	11	100
Ericsson 4460 BAND 2/25	214.00	327	418,609	0.012	28	282
Ericsson 4480 BAND 71	214.00	243	311,076	0.009	21	209
Ericsson AIR 6419 B41	214.00	250	319,909	0.009	21	215
Site Pro VFA12-HD	214.00	2,876	3,681,454	0.108	244	2,477
RFS APXVAALL24 43-U-NA20	214.00	368	471,607	0.014	31	317
Raycap DC6-48-60-18-8F(32.8 lbs)	204.00	33	39,393	0.001	3	28
Ericsson RRUS 4449 B5, B12	204.00	213	255,816	0.008	17	183
Ericsson RRUS 4478 B14	204.00	356	428,042	0.013	28	307
Raycap DC6-48-60-18-8C	204.00	16	19,216	0.001	1	14
CCI OPA65R-BU8BA-K	204.00	414	497,221	0.015	33	357
CCI HPA-65R-BUU-H8	204.00	204	245,007	0.007	16	176
Generic Round Sector Frame	196.00	900	1,024,768	0.030	68	775
Generic 18' Omni	184.70	55	57,858	0.002	4	47
Generic Round Side Arm	183.00	188	194,825	0.006	13	161
Generic Round Side Arm	180.00	188	190,578	0.006	13	161
Generic 12' Dipole	179.90	40	40,626	0.001	3	34
Totals		57,752	34,027,555	1.000	2,252	49,734

1.2D + 1.0Ev + 1.0Eh

ASSET: 411217, ASHFORD CT

CODE: ANSI/TIA-222-H

CUSTOMER: AT&T MOBILITY

PROJECT: OAA784906_C3_01

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
12	230.00	990	1,395,472	0.041	92	1,227
11	210.00	1,895	2,366,075	0.070	157	2,348
10	190.00	2,304	2,516,826	0.074	167	2,854
9	170.00	2,970	2,797,629	0.082	185	3,680
8	150.00	3,305	2,634,669	0.077	174	4,095
7	130.00	3,426	2,256,297	0.066	149	4,244
6	110.00	4,769	2,513,562	0.074	166	5,908
5	90.00	4,714	1,901,529	0.056	126	5,840
4	70.00	4,933	1,423,226	0.042	94	6,111
3	50.00	5,854	1,078,406	0.032	71	7,252
2	30.00	6,461	602,319	0.018	40	8,004
1	10.00	6,641	143,093	0.004	9	8,228
Samsung B5/B13 RRR-BR04C	240.00	211	314,583	0.009	21	261
Samsung B2/B66A RRR-BR049	240.00	253	377,678	0.011	25	314
Raycap RRFDC-3315-PF-48	240.00	54	80,249	0.002	5	67
Samsung MT6407-77A	240.00	245	365,149	0.011	24	303
Andrew LNX-6514DS-VTM (72.7" height)	240.00	116	173,625	0.005	11	144
JMA Wireless MX06FRO660-03	240.00	360	536,983	0.016	36	446
Generic Round Sector Frame	240.00	900	1,342,458	0.040	89	1,115
VZW Unused Reserve (7582.89 sqin)	240.00	562	838,290	0.025	55	696
Andrew LNX-6514DS-VTM (72.7" height)	239.80	116	173,432	0.005	11	144
Ericsson 4460 BAND 2/25	214.00	327	418,609	0.012	28	405
Ericsson 4480 BAND 71	214.00	243	311,076	0.009	21	301
Ericsson AIR 6419 B41	214.00	250	319,909	0.009	21	310
Site Pro VFA12-HD	214.00	2,876	3,681,454	0.108	244	3,563
RFS APXVAALL24 43-U-NA20	214.00	368	471,607	0.014	31	456
Raycap DC6-48-60-18-8F(32.8 lbs)	204.00	33	39,393	0.001	3	41
Ericsson RRUS 4449 B5, B12	204.00	213	255,816	0.008	17	264
Ericsson RRUS 4478 B14	204.00	356	428,042	0.013	28	442
Raycap DC6-48-60-18-8C	204.00	16	19,216	0.001	1	20
CCI OPA65R-BU8BA-K	204.00	414	497,221	0.015	33	513
CCI HPA-65R-BUU-H8	204.00	204	245,007	0.007	16	253
Generic Round Sector Frame	196.00	900	1,024,768	0.030	68	1,115
Generic 18' Omni	184.70	55	57,858	0.002	4	68
Generic Round Side Arm	183.00	188	194,825	0.006	13	232
Generic Round Side Arm	180.00	188	190,578	0.006	13	232
Generic 12' Dipole	179.90	40	40,626	0.001	3	50
Totals		57,752	34,027,555	1.000	2,252	71,544

ASSET: 411217, ASHFORD CT

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ASSET: 411217, ASHFORD CT
 CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
 PROJECT: OAA784906_C3_01

FORCE/STRESS SUMMARY

Section 1 – 0.0' to 20.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			ΦR _{nv} (kip)	ΦR _n (kip)					
L PX - 10" DIA PIPE	-348.17	1.2D + 1.0W N	10.017	100	100	100	33.11	33.11	668.68	0.00	0.00	0	0	52	Member X
D SAE - 4X4X0.3125	-7.34	1.2D + 1.0W 90°	26.464	50	50	50	203.31	203.31	16.62	34.51	43.50	2	1	44	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)						
L PX - 10" DIA PIPE	293.65	0.9D + 1.0W 60°	50.0	65	724.50	0.00	0.00	0.00	31.11	0	0	40	Member
D SAE - 4X4X0.3125	7.43	1.2D + 1.0W 90°	36.0	58	71.29	34.51	40.24	31.11	31.11	2	1	23	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	299.13	0.9D + 1.0W 60°	790.45	14	6	1.5" F1554-105
Bot Compression	354.35	1.2D + 1.0W N	885.31	42	0	

Section 2 – 20.0' to 40.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			ΦR _{nv} (kip)	ΦR _n (kip)					
L PX - 10" DIA PIPE	-325.42	1.2D + 1.0W N	10.017	100	100	100	33.11	33.11	668.68	0.00	0.00	0	0	48	Member X
D SAE - 4X4X0.3125	-7.54	1.2D + 1.0W 90°	24.624	50	50	50	189.17	189.17	19.20	24.85	26.10	1	1	39	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)						
L PX - 10" DIA PIPE	275.52	0.9D + 1.0W 60°	50.0	65	724.50	0.00	0.00	0.00	22.04	0	0	38	Member
D SAE - 4X4X0.3125	7.34	1.2D + 1.0W 90°	36.0	58	70.02	24.85	22.29	22.04	22.04	1	1	33	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 3 – 40.0' to 60.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			ΦR _{nv} (kip)	ΦR _n (kip)					
L PX - 10" DIA PIPE	-300.24	1.2D + 1.0W N	10.017	100	100	100	33.11	33.11	668.68	0.00	0.00	0	0	44	Member X
D SAE - 4X4X0.25	-7.15	1.2D + 1.0W 90°	22.811	50	50	50	172.16	172.16	18.73	24.85	20.88	1	1	38	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)						
L PX - 10" DIA PIPE	256.51	0.9D + 1.0W 60°	50.0	65	724.50	0.00	0.00	0.00	17.63	0	0	35	Member
D SAE - 4X4X0.25	6.97	1.2D + 1.0W 90°	36.0	58	56.67	24.85	17.84	17.63	17.63	1	1	39	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 4 – 60.0' to 80.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
				X	Y	Z			ΦR _{nv} (kip)	ΦR _n (kip)					
L PX - 8" DIA PIPE	-274.95	1.2D + 1.0W N	10.017	100	100	100	41.74	41.74	507.12	0.00	0.00	0	0	54	Member X
D SAU - 3.5X4X0.25	-6.74	1.2D + 1.0W 90°	21.032	50	50	50	171.92	171.92	17.53	24.85	20.88	1	1	38	Member Z

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)						
L PX - 8" DIA PIPE	236.95	0.9D + 1.0W 60°	50.0	65	576.00	0.00	0.00	0.00	17.63	0	0	41	Member
D SAU - 3.5X4X0.25	6.54	1.2D + 1.0W 90°	36.0	58	52.42	24.85	17.84	17.63	17.63	1	1	37	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 5 – 80.0' to 100.00'

ASSET: 411217, ASHFORD CT
 CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
 PROJECT: OAA784906_C3_01

FORCE/STRESS SUMMARY

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)			ΦR _{nv} (kip)	KL/R									
L PX - 8" DIA PIPE	-249.56	1.2D + 1.0W N	10.017	100	100	100	41.74	41.74	507.12	0.00	0	0	49	Member X
D SAE - 3.5x3.5x0.25	-6.41	1.2D + 1.0W 90°	19.296	50	50	50	168.28	168.28	17.08	24.85	1	1	37	Member Z

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)					ΦR _{nv} (kip)		Φ _t P _n (kip)				
L PX - 8" DIA PIPE	213.73	1.2D + 1.0W 60°	50.0	65	576.00	0.00	0.00		0	0	37	Member
D SAE - 3.5x3.5x0.25	6.26	1.2D + 1.0W 90°	36.0	58	48.51	24.85	17.84	17.63	1	1	35	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 6 – 100.0' to 120.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)			ΦR _{nv} (kip)	KL/R									
L PX - 8" DIA PIPE	-225.64	1.2D + 1.0W N	6.678	100	100	100	27.82	27.82	544.30	0.00	0	0	41	Member X
D SAE - 3X3X0.25	-5.30	1.2D + 1.0W 90°	16.112	50	50	50	163.30	163.30	15.46	24.85	1	1	34	Member Z

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)					ΦR _{nv} (kip)		Φ _t P _n (kip)				
L PX - 8" DIA PIPE	197.22	0.9D + 1.0W 60°	50.0	65	576.00	0.00	0.00		0	0	34	Member
D SAE - 3X3X0.25	5.24	1.2D + 1.0W 90°	36.0	58	40.35	24.85	17.84	14.91	1	1	35	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 7 – 120.0' to 140.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)			ΦR _{nv} (kip)	KL/R									
L PST - 8" DIA PIPE	-199.06	1.2D + 1.0W N	6.678	100	100	100	27.82	27.82	358.02	0.00	0	0	55	Member X
D SAE - 3X3X0.1875	-4.92	1.2D + 1.0W 90°	14.315	50	50	50	144.11	144.11	15.02	17.26	1	1	37	Bolt Bear

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)					ΦR _{nv} (kip)		Φ _t P _n (kip)				
L PST - 8" DIA PIPE	175.48	0.9D + 1.0W 60°	50.0	65	378.00	0.00	0.00		0	0	46	Member
D SAE - 3X3X0.1875	4.75	1.2D + 1.0W 90°	36.0	58	31.36	17.26	11.09	10.93	1	1	43	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 8 – 140.0' to 160.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)			ΦR _{nv} (kip)	KL/R									
L PSP - 5.563" OD x 0.5"	-172.94	1.2D + 1.0W N	6.678	100	100	100	44.54	44.54	309.56	0.00	0	0	55	Member X
D SAE - 2.5X2.5X0.25	-4.48	1.2D + 1.0W 90°	12.58	50	50	50	153.73	153.73	14.41	17.26	1	1	31	Member Z

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)					ΦR _{nv} (kip)		Φ _t P _n (kip)				
L PSP - 5.563" OD x 0.5"	151.49	1.2D + 1.0W 60°	50.0	65	357.88	0.00	0.00		0	0	42	Member
D SAE - 2.5X2.5X0.25	4.33	1.2D + 1.0W 90°	36.0	58	33.22	17.26	14.79	13.22	1	1	32	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 9 – 160.0' to 180.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls
	(kip)			ΦR _{nv} (kip)	KL/R									
L PX - 5" DIA PIPE	-146.20	1.2D + 1.0W N	5.008	100	100	100	32.66	32.66	253.90	0.00	0	0	57	Member X

FORCE/STRESS SUMMARY

Section 9 – 160.0' to 180.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear		# Bolt	# Hole	Use %	Controls	
	(kip)			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	X			Y	Z					KL/R
D SAE - 2.5X2.5X0.25	-3.94	1.2D + 1.0W 90°	10.079	50	50	50	123.16	123.16	22.41	17.26	17.40	1	1	22	Bolt Shear

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)							Φ _t P _n (kip)					
L PX - 5" DIA PIPE	129.69	0.9D + 1.0W 60°	50.0	65	274.50	0.00	0.00			0	0	47	Member
D SAE - 2.5X2.5X0.25	3.85	1.2D + 1.0W 90°	36.0	58	33.22	17.26	14.79	13.22		1	1	29	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 10 – 180.0' to 200.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear		# Bolt	# Hole	Use %	Controls	
	(kip)			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	X			Y	Z					KL/R
L PX - 4" DIA PIPE	-115.03	1.2D + 1.0W N	5.008	100	100	100	40.61	40.61	175.91	0.00	0.00	0	0	65	Member X
H SAE - 2X2X0.25	-0.97	1.2D + 1.0W N	5	100	100	100	153.45	153.45	11.43	17.26	17.40	1	1	8	Member Z
D SAE - 2X2X0.25	-3.78	1.2D + 1.0W 90°	8.401	50	50	50	128.92	128.92	16.19	17.26	17.40	1	1	23	Member Z

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)							Φ _t P _n (kip)					
L PX - 4" DIA PIPE	101.88	0.9D + 1.0W 60°	50.0	65	198.45	0.00	0.00			0	0	51	Member
H SAE - 2X2X0.25	0.95	1.2D + 1.0W 60°	36.0	58	25.06	17.26	14.79	10.50		1	1	9	Blk Shear
D SAE - 2X2X0.25	3.81	1.2D + 1.0W 90°	36.0	58	25.06	17.26	14.79	10.50		1	1	36	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 11 – 200.0' to 220.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear		# Bolt	# Hole	Use %	Controls	
	(kip)			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	X			Y	Z					KL/R
L PX - 3" DIA PIPE	-74.40	1.2D + 1.0W N	5	100	100	100	52.63	52.63	110.98	0.00	0.00	0	0	67	Member X
H SAE - 2X2X0.3125	-0.63	1.2D + 1.0W N	5	100	100	100	153.85	153.85	13.91	17.26	21.75	1	1	4	Member Z
D SAE - 2X2X0.3125	-6.89	1.2D + 1.0W N	7.071	50	50	50	111.59	111.59	25.19	17.26	21.75	1	1	39	Bolt Shear

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)							Φ _t P _n (kip)					
L PX - 3" DIA PIPE	64.28	1.2D + 1.0W 60°	50.0	65	135.90	0.00	0.00			0	0	47	Member
H SAE - 2X2X0.3125	0.55	1.2D + 1.0W 60°	36.0	58	30.51	17.26	18.49	13.12		1	1	4	Blk Shear
D SAE - 2X2X0.3125	6.52	1.2D + 1.0W 60°	36.0	58	30.51	17.26	18.49	13.12		1	1	49	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 12 – 220.0' to 240.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear		# Bolt	# Hole	Use %	Controls	
	(kip)			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	X			Y	Z					KL/R
L PST - 2.375" x 0.218"	-25.55	1.2D + 1.0W N	5	100	100	100	78.33	78.33	42.53	0.00	0.00	0	0	60	Member X
H SAE - 2X2X0.125	-0.98	1.2D + 1.0W 60°	5	100	100	100	150.75	150.75	6.05	17.26	8.70	1	1	16	Member Z
D SAE - 2X2X0.125	-3.28	1.2D + 1.0W 90°	7.071	50	50	50	109.95	109.95	10.71	17.26	8.70	1	1	37	Bolt Bear

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear Φ _{R_{nv}} (kip)	Bear Φ _{R_n} (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls
	(kip)							Φ _t P _n (kip)					
L PST - 2.375" x 0.218"	22.22	0.9D + 1.0W 60°	50.0	65	66.60	0.00	0.00			0	0	33	Member
H SAE - 2X2X0.125	1.10	1.2D + 1.0W N	36.0	58	12.86	17.26	7.40	5.25		1	1	21	Blk Shear
D SAE - 2X2X0.125	3.22	1.2D + 1.0W 90°	36.0	58	12.86	17.26	7.40	5.25		1	1	61	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	180.00	0.2583	-0.0121	0.2034	0.2035
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	185.00	0.2769	-0.0132	0.2201	0.2205
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	195.00	0.3179	-0.0152	0.2510	0.2515
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	205.00	0.3645	-0.0159	0.2867	0.2868
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	215.00	0.4167	-0.0156	0.3116	0.3117
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	240.00	0.5637	-0.0140	0.3195	0.3198
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	180.00	0.2558	0.0108	0.2018	0.2018
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	185.00	0.2742	0.0119	0.2181	0.2184
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	195.00	0.3149	0.0137	0.2484	0.2487
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	205.00	0.3611	0.0146	0.2842	0.2842
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	215.00	0.413	0.0146	0.3095	0.3097
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	240.00	0.5592	0.0162	0.3352	0.3356
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	180.00	0.2663	0.0108	0.2094	0.2094
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	185.00	0.2854	0.0119	0.2258	0.2261
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	195.00	0.3275	0.0137	0.2572	0.2575
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	205.00	0.3754	0.0143	0.2949	0.2949
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	215.00	0.4288	0.0140	0.3197	0.3197
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	240.00	0.5795	0.0126	0.4009	0.4011
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	180.00	0.0609	-0.0030	0.0501	0.0501
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	185.00	0.0655	-0.0033	0.0543	0.0543
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	195.00	0.0756	-0.0038	0.0617	0.0618
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	205.00	0.0871	-0.0040	0.0701	0.0701
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	215.00	0.0996	-0.0038	0.0750	0.075
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	240.00	0.1336	-0.0031	0.0801	0.0801
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	180.00	0.0609	0.0026	0.0498	0.0498
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	185.00	0.0654	0.0029	0.0543	0.0543
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	195.00	0.0755	0.0033	0.0616	0.0616
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	205.00	0.0869	0.0034	0.0697	0.0698
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	215.00	0.0996	0.0033	0.0746	0.0747
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	240.00	0.1336	0.0027	0.0801	0.0801
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	180.00	0.0609	0.0026	0.0502	0.0502
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	185.00	0.0656	0.0029	0.0543	0.0544
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	195.00	0.0757	0.0033	0.0617	0.0618
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	205.00	0.0871	0.0034	0.0702	0.0702
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	215.00	0.0997	0.0033	0.0751	0.0751
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	240.00	0.1336	0.0027	0.0798	0.0799
1.2D + 1.0Ev + 1.0Eh 90° Seismic	180.00	0.0611	-0.0030	0.0504	0.0504
1.2D + 1.0Ev + 1.0Eh 90° Seismic	185.00	0.0657	-0.0033	0.0547	0.0547
1.2D + 1.0Ev + 1.0Eh 90° Seismic	195.00	0.0759	-0.0038	0.0621	0.0621
1.2D + 1.0Ev + 1.0Eh 90° Seismic	205.00	0.0874	-0.0040	0.0705	0.0705
1.2D + 1.0Ev + 1.0Eh 90° Seismic	215.00	0.1	-0.0038	0.0755	0.0755
1.2D + 1.0Ev + 1.0Eh 90° Seismic	240.00	0.134	-0.0031	0.0808	0.0809
1.2D + 1.0Ev + 1.0Eh 60° Seismic	180.00	0.061	0.0026	0.0500	0.0501
1.2D + 1.0Ev + 1.0Eh 60° Seismic	185.00	0.0656	0.0029	0.0547	0.0547
1.2D + 1.0Ev + 1.0Eh 60° Seismic	195.00	0.0757	0.0033	0.0620	0.062
1.2D + 1.0Ev + 1.0Eh 60° Seismic	205.00	0.0872	0.0034	0.0700	0.0701
1.2D + 1.0Ev + 1.0Eh 60° Seismic	215.00	0.0999	0.0033	0.0750	0.0751
1.2D + 1.0Ev + 1.0Eh 60° Seismic	240.00	0.134	0.0027	0.0810	0.081
1.2D + 1.0Ev + 1.0Eh Normal Seismic	180.00	0.0611	0.0026	0.0505	0.0505
1.2D + 1.0Ev + 1.0Eh Normal Seismic	185.00	0.0658	0.0029	0.0546	0.0547
1.2D + 1.0Ev + 1.0Eh Normal Seismic	195.00	0.0759	0.0033	0.0621	0.0622
1.2D + 1.0Ev + 1.0Eh Normal Seismic	205.00	0.0875	0.0034	0.0707	0.0707
1.2D + 1.0Ev + 1.0Eh Normal Seismic	215.00	0.1	0.0033	0.0756	0.0756
1.2D + 1.0Ev + 1.0Eh Normal Seismic	240.00	0.134	0.0027	0.0804	0.0804
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	180.00	0.336	-0.0158	0.2596	0.2597
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	185.00	0.3595	-0.0172	0.2797	0.2798
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	195.00	0.4112	-0.0197	0.3165	0.3171
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	205.00	0.4695	-0.0207	0.3605	0.3606
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	215.00	0.5351	-0.0204	0.3906	0.3907

