December 21, 2023

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

Re:	**Notice of Exempt Modification – Antenna and RRU Swap/Add**
Property Address:	**2 Hinckley Hill Rd Norwich, CT**
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 twelve (12) wireless telecommunication antennas at an antenna center line height of 115-foot level on an existing 150-foot Self-Support Tower, owned by EIP Communications II LLC, and 17 Mile Real Estate LLC as the Property Owner, 69 Harry Street Conshohocken, PA 019428.

AT&T desires to modify its existing telecommunications facility by swapping nine (9) antennas and associated lines. The centerline height of said antennas and remote radio units is and will remain at 115' on the existing antenna mount.

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. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to John L. Salomine, City Manager 100 Broadway Norwich, CT 06360, Deanna Rhodes, City Planner 100 Broadyway Norwich, CT 06360. A copy of this letter is being sent to the tower owner EIP Holdings II LLC at 100 Summet Street, Suite 1600 Boston, MA 02110 and 17-Mile Real Estate LLC as the Property Owner, 69 Harry Street Conshohocken, PA 019428.

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

- **EM-ATT-104-230703** – AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 2 Hinckley Hill Rd Norwich, 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 115-foot level of the 150-foot Self-Support Tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and 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,

Carolyn Seeley
Real Estate Specialist
Smartlink on behalf of AT&T
(978) 760-5577
Carolyn.seeley@smartlinkgroup.com

CC w/enclosures:

John L. Salomone, City Manager
City of Norwich
100 Broadway
Norwich, CT 06360

Deanna Rhodes, Town Planner
City of Norwich
100 Broadway
Norwich, CT 06360

17 Mile Real Estate LLC, Property Owner
69 Harry Street
Conshohocken, PA 19428

EIP Holdings II LLC, Tower Owner
100 Summet Street, Suite 1600
Boston, MA 02110

FILE COPY

CITY OF NORWICH
CONNECTICUT

CERTIFIED MAIL
#Z149574215

SITE PLAN APPROVAL

Date: Sept. 22, 1999

Site Development Plan #805 - Cordless Data Transfer, Inc.; construction of 140-ft. wireless communications tower & equipment pad.

Name: Cordless Data Transfer, Inc.
Box 363
17 Ridgewood Drive
Marlborough, CT 06447

Location: in the Town of Norwich off 2 Hinckley Hill, Preston.

The final plan of Site Development Plan # 805 as referenced above was considered at the regular meeting of the Commission on the City Plan held on Sept. 21, 1999.

After careful consideration the Commission voted unanimously to approve the site plan.

A coastal site plan review was not required in accordance with Chapter 444 of the Connecticut General Statutes. After careful consideration the Commission on the City Plan voted n/a to n/a the coastal site plan application.

The approval of the above referenced site plan is subject to the following conditions and/or modifications:

1. Bond in the amount of $25,000.00 for site work shall be posted prior to endorsement of the plan;
2. Bond in the amount of $12,000.00 for removal of the facility in the event it is abandoned shall be posted prior to endorsement of the plan;
3. Pursuant to Sec. 7.5.6(a) of the Zoning Regulations, the fifty (50) foot buffer around the tower shall be provided in perpetuity and noted on the plan prior to endorsement of the plan;
4. The Memorandum of Management Agreement shall be filed with the City Clerk prior to endorsement of the plan.

Please provide the following plans, bond, and deeds to the Planning Department, 23 Union Street, within 60 days after the date of approval.

1. Two sets of mylars and six sets of prints of the final site plan; one set of the mylars shall be produced by one of the following processes: wash-off photographic polyester film; fixed line photographic polyester film; original ink drawing on polyester film or linen. All modifications of approval shall be incorporated into the final plan.

2. All R.O.W. and/or easement deeds associated with the site plan.

3. Post a passbook or surety bond with the Commission on the City Plan in a form acceptable to the Corporation Counsel and in the amount approved by the Director of Public Works.

The Chairperson of the Commission on the City Plan must endorse the site plans prior to filing the approved plans with the City Clerk and prior to the issuance of a zoning compliance permit and a building permit.

The Planning Department will contact you after the site plan has been endorsed by the chairperson. You are responsible for filing the plan with the City Clerk within 90 days after approval by the Commission; provided acceptable plans and bond are submitted by the applicant. If an acceptable plan is not filed with the clerk within the 90 day period, the Commission's approval is invalid.

CHANGES TO THE APPROVED PLAN: All site activities shall be constructed in accordance with the approved plans, specifications and documents of record. Any change to the plans must be approved by the Commission on the City Plan.

EROSION AND SEDIMENT CONTROL: The erosion and sediment control measures shall be installed in accordance with the Connecticut Guidelines for Erosion and Sediment Control; such measures shall be installed prior to site disturbance. Additional erosion and sediment control measures shall be provided if determined to be necessary by a representative of the Planning Department or Public Works Department.