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 90° 50 mph Wind with 1.5" Radial Ice	240.00	0.7188	-0.0189	0.4111	0.4113
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	180.00	0.3343	0.0139	0.2573	0.2573
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	185.00	0.3576	0.0152	0.2783	0.2783
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	195.00	0.409	0.0174	0.3141	0.3141
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	205.00	0.4671	0.0185	0.3566	0.3571
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	215.00	0.5324	0.0184	0.3884	0.3887
1.2D + 1.0Di + 1.0Wi 60° 50 mph Wind with 1.5" Radial Ice	240.00	0.7154	0.0201	0.4269	0.4269
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	180.00	0.3403	0.0139	0.2636	0.2636
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	185.00	0.364	0.0152	0.2832	0.2836
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	195.00	0.4166	0.0174	0.3208	0.3212
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	205.00	0.4762	0.0182	0.3664	0.3664
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	215.00	0.5422	0.0180	0.3962	0.3962
1.2D + 1.0Di + 1.0Wi Normal 50 mph Wind with 1.5" Radial Ice	240.00	0.7286	0.0166	0.4858	0.4861
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	180.00	1.0199	-0.0493	0.8077	0.8081
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	185.00	1.0936	-0.0540	0.8751	0.8768
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	195.00	1.2567	-0.0623	0.9989	1.0009
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	205.00	1.4421	-0.0658	1.1401	1.1406
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	215.00	1.6505	-0.0652	1.2415	1.2423
0.9D + 1.0W 90° 120 mph Wind with No Ice (Reduced DL)	240.00	2.2365	-0.0621	1.2735	1.2751
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	180.00	1.0104	0.0488	0.8029	0.8029
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	185.00	1.0837	0.0540	0.8680	0.869
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	195.00	1.2458	0.0634	0.9899	0.9909
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	205.00	1.43	0.0704	1.1343	1.1343
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	215.00	1.6367	0.0753	1.2338	1.2352
0.9D + 1.0W 60° 120 mph Wind with No Ice (Reduced DL)	240.00	2.2189	0.1237	1.3411	1.3468
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	180.00	1.0509	0.0439	0.8309	0.8309
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	185.00	1.1267	0.0482	0.8971	0.8984
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	195.00	1.2941	0.0557	1.0221	1.0237
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	205.00	1.4843	0.0586	1.1716	1.1716
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	215.00	1.6971	0.0582	1.2729	1.2729
0.9D + 1.0W Normal 120 mph Wind with No Ice (Reduced DL)	240.00	2.2987	0.0562	1.5935	1.5945
1.2D + 1.0W 90° 120 mph Wind with No Ice	180.00	1.0222	-0.0495	0.8102	0.8106
1.2D + 1.0W 90° 120 mph Wind with No Ice	185.00	1.0962	-0.0542	0.8779	0.8795
1.2D + 1.0W 90° 120 mph Wind with No Ice	195.00	1.2599	-0.0626	1.0022	1.0042
1.2D + 1.0W 90° 120 mph Wind with No Ice	205.00	1.4458	-0.0661	1.1442	1.1447
1.2D + 1.0W 90° 120 mph Wind with No Ice	215.00	1.6549	-0.0654	1.2460	1.2467
1.2D + 1.0W 90° 120 mph Wind with No Ice	240.00	2.2431	-0.0623	1.2787	1.2802
1.2D + 1.0W 60° 120 mph Wind with No Ice	180.00	1.0128	0.0489	0.8053	0.8053
1.2D + 1.0W 60° 120 mph Wind with No Ice	185.00	1.0863	0.0542	0.8707	0.8716
1.2D + 1.0W 60° 120 mph Wind with No Ice	195.00	1.2489	0.0636	0.9931	0.9941
1.2D + 1.0W 60° 120 mph Wind with No Ice	205.00	1.4337	0.0707	1.1380	1.1381
1.2D + 1.0W 60° 120 mph Wind with No Ice	215.00	1.6411	0.0756	1.2381	1.2396
1.2D + 1.0W 60° 120 mph Wind with No Ice	240.00	2.2255	0.1241	1.3459	1.3516
1.2D + 1.0W Normal 120 mph Wind with No Ice	180.00	1.0534	0.0441	0.8336	0.8336
1.2D + 1.0W Normal 120 mph Wind with No Ice	185.00	1.1294	0.0484	0.8999	0.9012
1.2D + 1.0W Normal 120 mph Wind with No Ice	195.00	1.2974	0.0559	1.0256	1.0271
1.2D + 1.0W Normal 120 mph Wind with No Ice	205.00	1.4882	0.0589	1.1759	1.1759
1.2D + 1.0W Normal 120 mph Wind with No Ice	215.00	1.7018	0.0584	1.2775	1.2775
1.2D + 1.0W Normal 120 mph Wind with No Ice	240.00	2.3055	0.0563	1.5992	1.6002

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0W Normal	14.43	0.00	0	1	0.00	353.96	-32.76
	14.43	0.00	120	1a	10.98	-142.33	-9.32
	14.43	0.00	240	1b	-10.98	-142.33	-9.32
1.2D + 1.0W 60°	14.43	0.00	0	1	-2.28	180.71	-16.26
	14.43	0.00	120	1a	-15.21	180.64	6.17
	14.43	0.00	240	1b	-24.31	-292.05	-14.04
1.2D + 1.0W 90°	14.43	0.00	0	1	-2.74	23.11	-1.52
	14.43	0.00	120	1a	-24.40	299.39	12.56
	14.43	0.00	240	1b	-21.91	-253.20	-11.04
0.9D + 1.0W Normal	14.43	0.00	0	1	0.00	347.68	-32.36
	14.43	0.00	120	1a	11.31	-147.85	-9.52
	14.43	0.00	240	1b	-11.31	-147.85	-9.52
0.9D + 1.0W 60°	14.43	0.00	0	1	-2.28	174.69	-15.87
	14.43	0.00	120	1a	-14.88	174.62	5.96
	14.43	0.00	240	1b	-24.63	-297.34	-14.23
0.9D + 1.0W 90°	14.43	0.00	0	1	-2.75	17.34	-1.13
	14.43	0.00	120	1a	-24.06	293.19	12.36
	14.43	0.00	240	1b	-22.24	-258.55	-11.22
1.2D + 1.0Di + 1.0Wi Normal	14.43	0.00	0	1	0.00	161.90	-8.12
	14.43	0.00	120	1a	6.07	-1.51	-4.49
	14.43	0.00	240	1b	-6.07	-1.51	-4.49
1.2D + 1.0Di + 1.0Wi 60°	14.43	0.00	0	1	-0.81	106.22	-2.78
	14.43	0.00	120	1a	-2.81	106.17	0.69
	14.43	0.00	240	1b	-10.76	-53.52	-6.22
1.2D + 1.0Di + 1.0Wi 90°	14.43	0.00	0	1	-0.95	52.98	2.29
	14.43	0.00	120	1a	-5.91	145.79	2.87
	14.43	0.00	240	1b	-9.89	-39.90	-5.16
1.2D + 1.0Ev + 1.0Eh Normal	14.43	0.00	0	1	0.00	40.64	-3.02
	14.43	0.00	120	1a	-0.78	14.08	0.40
	14.43	0.00	240	1b	0.78	14.08	0.40
1.2D + 1.0Ev + 1.0Eh 60°	14.43	0.00	0	1	-0.05	31.79	-2.31
	14.43	0.00	120	1a	-2.02	31.79	1.11
	14.43	0.00	240	1b	0.14	5.23	0.08
1.2D + 1.0Ev + 1.0Eh 90°	14.43	0.00	0	1	-0.05	22.93	-1.59
	14.43	0.00	120	1a	-2.46	38.27	1.39
	14.43	0.00	240	1b	0.29	7.60	0.20
0.9D - 1.0Ev + 1.0Eh Normal	14.43	0.00	0	1	0.00	33.62	-2.54
	14.43	0.00	120	1a	-0.36	7.11	0.16
	14.43	0.00	240	1b	0.36	7.11	0.16
0.9D - 1.0Ev + 1.0Eh 60°	14.43	0.00	0	1	-0.05	24.78	-1.82
	14.43	0.00	120	1a	-1.60	24.78	0.87
	14.43	0.00	240	1b	-0.28	-1.73	-0.16
0.9D - 1.0Ev + 1.0Eh 90°	14.43	0.00	0	1	-0.05	15.94	-1.11
	14.43	0.00	120	1a	-2.04	31.25	1.15
	14.43	0.00	240	1b	-0.13	0.64	-0.04
1.0D + 1.0W Service Normal	14.43	0.00	0	1	0.00	103.68	-9.37
	14.43	0.00	120	1a	2.05	-22.97	-1.97
	14.43	0.00	240	1b	-2.05	-22.97	-1.97
1.0D + 1.0W Service 60°	14.43	0.00	0	1	-0.62	59.52	-5.10
	14.43	0.00	120	1a	-4.73	59.49	2.02
	14.43	0.00	240	1b	-5.50	-61.26	-3.18
1.0D + 1.0W Service 90°	14.43	0.00	0	1	-0.74	19.26	-1.28
	14.43	0.00	120	1a	-7.10	89.81	3.68
	14.43	0.00	240	1b	-4.89	-51.32	-2.40

ASSET: 411217, ASHFORD CT
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
PROJECT: OAA784906_C3_01

MAXIMUM REACTIONS SUMMARY

	<u>Individual</u>		<u>Global (DL+WL+IL)</u>		<u>Global (DL+WL)</u>
Max Uplift:	297.34 (kip)	Moment Ice:	2358.74 (kip-ft)	Moment:	7163.43 (kip-ft)
Max Down:	353.96 (kip)	Total Down Ice:	158.87 (kip)	Total Down:	69.3 (kip)
Max Shear:	32.76 (kip)	Total Shear Ice:	17.09 (kip)	Total Shear:	51.4 (kip)

1.2D + 1.0W Normal

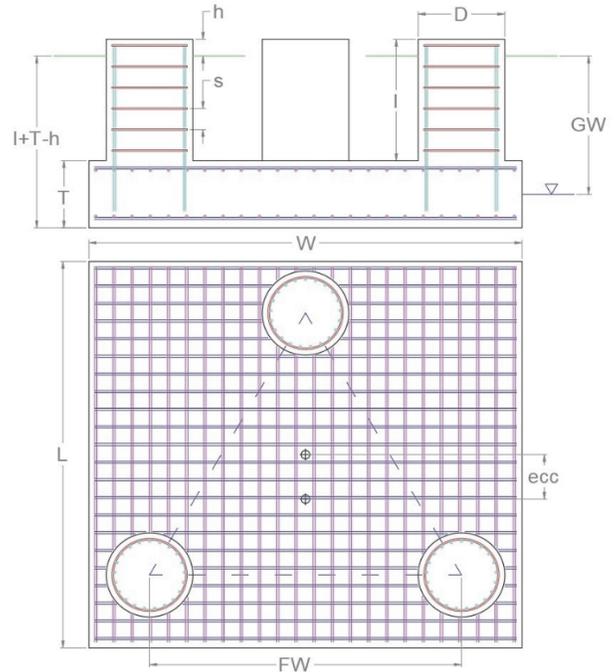
MONOLITHIC MAT & PIER FOUNDATION ANALYSIS

APPLIED REACTIONS

GLOBAL (PER FOUNDATION)			LOCAL (PER LEG)	
Moment (k-ft)	Axial (k)	Shear (k)	Compression (k)	Uplift (k)
7,163.43	69.30	51.40	353.96	297.34

FOUNDATION PARAMETERS

Mat Length:	L	37	ft
Mat Width:	W	37	ft
Mat Thickness:	T	1.75	ft
Base Depth:	L+T-h	6	ft
Pier Shape:		Round	
Pier Diameter:	D	3.5	ft
Pier Height above Grade:	h	0.5	ft
Concrete Compressive Strength:		4,500	psi
Mat Top Rebar:		(70) #10 bars [60 ksi]	
Mat Bottom Rebar:		(70) #10 bars [60 ksi]	
Pier Vertical Rebar:		(18) #9 bars [60 ksi]	
Pier Rebar Ties:	s	#4 bars @ 11.0" c/c [60 ksi]	
Rebar Clear Cover:		3.0	in
Tower Eccentricity:	ecc	2	ft
Tower Face Width	FW	25	ft
Tower Leg Count		3	



SOIL PARAMETERS

Water Table Depth [BGL]:	GW	7	ft
Soil Unit Weight:		125	pcf
Ultimate Skin Friction:		0	psf
Ultimate Bearing Pressure:		10,000	psf
Bearing Pressure Type:		Net	
Coefficient of Shear Friction:		0.5	

SOIL STRENGTH ANALYSIS

Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_s	Asset Dead Load Factor	Dead Load Factor
0.75	0.75	0.9	1.2

SOIL OVERTURNING ANALYSIS

Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)	Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$
7,497.53	19,692.51	38.1% ✔

SOIL BEARING ANALYSIS

Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (psf)	Bearing Pressure Controlling Load Direction	Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$
1,266.00	8,062.00	Diagonal to Pad Edge	15.7% ✔

SOIL SLIDING SHEAR ANALYSIS

Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$
51.40	574.81	640.6	41.48	462.22	11.0% ✔

MAT REINFORCING STEEL STRENGTH ANALYSIS

Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
29,000	0.9	0.75	0.65

MAT REINFORCING ONE WAY SHEAR ANALYSIS

One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$
159.63	748.33	Parallel to Pad Edge	21.3%

MAT REINFORCING PUNCHING SHEAR ANALYSIS

Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c v_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c v_n$
114.2	201.2	56.7%

MAT REINFORCING MOMENT TRANSFER ANALYSIS

Moment Transfer Effective Flexural Width, w_f (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,f}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,f}$
8.75	3.33	1,611.39	18,470.8	5.2%

MAT REINFORCING FLEXURE ANALYSIS – UPPER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
1,953.21	6,166.84	Parallel to Pad Edge	31.7%

MAT REINFORCING FLEXURE ANALYSIS – LOWER STEEL

Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
2,419.20	6,166.84	Parallel to Pad Edge	39.2%

PIER REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
33.88	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u / \Phi_b M_n$
161.14	1,343.08	0.013	12.0%

PIER REINFORCING COMPRESSION ANALYSIS

Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
353.96	2,751.04	12.9%

PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
34.27	134.55	25.5%

PIER REINFORCING TENSION ANALYSIS

Design Tension, T_u (k)	Nominal Tension Capacity, $\Phi_t T_n$ (k)	Pier Rebar Tension Usage, $T_u / \Phi_t T_n$	Flexure & Tension Interaction, $M_u / \Phi_b M_n + T_u / \Phi_t T_n$
297.34	972.00	30.6%	42.6%

ASSET: 411217, ASHFORD CT
CUSTOMER: AT&T MOBILITY

CODE: ANSI/TIA-222-H
PROJECT: OAA784906

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING LATTICE TOWER:

- NEW AT&T ANTENNAS: (OPA65R-BU8DA) @ POS. 3 & 4 (TYP. 2 PER SECTOR, TOTAL OF 6)
- NEW AT&T RRUS 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T RRUS 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T RRUS 8843 B2/B66 (AWS/PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T DC6-48-60-18-8F (TOTAL OF 1)
- NEW AT&T (2) #6 AWG DC TRUNKS & (1) #18 PAIR PAIR FIBER.
- NEW AT&T (6) Y-CABLES FOR DUAL BAND RADIOS

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- INSTALL ADD 6648, ADD XMU AND IDLE XCEDE CABLE
- FINAL=1X5216+1XXMU/1X6648+XCEDE CABLE

ITEMS TO BE REMOVED:

- EXISTING AT&T ANTENNAS: (7770) @ POS. 3 & 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T TMA'S: LGP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6)
- EXISTING AT&T DIPLEXER'S: LGP21903 (TYP. OF 4 PER SECTOR, TOTAL OF 12)

ITEMS TO REMAIN:

(3) ANTENNAS, (12) LINES OF 1-5/8" COAX CABLES, (1) SURGE ARRESTOR, (2) DC POWER & (1) FIBER.

RFDS: FINAL/APPROVED V3 RFDS 2/21/23

SITE ADDRESS: 353 PUMPKIN HILL ROAD
ASHFORD, CT 06278

LATITUDE: 41.848020° N, 41° 50' 52.87" N

LONGITUDE: 72.121388° W, 72° 7' 16.99" W

TYPE OF SITE: LATTICE TOWER / INDOOR EQUIPMENT

STRUCTURE HEIGHT: 240'-0"±

RAD CENTER: 204'-0"±

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.



SITE NUMBER: CTL01068

SITE NAME: ASHFORD-353 PUMPKIN HILL RD

FA CODE: 10035008

PACE ID: MRCTB066194, MRCTB066224, MRCTB066187,

MRCTB066241, MRCTB066188

PROJECT: ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1 2023 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START AT 500 ENTERPRISE DR, ROCKY HILL GOING TOWARD CAPITOL BLVD – TURN LEFT ON CAPITOL BLVD – TURN LEFT ON WEST ST – TURN LEFT TO TAKE RAMP ONTO I-91 N TOWARD HARTFORD – TAKE EXIT #29/E. HARTFORD/BOSTON ONTO US-5 N – CONTINUE ON CT-15 N – MERGE ONTO I-84 E – TAKE EXIT #69/WILLINGTON (US-44) – TURN RIGHT ON TOLLAND TPKE(CT-74) – CONTINUE TO FOLLOW CT-74 – BEAR LEFT ON POMPEY HOLLOW RD (US-44) – CONTINUE TO FOLLOW US-44 – TURN RIGHT ON PUMPKIN HILL RD – ARRIVE AT 353 PUMPKIN HILL RD, ASHFORD, ON THE LEFT.

GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
- CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	COMPOUND & EQUIPMENT PLAN	2
A-2	ANTENNA PLANS & ELEVATION	2
A-3	DETAILS	2
G-1	GROUNDING DETAILS	2
RF-1	RF PLUMBING DIAGRAM	2

**ATC SITE NAME: ASHFORD CT
ATC SITE NUMBER: 411217**



72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT



**SITE NUMBER: CTL01068
SITE NAME: ASHFORD-353 PUMPKIN HILL RD
ATC SITE NUMBER: 411217
353 PUMPKIN HILL ROAD
ASHFORD, CT 06278
WINDHAM COUNTY**



NO.		DATE	REVISIONS	BY	CHK	APP'G	AT&T				
2	04/26/23		ISSUED FOR CONSTRUCTION	AS	AE	DPH	TITLE SHEET				
1	01/17/23		ISSUED FOR CONSTRUCTION	AS	AE	DPH	ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1				
0	10/24/22		ISSUED FOR REVIEW	EP	AD	DPH	SITE NUMBER	DRAWING NUMBER			
SCALE: AS SHOWN							DESIGNED BY: EB	DRAWN BY: EB	CTL01068	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SMARTLINK
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

**BUILDING CODE: IBC 2021 WITH 2022 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE (NFPA 70-200)**

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR		RADIATION CENTER LINE	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING		SEE REFERENCE		



**SITE NUMBER: CTL01068
 SITE NAME: ASHFORD-353 PUMKIN HILL RD
 ATC SITE NUMBER: 411217
 353 PUMKIN HILL ROAD
 ASHFORD, CT 06278
 WINDHAM COUNTY**



NO.		DATE	REVISIONS	BY	CHK	APP	DATE	SCALE: AS SHOWN	DESIGNED BY: EB	DRAWN BY: EB	AT&T	
2	04/26/23		ISSUED FOR CONSTRUCTION	IS	AE	DPH					GENERAL NOTES	
1	01/17/23		ISSUED FOR CONSTRUCTION	IS	AE	DPH					ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO,	
0	10/24/22		ISSUED FOR REVIEW	EP	AE	DPH					5G NR 1DR-2, 5G NR 1DR-1	
SITE NUMBER		DRAWING NUMBER		REV		CTL01068		GN-1		2		

NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

NOTE:

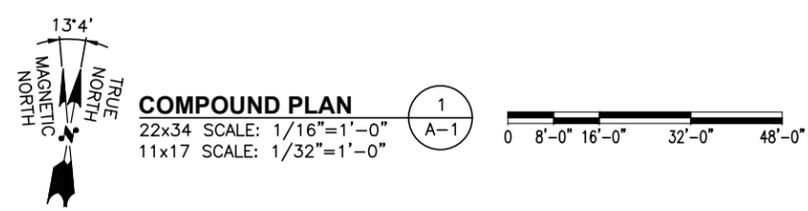
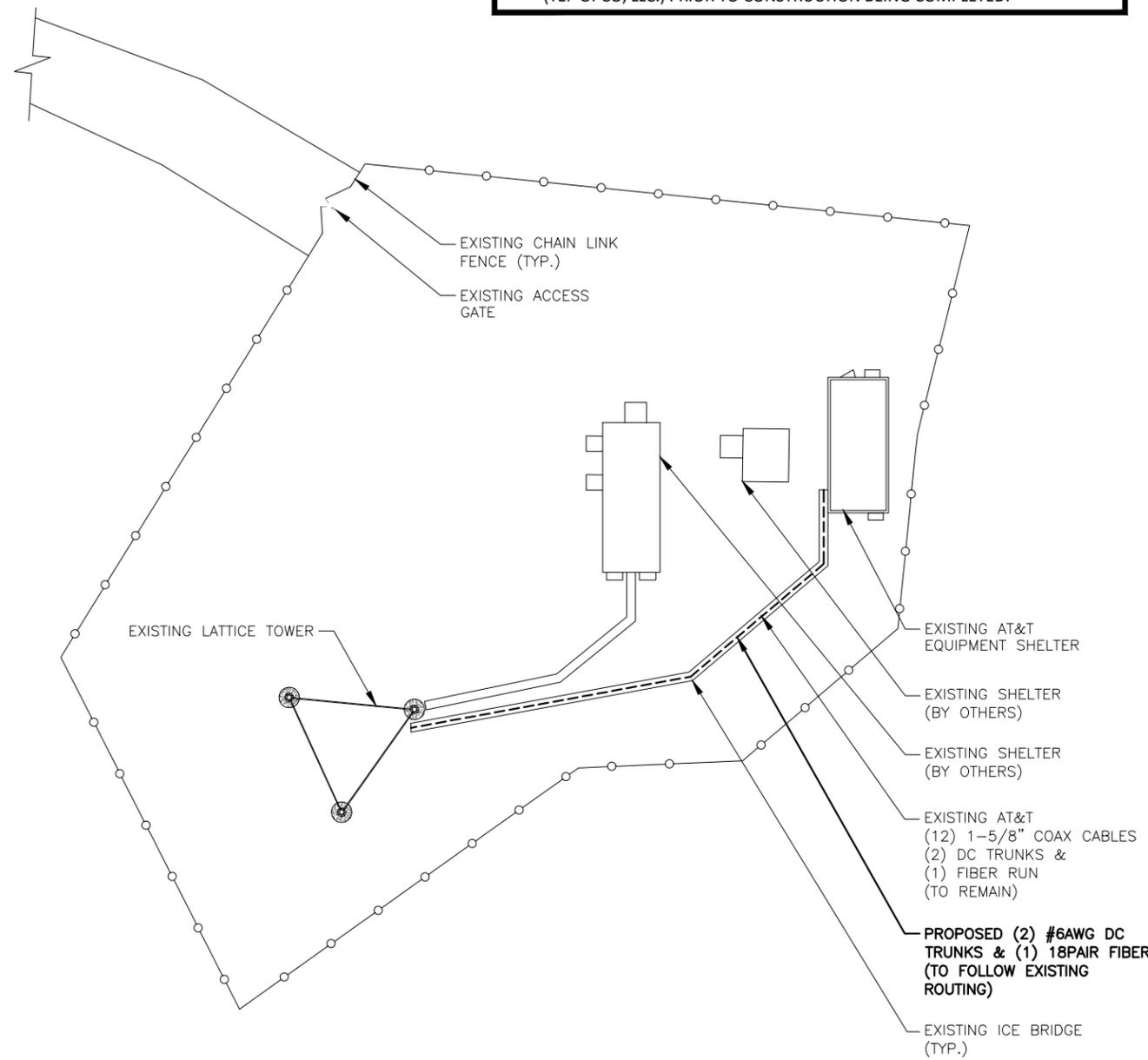
REFER TO FINAL/APPROVED V3 RFDS 2/21/23

NOTE:

ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY ATC AND FINAL AT&T RF DATA SHEET.

NOTE:

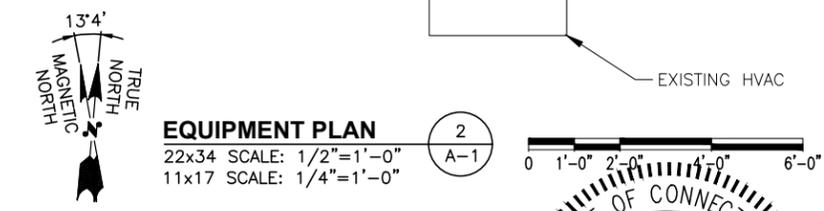
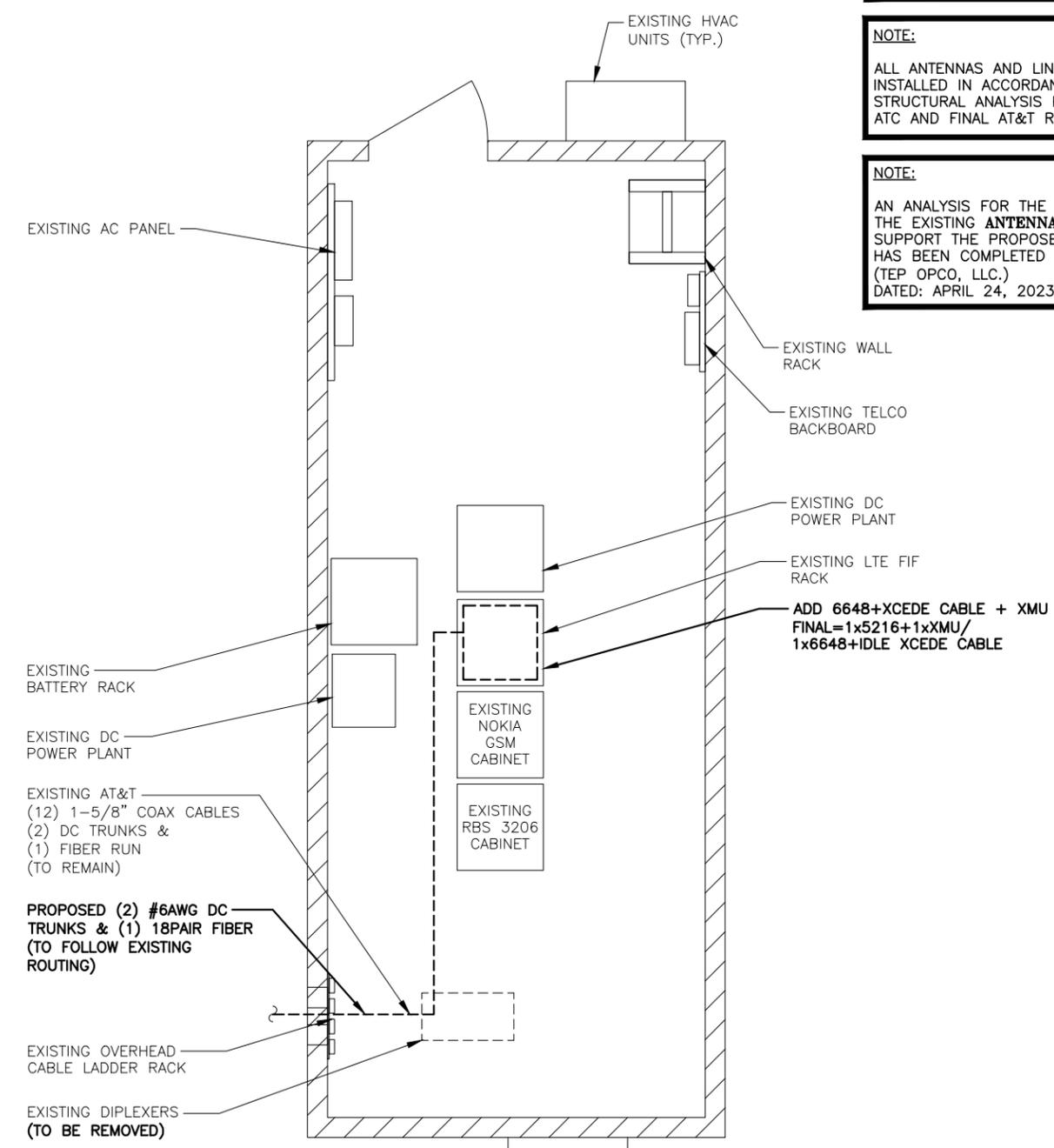
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: TEP NE. (TEP OPCO, LLC.) DATED: APRIL 24, 2023.



COMPOUND PLAN

22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"

1
A-1



EQUIPMENT PLAN

22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

2
A-1



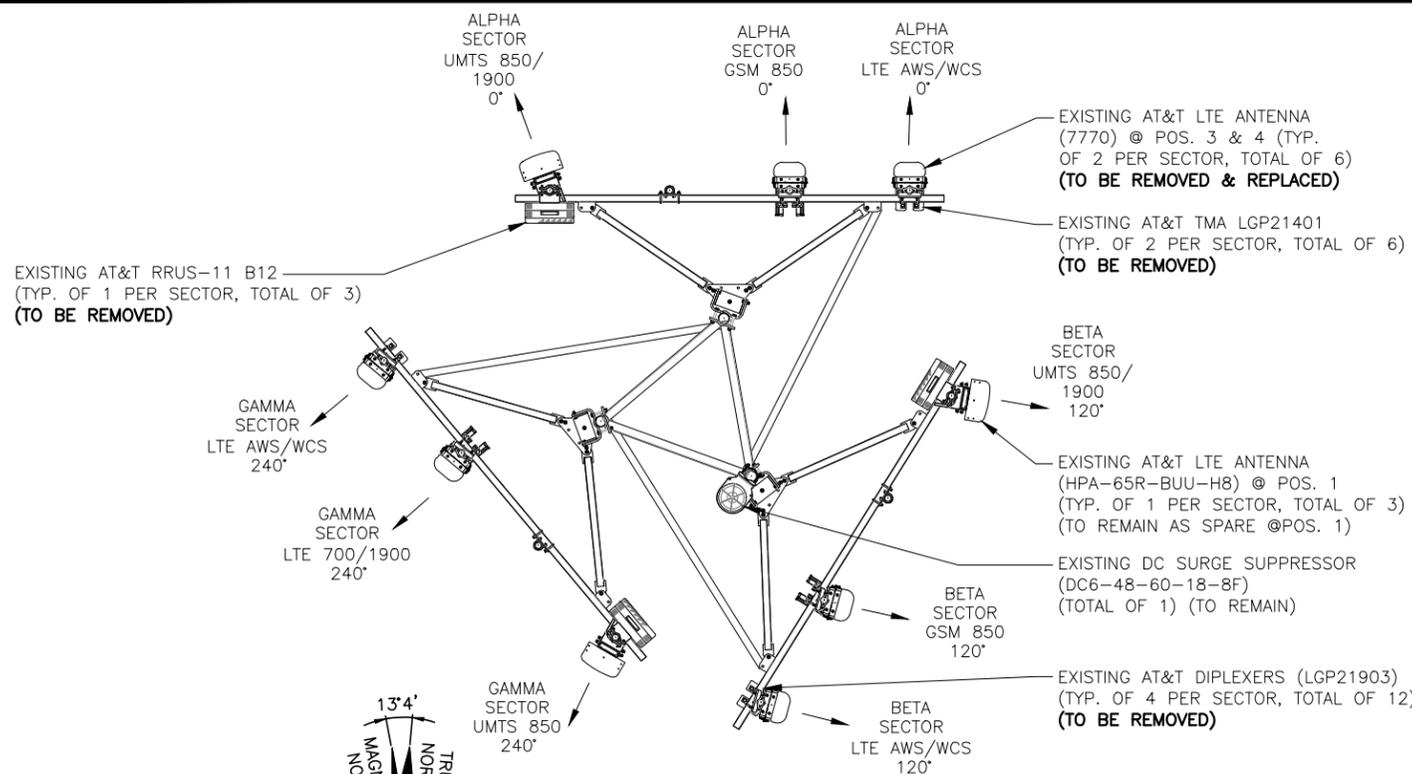
SITE NUMBER: CTL01068
SITE NAME: ASHFORD-353 PUMKIN HILL RD
ATC SITE NUMBER: 411217
353 PUMKIN HILL ROAD
ASHFORD, CT 06278
WINDHAM COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP
2	04/26/23	ISSUED FOR CONSTRUCTION	AS	AT	DPH
1	01/17/23	ISSUED FOR CONSTRUCTION	AS	AT	DPH
0	10/24/22	ISSUED FOR REVIEW	EP	AT	DPH



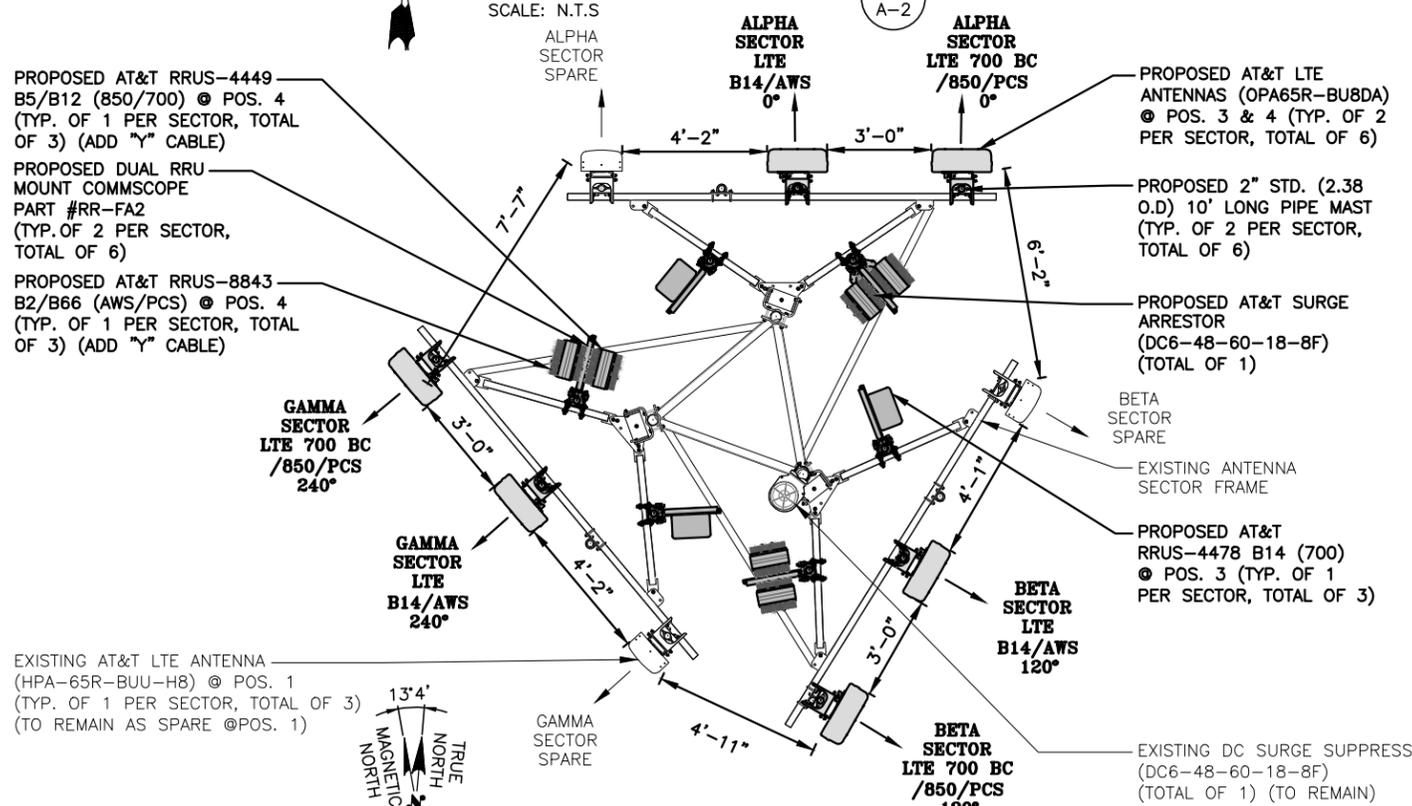
AT&T	
COMPOUND & EQUIPMENT PLANS	
ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1	
SITE NUMBER	DRAWING NUMBER
CTL01068	A-1
	2



EXISTING ANTENNA LAYOUT

SCALE: N.T.S

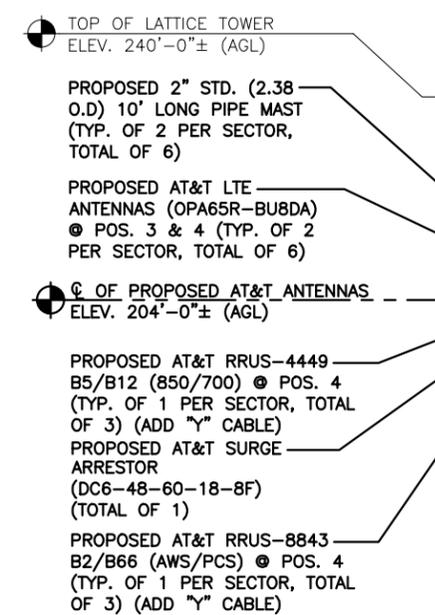
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A-2



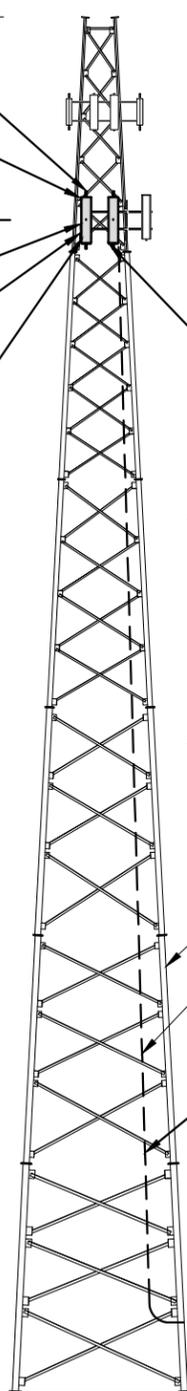
PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2
A-2



ELEVATION
22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"



NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

NOTE:
REFER TO FINAL/APPROVED V3 RFDS 2/21/23

NOTE:
ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY ATC AND FINAL AT&T RF DATA SHEET.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: TEP NE. (TEP OPCO, LLC.) DATED: APRIL 24, 2023.

NOTE:

- 3' MINIMUM SEPARATION BETWEEN ALL ANTENNAS.
- 6' MINIMUM SEPARATION BETWEEN 700BC & 700 DE.
- 12" VERTICAL SEPARATION BETWEEN DOD & C-BAND ANTENNA.
- USE "Y" CABLE FOR DUAL BAND RRHS.

NOTE:
MINIMUM 3'-0" SEPARATION BETWEEN ALL ANTENNAS, MINIMUM 6'-0" SEPARATION BETWEEN 700 BC & 700 DE

NOTE:
ANTENNA FRAMES TO BE ROTATED TO PROPOSED LTE ANTENNA AZIMUTHS. GENERAL CONTRACTOR TO VERIFY THE LENGTH OF THE EXISTING STIFF ARMS TO ENSURE IT IS LONG ENOUGH AFTER ROTATION.

EXISTING LATTICE TOWER
EXISTING AT&T (12) 1-5/8" COAX CABLES (2) DC TRUNKS & (1) FIBER RUN (TO REMAIN)
PROPOSED (2) #6AWG DC TRUNKS & (1) 18PAIR FIBER (TO FOLLOW EXISTING ROUTING)



SITE NUMBER: CTL01068
SITE NAME: ASHFORD-353 PUMKIN HILL RD
ATC SITE NUMBER: 411217
353 PUMKIN HILL ROAD
ASHFORD, CT 06278
WINDHAM COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP
2	04/26/23	ISSUED FOR CONSTRUCTION	AS	AE	DPH
1	01/17/23	ISSUED FOR CONSTRUCTION	AS	AE	DPH
0	10/24/22	ISSUED FOR REVIEW	EP	AE	DPH

SCALE: AS SHOWN DESIGNED BY: EB DRAWN BY: EB



SITE NUMBER	DRAWING NUMBER	REV
CTL01068	A-2	2

AT&T
ANTENNA PLANS & ELEVATION
MODIFICATIONS, LTE 2C, 5G NR RADIO,
5G NR 1DR-2, 5G NR 1DR-1

ANTENNA SCHEDULE

FINAL/APPROVED V3 RFDS 2/21/23

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA Ø HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	SPARE	HPA-65R-BUU-H8	92.4X14.8X7.4	204'-0"	0°	-	-	-	(4)(E)1-5/8 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	-	-	-	-	-	-	-	-	-	-	
A3	PROPOSED	LTE B14/AWS	OPA65R-BU8DA	96X21X7.8	204'-0"	0°	-	(1)(P) 4478 B14 (700)	18.1"x13.4"x8.3"	(2)(E) DC (1)(E) FIBER	
A4	PROPOSED	LTE 700 BC/ 850/PCS	OPA65R-BU8DA	96X21X7.8	204'-0"	0°	-	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66 (AWS/PCS)	17.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(1)(P) Y CABLE (1)(P) Y CABLE	
B1	EXISTING	SPARE	HPA-65R-BUU-H8	92.4X14.8X7.4	204'-0"	120°	-	-	-	(4)(E)1-5/8 COAX	(P) (1) RAYCAP DC6-48-60-18-8F
B2	-	-	-	-	-	-	-	-	-	-	
B3	PROPOSED	LTE B14/AWS	OPA65R-BU8DA	96X21X7.8	204'-0"	120°	-	(1)(P) 4478 B14 (700)	18.1"x13.4"x8.3"	(2)(P) #6 AWG DC TRUNKS & (1)(P) 18 PAIR FIBER (325'-0"±)	
B4	PROPOSED	LTE 700 BC/ 850/PCS	OPA65R-BU8DA	96X21X7.8	204'-0"	120°	-	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66 (AWS/PCS)	17.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(1)(P) Y CABLE (1)(P) Y CABLE	
C1	EXISTING	SPARE	HPA-65R-BUU-H8	92.4X14.8X7.4	204'-0"	240°	-	-	-	(4)(E)1-5/8 COAX	1
C2	-	-	-	-	-	-	-	-	-	-	
C3	PROPOSED	LTE B14/AWS	OPA65R-BU8DA	96X21X7.8	204'-0"	240°	-	(1)(P) 4478 B14 (700)	18.1"x13.4"x8.3"	-	
C4	PROPOSED	LTE 700 BC/ 850/PCS	OPA65R-BU8DA	96X21X7.8	204'-0"	240°	-	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66 (AWS/PCS)	17.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(1)(P) Y CABLE (1)(P) Y CABLE	

NOTE:
ALL ANTENNAS AND LINES TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY ATC AND FINAL AT&T RF DATA SHEET.

NOTE:
REFER TO FINAL/APPROVED V3 RFDS 2/21/23

NOTE TO GENERAL CONTRACTOR: (PRIOR TO CONSTRUCTION COMPLETION)

- TEP NORTHEAST (TEP OPCO, LLC.) TO PERFORM POST/CLIMB AND INSPECTION TO CONFIRM PROPOSED INSTALLATION COMPLIES WITH THE RECORD STAMPED DRAWINGS AND STRUCTURAL REPORTS PRIOR TO SUBMITTING FCCA (FINAL CONSTRUCTION CONTROL AFFIDAVIT). GC IS RESPONSIBLE FOR COORDINATING INSPECTIONS WITH TEP NORTHEAST (TEP OPCO, LLC.) PRIOR TO CONSTRUCTION BEING COMPLETED.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: TEP NE. (TEP OPCO, LLC.) DATED: APRIL 24, 2023.