PRE-CONSTRUCTION CONFERENCE: It is the responsibility of the permittee or the contractor to schedule a pre-construction conference with the Planning Department for the purpose of inspecting the installation of the erosion and sediment control measures, and Public Works to set up an inspection schedule for road, drainage and sidewalk construction. City Hall telephone number: Planning Department, (860) 823-3766; Public Works Department, (860) 823-3798.

PUBLIC UTILITIES: Contact the Department of Public Utilities for an inspection of the sewer, water, electric and gas lines installation.

TIME PERIODS: Site plan approval is valid for one year, however, an extension to such approval may be granted by the Commission. In addition, all construction in the approved site plan must be completed within 5 years, based on Section 8.3.i of the Connecticut General Statutes.

CONSTRUCTION REQUIREMENTS: The following conditions shall be a requirement of the approval:

1. Unsuitable material in the pavement areas must be removed and replaced with suitable material as directed by the City Road Inspector.

2. If blasting is required for construction, a pre-blast survey shall be conducted prior to blasting. Contact the Fire Marshal, telephone (860) 887-2780.

ZONING PERMIT: After the plan has been filed, a zoning permit can be applied for through the zoning enforcement officer: telephone (860) 823-3766.

BUILDING PERMIT: For any building construction, please submit building plans and separate application to the building inspector.

CERTIFICATE OF COMPLIANCE will be issued after all parking, sidewalks, recreation area (for multi-family development) and public safety concerns are addressed in accordance with the approved site plan.

CERTIFICATE OF OCCUPANCY is issued by the building inspector. Certificate of Compliance must be obtained prior to the issuance of a Certificate of Occupancy.

AS-BUILT DRAWING may be required by the Commission prior to the final release of the bond.

Congratulations on the successful completion of your application.

Peter W. Davis
Planning Director

cc-Director of Public Works
-City Engineer
-Building Inspector
-John F. Bilda, Engineer, Public Utilities Dept.

294593

Received for Record in Norwich, CT
Oct 20 1999 at 4:15 PM, and
Recorded in Norwich Land Records in
Vol 1463 at Page 219
Beverly C. MacDonald Town Clerk

My neighbor - Lot 10 - Frances

Bd 10 -

June 26, 2000

Sandy M. Carter
Manager-Regulatory
Verizon Wireless
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492-2430

RE: TS-BAM-104-000607 - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 2 Hinckley Hill Road in Norwich, Connecticut.

Dear Ms. Carter:

At a public meeting held June 20, 2000, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. The proposed shared use is to be implemented as specified in your letter dated June 6, 2000.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/PMA/grg

c: Honorable Richard J. Abele, President City Council, City of Norwich

Petition No. 579
Cordless Data Transfer
Norwich, Connecticut
Staff Report
September 5, 2002

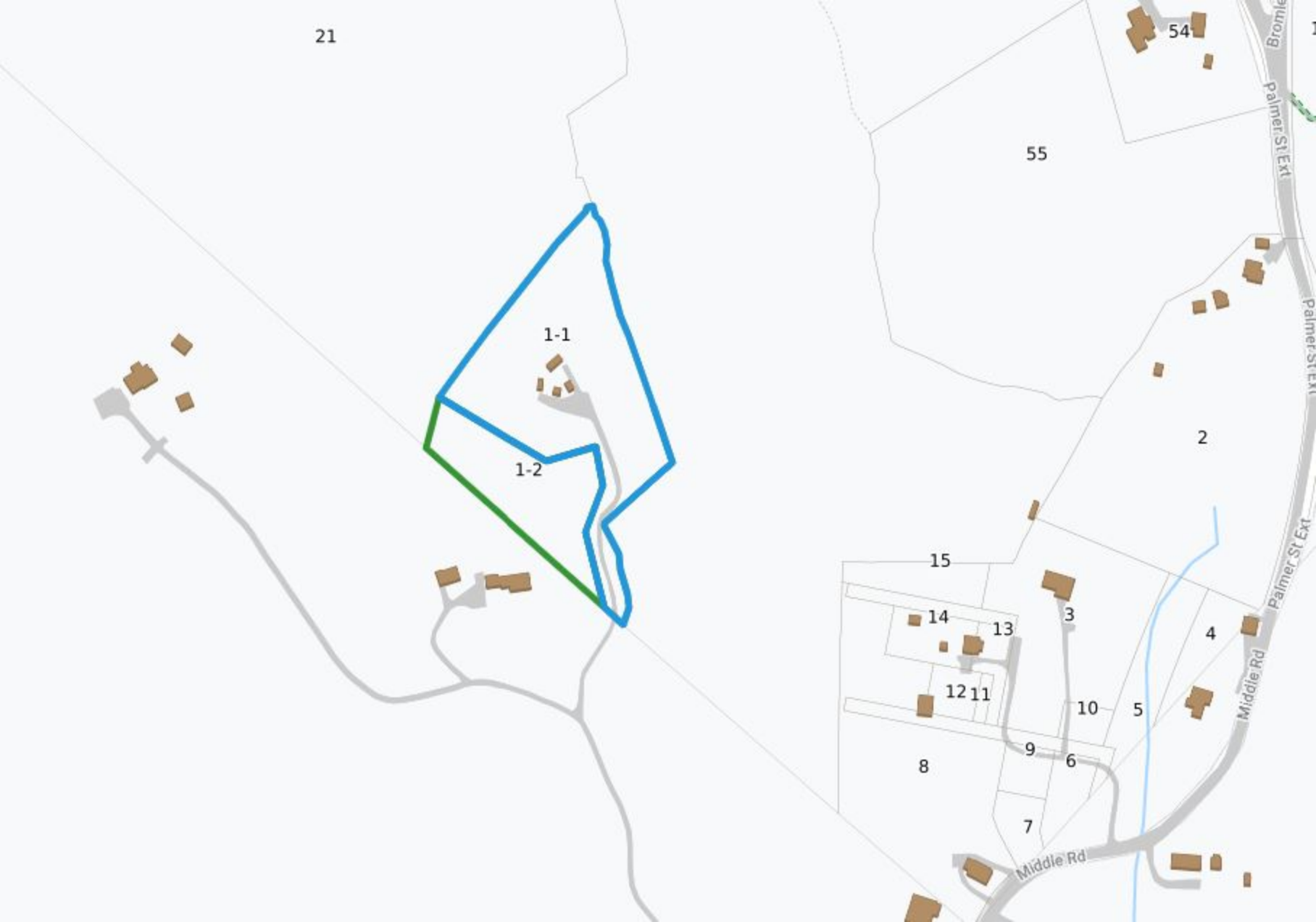
On August 27, 2002, Connecticut Siting Council member Gerald Heffernan and staff Robert Mercier conducted an inspection of an existing 140-foot lattice tower owned and operated by Cordless Data Transfer and located at 2 Hinckley Hill Road in Norwich, Connecticut. T-Mobile is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for a proposed 10- foot tower extension.