PROPOSED 2" STD. (2.38 O.D) 8' LONG PIPE MAST (TYP. OF 2 PER SECTOR, TOTAL OF 6)

PROPOSED AT&T RRUS-8843 B2/B66 (AWS/PCS) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (ADD "Y" CABLE)

PROPOSED 2" STD. (2.38 O.D) 10' LONG PIPE MAST (TYP. OF 2 PER SECTOR, TOTAL OF 6)

FINAL ANTENNA SCHEDULE

SCALE: N.T.S

1
A-3

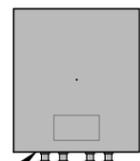
RRU CHART		
QUANTITY	MODEL	SIZE (L x W x D)
P(3)	4449 B5/B12 (850/700)	17.9"x13.2"x10.4"
P(3)	8843 B2/B66A (AWS/PCS)	14.9"x13.2"x10.9"
P(3)	4478 B14(700)	17.9"x13.2"x10.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

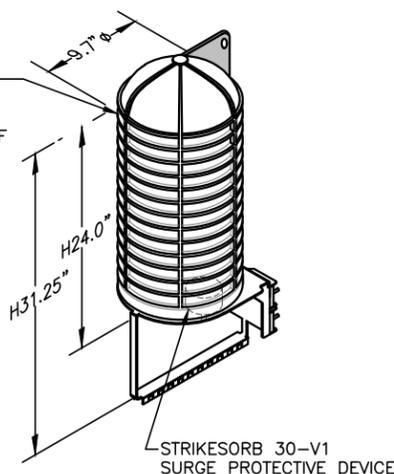
NOTE:
SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER

PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

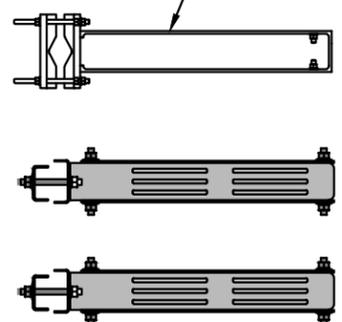


PROPOSED SURGE SUPPRESSOR
MODEL NUMBERS:
DC6-48-60-18-8F
DIMENSIONS:
H24.0"x9.7"Ø
WITH BRACKET:
H31.25"x9.7"Ø



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED DUAL RRU MOUNT COMMSCOPE PART #RR-FA2 (TYP. OF 2 PER SECTOR, TOTAL OF 6)



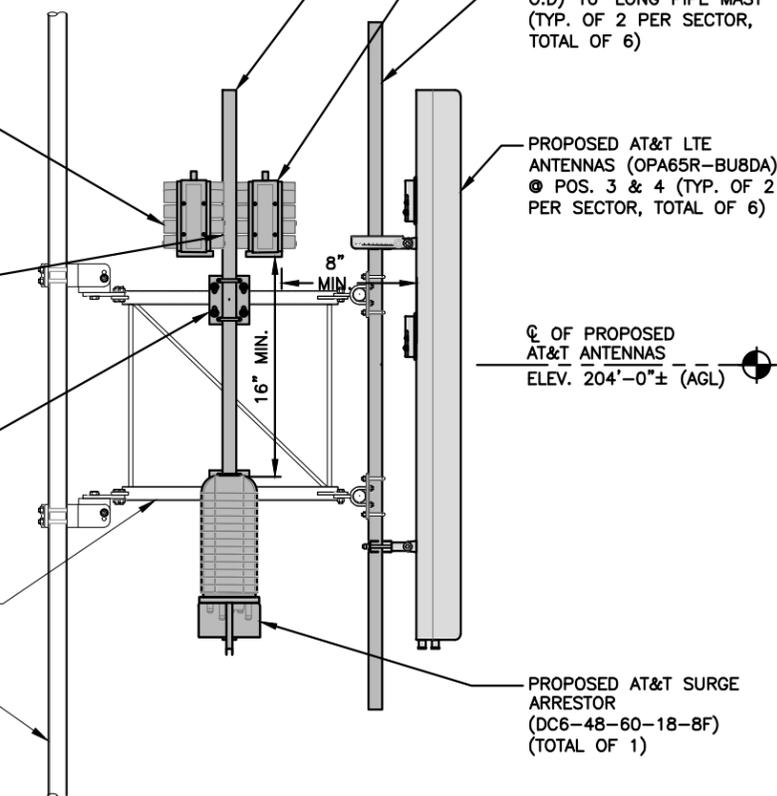
PROPOSED AT&T RRUS-4449 B5/B12 (850/700) @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (ADD "Y" CABLE)

PROPOSED DUAL RRU MOUNT COMMSCOPE PART #RR-FA2 (TYP. OF 2 PER SECTOR, TOTAL OF 6)

PROPOSED CROSSOVER PLATE KIT (SITEPRO1 PART# SCX7-U) (TYP.)

EXISTING ANTENNA SECTOR FRAME

EXISTING TOWER LEG



Ø OF PROPOSED AT&T ANTENNAS
ELEV. 204'-0"± (AGL)

PROPOSED AT&T SURGE ARRESTOR (DC6-48-60-18-8F) (TOTAL OF 1)

PROPOSED RRUS DETAIL

SCALE: N.T.S

2
A-3

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S

3
A-3

BACK TO BACK RRU MOUNT DETAIL

SCALE: N.T.S

4
A-3

PROPOSED ANTENNA, RRUS & SURGE ARRESTOR MOUNTING DETAIL

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

5
A-3



SITE NUMBER: CTL01068
SITE NAME: ASHFORD-353 PUMKIN HILL RD
ATC SITE NUMBER: 411217
353 PUMKIN HILL ROAD
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WINDHAM COUNTY

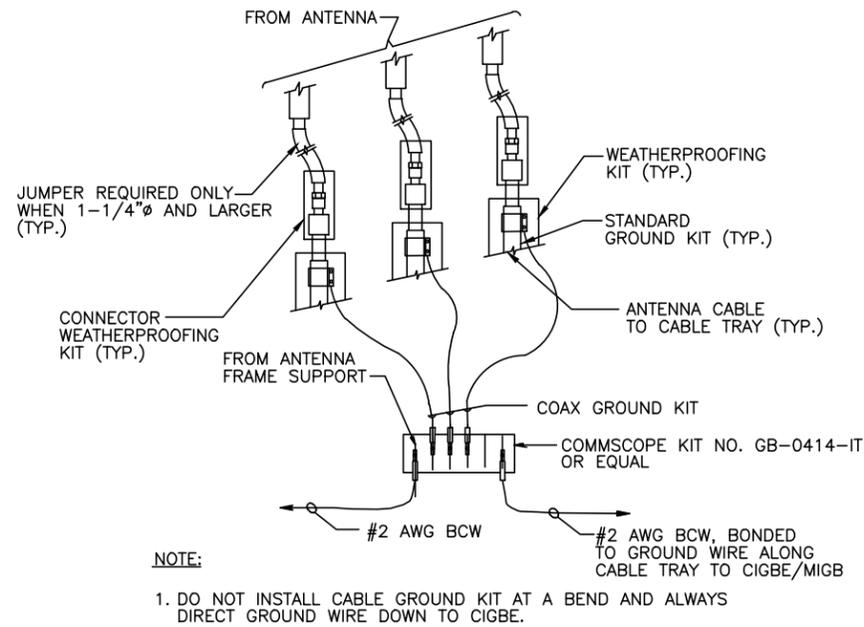


NO.	DATE	REVISIONS	BY	CHK	APP
2	04/26/23	ISSUED FOR CONSTRUCTION	AS	AE	DPH
1	01/17/23	ISSUED FOR CONSTRUCTION	AS	AE	DPH
0	10/24/22	ISSUED FOR REVIEW	AS	AE	DPH

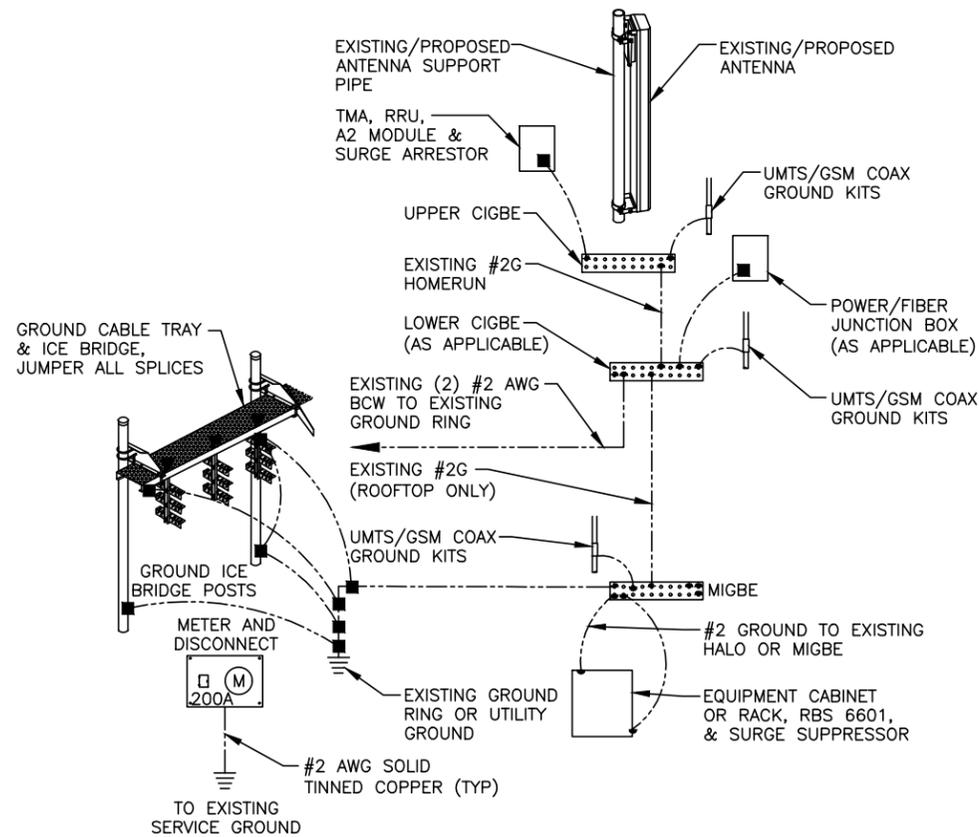
SCALE: AS SHOWN DESIGNED BY: EB DRAWN BY: EB



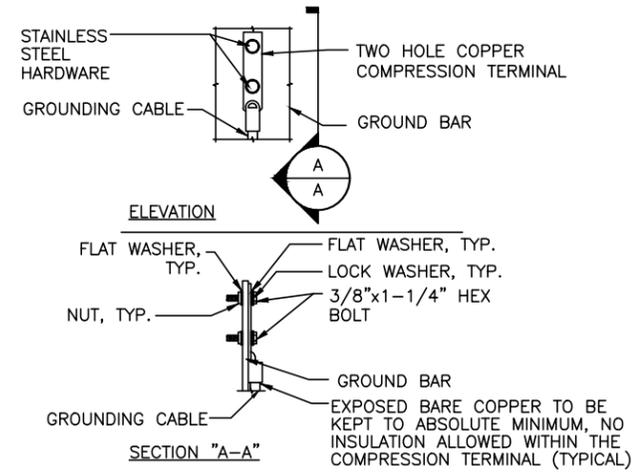
AT&T	
DETAILS	
ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1	
SITE NUMBER	DRAWING NUMBER
CTL01068	A-3
REV	2



GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
SCALE: N.T.S. G-1



- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
 - CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL 3
SCALE: N.T.S. G-1

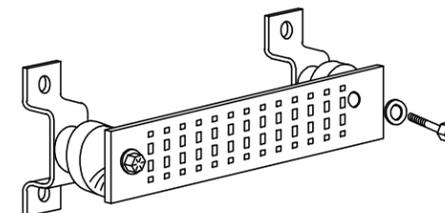
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
- +24V POWER SUPPLY RETURN BAR (#2 AWG)
- 48V POWER SUPPLY RETURN BAR (#2 AWG)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED)
SCALE: N.T.S.

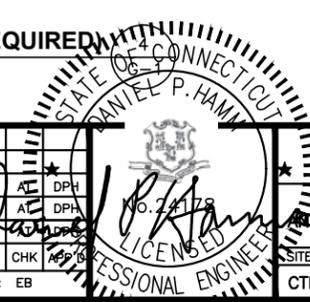


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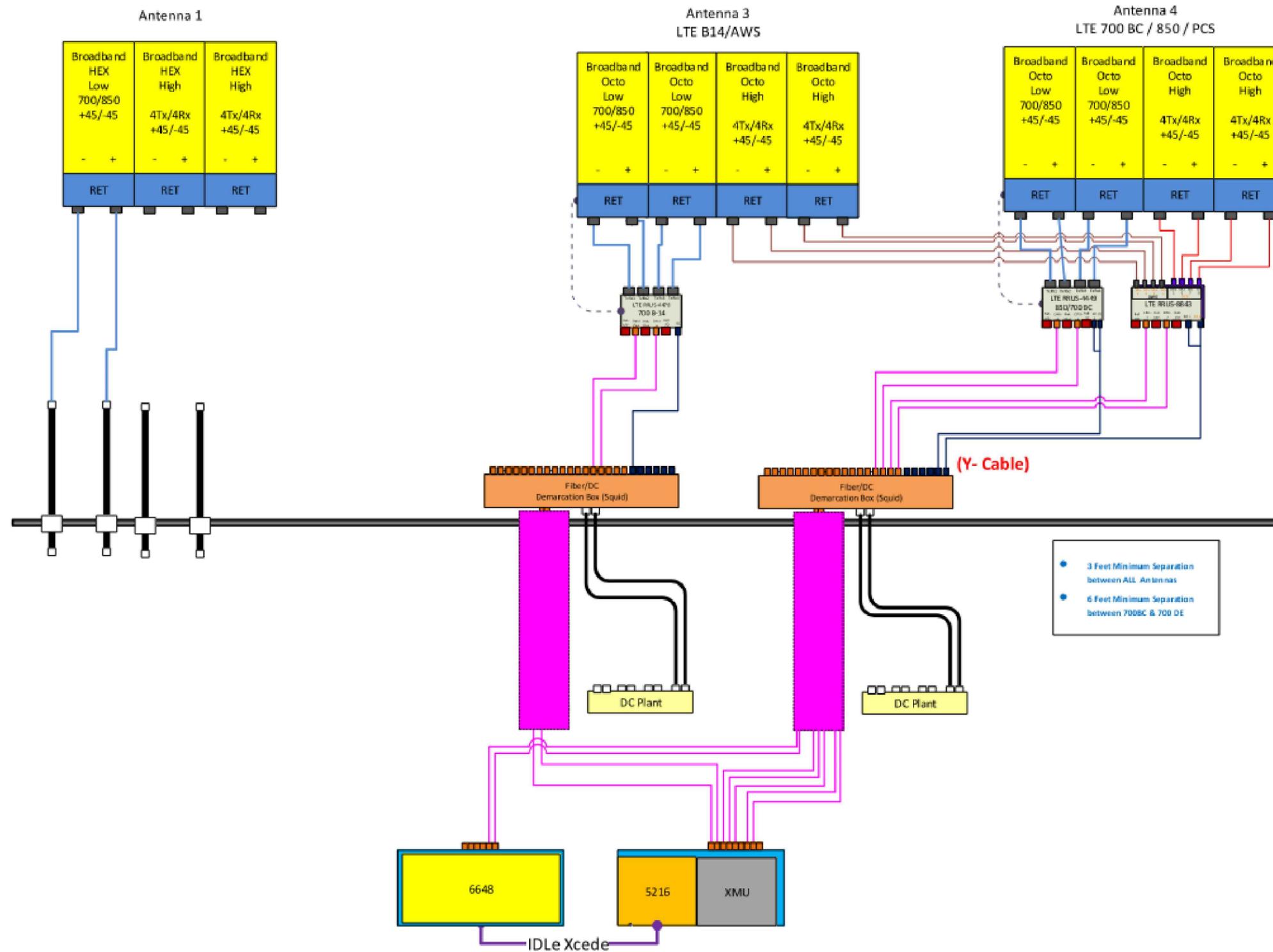
NO.	DATE	REVISIONS	BY	CHK	APP
2	04/26/23	ISSUED FOR CONSTRUCTION	AS	AE	DPH
1	01/17/23	ISSUED FOR CONSTRUCTION	JE	AT	DPH
0	10/24/22	ISSUED FOR REVIEW	EP	AG	DPH

SCALE: AS SHOWN DESIGNED BY: EB DRAWN BY: EB



AT&T	
GROUNDING DETAILS	
ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1	
SITE NUMBER	DRAWING NUMBER
CTL01068	G-1
REV	2

FINAL/APPROVED V3 RFDS 2/21/23



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO FINAL/APPROVED V3 RFDS 2/21/23



SITE NUMBER: CTL01068
SITE NAME: ASHFORD-353 PUMKIN HILL RD
ATC SITE NUMBER: 411217
353 PUMPKIN HILL ROAD
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WINDHAM COUNTY



2	04/26/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
1	01/17/23	ISSUED FOR CONSTRUCTION	JS	AT	DPH
0	10/24/22	ISSUED FOR REVIEW	EB	AT	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: EB	DRAWN BY: EB		

AT&T		
RF PLUMBING DIAGRAM ANTENNA MODIFICATIONS, LTE 2C, 5G NR RADIO, 5G NR 1DR-2, 5G NR 1DR-1		
SITE NUMBER	DRAWING NUMBER	REV
CTL01068	RF-1	2

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2021 with 2022 Connecticut State Building Code, and AT&T Mount Technical Directive – R22.
- TEP NE considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix P of the Connecticut State Building Code, the max basic wind speed for this site is equal to 120 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 in. An escalated ice thickness of 1.80 in was used for this analysis.
- TEP NE considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- TEP NE considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- TEP NE considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.181 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.055.
- The mounts have been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mounts have been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mounts are secured to the existing self supporting tower with threaded rods and steel plates tightened around the tower leg. TEP NE considers the threaded rods as the governing connection members.

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	51	LC1	75%	PASS

Reference Documents:

- Mount mapping report prepared by TEP NE dated October 7, 2022.

This determination was based on the following limitations and assumptions:

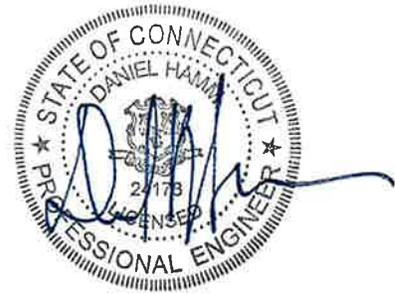
1. TEP NE is not responsible for any modifications completed prior to and hereafter which TEP NE was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mounts have been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. TEP NE performed a localized analysis on the mounts itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
TEP Northeast



Michael Cabral
Director



Daniel P. Hamm, PE
Vice President

FIELD PHOTOS:







Wind & Ice Calculations

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$z = 204$ (ft)
 $z_g = 900$ (ft)
 $\alpha = 9.5$

$K_z = 1.471$

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z _g	α	K _{zmin}	K _c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K _t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} = 1$

(If Category 1 then K_{zt} = 1.0)

Category = 1

$K_h = 1$

$K_c = 1.0$ (from Table 2-4)

$K_t = 0$ (from Table 2-5)

$f = 0$ (from Table 2-5)

$z = 204$

$z_s = 765$ (Mean elevation of base of structure above sea level)

$H = 0$ (Ht. of the crest above surrounding terrain)

$K_{zt} = 1.00$ (from 2.6.6.2.1)

$K_e = 0.97$ (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

$t_i = 1.50$ in

Importance Factor =

$I = 1.00$ (from Table 2-3)

$K_{iz} = 1.20$ (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} = 1.80$ in

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$

$h =$ ht. of structure

$h =$ 240

$G_h =$ 0.85

2.6.9.2 Guyed Masts

$G_h =$ 0.85

2.6.9.3 Pole Structures

$G_h =$ 1.1

2.6.9 Appurtenances

$G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

$G_h =$ 1.35

$G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$q_z =$	44.82
$q_z (ice) =$	7.78
$q_z (30) =$	2.80

$K_z =$	1.471 (from 2.6.5.2)
$K_{zt} =$	1.0 (from 2.6.6.2.1)
$K_s =$	1.0 (from 2.6.7)
$K_e =$	0.97 (from 2.6.8)
$K_d =$	0.85 (from Table 2-2)
$V_{max} =$	120 mph (Ultimate Wind Speed)
$V_{max (ice)} =$	50 mph
$V_{30} =$	30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r _s) ≥ 0.85	1.4 - 4.0(r _s) ≥ 0.90	2.0 - 6.0(r _s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	4.14/(C ^{0.485})	3.66/(C ^{0.415})	46.8/(C ^{1.0})
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance.)