T-Mobile proposes to install twelve panel antennas at the top of the proposed 10-foot extension. The total height of the structure would be 153 feet above ground level including antennas. Three cabinets would be placed within the existing compound. Locating antennas at the 150-foot level will provide T-Mobile with adequate coverage on Route 12 and would allow call handoff to an existing facility at the Preston Town Hall.

The proposed site is located on a wooded ridge and is screened from surrounding residential areas by existing vegetation.

A structural analysis of the existing 140-foot tower performed by a professional engineer from Fred A. Nudd Corporation indicates that the tower and foundation can support the proposed modifications. The worst-case power density for the telecommunications operations at the site has been calculated to be 3.7% of the applicable standard for uncontrolled environments.

T-Mobile contends that the proposed extension of the structure would not cause a substantial adverse environmental effect, and therefore, a certificate would not be required.


21
54
55
Palmer St Ext
1-1
1-2
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14
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7
Middle Rd
Middle Rd
Palmer St Ext

NORWICH,CT

2 HINCKLEY HILL RD REAR

Location
2 HINCKLEY HILL RD REAR
Mblu
119/ 1/ 1/ 1/
Acct#
0052410001
Owner
17 MILE REAL ESTATE LLC
Assessment
$847,500
Appraisal
$1,210,700
PID
5166
Building Count
1

Current Value

Appraisal

Valuation Year	Improvements	Land	Total
2018	$1,043,100	$167,600	$1,210,700

Assessment

Valuation Year	Improvements	Land	Total
2018	$730,200	$117,300	$847,500

Parcel Addreses

Additional Addresses

No Additional Addresses available for this parcel

Owner of Record

Owner 17 MILE REAL ESTATE LLC

Address 69 HARRY ST
CONSHOHOCKEN, PA 19428

Sale Price $1,803,750

Certificate

Book & Page 3118/0239

Sale Date 04/30/2019

Instrument 00

Ownership History

Ownership History

Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
17 MILE REAL ESTATE LLC	$1,803,750		3118/0239	00	04/30/2019
IRWIN LAVERNE G	$0		3118/0227	1S	04/30/2019
IRWIN JAMES C +	$0		2379/0094	1A	05/08/2007
IRWIN JAMES C + LAVERENE G	$0		0532/0280	1A	05/01/1980

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: $0

Building Percent Good:

Replacement Cost Less Depreciation: $0

Building Attributes

Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplace (s)	
Whirlpool	

FPLG Gas	
FPLW Wood	
FPO	
Usrfld 107	
park	
Fireplaces	
Usrfld 108	
Usrfld 101	
Usrfld 102	
Usrfld 100	
Usrfld 300	
Usrfld 301	

Building Photo

Building Layout

Building Sub-Areas (sq ft) Legend

No Data for Building Sub-Areas

Extra Features

Extra Features Legend

No Data for Extra Features

Land

Land Use

Use Code	431V
Description	TEL REL TW M-00
Zone	R40
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	3.59
Frontage	0
Depth	0
Assessed Value	$117,300
Appraised Value	$167,600