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.80 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	6.24	1.37	582	130	36
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	801	169	50
4478 B14 RRH	18.1	13.4	8.3	1.68	1.35	1.20	91	24	6
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	56	17	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.36	1.20	88	23	6
4449 B5/B12 (Side)	17.9	9.4	13.2	1.17	1.90	1.20	63	18	4
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.20	73	20	5
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	61	17	4
Surge Arrestor	31.4	10.2	10.2	2.22	3.08	0.70	70	18	4
1-1/2" Pipe	1.9	12.0		0.16	0.16	1.20	9		
2" Pipe	2.4	12.0		0.20	0.20	1.20	11		
3/4" Round Bar	0.8	12.0		0.06	0.06	1.20	3		

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.80 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	582	337	520
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	801	364	692
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	91	56	82
4478 B14 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	46	91	57
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	88	63	82
4449 B5/B12 (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	44	88	55
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	61	70
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	37	73	46

WIND LOADS WITH ICE:

HPA-65R-BUU-H8 Antenna	96.0	18.4	11.0	12.27	7.33	5.22	8.73	1.32	1.46	126	83	115
OPA65R-BU8DA Antenna	99.6	24.3	11.3	16.81	7.82	4.10	8.81	1.27	1.46	166	89	147
4478 B14 RRH	21.7	17.0	11.9	2.56	1.79	1.28	1.82	1.20	1.20	24	17	22
4478 B14 RRH (Side)	21.7	11.9	17.0	1.79	2.56	1.82	1.28	1.20	1.20	17	24	19
4449 B5/B12 RRH	21.5	16.8	13.0	2.51	1.94	1.28	1.65	1.20	1.20	23	18	22
4449 B5/B12 (Side)	21.5	8.4	16.8	1.25	2.51	2.56	1.28	1.20	1.20	12	23	15
8843 B2/B66A RRH	18.5	16.8	14.5	2.16	1.86	1.10	1.28	1.20	1.20	20	17	19
8843 B2/B66A RRH (Side)	18.5	8.4	16.8	1.08	2.16	2.20	1.10	1.20	1.20	10	20	13

WIND LOADS AT 30 MPH:

HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	36	21	33
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	50	23	43
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	6	4	5
4449 B5/B12 (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	3	6	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	5	4	4
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	5	3

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



WIND LOADS

Angle = 60 (deg) Ice Thickness = 1.80 in. Equivalent Angle = 240 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	582	337	398
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	801	364	473
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	91	56	65
4478 B14 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	68	91	85
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	88	63	69
4449 B5/B12 (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	66	88	83
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	61	64
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	55	73	69

WIND LOADS WITH ICE:

HPA-65R-BUU-H8 Antenna	96.0	18.4	11.0	12.27	7.33	5.22	8.73	1.32	1.46	126	83	94
OPA65R-BU8DA Antenna	99.6	24.3	11.3	16.81	7.82	4.10	8.81	1.27	1.46	166	89	108
4478 B14 RRH	21.7	17.0	11.9	2.56	1.79	1.28	1.82	1.20	1.20	24	17	19
4478 B14 RRH (Side)	21.7	11.9	17.0	1.79	2.56	1.82	1.28	1.20	1.20	17	24	22
4449 B5/B12 RRH	21.5	16.8	13.0	2.51	1.94	1.28	1.65	1.20	1.20	23	18	19
4449 B5/B12 (Side)	21.5	12.6	16.8	1.88	2.51	1.71	1.28	1.20	1.20	18	23	22
8843 B2/B66A RRH	18.5	16.8	14.5	2.16	1.86	1.10	1.28	1.20	1.20	20	17	18
8843 B2/B66A RRH (Side)	18.5	12.6	16.8	1.62	2.16	1.47	1.10	1.20	1.20	15	20	19

WIND LOADS AT 30 MPH:

HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	36	21	25
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	50	23	30
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	6	4	4
4449 B5/B12 (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	5	4	4
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	5	4

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.80 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	582	337	337
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	801	364	364
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	91	56	56
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	56	91	91
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	88	63	63
4449 B5/B12 (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	63	88	88
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	61	61
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	61	73	73

WIND LOADS WITH ICE:

HPA-65R-BUU-H8 Antenna	96.0	18.4	11.0	12.27	7.33	5.22	8.73	1.32	1.46	126	83	83
OPA65R-BU8DA Antenna	99.6	24.3	11.3	16.81	7.82	4.10	8.81	1.27	1.46	166	89	89
4478 B14 RRH	21.7	17.0	11.9	2.56	1.79	1.28	1.82	1.20	1.20	24	17	17
4478 B14 RRH (Side)	21.7	11.9	17.0	1.79	2.56	1.82	1.28	1.20	1.20	17	24	24
4449 B5/B12 RRH	21.5	16.8	13.0	2.51	1.94	1.28	1.65	1.20	1.20	23	18	18
4449 B5/B12 (Side)	21.5	13.0	16.8	1.94	2.51	1.65	1.28	1.20	1.20	18	23	23
8843 B2/B66A RRH	18.5	16.8	14.5	2.16	1.86	1.10	1.28	1.20	1.20	20	17	17
8843 B2/B66A RRH (Side)	18.5	14.5	16.8	1.86	2.16	1.28	1.10	1.20	1.20	17	20	20

WIND LOADS AT 30 MPH:

HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	36	21	21
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	50	23	23
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	6	4	4
4449 B5/B12 (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	6
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	5	4	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.80 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	582	337	398
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	801	364	473
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	91	56	65
4478 B14 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	68	91	85
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	88	63	69
4449 B5/B12 (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	66	88	83
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	61	64
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	55	73	69

WIND LOADS WITH ICE:

HPA-65R-BUU-H8 Antenna	96.0	18.4	11.0	12.27	7.33	5.22	8.73	1.32	1.46	126	83	94
OPA65R-BU8DA Antenna	99.6	24.3	11.3	16.81	7.82	4.10	8.81	1.27	1.46	166	89	108
4478 B14 RRH	21.7	17.0	11.9	2.56	1.79	1.28	1.82	1.20	1.20	24	17	19
4478 B14 RRH (Side)	21.7	11.9	17.0	1.79	2.56	1.82	1.28	1.20	1.20	17	24	22
4449 B5/B12 RRH	21.5	16.8	13.0	2.51	1.94	1.28	1.65	1.20	1.20	23	18	19
4449 B5/B12 (Side)	21.5	12.6	16.8	1.88	2.51	1.71	1.28	1.20	1.20	18	23	22
8843 B2/B66A RRH	18.5	16.8	14.5	2.16	1.86	1.10	1.28	1.20	1.20	20	17	18
8843 B2/B66A RRH (Side)	18.5	12.6	16.8	1.62	2.16	1.47	1.10	1.20	1.20	15	20	19

WIND LOADS AT 30 MPH:

HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	36	21	25
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	50	23	30
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	6	4	4
4449 B5/B12 (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	4	6	5
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	5	4	4
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	5	4

Date: 4/24/2023
 Project Name: ASHFORD-363 PUMPKIN HILL RD
 Project No.: CT1068
 Designed By: JC Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.80 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	582	337	520
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	801	364	692
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	91	56	82
4478 B14 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	46	91	57
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	88	63	82
4449 B5/B12 (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	44	88	55
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	73	61	70
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	37	73	46

WIND LOADS WITH ICE:

HPA-65R-BUU-H8 Antenna	96.0	18.4	11.0	12.27	7.33	5.22	8.73	1.32	1.46	126	83	115
OPA65R-BU8DA Antenna	99.6	24.3	11.3	16.81	7.82	4.10	8.81	1.27	1.46	166	89	147
4478 B14 RRH	21.7	17.0	11.9	2.56	1.79	1.28	1.82	1.20	1.20	24	17	22
4478 B14 RRH (Side)	21.7	11.9	17.0	1.79	2.56	1.82	1.28	1.20	1.20	17	24	19
4449 B5/B12 RRH	21.5	16.8	13.0	2.51	1.94	1.28	1.65	1.20	1.20	23	18	22
4449 B5/B12 (Side)	21.5	8.4	16.8	1.25	2.51	2.56	1.28	1.20	1.20	12	23	15
8843 B2/B66A RRH	18.5	16.8	14.5	2.16	1.86	1.10	1.28	1.20	1.20	20	17	19
8843 B2/B66A RRH (Side)	18.5	8.4	16.8	1.08	2.16	2.20	1.10	1.20	1.20	10	20	13

WIND LOADS AT 30 MPH:

HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	36	21	33
OPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	50	23	43
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	6	4	5
4449 B5/B12 (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	3	6	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	5	4	4
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	5	3

Date: 4/24/2023

Project Name: ASHFORD-363 PUMPKIN HILL RD

Project No.: CT1068

Designed By: JC Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.80 in.

Density of ice: 56 pcf

HPA-65R-BUU-H8 Antenna

Weight of ice based on total radial SF area:

Height (in): 92.4

Width (in): 14.8

Depth (in): 7.4

Total weight of ice on object: 311 lbs

Weight of object: 68.0 lbs

Combined weight of ice and object: 379 lbs

OPA65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in): 96.0

Width (in): 21.0

Depth (in): 7.8

Total weight of ice on object: 426 lbs

Weight of object: 79.0 lbs

Combined weight of ice and object: 505 lbs

4478 B14 RRH

Weight of ice based on total radial SF area:

Height (in): 18.1

Width (in): 13.4

Depth (in): 8.3

Total weight of ice on object: 58 lbs

Weight of object: 60.0 lbs

Combined weight of ice and object: 118 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:

Height (in): 17.9

Width (in): 13.2

Depth (in): 9.4

Total weight of ice on object: 59 lbs

Weight of object: 73.0 lbs

Combined weight of ice and object: 132 lbs

8843 B2/B66A RRH

Weight of ice based on total radial SF area:

Height (in): 14.9

Width (in): 13.2

Depth (in): 10.9

Total weight of ice on object: 52 lbs

Weight of object: 72.0 lbs

Combined weight of ice and object: 124 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in): 31.4

Diameter(in): 10.2

Total weight of ice on object: 69 lbs

Weight of object: 29 lbs

Combined weight of ice and object: 98 lbs

2" pipe

Per foot weight of ice:

diameter (in): 2.38

Per foot weight of ice on object: 9 plf

1-1/2" Pipe

Per foot weight of ice:

diameter (in): 1.9

Per foot weight of ice on object: 8 plf

3/4" Round Bar

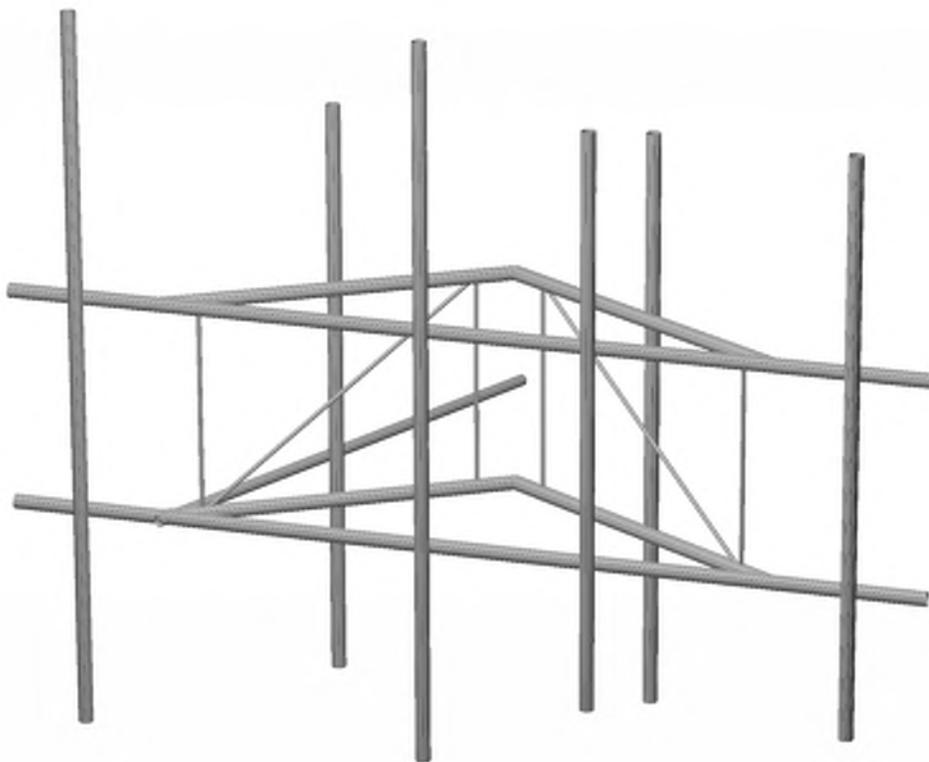
Per foot weight of ice:

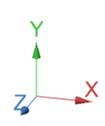
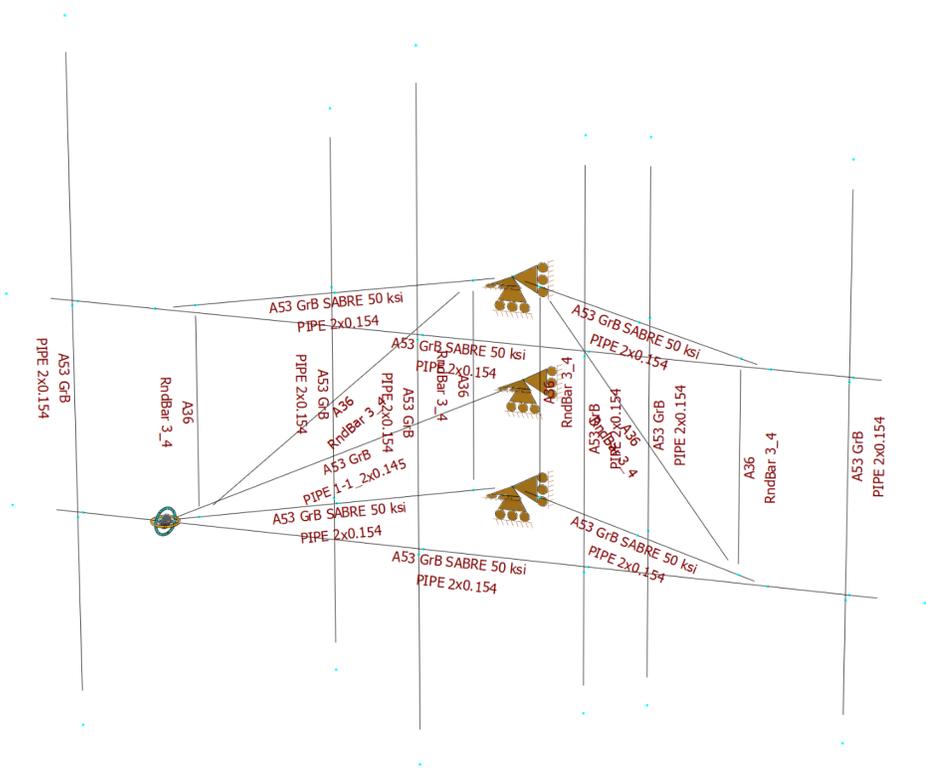
diameter (in): 0.75

Per foot weight of ice on object: 6 plf



**Mount Calculations
(Existing Conditions)**

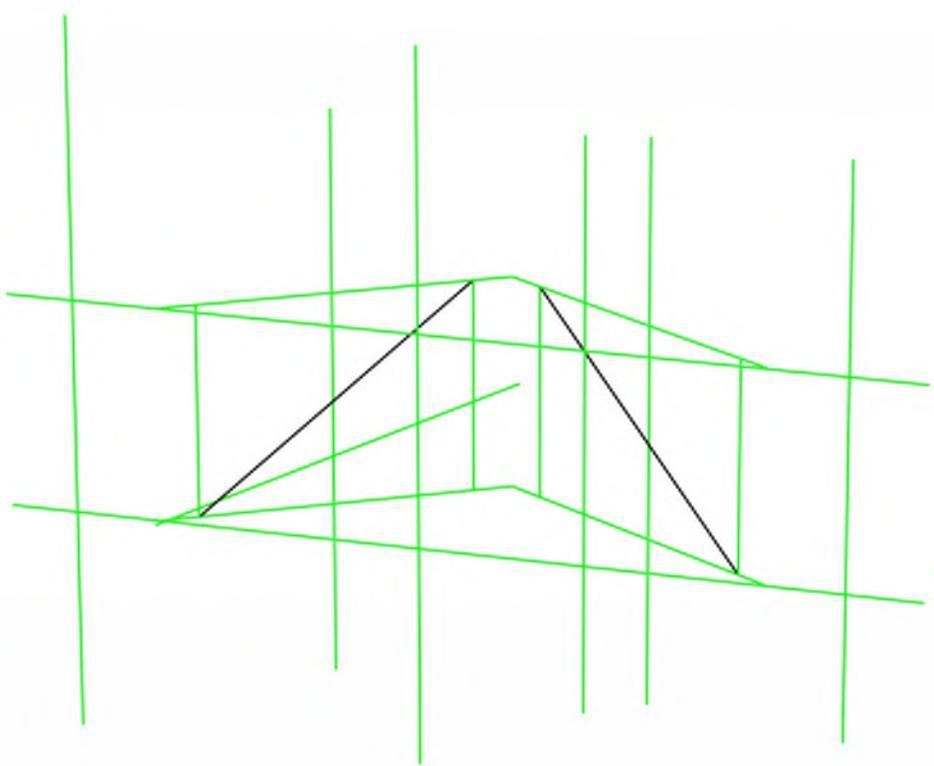


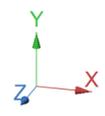
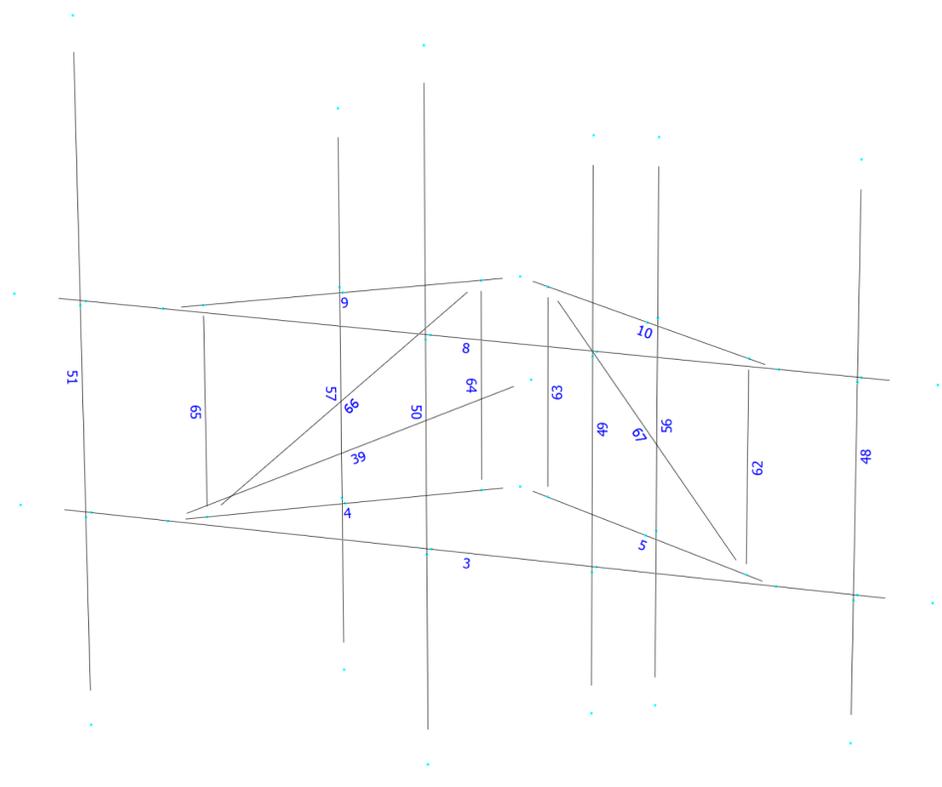




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Load data

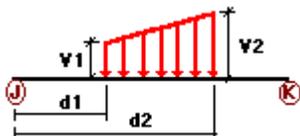
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No </td <td>WIND</td>	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

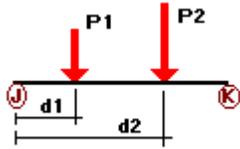


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	3	z	-0.011	0.00	0.00	No	0.00	No
	4	z	-0.011	0.00	0.00	No	0.00	No
	5	z	-0.011	0.00	0.00	No	0.00	No
	8	z	-0.011	0.00	0.00	No	0.00	No
	9	z	-0.011	0.00	0.00	No	0.00	No
	10	z	-0.011	0.00	0.00	No	0.00	No
	39	z	-0.009	0.00	0.00	No	0.00	No
	49	z	-0.011	0.00	0.00	No	0.00	No
	56	z	-0.011	0.00	0.00	No	0.00	No
	57	z	-0.011	0.00	0.00	No	0.00	No
	62	z	-0.003	0.00	0.00	No	0.00	No
	63	z	-0.003	0.00	0.00	No	0.00	No
	64	z	-0.003	0.00	0.00	No	0.00	No
	65	z	-0.003	0.00	0.00	No	0.00	No
	66	z	-0.003	0.00	0.00	No	0.00	No
	67	z	-0.003	0.00	0.00	No	0.00	No
	W30	3	z	-0.011	0.00	0.00	No	0.00
4		z	-0.011	0.00	0.00	No	0.00	No
5		z	-0.011	0.00	0.00	No	0.00	No
8		z	-0.011	0.00	0.00	No	0.00	No
9		z	-0.011	0.00	0.00	No	0.00	No
10		z	-0.011	0.00	0.00	No	0.00	No
39		z	-0.009	0.00	0.00	No	0.00	No
49		z	-0.011	0.00	0.00	No	0.00	No
56		z	-0.011	0.00	0.00	No	0.00	No
57		z	-0.011	0.00	0.00	No	0.00	No
62		z	-0.003	0.00	0.00	No	0.00	No
63		z	-0.003	0.00	0.00	No	0.00	No
64		z	-0.003	0.00	0.00	No	0.00	No
65		z	-0.003	0.00	0.00	No	0.00	No
66		z	-0.003	0.00	0.00	No	0.00	No
67		z	-0.003	0.00	0.00	No	0.00	No
W60		3	x	-0.011	0.00	0.00	No	0.00
	4	x	-0.011	0.00	0.00	No	0.00	No
	5	x	-0.011	0.00	0.00	No	0.00	No
	8	x	-0.011	0.00	0.00	No	0.00	No
	9	x	-0.011	0.00	0.00	No	0.00	No
	10	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.009	0.00	0.00	No	0.00	No
	48	x	-0.011	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
	51	x	-0.011	0.00	0.00	No	0.00	No
	56	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	62	x	-0.003	0.00	0.00	No	0.00	No
	63	x	-0.003	0.00	0.00	No	0.00	No
	64	x	-0.003	0.00	0.00	No	0.00	No
	65	x	-0.003	0.00	0.00	No	0.00	No
66	x	-0.003	0.00	0.00	No	0.00	No	
67	x	-0.003	0.00	0.00	No	0.00	No	
W90	4	x	-0.011	0.00	0.00	No	0.00	No
	5	x	-0.011	0.00	0.00	No	0.00	No
	9	x	-0.011	0.00	0.00	No	0.00	No
	10	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.009	0.00	0.00	No	0.00	No
	48	x	-0.011	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
51	x	-0.011	0.00	0.00	No	0.00	No	

	56	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	62	x	-0.003	0.00	0.00	No	0.00	No
	63	x	-0.003	0.00	0.00	No	0.00	No
	64	x	-0.003	0.00	0.00	No	0.00	No
	65	x	-0.003	0.00	0.00	No	0.00	No
	66	x	-0.003	0.00	0.00	No	0.00	No
	67	x	-0.003	0.00	0.00	No	0.00	No
W120	3	x	-0.011	0.00	0.00	No	0.00	No
	4	x	-0.011	0.00	0.00	No	0.00	No
	5	x	-0.011	0.00	0.00	No	0.00	No
	8	x	-0.011	0.00	0.00	No	0.00	No
	9	x	-0.011	0.00	0.00	No	0.00	No
	10	x	-0.011	0.00	0.00	No	0.00	No
	39	x	-0.009	0.00	0.00	No	0.00	No
	48	x	-0.011	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
	51	x	-0.011	0.00	0.00	No	0.00	No
	56	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	62	x	-0.003	0.00	0.00	No	0.00	No
	63	x	-0.003	0.00	0.00	No	0.00	No
	64	x	-0.003	0.00	0.00	No	0.00	No
	65	x	-0.003	0.00	0.00	No	0.00	No
	66	x	-0.003	0.00	0.00	No	0.00	No
	67	x	-0.003	0.00	0.00	No	0.00	No
W150	3	z	0.011	0.00	0.00	No	0.00	No
	4	z	0.011	0.00	0.00	No	0.00	No
	5	z	0.011	0.00	0.00	No	0.00	No
	8	z	0.011	0.00	0.00	No	0.00	No
	9	z	0.011	0.00	0.00	No	0.00	No
	10	z	0.011	0.00	0.00	No	0.00	No
	39	z	0.009	0.00	0.00	No	0.00	No
	48	z	0.011	0.00	0.00	No	0.00	No
	49	z	0.011	0.00	0.00	No	0.00	No
	50	z	0.011	0.00	0.00	No	0.00	No
	51	z	0.011	0.00	0.00	No	0.00	No
	56	z	0.011	0.00	0.00	No	0.00	No
	57	z	0.011	0.00	0.00	No	0.00	No
	62	z	0.003	0.00	0.00	No	0.00	No
	63	z	0.003	0.00	0.00	No	0.00	No
	64	z	0.003	0.00	0.00	No	0.00	No
	65	z	0.003	0.00	0.00	No	0.00	No
	66	z	0.003	0.00	0.00	No	0.00	No
	67	z	0.003	0.00	0.00	No	0.00	No
Di	3	y	-0.009	0.00	0.00	No	0.00	No
	4	y	-0.009	0.00	0.00	No	0.00	No
	5	y	-0.009	0.00	0.00	No	0.00	No
	8	y	-0.009	0.00	0.00	No	0.00	No
	9	y	-0.009	0.00	0.00	No	0.00	No
	10	y	-0.009	0.00	0.00	No	0.00	No
	39	y	-0.008	0.00	0.00	No	0.00	No
	48	y	-0.009	0.00	0.00	No	0.00	No
	49	y	-0.009	0.00	0.00	No	0.00	No
	50	y	-0.009	0.00	0.00	No	0.00	No
	51	y	-0.009	0.00	0.00	No	0.00	No
	56	y	-0.009	0.00	0.00	No	0.00	No
	57	y	-0.009	0.00	0.00	No	0.00	No
	62	y	-0.006	0.00	0.00	No	0.00	No