Outbuildings

Outbuildings Legend

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD4	Shed Comm. Wd.			128.00 S.F.	$1,300	1
SHD5	Shed Comm Mas			360.00 S.F.	$4,500	1
TWR	CELL TOWER			150.00 UNITS	$101,300	1
MSC5	ARRAYS			4.00 UNIT	$936,000	1

Valuation History

Appraisal

Valuation Year	Improvements	Land	Total
2020	$1,043,100	$167,600	$1,210,700
2019	$1,043,100	$167,600	$1,210,700
2018	$1,043,100	$167,600	$1,210,700

Assessment

Valuation Year	Improvements	Land	Total
2020	$730,200	$117,300	$847,500
2019	$730,200	$117,300	$847,500
2018	$730,200	$117,300	$847,500

closecloseclose

PAUL J. FORD & COMPANY

Report Date: June 23, 2023

Client: Everest Infrastructure Partners
Two Allegheny Center
Pittsburgh, PA 15212
Attn: Vince Larson
(724) 996-7847
vince.larson@everestinfrastructure.com

Structure: Existing 150-ft Self Support Tower
Site Name: Norwich CDT
Site Reference #: 702499
Site Address: 2 Hinkley Hill Rd
City, County, State: Preston, New London County, CT
Latitude, Longitude: 41.514847°, -72.061689°

PJF Project: A13323-0016.001.8700

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**" to determine the tower stress level.

Analysis Criteria:
This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Proposed Appurtenance Loads:
The structure was analyzed with the proposed loading configuration shown in Table 1 combined with the other considered equipment shown in Table 2 of this report.

Summary of Analysis Results:
Existing Structure: Pass – 70.4%
Existing Foundation: Pass – 56.2%

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Everest Infrastructure Partners. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company

Christina Hedges, PE
Production Manager
chedges@pauljford.com

STATE OF CONNECTICUT
THOMAS J. DEHNKE
36041
LICENSED
PROFESSIONAL ENGINEER
06/23/2023

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1) INTRODUCTION

This tower is a 150 ft Self Support tower designed by Fred A Nudd Corporation in July of 1999. All tower geometry and foundation information were taken from a previous structural analysis by Fred Nudd Corp dated 6/11/2018.

2) ANALYSIS CRITERIA

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

Table 1 – Antenna Equipment and Cable Information

Status	Mounting Level (ft)	Ant. CL (ft)	Qty.	Antenna Model	Mount Type	Feed Line Qty.	Feed Line Size (in)	Coax Location	Owner/ Tenant
Existing	150.0	150.0	3	AIR 32 B66AA B2P_T-MOBILE w/ Mount Pipe	Site Pro 1 VFA12-HD (3)	6 3	1-5/8 1-1/4	C	TMO
			3	AIR 6449 B41 w/ Mount Pipe					
			3	RADIO 4449 B71 B85A_T-MOBILE					
			3	RRUS 4415 B25					
			3	APXVAARR24_43-U-NA20 w/ Mount Pipe					
Existing	140.0	140.0	6	1900 MHz 4x45W RRH	Sector Mount [SM 802-3]	4	1-1/4	A	Sprint
			6	RRH2X50-800					
			3	TD-RRH8x20-25					
			3	DT465B-2XR w/ Mount Pipe					
			3	APXV9ERR18-C-A20 w/ Mount Pipe					
Existing	126.0	127.5	3	CBC78T-DS-43-2X	Sector Mount [SM 802-3] with mount modifications	11 2	1-5/8 hybrid	B	Verizon
			6	JAHH-65B-R3B w/ Mount Pipe					
			1	DB-B1-6C-12AB-0Z					
			1	RRFDC-3315-PF-48					
			6	APL868013 w/ Mount Pipe					
			3	B2/B66A RRH-BR049					
			3	B5/B13 RRH-BR04C					
			3	MT6407-77A w/ Mount Pipe					
		126.0	3	BSAMNT-SBS-2-2 (Mount Bracket)					