63	y	-0.006	0.00	0.00	No	0.00	No
64	y	-0.006	0.00	0.00	No	0.00	No
65	y	-0.006	0.00	0.00	No	0.00	No
66	y	-0.006	0.00	0.00	No	0.00	No
67	y	-0.006	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	48	y	-0.034	0.50	No
		y	-0.034	7.50	No
	50	y	-0.039	1.50	No
		y	-0.039	8.50	No
	51	y	-0.039	1.50	No
		y	-0.039	8.50	No
	56	y	-0.06	2.00	No
		y	-0.073	2.00	No
	57	y	-0.072	2.00	No
		y	-0.029	7.00	No
Wo	48	z	-0.291	0.50	No
		z	-0.291	7.50	No
	50	z	-0.401	1.50	No
		z	-0.401	8.50	No
	51	z	-0.401	1.50	No
		z	-0.401	8.50	No
	56	z	-0.056	2.00	No
		z	-0.063	2.00	No
	57	z	-0.061	2.00	No
		z	-0.07	7.00	No
W30	48	3	-0.261	0.50	No
		3	-0.261	7.50	No
	50	3	-0.346	1.50	No
		3	-0.346	8.50	No
	51	3	-0.346	1.50	No
		3	-0.346	8.50	No
	56	3	-0.057	2.00	No
		3	-0.055	2.00	No
	57	3	-0.07	7.00	No
		3	-0.07	7.00	No
W60	48	3	-0.20	0.50	No
		3	-0.20	7.50	No
	50	3	-0.237	1.50	No
		3	-0.237	8.50	No
	51	3	-0.237	1.50	No
		3	-0.237	8.50	No
	56	3	-0.085	2.00	No
		3	-0.083	2.00	No
	57	3	-0.07	7.00	No
		3	-0.07	7.00	No
W90	48	x	-0.169	0.50	No
		x	-0.169	7.50	No

	50	x	-0.183	1.50	No
		x	-0.183	8.50	No
	51	x	-0.183	1.50	No
		x	-0.183	8.50	No
	56	x	-0.091	2.00	No
	57	x	-0.088	2.00	No
		x	-0.07	7.00	No
W120	48	2	-0.20	0.50	No
		2	-0.20	7.50	No
	50	2	-0.237	1.50	No
		2	-0.237	8.50	No
	51	2	-0.237	1.50	No
		2	-0.237	8.50	No
	56	2	-0.085	2.00	No
	57	2	-0.083	2.00	No
		2	-0.07	7.00	No
W150	48	2	-0.261	0.50	No
		2	-0.261	7.50	No
	50	2	-0.346	1.50	No
		2	-0.346	8.50	No
	51	2	-0.346	1.50	No
		2	-0.346	8.50	No
	56	2	-0.057	2.00	No
	57	2	-0.055	2.00	No
		2	-0.07	7.00	No
Di	48	y	-0.155	0.50	No
		y	-0.155	7.50	No
	50	y	-0.213	1.50	No
		y	-0.213	8.50	No
	51	y	-0.213	1.50	No
		y	-0.213	8.50	No
	56	y	-0.058	2.00	No
	57	y	-0.059	2.00	No
		y	-0.052	2.00	No
		y	-0.069	7.00	No
W10	48	z	-0.066	0.50	No
		z	-0.066	7.50	No
	50	z	-0.085	1.50	No
		z	-0.085	8.50	No
	51	z	-0.085	1.50	No
		z	-0.085	8.50	No
	56	z	-0.017	2.00	No
	57	z	-0.018	2.00	No
		z	-0.017	2.00	No
		z	-0.018	7.00	No
W130	48	3	-0.058	0.50	No
		3	-0.058	7.50	No
	50	3	-0.074	1.50	No
		3	-0.074	8.50	No
	51	3	-0.074	1.50	No
		3	-0.074	8.50	No
	56	3	-0.019	2.00	No
	57	3	-0.015	2.00	No
		3	-0.018	7.00	No
W160	48	3	-0.047	0.50	No
		3	-0.047	7.50	No
	50	3	-0.055	1.50	No
		3	-0.055	8.50	No
	51	3	-0.055	1.50	No
		3	-0.055	8.50	No

	56	3	-0.022	2.00	No
	57	3	-0.022	2.00	No
		3	-0.018	7.00	No
WI90	48	x	-0.042	0.50	No
		x	-0.042	7.50	No
	50	x	-0.045	1.50	No
		x	-0.045	8.50	No
	51	x	-0.045	1.50	No
		x	-0.045	8.50	No
	56	x	-0.024	2.00	No
	57	x	-0.023	2.00	No
		x	-0.018	7.00	No
WI120	48	2	-0.047	0.50	No
		2	-0.047	7.50	No
	50	2	-0.055	1.50	No
		2	-0.055	8.50	No
	51	2	-0.055	1.50	No
		2	-0.055	8.50	No
	56	2	-0.022	2.00	No
	57	2	-0.022	2.00	No
		2	-0.018	7.00	No
WI150	48	2	-0.058	0.50	No
		2	-0.058	7.50	No
	50	2	-0.074	1.50	No
		2	-0.074	8.50	No
	51	2	-0.074	1.50	No
		2	-0.074	8.50	No
	56	2	-0.019	2.00	No
	57	2	-0.015	2.00	No
		2	-0.018	7.00	No
WLO	48	z	-0.019	0.50	No
		z	-0.019	7.50	No
	50	z	-0.026	1.50	No
		z	-0.026	8.50	No
	51	z	-0.026	1.50	No
		z	-0.026	8.50	No
	56	z	-0.004	2.00	No
	57	z	-0.004	2.00	No
		z	-0.004	2.00	No
		z	-0.004	7.00	No
WL30	48	3	-0.017	0.50	No
		3	-0.017	7.50	No
	50	3	-0.022	1.50	No
		3	-0.022	8.50	No
	51	3	-0.022	1.50	No
		3	-0.022	8.50	No
	56	3	-0.004	2.00	No
	57	3	-0.003	2.00	No
		3	-0.004	7.00	No
WL60	48	3	-0.013	0.50	No
		3	-0.013	7.50	No
	50	3	-0.015	1.50	No
		3	-0.015	8.50	No
	51	3	-0.015	1.50	No
		3	-0.015	8.50	No
	56	3	-0.005	2.00	No
	57	3	-0.005	2.00	No
		3	-0.004	7.00	No
WL90	48	x	-0.011	0.50	No
		x	-0.011	7.50	No

	50	x	-0.012	1.50	No
		x	-0.012	8.50	No
	51	x	-0.012	1.50	No
		x	-0.012	8.50	No
	56	x	-0.006	2.00	No
	57	x	-0.006	2.00	No
		x	-0.004	7.00	No
WL120	48	2	-0.013	0.50	No
		2	-0.013	7.50	No
	50	2	-0.015	1.50	No
		2	-0.015	8.50	No
	51	2	-0.015	1.50	No
		2	-0.015	8.50	No
	56	2	-0.005	2.00	No
	57	2	-0.005	2.00	No
		2	-0.004	7.00	No
WL150	48	2	-0.017	0.50	No
		2	-0.017	7.50	No
	50	2	-0.022	1.50	No
		2	-0.022	8.50	No
	51	2	-0.022	1.50	No
		2	-0.022	8.50	No
	56	2	-0.004	2.00	No
	57	2	-0.003	2.00	No
		2	-0.004	7.00	No
LL1	3	y	-0.25	50.00	Yes
LL2	3	y	-0.25	100.00	Yes
LL3	3	y	-0.25	0.00	Yes
LLa1	48	y	-0.50	4.00	No
LLa2	49	y	-0.50	4.00	No
LLa3	50	y	-0.50	4.00	No
LLa4	51	y	-0.50	4.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00

WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

Steel Code Check

Report: Summary - Group by member**Load conditions to be included in design :**

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W10+1.6LLa1
LC41=1.2D+W130+1.6LLa1
LC42=1.2D+W160+1.6LLa1
LC43=1.2D+W190+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W10+1.6LLa1
LC47=1.2D-W130+1.6LLa1
LC48=1.2D-W160+1.6LLa1
LC49=1.2D-W190+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W10+1.6LLa2
LC53=1.2D+W130+1.6LLa2
LC54=1.2D+W160+1.6LLa2

LC55=1.2D+WL90+1.6LLa2
 LC56=1.2D+WL120+1.6LLa2
 LC57=1.2D+WL150+1.6LLa2
 LC58=1.2D-WL0+1.6LLa2
 LC59=1.2D-WL30+1.6LLa2
 LC60=1.2D-WL60+1.6LLa2
 LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3
 LC76=1.2D+WL0+1.6LLa4
 LC77=1.2D+WL30+1.6LLa4
 LC78=1.2D+WL60+1.6LLa4
 LC79=1.2D+WL90+1.6LLa4
 LC80=1.2D+WL120+1.6LLa4
 LC81=1.2D+WL150+1.6LLa4
 LC82=1.2D-WL0+1.6LLa4
 LC83=1.2D-WL30+1.6LLa4
 LC84=1.2D-WL60+1.6LLa4
 LC85=1.2D-WL90+1.6LLa4
 LC86=1.2D-WL120+1.6LLa4
 LC87=1.2D-WL150+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 1-1_2x0.145	39	LC3 at 0.00%	0.31	OK	
	PIPE 2x0.154	3	LC6 at 16.96%	0.39	OK	
		4	LC24 at 0.00%	0.18	OK	
		5	LC51 at 12.50%	0.14	OK	
		8	LC19 at 16.96%	0.52	OK	
		9	LC1 at 0.00%	0.17	OK	
		10	LC1 at 100.00%	0.15	OK	
		48	LC7 at 35.42%	0.52	OK	
		49	LC8 at 60.42%	0.22	OK	
		50	LC7 at 39.58%	0.75	OK	
		51	LC1 at 39.58%	0.75	OK	
		56	LC8 at 31.25%	0.09	OK	
		57	LC1 at 66.67%	0.12	OK	
	RndBar 3_4	62	LC41 at 100.00%	0.33	OK	
		63	LC31 at 0.00%	0.34	OK	
		64	LC30 at 0.00%	0.45	OK	
		65	LC26 at 100.00%	0.35	OK	
		66	LC26 at 75.00%	0.20	With warnings	
		67	LC47 at 100.00%	0.17	With warnings	

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	6.25	0.00	0.00	0
2	-6.25	0.00	0.00	0
7	-4.167	0.00	0.00	0
8	4.167	0.00	0.00	0
9	0.00	0.00	-2.50	0
14	6.25	3.00	0.00	0
15	-6.25	3.00	0.00	0
20	-4.167	3.00	0.00	0
21	4.167	3.00	0.00	0
22	0.00	3.00	-2.50	0
43	-1.00	0.00	-6.50	0
100	-5.25	0.00	0.00	0
101	-5.25	3.00	0.00	0
102	5.25	0.00	0.00	0
103	5.25	3.00	0.00	0
104	1.75	0.00	0.00	0
105	1.75	3.00	0.00	0
106	-0.50	0.00	0.00	0
107	-0.50	3.00	0.00	0
108	-5.25	0.00	0.20	0
109	-5.25	3.00	0.20	0
110	-0.50	0.00	0.20	0
111	-0.50	3.00	0.20	0

112	1.75	3.00	0.20	0
113	1.75	0.00	0.20	0
114	5.25	0.00	0.20	0
115	5.25	3.00	0.20	0
116	-5.25	7.00	0.20	0
117	-0.50	7.00	0.20	0
118	1.75	6.00	0.20	0
119	5.25	6.00	0.20	0
120	-5.25	-3.00	0.20	0
121	-0.50	-3.00	0.20	0
122	1.75	-2.00	0.20	0
123	5.25	-2.00	0.20	0
124	2.1835	5.50	-1.4232	0
125	-2.1835	5.50	-1.4232	0
126	2.1835	-2.50	-1.4232	0
127	-2.1835	-2.50	-1.4232	0
128	-2.0835	3.00	-1.25	0
129	-2.0835	0.00	-1.25	0
130	2.0835	3.00	-1.25	0
131	2.0835	0.00	-1.25	0
132	-3.704	3.00	-0.2778	0
139	-0.463	3.00	-2.2222	0
140	-0.463	0.00	-2.2222	0
147	-3.704	0.00	-0.2778	0
148	0.463	3.00	-2.2222	0
155	3.704	3.00	-0.2778	0
156	0.463	0.00	-2.2222	0
163	3.704	0.00	-0.2778	0
164	-2.1835	3.00	-1.4232	0
165	-2.1835	0.00	-1.4232	0
166	2.1835	0.00	-1.4232	0
167	2.1835	3.00	-1.4232	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
9	1	1	1	0	0	0
22	1	1	1	0	0	0
43	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
3	2	1		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
4	7	9		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
5	8	9		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
8	15	14		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
9	20	22		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
10	21	22		PIPE 2x0.154	A53 GrB SABRE 50...	0.00	0.00	0.00
39	43	7		PIPE 1-1_2x0.145	A53 GrB	0.00	0.00	0.00

48	119	123	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
49	122	118	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
50	117	121	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
51	116	120	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	124	126	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	125	127	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	155	163	RndBar 3_4	A36	0.00	0.00	0.00
63	148	156	RndBar 3_4	A36	0.00	0.00	0.00
64	139	140	RndBar 3_4	A36	0.00	0.00	0.00
65	132	147	RndBar 3_4	A36	0.00	0.00	0.00
66	147	139	RndBar 3_4	A36	0.00	0.00	0.00
67	163	148	RndBar 3_4	A36	0.00	0.00	0.00

Orientation of local axes

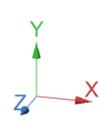
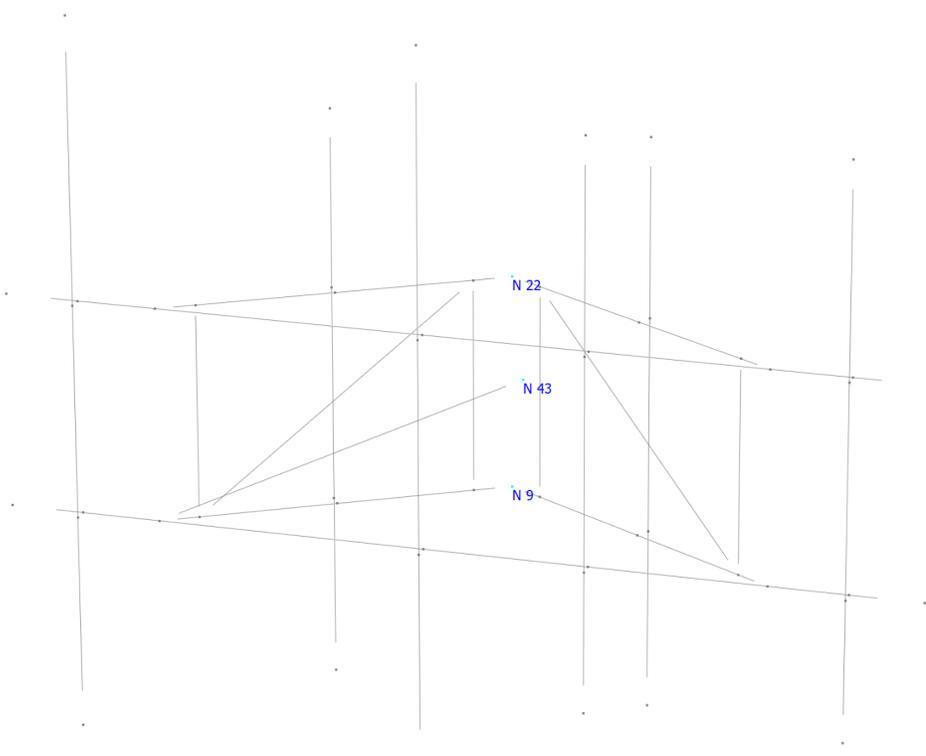
Member	Rotation [Deg]	Axes23	NX	NY	NZ
48	315.00	0	0.00	0.00	0.00
50	315.00	0	0.00	0.00	0.00
51	315.00	0	0.00	0.00	0.00
56	315.00	0	0.00	0.00	0.00
57	315.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
39	0.00	0.00	2.00	0.00	0.00	2.00

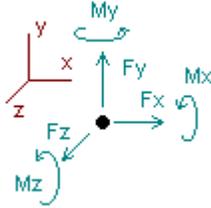
Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
39	0	0	0	0	1	1	0	0	0	0	Full



Analysis result

Reactions



Direction of positive forces and moments

Node	Forces [Kip]			Moments [Kip*ft]		
	FX	FY	FZ	MX	MY	MZ
Condition LC1=1.2D+Wo						
22	0.15301	0.84979	1.38933	0.00000	0.00000	0.00000
9	0.13686	0.15906	1.23725	0.00000	0.00000	0.00000
43	-0.28986	0.01063	0.62437	0.00000	0.00000	0.00000
SUM	0.00000	1.01948	3.25095	0.00000	0.00000	0.00000
Condition LC2=1.2D+W30						
22	1.12166	0.75179	0.72394	0.00000	0.00000	0.00000
9	1.12353	0.25728	-0.05939	0.00000	0.00000	0.00000
43	-0.76598	0.01041	1.62524	0.00000	0.00000	0.00000
SUM	1.47921	1.01948	2.28979	0.00000	0.00000	0.00000
Condition LC3=1.2D+W60						
22	1.34020	0.70872	0.09967	0.00000	0.00000	0.00000
9	1.34955	0.30031	-0.65252	0.00000	0.00000	0.00000
43	-0.76756	0.01045	1.67431	0.00000	0.00000	0.00000
SUM	1.92219	1.01948	1.12147	0.00000	0.00000	0.00000
Condition LC4=1.2D+W90						
22	1.47814	0.57448	-0.65051	0.00000	0.00000	0.00000
9	1.38455	0.43449	-0.97202	0.00000	0.00000	0.00000
43	-0.74296	0.01051	1.62254	0.00000	0.00000	0.00000
SUM	2.11972	1.01948	0.00000	0.00000	0.00000	0.00000
Condition LC5=1.2D+W120						
22	1.34004	0.42578	-1.40154	0.00000	0.00000	0.00000
9	1.16867	0.58310	-1.01365	0.00000	0.00000	0.00000
43	-0.58651	0.01060	1.29372	0.00000	0.00000	0.00000
SUM	1.92219	1.01948	-1.12147	0.00000	0.00000	0.00000

Condition **LC6=1.2D+W150**

22	1.11989	0.36440	-2.23266	0.00000	0.00000	0.00000
9	0.80112	0.64443	-1.28750	0.00000	0.00000	0.00000
43	-0.44457	0.01065	0.92076	0.00000	0.00000	0.00000
SUM	1.47644	1.01948	-2.59939	0.00000	0.00000	0.00000

Condition **LC7=1.2D-Wo**

22	0.15186	0.25298	-2.69570	0.00000	0.00000	0.00000
9	-0.43956	0.75565	0.06475	0.00000	0.00000	0.00000
43	0.28770	0.01084	-0.62000	0.00000	0.00000	0.00000
SUM	0.00000	1.01948	-3.25095	0.00000	0.00000	0.00000

Condition **LC8=1.2D-W30**

22	-0.81736	0.35229	-2.02666	0.00000	0.00000	0.00000
9	-1.42467	0.65622	1.35844	0.00000	0.00000	0.00000
43	0.76282	0.01097	-1.62157	0.00000	0.00000	0.00000
SUM	-1.47921	1.01948	-2.28979	0.00000	0.00000	0.00000

Condition **LC9=1.2D-W60**

22	-1.03594	0.39579	-1.40249	0.00000	0.00000	0.00000
9	-1.65148	0.61265	1.95349	0.00000	0.00000	0.00000
43	0.76522	0.01104	-1.67247	0.00000	0.00000	0.00000
SUM	-1.92219	1.01948	-1.12147	0.00000	0.00000	0.00000

Condition **LC10=1.2D-W90**

22	-1.17380	0.53016	-0.65229	0.00000	0.00000	0.00000
9	-1.68818	0.47825	2.27644	0.00000	0.00000	0.00000
43	0.74226	0.01107	-1.62415	0.00000	0.00000	0.00000
SUM	-2.11972	1.01948	0.00000	0.00000	0.00000	0.00000

Condition **LC11=1.2D-W120**

22	-1.03555	0.67826	0.09739	0.00000	0.00000	0.00000
9	-1.47422	0.33017	2.32211	0.00000	0.00000	0.00000
43	0.58758	0.01105	-1.29803	0.00000	0.00000	0.00000
SUM	-1.92219	1.01948	1.12147	0.00000	0.00000	0.00000