Status	Mounting Level (ft)	Ant. CL (ft)	Qty.	Antenna Model	Mount Type	Feed Line Qty.	Feed Line Size (in)	Coax Location	Owner/ Tenant
To Be Removed	115.0	115.0	2	EPBQ-654L8H6-L2 w/ Mount Pipe	Site Pro 1 VFA12-HD (3)	12 2 1	1-1/4 Fiber DC	C	ATT
			1	EPBQ-654L8H8-L2 w/ Mount Pipe					
			2	OPA-65R-LCUU-H6 w/ Mount Pipe					
			1	OPA-65R-LCUU-H8 w/ Mount Pipe					
			3	7770 w/ Mount Pipe					
			3	DC6-48-60-18-8F					
			1	DC6-48-60-8-8F					
			6	LGP21401					
			6	LGP21903					
			3	RRU-11					
Existing			3	RRUS 32 B2					
			3	RRUS 32 B30		7	DC		
			3	RRUS 32 B66A					
			3	RRUS 4449 B5/B12					
			3	RRUS 4478 B14					
			3	RRUS E2 B29					
			1	DMP65R-BU8D w/ Mount Pipe					
			2	DMP65R-BU6D w/ Mount Pipe					
Proposed			**3**	**AIR 6419 B77G**		2 3	7/8 1-1/2		
			3	**AIR 6449 B77D**					
			2	**QD6616-7 w/ Mount Pipe**					
			1	**QD8616-7 w/ Mount Pipe**					
			3	**DC9-48-60-24-8C-EV**					
Reserved	105.0	105.0	3	TA08025-B604	Sabre C10837002C-32788 Sector (3)	1	1-5/8	A	Dish
			3	TA08025-B605					
			3	MX08FRO665-21 w/ Mount Pipe					
			1	RDIDC-9181-PF-48					

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Tower Structural Analysis	Nudd Corp dated 6/11/2018	#118-23067	on file
Mount Analysis	Fullerton dated 5/19/2022	CTL05468	email
Construction Documents	Fullerton dated 8/22/2022	CTL05468	email

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) All tower geometry and foundation information were taken from a previous structural analysis by Fred Nudd Corp dated 6/11/2018.
4) The antenna feedlines are assumed to be placed as indicated in Appendix B.

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

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (lb)	SF*P_allow (lb)	% Capacity	Pass / Fail
T1	150 - 140	Leg	Pipe 2.875" x 0.203" (2.5 STD)	2	-8264	68548	12.1	Pass
T2	140 - 120	Leg	Pipe 2.875" x 0.203" (2.5 STD)	21	-45872	65992	69.5	Pass
T3	120 - 100	Leg	Pipe 4.5" x 0.237" (4 STD)	48	-95491	145239	65.7	Pass
T4	100 - 80	Leg	Pipe 5.563" x 0.258" (5 STD)	75	-136171	193371	70.4	Pass
T5	80 - 60	Leg	Pipe 6.625" x 0.280" (6 STD)	94	-172642	260722	66.2	Pass
T6	60 - 40	Leg	Pipe 8.625" x 0.322" (8 STD)	115	-206575	407043	50.8	Pass
T7	40 - 20	Leg	Pipe 8.625" x 0.50" (8 XS)	136	-236140	577644	40.9	Pass
T8	20 - 0	Leg	Pipe 8.625" x 0.50" (8 XS)	151	-265716	577644	46.0	Pass
T1	150 - 140	Diagonal	L 1.5 x 1.5 x 3/16	10	-2339	8110	28.8 33.1 (b)	Pass
T2	140 - 120	Diagonal	L 2 x 2 x 3/16	24	-6393	16696	38.3 62.4 (b)	Pass
T3	120 - 100	Diagonal	L 2 x 2 x 3/16	54	-6534	12621	51.8 63.8 (b)	Pass
T4	100 - 80	Diagonal	L 2.5 x 2.5 x 3/16	80	-6692	15174	44.1 68.5 (b)	Pass
T5	80 - 60	Diagonal	L 3 x 3 x 3/16	101	-6707	20190	33.2 66.4 (b)	Pass
T6	60 - 40	Diagonal	L 3 x 3 x 3/16	122	-7132	15880	44.9 68.3 (b)	Pass
T7	40 - 20	Diagonal	L 3.5 x 3.5 x 1/4	143	-7745	22237	34.8 50.6 (b)	Pass
T8	20 - 0	Diagonal	L 3.5 x 3.5 x 1/4	158	-8219	18378	44.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (lb)	SF*P_allow (lb)	% Capacity	Pass / Fail
							53.2 (b)	
T1	150 - 140	Top Girt	L 3 x 3 x 1/4	5	-633	31504	2.0 6.8 (b)	Pass
							Summary	
						Leg (T4)	70.4	Pass
						Diagonal (T4)	68.5	Pass
						Top Girt (T1)	6.8	Pass
						Bolt Checks	68.5	Pass
						Rating =	70.4	Pass

Table 4 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	58.3	Pass
1	Base Foundation (Soil Interaction)	0	56.2	Pass

Structure Rating (max from all components) =	70.4%

Notes:

- All structural ratings are per TIA-222-H Section 15.5

1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

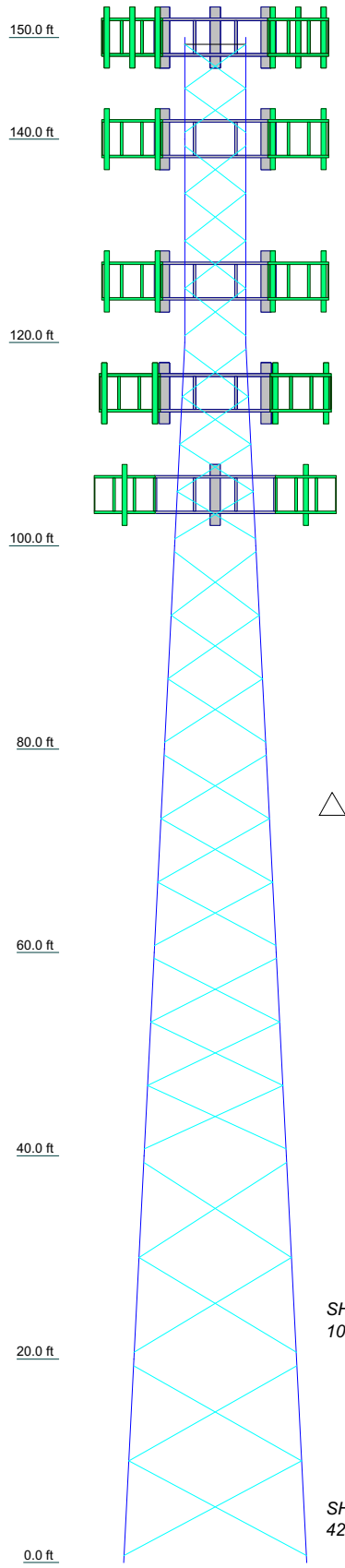
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section		T1	T2	T3	T4	T5	T6	T7	T8		
Legs			Pipe 2.875" x 0.203" (2.5 STD)	Pipe 4.5" x 0.237" (4 STD)	Pipe 5.563" x 0.258" (5 STD)	Pipe 6.625" x 0.280" (6 STD)	Pipe 8.625" x 0.322" (8 STD)	Pipe 8.625" x 0.50" (8 XS)			
Leg Grade		A500M-54									
Diagonals	A	L 2 x 2 x 3/16			L 2.5 x 2.5 x 3/16	L 3 x 3 x 3/16		L 3.5 x 3.5 x 1/4			
Diagonal Grade	A36										
Top Girts	L 3 x 3 x 1/4	N.A.									
Face Width (ft)	6	8			10	12		14	16	18	
# Panels @ (ft)	2 @ 4.33333	8 @ 4.66667			9 @ 6.25			4 @ 9.33333			
Weight (lb)	463.5	870.9		1254.8	1633.5	2184.8	2948.8	4212.4	4343.5	17912.3	



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L 1.5 x 1.5 x 3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500M-54	54 ksi	70 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 70.4%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 272940 lb
SHEAR: 26559 lb

UPLIFT: -237009 lb
SHEAR: 23955 lb

AXIAL 102688 lb
SHEAR 10736 lb
MOMENT 994360 lb-ft
TORQUE 5376 lb-ft
50 mph WIND - 1.000 in ICE

AXIAL 48399 lb
SHEAR 42931 lb
MOMENT 4003223 lb-ft
TORQUE 14626 lb-ft
REACTIONS - 125 mph WIND

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job: ***150-ft Norwich, CT S/S Tower***			
Project: ***PJF 13323-0016***			
Client: Everest Infrastructure Partners	Drawn by: Chrissy Hedges	App'd:	
Code: TIA-222-H	Date: 06/08/23	Scale: NTS	
Path: G:\TOWER\133_Everest Infrastructure Partners\2023\13323-0016_Norwich CDT_702499\13323-0016.001.8700_SA\13323-0016.001.eri		Dwg No. E-1	