Condition **LC12=1.2D-W150**

22	-0.81536	0.73921	0.92760	0.00000	0.00000	0.00000
9	-1.10765	0.26929	2.59851	0.00000	0.00000	0.00000
43	0.44657	0.01098	-0.92672	0.00000	0.00000	0.00000
SUM	-1.47644	1.01948	2.59939	0.00000	0.00000	0.00000

Condition **LC13=0.9D+Wo**

22	0.11476	0.71176	1.55216	0.00000	0.00000	0.00000
9	0.17510	0.04489	1.07445	0.00000	0.00000	0.00000
43	-0.28985	0.00796	0.62434	0.00000	0.00000	0.00000
SUM	0.00000	0.76461	3.25095	0.00000	0.00000	0.00000

Condition LC14=0.9D+W30

22	1.08306	0.61387	0.88683	0.00000	0.00000	0.00000
9	1.16215	0.14296	-0.22228	0.00000	0.00000	0.00000
43	-0.76600	0.00778	1.62524	0.00000	0.00000	0.00000

SUM	1.47921	0.76461	2.28979	0.00000	0.00000	0.00000

Condition LC15=0.9D+W60

22	1.30168	0.57086	0.26263	0.00000	0.00000	0.00000
9	1.38809	0.18592	-0.81548	0.00000	0.00000	0.00000
43	-0.76758	0.00783	1.67432	0.00000	0.00000	0.00000

SUM	1.92219	0.76461	1.12147	0.00000	0.00000	0.00000

Condition LC16=0.9D+W90

22	1.43961	0.43651	-0.48733	0.00000	0.00000	0.00000
9	1.42310	0.32021	-1.13523	0.00000	0.00000	0.00000
43	-0.74299	0.00788	1.62257	0.00000	0.00000	0.00000

SUM	2.11972	0.76461	0.00000	0.00000	0.00000	0.00000

Condition LC17=0.9D+W120

22	1.30159	0.28768	-1.23810	0.00000	0.00000	0.00000
9	1.20715	0.46897	-1.17714	0.00000	0.00000	0.00000
43	-0.58655	0.00796	1.29376	0.00000	0.00000	0.00000

SUM	1.92219	0.76461	-1.12147	0.00000	0.00000	0.00000

Condition LC18=0.9D+W150

22	1.08141	0.22626	-2.06906	0.00000	0.00000	0.00000
9	0.83962	0.53035	-1.45115	0.00000	0.00000	0.00000
43	-0.44460	0.00800	0.92082	0.00000	0.00000	0.00000

SUM	1.47644	0.76461	-2.59939	0.00000	0.00000	0.00000

Condition LC19=0.9D-W0

22	0.11390	0.11451	-2.53173	0.00000	0.00000	0.00000
9	-0.40159	0.64198	-0.09925	0.00000	0.00000	0.00000
43	0.28769	0.00812	-0.61997	0.00000	0.00000	0.00000

SUM	0.00000	0.76461	-3.25095	0.00000	0.00000	0.00000

Condition LC20=0.9D-W30

22	-0.85497	0.21371	-1.86275	0.00000	0.00000	0.00000
9	-1.38707	0.54269	1.19453	0.00000	0.00000	0.00000
43	0.76283	0.00821	-1.62157	0.00000	0.00000	0.00000

SUM	-1.47921	0.76461	-2.28979	0.00000	0.00000	0.00000

Condition LC21=0.9D-W60

22	-1.07363	0.25714	-1.23864	0.00000	0.00000	0.00000
9	-1.61380	0.49919	1.78966	0.00000	0.00000	0.00000
43	0.76524	0.00827	-1.67249	0.00000	0.00000	0.00000

SUM	-1.92219	0.76461	-1.12147	0.00000	0.00000	0.00000

Condition **LC22=0.9D-W90**

22	-1.21148	0.39162	-0.48867	0.00000	0.00000	0.00000
9	-1.65052	0.36468	2.11284	0.00000	0.00000	0.00000
43	0.74228	0.00831	-1.62417	0.00000	0.00000	0.00000
SUM	-2.11972	0.76461	0.00000	0.00000	0.00000	0.00000

Condition **LC23=0.9D-W120**

22	-1.07331	0.53986	0.26076	0.00000	0.00000	0.00000
9	-1.43649	0.21645	2.15878	0.00000	0.00000	0.00000
43	0.58761	0.00830	-1.29807	0.00000	0.00000	0.00000
SUM	-1.92219	0.76461	1.12147	0.00000	0.00000	0.00000

Condition **LC24=0.9D-W150**

22	-0.85309	0.60085	1.09081	0.00000	0.00000	0.00000
9	-1.06995	0.15552	2.43535	0.00000	0.00000	0.00000
43	0.44660	0.00825	-0.92677	0.00000	0.00000	0.00000
SUM	-1.47644	0.76461	2.59939	0.00000	0.00000	0.00000

Condition **LC25=1.2D+Di+W10**

22	0.55615	1.66658	-1.72387	0.00000	0.00000	0.00000
9	-0.49667	1.22179	2.14064	0.00000	0.00000	0.00000
43	-0.05948	0.03904	0.12523	0.00000	0.00000	0.00000
SUM	0.00000	2.92742	0.54200	0.00000	0.00000	0.00000

Condition **LC26=1.2D+Di+W130**

22	0.77336	1.64434	-1.87466	0.00000	0.00000	0.00000
9	-0.27843	1.24417	1.85157	0.00000	0.00000	0.00000
43	-0.16683	0.03891	0.35119	0.00000	0.00000	0.00000
SUM	0.32810	2.92742	0.32810	0.00000	0.00000	0.00000

Condition **LC27=1.2D+Di+W160**

22	0.73499	1.63873	-1.91310	0.00000	0.00000	0.00000
9	-0.34261	1.24973	1.91264	0.00000	0.00000	0.00000
43	-0.12652	0.03896	0.26633	0.00000	0.00000	0.00000
SUM	0.26587	2.92742	0.26587	0.00000	0.00000	0.00000

Condition **LC28=1.2D+Di+W190**

22	0.77902	1.60657	-2.09203	0.00000	0.00000	0.00000
9	-0.32191	1.28189	1.82235	0.00000	0.00000	0.00000
43	-0.12811	0.03896	0.26968	0.00000	0.00000	0.00000
SUM	0.32900	2.92742	0.00000	0.00000	0.00000	0.00000

Condition **LC29=1.2D+Di+W1120**

22	0.73482	1.57106	-2.27115	0.00000	0.00000	0.00000
9	-0.38381	1.31734	1.82605	0.00000	0.00000	0.00000
43	-0.08514	0.03901	0.17923	0.00000	0.00000	0.00000
SUM	0.26587	2.92742	-0.26587	0.00000	0.00000	0.00000

Condition **LC30=1.2D+Di+W1150**

22	0.77305	1.56410	-2.30934	0.00000	0.00000	0.00000
9	-0.34136	1.32432	1.76317	0.00000	0.00000	0.00000
43	-0.10359	0.03899	0.21807	0.00000	0.00000	0.00000
SUM	0.32810	2.92742	-0.32810	0.00000	0.00000	0.00000

Condition **LC31=1.2D+Di-W10**

22	0.55542	1.53533	-2.46120	0.00000	0.00000	0.00000
9	-0.61487	1.35291	2.04438	0.00000	0.00000	0.00000
43	0.05945	0.03918	-0.12519	0.00000	0.00000	0.00000
SUM	0.00000	2.92742	-0.54200	0.00000	0.00000	0.00000

Condition **LC32=1.2D+Di-W130**

22	0.33819	1.55764	-2.31024	0.00000	0.00000	0.00000
9	-0.83304	1.33047	2.33333	0.00000	0.00000	0.00000
43	0.16676	0.03931	-0.35120	0.00000	0.00000	0.00000
SUM	-0.32810	2.92742	-0.32810	0.00000	0.00000	0.00000

Condition **LC33=1.2D+Di-W160**

22	0.37656	1.56321	-2.27188	0.00000	0.00000	0.00000
9	-0.76893	1.32494	2.27239	0.00000	0.00000	0.00000
43	0.12649	0.03926	-0.26638	0.00000	0.00000	0.00000
SUM	-0.26587	2.92742	-0.26587	0.00000	0.00000	0.00000

Condition **LC34=1.2D+Di-W190**

22	0.33254	1.59539	-2.09294	0.00000	0.00000	0.00000
9	-0.78969	1.29276	2.36281	0.00000	0.00000	0.00000
43	0.12815	0.03927	-0.26987	0.00000	0.00000	0.00000
SUM	-0.32900	2.92742	0.00000	0.00000	0.00000	0.00000

Condition **LC35=1.2D+Di-W1120**

22	0.37674	1.63086	-1.91388	0.00000	0.00000	0.00000
9	-0.72786	1.25733	2.35927	0.00000	0.00000	0.00000
43	0.08525	0.03922	-0.17952	0.00000	0.00000	0.00000
SUM	-0.26587	2.92742	0.26587	0.00000	0.00000	0.00000

Condition **LC36=1.2D+Di-W1150**

22	0.33851	1.63784	-1.87565	0.00000	0.00000	0.00000
9	-0.77033	1.25034	2.42217	0.00000	0.00000	0.00000
43	0.10372	0.03924	-0.21842	0.00000	0.00000	0.00000
SUM	-0.32810	2.92742	0.32810	0.00000	0.00000	0.00000

Condition **LC37=1.2D+1.6LL1**

22	0.15240	0.76906	-0.98689	0.00000	0.00000	0.00000
9	-0.15237	0.63964	0.98682	0.00000	0.00000	0.00000
43	-0.00003	0.01078	0.00007	0.00000	0.00000	0.00000
SUM	0.00000	1.41948	0.00000	0.00000	0.00000	0.00000

Condition **LC38=1.2D+1.6LL2**

22	-0.68118	0.76756	-0.98695	0.00000	0.00000	0.00000
9	0.68126	0.64114	0.98679	0.00000	0.00000	0.00000
43	-0.00008	0.01078	0.00016	0.00000	0.00000	0.00000
SUM	0.00000	1.41948	0.00000	0.00000	0.00000	0.00000

Condition **LC39=1.2D+1.6LL3**

22	0.98582	0.76702	-0.98698	0.00000	0.00000	0.00000
9	-0.98595	0.64168	0.98725	0.00000	0.00000	0.00000
43	0.00013	0.01078	-0.00027	0.00000	0.00000	0.00000
SUM	0.00000	1.41948	0.00000	0.00000	0.00000	0.00000

Condition **LC40=1.2D+WL0+1.6LLa1**

22	-1.24787	1.02635	-1.26664	0.00000	0.00000	0.00000
9	1.26703	0.78236	1.38431	0.00000	0.00000	0.00000
43	-0.01916	0.01077	0.04033	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	0.15800	0.00000	0.00000	0.00000

Condition **LC41=1.2D+WL30+1.6LLa1**

22	-1.18587	1.01933	-1.31159	0.00000	0.00000	0.00000
9	1.32880	0.78938	1.30272	0.00000	0.00000	0.00000
43	-0.04889	0.01076	0.10291	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC42=1.2D+WL60+1.6LLa1**

22	-1.20043	1.01724	-1.32604	0.00000	0.00000	0.00000
9	1.30496	0.79147	1.32558	0.00000	0.00000	0.00000
43	-0.03381	0.01077	0.07118	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC43=1.2D+WL90+1.6LLa1**

22	-1.18914	1.00882	-1.37346	0.00000	0.00000	0.00000
9	1.30891	0.79989	1.30237	0.00000	0.00000	0.00000
43	-0.03377	0.01077	0.07109	0.00000	0.00000	0.00000
SUM	0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC44=1.2D+WL120+1.6LLa1**

22	-1.20047	0.99969	-1.42084	0.00000	0.00000	0.00000
9	1.29464	0.80902	1.30074	0.00000	0.00000	0.00000
43	-0.02346	0.01077	0.04939	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC45=1.2D+WL150+1.6LLa1**

22	-1.18594	0.99707	-1.43538	0.00000	0.00000	0.00000
9	1.31012	0.81164	1.27790	0.00000	0.00000	0.00000
43	-0.03014	0.01077	0.06344	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC46=1.2D-WL0+1.6LLa1**

22	-1.24803	0.98941	-1.48001	0.00000	0.00000	0.00000
9	1.22893	0.81928	1.36222	0.00000	0.00000	0.00000
43	0.01910	0.01078	-0.04021	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	-0.15800	0.00000	0.00000	0.00000

Condition **LC47=1.2D-WL30+1.6LLa1**

22	-1.31004	0.99643	-1.43504	0.00000	0.00000	0.00000
9	1.16716	0.81225	1.44380	0.00000	0.00000	0.00000
43	0.04883	0.01079	-0.10280	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC48=1.2D-WL60+1.6LLa1**

22	-1.29547	0.99852	-1.42060	0.00000	0.00000	0.00000
9	1.19100	0.81017	1.42095	0.00000	0.00000	0.00000
43	0.03376	0.01079	-0.07107	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC49=1.2D-WL90+1.6LLa1**

22	-1.30676	1.00694	-1.37318	0.00000	0.00000	0.00000
9	1.18704	0.80175	1.44417	0.00000	0.00000	0.00000
43	0.03372	0.01079	-0.07100	0.00000	0.00000	0.00000
SUM	-0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC50=1.2D-WL120+1.6LLa1**

22	-1.29544	1.01607	-1.32580	0.00000	0.00000	0.00000
9	1.20131	0.79262	1.44582	0.00000	0.00000	0.00000
43	0.02342	0.01079	-0.04930	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC51=1.2D-WL150+1.6LLa1**

22	-1.30997	1.01869	-1.31126	0.00000	0.00000	0.00000
9	1.18583	0.79000	1.46866	0.00000	0.00000	0.00000
43	0.03009	0.01079	-0.06336	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC52=1.2D+WL0+1.6LLa2**

22	-0.31396	1.01775	-1.26706	0.00000	0.00000	0.00000
9	0.33318	0.79096	1.38460	0.00000	0.00000	0.00000
43	-0.01922	0.01077	0.04046	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	0.15800	0.00000	0.00000	0.00000

Condition **LC53=1.2D+WL30+1.6LLa2**

22	-0.25201	1.01084	-1.31191	0.00000	0.00000	0.00000
9	0.39502	0.79788	1.30287	0.00000	0.00000	0.00000
43	-0.04897	0.01076	0.10308	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC54=1.2D+WL60+1.6LLa2**

22	-0.26656	1.00871	-1.32642	0.00000	0.00000	0.00000
9	0.37114	0.80000	1.32583	0.00000	0.00000	0.00000
43	-0.03387	0.01076	0.07130	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC55=1.2D+WL90+1.6LLa2**

22	-0.25526	1.00033	-1.37385	0.00000	0.00000	0.00000
9	0.37508	0.80838	1.30265	0.00000	0.00000	0.00000
43	-0.03382	0.01077	0.07120	0.00000	0.00000	0.00000
SUM	0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC56=1.2D+WL120+1.6LLa2**

22	-0.26658	0.99118	-1.42127	0.00000	0.00000	0.00000
9	0.36078	0.81753	1.30111	0.00000	0.00000	0.00000
43	-0.02349	0.01077	0.04945	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC57=1.2D+WL150+1.6LLa2**

22	-0.25207	0.98859	-1.43579	0.00000	0.00000	0.00000
9	0.37628	0.82012	1.27825	0.00000	0.00000	0.00000
43	-0.03016	0.01077	0.06349	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC58=1.2D-WL0+1.6LLa2**

22	-0.31412	0.98077	-1.48062	0.00000	0.00000	0.00000
9	0.29498	0.82792	1.36290	0.00000	0.00000	0.00000
43	0.01914	0.01079	-0.04029	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	-0.15800	0.00000	0.00000	0.00000

Condition **LC59=1.2D-WL30+1.6LLa2**

22	-0.37607	0.98768	-1.43575	0.00000	0.00000	0.00000
9	0.23314	0.82100	1.44462	0.00000	0.00000	0.00000
43	0.04888	0.01080	-0.10292	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC60=1.2D-WL60+1.6LLa2**

22	-0.36152	0.98980	-1.42125	0.00000	0.00000	0.00000
9	0.25702	0.81888	1.42168	0.00000	0.00000	0.00000
43	0.03379	0.01079	-0.07114	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC61=1.2D-WL90+1.6LLa2**

22	-0.37282	0.99819	-1.37382	0.00000	0.00000	0.00000
9	0.25307	0.81050	1.44487	0.00000	0.00000	0.00000
43	0.03374	0.01079	-0.07105	0.00000	0.00000	0.00000
SUM	-0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC62=1.2D-WL120+1.6LLa2**

22	-0.36150	1.00733	-1.32640	0.00000	0.00000	0.00000
9	0.26737	0.80136	1.44641	0.00000	0.00000	0.00000
43	0.02342	0.01079	-0.04930	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC63=1.2D-WL150+1.6LLa2**

22	-0.37601	1.00993	-1.31188	0.00000	0.00000	0.00000
9	0.25187	0.79876	1.46928	0.00000	0.00000	0.00000
43	0.03009	0.01079	-0.06336	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC64=1.2D+WL0+1.6LLa3**

22	0.28627	1.01740	-1.26718	0.00000	0.00000	0.00000
9	-0.26697	0.79131	1.38455	0.00000	0.00000	0.00000
43	-0.01930	0.01077	0.04063	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	0.15800	0.00000	0.00000	0.00000

Condition **LC65=1.2D+WL30+1.6LLa3**

22	0.34822	1.01058	-1.31196	0.00000	0.00000	0.00000
9	-0.20512	0.79815	1.30275	0.00000	0.00000	0.00000
43	-0.04905	0.01075	0.10326	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC66=1.2D+WL60+1.6LLa3**

22	0.33367	1.00841	-1.32652	0.00000	0.00000	0.00000
9	-0.22900	0.80031	1.32575	0.00000	0.00000	0.00000
43	-0.03395	0.01076	0.07148	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC67=1.2D+WL90+1.6LLa3**

22	0.34496	1.00004	-1.37395	0.00000	0.00000	0.00000
9	-0.22506	0.80868	1.30258	0.00000	0.00000	0.00000
43	-0.03390	0.01076	0.07137	0.00000	0.00000	0.00000
SUM	0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC68=1.2D+WL120+1.6LLa3**

22	0.33363	0.99086	-1.42141	0.00000	0.00000	0.00000
9	-0.23935	0.81785	1.30108	0.00000	0.00000	0.00000
43	-0.02357	0.01077	0.04962	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC69=1.2D+WL150+1.6LLa3**

22	0.34814	0.98829	-1.43592	0.00000	0.00000	0.00000
9	-0.22385	0.82043	1.27820	0.00000	0.00000	0.00000
43	-0.03024	0.01076	0.06367	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC70=1.2D-WL0+1.6LLa3**

22	0.28608	0.98032	-1.48087	0.00000	0.00000	0.00000
9	-0.30514	0.82837	1.36300	0.00000	0.00000	0.00000
43	0.01906	0.01079	-0.04013	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	-0.15800	0.00000	0.00000	0.00000

Condition **LC71=1.2D-WL30+1.6LLa3**

22	0.22413	0.98714	-1.43607	0.00000	0.00000	0.00000
9	-0.36698	0.82153	1.44479	0.00000	0.00000	0.00000
43	0.04881	0.01081	-0.10277	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC72=1.2D-WL60+1.6LLa3**

22	0.23868	0.98930	-1.42153	0.00000	0.00000	0.00000
9	-0.34311	0.81938	1.42181	0.00000	0.00000	0.00000
43	0.03372	0.01080	-0.07099	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC73=1.2D-WL90+1.6LLa3**

22	0.22739	0.99767	-1.37409	0.00000	0.00000	0.00000
9	-0.34706	0.81101	1.44499	0.00000	0.00000	0.00000
43	0.03367	0.01080	-0.07090	0.00000	0.00000	0.00000
SUM	-0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC74=1.2D-WL120+1.6LLa3**

22	0.23871	1.00685	-1.32664	0.00000	0.00000	0.00000
9	-0.33277	0.80184	1.44650	0.00000	0.00000	0.00000
43	0.02334	0.01079	-0.04915	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC75=1.2D-WL150+1.6LLa3**

22	0.22420	1.00943	-1.31213	0.00000	0.00000	0.00000
9	-0.34827	0.79926	1.46938	0.00000	0.00000	0.00000
43	0.03002	0.01080	-0.06321	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC76=1.2D+WL0+1.6LLa4**

22	1.55280	1.02902	-1.26633	0.00000	0.00000	0.00000
9	-1.53372	0.77971	1.38416	0.00000	0.00000	0.00000
43	-0.01908	0.01075	0.04017	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	0.15800	0.00000	0.00000	0.00000

Condition **LC77=1.2D+WL30+1.6LLa4**

22	1.61482	1.02245	-1.31086	0.00000	0.00000	0.00000
9	-1.47198	0.78632	1.30218	0.00000	0.00000	0.00000
43	-0.04879	0.01071	0.10273	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Condition **LC78=1.2D+WL60+1.6LLa4**

22	1.60025	1.02015	-1.32551	0.00000	0.00000	0.00000
9	-1.49582	0.78860	1.32523	0.00000	0.00000	0.00000
43	-0.03372	0.01073	0.07099	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC79=1.2D+WL90+1.6LLa4**

22	1.61155	1.01179	-1.37289	0.00000	0.00000	0.00000
9	-1.49188	0.79696	1.30201	0.00000	0.00000	0.00000
43	-0.03367	0.01073	0.07088	0.00000	0.00000	0.00000
SUM	0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC80=1.2D+WL120+1.6LLa4**

22	1.60021	1.00250	-1.42038	0.00000	0.00000	0.00000
9	-1.50615	0.80624	1.30051	0.00000	0.00000	0.00000
43	-0.02335	0.01074	0.04916	0.00000	0.00000	0.00000
SUM	0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC81=1.2D+WL150+1.6LLa4**

22	1.61474	0.99997	-1.43482	0.00000	0.00000	0.00000
9	-1.49067	0.80877	1.27758	0.00000	0.00000	0.00000
43	-0.03002	0.01073	0.06319	0.00000	0.00000	0.00000
SUM	0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC82=1.2D-WL0+1.6LLa4**

22	1.55259	0.99150	-1.48010	0.00000	0.00000	0.00000
9	-1.57181	0.81717	1.36257	0.00000	0.00000	0.00000
43	0.01922	0.01081	-0.04047	0.00000	0.00000	0.00000
SUM	0.00000	1.81948	-0.15800	0.00000	0.00000	0.00000