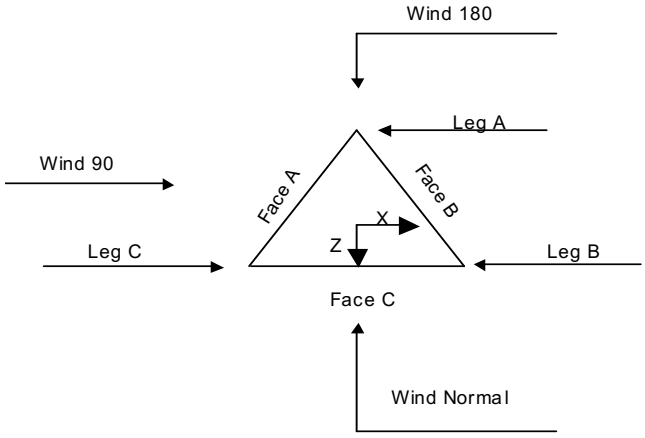
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 150.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 6.00 ft at the top and 18.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower is located in New London County, Connecticut.
- Tower base elevation above sea level: 292.00 ft.
- Basic wind speed of 125 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	150.00-140.00			6.00	1	10.00
T2	140.00-120.00			6.00	1	20.00
T3	120.00-100.00			6.00	1	20.00
T4	100.00-80.00			8.00	1	20.00
T5	80.00-60.00			10.00	1	20.00
T6	60.00-40.00			12.00	1	20.00
T7	40.00-20.00			14.00	1	20.00
T8	20.00-0.00			16.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	150.00-140.00	4.33	X Brace	No	No	8.000	8.000
T2	140.00-120.00	4.67	X Brace	No	No	8.000	8.000
T3	120.00-100.00	4.67	X Brace	No	No	8.000	8.000
T4	100.00-80.00	6.25	X Brace	No	No	7.500	7.500
T5	80.00-60.00	6.25	X Brace	No	No	7.500	7.500
T6	60.00-40.00	6.25	X Brace	No	No	7.500	7.500
T7	40.00-20.00	9.33	X Brace	No	No	8.000	8.000
T8	20.00-0.00	9.33	X Brace	No	No	8.000	8.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 150.00-140.00	Pipe	Pipe 2.875" x 0.203" (2.5 STD)	A500M-54 (54 ksi)	Single Angle	L 1.5 x 1.5 x 3/16	A36 (36 ksi)
T2 140.00-120.00	Pipe	Pipe 2.875" x 0.203" (2.5 STD)	A500M-54 (54 ksi)	Single Angle	L 2 x 2 x 3/16	A36 (36 ksi)
T3 120.00-100.00	Pipe	Pipe 4.5" x 0.237" (4 STD)	A500M-54 (54 ksi)	Single Angle	L 2 x 2 x 3/16	A36 (36 ksi)
T4 100.00-80.00	Pipe	Pipe 5.563" x 0.258" (5 STD)	A500M-54 (54 ksi)	Single Angle	L 2.5 x 2.5 x 3/16	A36 (36 ksi)
T5 80.00-60.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Single Angle	L 3 x 3 x 3/16	A36 (36 ksi)
T6 60.00-40.00	Pipe	Pipe 8.625" x 0.322" (8 STD)	A500M-54 (54 ksi)	Single Angle	L 3 x 3 x 3/16	A36 (36 ksi)
T7 40.00-20.00	Pipe	Pipe 8.625" x 0.50" (8 XS)	A500M-54 (54 ksi)	Single Angle	L 3.5 x 3.5 x 1/4	A36 (36 ksi)
T8 20.00-0.00	Pipe	Pipe 8.625" x 0.50" (8 XS)	A500M-54 (54 ksi)	Single Angle	L 3.5 x 3.5 x 1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 150.00-140.00	Single Angle	L 3 x 3 x 1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 150.00-140.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T2 140.00-120.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T3 120.00-100.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T4 100.00-80.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T5 80.00-60.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T6 60.00-40.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T7 40.00-20.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000
T8 20.00-0.00	0.00	0.000	A36 (36 ksi)	1.03	1	1.1	0.000	0.000	36.000

Tower Section Geometry *(cont'd)*

K Factors[1]

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 150.00-140.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 140.00-120.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 120.00-100.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 100.00-80.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 80.00-60.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 60.00-40.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 40.00-20.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 20.00-0.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 150.00-140.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 140.00-120.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 120.00-100.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 100.00-80.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 80.00-60.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 60.00-40.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 40.00-20.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 20.00-0.00	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 150.00-140.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 140.00-120.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 120.00-100.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 100.00-80.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 80.00-60.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T6 60.00-40.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 40.00-20.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 20.00-0.00	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 150.00-140.00	Flange	0.750 A325N	4	0.500 A325N	1	0.500 A325N	1	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T2 140.00-120.00	Flange	1.000 A325N	4	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T3 120.00-100.00	Flange	1.000 A325N	6	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T4 100.00-80.00	Flange	1.000 A325N	8	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T5 80.00-60.00	Flange	1.250 A325N	8	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T6 60.00-40.00	Flange	1.250 A325N	8	0.625 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T7 40.00-20.00	Flange	1.250 A325N	8	0.750 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0
T8 20.00-0.00	Flange	1.500 A325N	0	0.750 A325N	1	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	No	No	Ar (CaAa)	150.00 - 0.00	0.000	-0.5	1	1	0.375	0.375		0.22
1.5" flat Cable Ladder Rail	C	No	No	Af (CaAa)	150.00 - 0.00	0.000	-0.25	2	2	30.000 1.500	1.500		1.80
LDF7-50A(1-5/8")	C	No	No	Ar (CaAa)	150.00 - 0.00	0.000	-0.25	6	6	1.000 0.500	1.980		0.82
AVA6-50(1-1/4") **	C	No	No	Ar (CaAa)	150.00 - 0.00	0.000	-0.25	3	3	1.000 0.500	1.560		0.45
1.5" flat Cable Ladder Rail	A	No	No	Af (CaAa)	140.00 - 0.00	0.000	-0.25	2	2	30.000 1.500	1.500		1.80
AVA6-50(1-1/4") **	A	No	No	Ar (CaAa)	140.00 - 0.00	0.000	-0.25	4	4	1.000 0.500	1.560		0.45
1.5" flat Cable Ladder Rail	B	No	No	Af (CaAa)	127.50 - 0.00	0.000	-0.25	2	2	30.000 1.500	1.500		1.80
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	127.50 - 0.00	0.000	-0.25	13	13	1.000 0.500	1.980		0.82