Condition **LC83=1.2D-WL30+1.6LLa4**

22	1.49056	0.99808	-1.43556	0.00000	0.00000	0.00000
9	-1.63355	0.81054	1.44455	0.00000	0.00000	0.00000
43	0.04894	0.01085	-0.10304	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	-0.09405	0.00000	0.00000	0.00000

Condition **LC84=1.2D-WL60+1.6LLa4**

22	1.50514	1.00037	-1.42092	0.00000	0.00000	0.00000
9	-1.60972	0.80827	1.42151	0.00000	0.00000	0.00000
43	0.03386	0.01083	-0.07130	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	-0.07071	0.00000	0.00000	0.00000

Condition **LC85=1.2D-WL90+1.6LLa4**

22	1.49384	1.00874	-1.37354	0.00000	0.00000	0.00000
9	-1.61366	0.79991	1.44474	0.00000	0.00000	0.00000
43	0.03382	0.01083	-0.07121	0.00000	0.00000	0.00000
SUM	-0.08600	1.81948	0.00000	0.00000	0.00000	0.00000

Condition **LC86=1.2D-WL120+1.6LLa4**

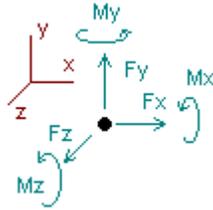
22	1.50518	1.01803	-1.32605	0.00000	0.00000	0.00000
9	-1.59940	0.79064	1.44626	0.00000	0.00000	0.00000
43	0.02351	0.01081	-0.04949	0.00000	0.00000	0.00000
SUM	-0.07071	1.81948	0.07071	0.00000	0.00000	0.00000

Condition **LC87=1.2D-WL150+1.6LLa4**

22	1.49065	1.02055	-1.31161	0.00000	0.00000	0.00000
9	-1.61487	0.78810	1.46919	0.00000	0.00000	0.00000
43	0.03018	0.01082	-0.06354	0.00000	0.00000	0.00000
SUM	-0.09405	1.81948	0.09404	0.00000	0.00000	0.00000

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

- LC1=1.2D+Wo
- LC2=1.2D+W30
- LC3=1.2D+W60
- LC4=1.2D+W90
- LC5=1.2D+W120
- LC6=1.2D+W150
- LC7=1.2D-Wo
- LC8=1.2D-W30
- LC9=1.2D-W60
- LC10=1.2D-W90
- LC11=1.2D-W120
- LC12=1.2D-W150
- LC13=0.9D+Wo
- LC14=0.9D+W30
- LC15=0.9D+W60
- LC16=0.9D+W90
- LC17=0.9D+W120
- LC18=0.9D+W150
- LC19=0.9D-Wo
- LC20=0.9D-W30
- LC21=0.9D-W60
- LC22=0.9D-W90
- LC23=0.9D-W120
- LC24=0.9D-W150
- LC25=1.2D+Di+Wi0
- LC26=1.2D+Di+Wi30
- LC27=1.2D+Di+Wi60
- LC28=1.2D+Di+Wi90
- LC29=1.2D+Di+Wi120

LC30=1.2D+Di+W1150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W1120
LC36=1.2D+Di-W1150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1
LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2
LC53=1.2D+WL30+1.6LLa2
LC54=1.2D+WL60+1.6LLa2
LC55=1.2D+WL90+1.6LLa2
LC56=1.2D+WL120+1.6LLa2
LC57=1.2D+WL150+1.6LLa2
LC58=1.2D-WL0+1.6LLa2
LC59=1.2D-WL30+1.6LLa2
LC60=1.2D-WL60+1.6LLa2
LC61=1.2D-WL90+1.6LLa2
LC62=1.2D-WL120+1.6LLa2
LC63=1.2D-WL150+1.6LLa2
LC64=1.2D+WL0+1.6LLa3
LC65=1.2D+WL30+1.6LLa3
LC66=1.2D+WL60+1.6LLa3
LC67=1.2D+WL90+1.6LLa3
LC68=1.2D+WL120+1.6LLa3
LC69=1.2D+WL150+1.6LLa3
LC70=1.2D-WL0+1.6LLa3
LC71=1.2D-WL30+1.6LLa3
LC72=1.2D-WL60+1.6LLa3
LC73=1.2D-WL90+1.6LLa3
LC74=1.2D-WL120+1.6LLa3
LC75=1.2D-WL150+1.6LLa3
LC76=1.2D+WL0+1.6LLa4
LC77=1.2D+WL30+1.6LLa4
LC78=1.2D+WL60+1.6LLa4
LC79=1.2D+WL90+1.6LLa4
LC80=1.2D+WL120+1.6LLa4
LC81=1.2D+WL150+1.6LLa4
LC82=1.2D-WL0+1.6LLa4
LC83=1.2D-WL30+1.6LLa4
LC84=1.2D-WL60+1.6LLa4
LC85=1.2D-WL90+1.6LLa4
LC86=1.2D-WL120+1.6LLa4
LC87=1.2D-WL150+1.6LLa4

Node	Forces						Moments						
	Fx		Fy		Fz		Mx		My		Mz		
	[Kip]	lc	[Kip]	lc	[Kip]	lc	[Kip*ft]	lc	[Kip*ft]	lc	[Kip*ft]	lc	
22	Max	1.615	LC77	1.667	LC25	1.552	LC13	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.310	LC47	0.115	LC19	-2.696	LC7	0.00000	LC1	0.00000	LC1	0.00000	LC1
9	Max	1.423	LC16	1.353	LC31	2.599	LC12	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.688	LC10	0.045	LC13	-1.451	LC18	0.00000	LC1	0.00000	LC1	0.00000	LC1
43	Max	0.765	LC21	0.039	LC32	1.674	LC15	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-0.768	LC15	0.008	LC14	-1.672	LC21	0.00000	LC1	0.00000	LC1	0.00000	LC1



Connection Check

Date: 4/25/2023
Project Name: ASHFORD-363 PUMPKILL HILL RD
Project No.: CT1068
Designed By: JC Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 5/8" Threaded Rod

Allowable Tensile Load =

$$F_{Tall} = 6673 \text{ lbs.}$$

Allowable Shear Load =

$$F_{Vall} = 4004 \text{ lbs.}$$

TENSILE FORCES

Reaction $F = 2696$ lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 1615 lbs. (See Bentley Output)

Reactions in Y direction: 1667 lbs. (See Bentley Output)

Resultant: 2321 lbs.

No. of Supports = 1

No. of Bolts / Support = 4

Tension Design Load /Bolts =

$$f_t = 674.00 \text{ lbs.} < 6673 \text{ lbs.} \text{ Therefore, OK !}$$

Shear Design Load / Bolts=

$$f_v = 580.25 \text{ lbs.} < 4004 \text{ lbs.} \text{ Therefore, OK !}$$

CHECK COMBINED TENSION AND SHEAR

$$\begin{array}{rclclcl} f_t / F_T & + & f_v / F_V & \leq & 1.0 \\ 0.101 & + & 0.145 & = & 0.246 < 1.0 \text{ Therefore, OK !} \end{array}$$

March 30, 2023

Emissions Analysis for Site: **CTL01068-- ASHFORD-363 PUMKIN HILL RD.**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **353 PUMPKIN HILL ROAD, ASHFORD, CT 06278**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general public 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 public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the 700 and 850 MHz Bands are approximately $0.467 \text{ mW}/\text{cm}^2$ and $0.567 \text{ mW}/\text{cm}^2$ respectively or $466.667 \mu\text{W}/\text{cm}^2$ and $566.667 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2300 MHz (WCS), 3540 MHz (DoD Band) and 3840 MHz (C-Band) bands is $1 \text{ mW}/\text{cm}^2$ or $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

1. Theoretical Calculations: Methods and Procedures

MobileComm Professionals, Inc has performed theoretical modeling of the site using a software tool, RoofMaster® Version 40.12.23.2022, 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.

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.

2. Antenna Inventory & Power Data

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (°)	H B W (°)	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated MPE%
A	1	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B14)	0	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.000395	466.67	0.000085
A	1	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	0	69	16.05	8	4	40.00	5742.75	9421.50	204.00	0.000064	1000.00	0.000006
A	2	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B12)	0	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.023652	466.67	0.005068
A	2	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	0	63	14.45	8	4	40.00	3973.01	6518.08	204.00	0.034277	566.67	0.006049
A	2	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	0	67	15.75	8	4	40.00	5359.45	8792.65	204.00	0.026737	1000.00	0.002674
B	3	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B14)	120	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.000000	466.67	0.000000
B	3	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	120	69	16.05	8	4	40.00	5742.75	9421.50	204.00	0.000002	1000.00	0.000000
B	4	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B12)	120	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.023653	466.67	0.005068
B	4	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	120	63	14.45	8	4	40.00	3973.01	6518.08	204.00	0.028381	566.67	0.005008
B	4	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	120	67	15.75	8	4	40.00	5359.45	8792.65	204.00	0.024386	1000.00	0.002439
C	5	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B14)	240	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.000011	466.67	0.000002
C	5	AT&T	CCI	OPA65R-BU8D	Panel	2100	LTE/5G	240	69	16.05	8	4	40.00	5742.75	9421.50	204.00	0.000004	1000.00	0.000000
C	6	AT&T	CCI	OPA65R-BU8D	Panel	700	LTE(B12)	240	75	13.55	8	4	40.00	3229.39	5298.10	204.00	0.000011	466.67	0.000002
C	6	AT&T	CCI	OPA65R-BU8D	Panel	850	5G	240	63	14.45	8	4	40.00	3973.01	6518.08	204.00	0.000002	566.67	0.000000
C	6	AT&T	CCI	OPA65R-BU8D	Panel	1900	LTE/5G	240	67	15.75	8	4	40.00	5359.45	8792.65	204.00	0.000009	1000.00	0.000001
A	7	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	350	64.3	12.95	8	4	60.00	4219.02	6921.68	214.00	0.030640	400.00	0.007660
A	7	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	350	64.3	12.95	8	2	40.00	1406.34	2307.23	214.00	0.010213	400.00	0.002553
A	7	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	350	63.3	14.05	8	2	40.00	1811.72	2972.28	214.00	0.013454	466.67	0.002883
A	7	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	350	64.8	15.25	8	2	140.00	8359.07	13713.81	214.00	0.040751	1000.00	0.004075
A	7	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	350	59.4	16.45	8	2	140.00	11019.40	18078.32	214.00	0.038323	1000.00	0.003832
A	8	T-Mobile	Ericsson	AIR6419_LTE_B41	Panel	2500	LTE	350	12.5	22.65	2.86	1	40.67	7485.61	12280.81	214.00	0.095863	1000.00	0.009586
A	8	T-Mobile	Ericsson	AIR6419_NR_B41	Panel	2500	5G	350	12.5	22.65	2.86	1	67.78	12476.02	20468.02	214.00	0.159771	1000.00	0.015977
B	9	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	120	64.3	12.95	8	4	60.00	4219.02	6921.68	214.00	0.000061	400.00	0.000015
B	9	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	120	64.3	12.95	8	2	40.00	1406.34	2307.23	214.00	0.000020	400.00	0.000005
B	9	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	120	63.3	14.05	8	2	40.00	1811.72	2972.28	214.00	0.000057	466.67	0.000012
B	9	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	120	64.8	15.25	8	2	140.00	8359.07	13713.81	214.00	0.000006	1000.00	0.000001
B	9	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	120	59.4	16.45	8	2	140.00	11019.40	18078.32	214.00	0.000044	1000.00	0.000004
B	10	T-Mobile	Ericsson	AIR6419_LTE_B41	Panel	2500	LTE	120	12.5	22.65	2.86	1	40.67	7485.61	12280.81	214.00	0.000135	1000.00	0.000013
B	10	T-Mobile	Ericsson	AIR6419_NR_B41	Panel	2500	5G	120	12.5	22.65	2.86	1	67.78	12476.02	20468.02	214.00	0.000225	1000.00	0.000022
C	11	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	LTE	240	64.3	12.95	8	4	60.00	4219.02	6921.68	214.00	0.000033	400.00	0.000008
C	11	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	600	5G	240	64.3	12.95	8	2	40.00	1406.34	2307.23	214.00	0.000011	400.00	0.000003
C	11	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	700	LTE	240	63.3	14.05	8	2	40.00	1811.72	2972.28	214.00	0.000019	466.67	0.000004
C	11	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	1900	LTE	240	64.8	15.25	8	2	140.00	8359.07	13713.81	214.00	0.000011	1000.00	0.000001
C	11	T-Mobile	RFS	APXVAALL24_43-U-NA20	Panel	2100	LTE	240	59.4	16.45	8	2	140.00	11019.40	18078.32	214.00	0.000003	1000.00	0.000000
C	12	T-Mobile	Ericsson	AIR6419_LTE_B41	Panel	2500	LTE	240	12.5	22.65	2.86	1	40.67	7485.61	12280.81	214.00	0.001366	1000.00	0.000137
C	12	T-Mobile	Ericsson	AIR6419_NR_B41	Panel	2500	5G	240	12.5	22.65	2.86	1	67.78	12476.02	20468.02	214.00	0.002276	1000.00	0.000228

Table 2.1: Antenna Inventory & Power Data

*NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.



Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (°)	H B W (°)	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power Per Channel (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated MPE%
A	13	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	0	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.024000	566.67	0.004235
A	14	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	0	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.016345	466.67	0.003502
A	14	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	0	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.017346	566.67	0.003061
A	14	Verizon	JMA Wireless	MX06FRO660-03	Panel	1900	LTE	0	55	15.85	5.9	4	40.00	5484.28	8997.46	240.00	0.031459	1000.00	0.003146
A	15	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	0	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.010467	466.67	0.002243
A	15	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	0	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.009448	566.67	0.001667
A	15	Verizon	JMA Wireless	MX06FRO660-03	Panel	2100	5G	0	55.5	16.05	5.9	4	40.00	5742.75	9421.50	240.00	0.011615	1000.00	0.001161
A	16	Verizon	Samsung	MT6407-77A	Panel	3700	5G	0	17	22.85	2.92	4	35.00	26985.35	44271.89	240.00	0.002665	1000.00	0.000266
A	17	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	0	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.019073	566.67	0.003366
B	18	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	120	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.005292	566.67	0.000934
B	19	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	120	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.015388	466.67	0.003297
B	19	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	120	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.016333	566.67	0.002882
B	19	Verizon	JMA Wireless	MX06FRO660-03	Panel	1900	LTE	120	55	15.85	5.9	4	40.00	5484.28	8997.46	240.00	0.028293	1000.00	0.002829
B	20	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	120	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.015418	466.67	0.003304
B	20	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	120	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.015995	566.67	0.002823
B	20	Verizon	JMA Wireless	MX06FRO660-03	Panel	2100	5G	120	55.5	16.05	5.9	4	40.00	5742.75	9421.50	240.00	0.027803	1000.00	0.002780
B	21	Verizon	Samsung	MT6407-77A	Panel	3700	5G	120	17	22.85	2.92	4	35.00	26985.35	44271.89	240.00	0.041422	1000.00	0.004142
B	22	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	120	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.000001	566.67	0.000000
C	23	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	240	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.000003	566.67	0.000001
C	24	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	240	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.000002	466.67	0.000000
C	24	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	240	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.000001	566.67	0.000000
C	24	Verizon	JMA Wireless	MX06FRO660-03	Panel	1900	LTE	240	55	15.85	5.9	4	40.00	5484.28	8997.46	240.00	0.000000	1000.00	0.000000
C	25	Verizon	JMA Wireless	MX06FRO660-03	Panel	700	LTE	240	60.5	12.25	5.9	2	40.00	1196.99	1963.77	240.00	0.000006	466.67	0.000001
C	25	Verizon	JMA Wireless	MX06FRO660-03	Panel	850	5G	240	53	11.85	5.9	2	40.00	1091.67	1790.98	240.00	0.000020	566.67	0.000003
C	25	Verizon	JMA Wireless	MX06FRO660-03	Panel	2100	5G	240	55.5	16.05	5.9	4	40.00	5742.75	9421.50	240.00	0.000014	1000.00	0.000001
C	26	Verizon	Samsung	MT6407-77A	Panel	3700	5G	240	17	22.85	2.92	4	35.00	26985.35	44271.89	240.00	0.006166	1000.00	0.000617
C	27	Verizon	CommScope	LNx-6514DS-VTM	Panel	850	LTE	240	65	14.25	6	7	20.00	3319.92	5446.63	240.00	0.000004	566.67	0.000001
A	28	Unknown	Unknown	Generic	Omni	850	-	360	360	8.96	12	1	12.00	84.17	138.10	184.70	0.000300	566.67	0.000053
B	29	Unknown	Unknown	Generic	Omni	850	-	360	360	8.96	12	1	12.00	84.17	138.10	179.90	0.000355	566.67	0.000063
																Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	0.870100%	Calculated MPE%	0.1197%

Table 2.2: Antenna Inventory & Power Data

*NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6449 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6449 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6449 due to its similarity.

3. Compliance Summary

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

The anticipated composite MPE value for this site assuming all carriers present is 0.1197% of the allowable FCC established general public limit sampled at the ground level.

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

(<https://www.fedex.com/en-us/home.html>)

Sharon

FedEx® Tracking



Summary Tracking Results

TRACKING ID	SHIP DATE	SHIPPER CITY, STATE	RECIPIENT CITY, STATE	STATUS	DELIVERY DATE	SCHEDULED DELIVERY DATE	SERVIC
772173698105	5/17/2023	NORTH BILLERICA, MA	ASHFORD, CT	Delivered	5/19/2023 3:49 pm		FedEx Exi
772075411380	5/08/2023	NORTH BILLERICA, MA	BOSTON, MA	Delivered	5/09/2023 12:50 pm		FedEx Exi

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FedEx® Tracking



DELIVERED

Wednesday

5/10/2023 at 2:16 pm

Signed for by: C.ANIKOFF

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DELIVERY STATUS

Delivered

TRACKING ID

772075317526

FROM

Smartlink LLC
Kelly Fay
85 Rangeway Rd.
NORTH BILLERICA, MA US 01862
2032460606

Label Created
5/8/2023 11:40 AM

PACKAGE RECEIVED BY FEDEX

WILMINGTON, MA
5/8/2023 6:18 PM

IN TRANSIT

NORWICH, CT
5/10/2023 8:48 AM

OUT FOR DELIVERY

NORWICH, CT
5/10/2023 9:23 AM

DELIVERED

William Falletti - 1st Selectman
5 town hall road
ASHFORD, CT US 06278
8604874400

Delivered
5/10/2023 at 2:16 PM

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Shipment overview

TRACKING NUMBER 772075317526

DELIVERED TO Receptionist/Front Desk

SHIPPER REFERENCE CTL01068

SHIP DATE  5/8/23

STANDARD TRANSIT  5/10/23 before 4:30 pm

ACTUAL DELIVERY 5/10/23 at 2:16 pm

Services

SERVICE FedEx 2Day

DELIVERY ATTEMPTS 1

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 1 lbs / 0.45 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 1 lbs / 0.45 kgs

PACKAGING FedEx Pak

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Travel history



Ascending



TIME ZONE

Local Scan Time



(<https://www.fedex.com/en-us/home.html>)

● 11:40 AM
Shipment information sent to FedEx

● 6:18 PM
Shipment arriving On-Time
WILMINGTON, MA

● 6:18 PM
Picked up
WILMINGTON, MA

● 8:39 PM
Left FedEx origin facility
WILMINGTON, MA

Tuesday, 5/9/2023

● 10:50 AM
Arrived at FedEx hub
MEMPHIS, TN

Wednesday, 5/10/2023

● 8:48 AM
At local FedEx facility
NORWICH, CT

● 9:23 AM
On FedEx vehicle for delivery
NORWICH, CT

☑ 2:16 PM
Delivered
ASHFORD, CT

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DELIVERED

Track Another Shipment

Friday

5/19/2023 at 3:49 pm

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Signature not required

Left on porch

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How was your delivery?



DELIVERY STATUS

Delivered



TRACKING ID

772173698105

FROM

Smartlink LLC
Kelly Fay
85 Rangeway Rd.
NORTH BILLERICA, MA US 01862
2032460606

Label Created
5/17/2023 1:02 PM

PACKAGE RECEIVED BY FEDEX

WILMINGTON, MA
5/17/2023 6:10 PM

IN TRANSIT

NORWICH, CT
5/19/2023 8:15 AM

OUT FOR DELIVERY

NORWICH, CT
5/19/2023 9:05 AM

(<https://www.fedex.com/en-us/home.html>)

9147611300

Delivered
5/19/2023 at 3:49 PM

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Shipment facts



Shipment overview

TRACKING NUMBER 772173698105

DELIVERED TO Residence

SHIPPER REFERENCE CTL01068

SHIP DATE 5/17/23

STANDARD TRANSIT 5/19/23 before 8:00 pm

ACTUAL DELIVERY 5/19/23 at 3:49 pm

Services

SERVICE FedEx 2Day

DELIVERY ATTEMPTS 1

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday, Residential Delivery

Package details

WEIGHT 1 lbs / 0.45 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 1 lbs / 0.45 kgs

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Travel history

Ascending 

TIME ZONE

Local Scan Time 

Wednesday, 5/17/2023

- 1:02 PM
Shipment information sent to FedEx
- 6:10 PM
Shipment arriving On-Time
WILMINGTON, MA
- 6:10 PM
Picked up
WILMINGTON, MA
- 8:25 PM
Left FedEx origin facility
WILMINGTON, MA
- 10:54 PM
At local FedEx facility
EAST BOSTON, MA

Thursday, 5/18/2023

- 10:31 AM
Arrived at FedEx hub
MEMPHIS, TN
- 3:07 PM
Departed FedEx hub
MEMPHIS, TN
- 6:26 PM
At destination sort facility
EAST GRANBY, CT

(<https://www.fedex.com/en-us/home.html>)

- 8:15 AM
At local FedEx facility
NORWICH, CT
- 9:05 AM
On FedEx vehicle for delivery
NORWICH, CT
- ☑ 3:49 PM
Delivered
Left on porch. Package delivered to recipient address - release authorized
ASHFORD, CT

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