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
**													
1.5" flat Cable Ladder Rail	C	No	No	Af (CaAa)	115.00 - 0.00	0.000	0.25	2	2	30.000 1.500	1.500		1.80
DC (3/4")	C	No	No	Ar (CaAa)	115.00 - 0.00	0.000	0.25	1	1	1.090	0.750		0.33
DC (7/8")	C	No	No	Ar (CaAa)	115.00 - 0.00	0.000	0.25	2	2	1.090	0.750		0.33
Fiber (1-1/2)	C	No	No	Ar (CaAa)	115.00 - 0.00	0.000	0.25	3	3	1.000 0.500	1.530		0.59
DC (3/4")	C	No	No	Ar (CaAa)	115.00 - 0.00	0.000	0.25	6	6	1.090	0.001		0.33
3" (Nominal) Conduit	C	No	No	Ar (CaAa)	115.00 - 0.00	0.000	0.25	1	1	3.500	3.500		1.49
**													
HB158-21U6S12-XXXM-01(1-5/8)	A	No	No	Ar (CaAa)	105.00 - 0.00	0.000	-0.2	1	1	1.990	1.990		1.90
***													

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Site Pro 1 VFA12-HD	A	From Leg	2.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
Site Pro 1 VFA12-HD	B	From Leg	2.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
Site Pro 1 VFA12-HD	C	From Leg	2.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
8' x 2" Sch 40 Pipe Mount	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	29 44 63
8' x 2" Sch 40 Pipe Mount	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	29 44 63
8' x 2" Sch 40 Pipe Mount	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	29 44 63
AIR 32 B66AA B2P_T-MOBILE_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	7.09 7.56 8.02	6.39 7.25 7.99	158 222 292
AIR 32 B66AA B2P_T-MOBILE_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	7.09 7.56 8.02	6.39 7.25 7.99	158 222 292
AIR 32 B66AA B2P_T-MOBILE_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice	7.09 7.56 8.02	6.39 7.25 7.99	158 222 292

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						1" Ice			
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	20.48 21.23 21.99	11.02 12.55 14.10	186 322 469
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	20.48 21.23 21.99	11.02 12.55 14.10	186 322 469
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	20.48 21.23 21.99	11.02 12.55 14.10	186 322 469
AIR 6449 B41_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	5.87 6.23 6.61	3.27 3.73 4.20	128 177 232
AIR 6449 B41_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	5.87 6.23 6.61	3.27 3.73 4.20	128 177 232
AIR 6449 B41_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	5.87 6.23 6.61	3.27 3.73 4.20	128 177 232
RRUS 4415 B25	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	44 56 71
RRUS 4415 B25	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	44 56 71
RRUS 4415 B25	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	44 56 71
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.97 2.15 2.33	1.59 1.75 1.92	73 93 116
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.97 2.15 2.33	1.59 1.75 1.92	73 93 116
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.00 0 0	0.000	150.00	No Ice 1/2" Ice 1" Ice	1.97 2.15 2.33	1.59 1.75 1.92	73 93 116
**									
Sector Mount [SM 802-3]	C	None		0.000	140.00	No Ice 1/2" Ice 1" Ice	25.34 33.44 41.56	25.34 33.44 41.56	930 1388 1977
DT465B-2XR_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	9.34 9.91 10.44	7.63 8.82 9.72	84 160 245
DT465B-2XR_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	9.34 9.91 10.44	7.63 8.82 9.72	84 160 245
DT465B-2XR_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice	9.34 9.91 10.44	7.63 8.82 9.72	84 160 245

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						1" Ice			
TD-RRH8x20-25	A	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	70 97 128
TD-RRH8x20-25	B	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	70 97 128
TD-RRH8x20-25	C	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	70 97 128
(2) 1900 MHz 4x45W RRH	A	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	60 83 110
(2) 1900 MHz 4x45W RRH	B	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	60 83 110
(2) 1900 MHz 4x45W RRH	C	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	60 83 110
APXV9ERR18-C-A20_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	7.47 8.66 9.56	95 166 244
APXV9ERR18-C-A20_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	7.47 8.66 9.56	95 166 244
APXV9ERR18-C-A20_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	7.47 8.66 9.56	95 166 244
(2) RRH2X50-800	A	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	1.70 1.86 2.03	1.28 1.43 1.58	53 70 90
(2) RRH2X50-800	B	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	1.70 1.86 2.03	1.28 1.43 1.58	53 70 90
(2) RRH2X50-800	C	From Leg	4.00 0 0	0.000	140.00	No Ice 1/2" Ice 1" Ice	1.70 1.86 2.03	1.28 1.43 1.58	53 70 90
**									
Sector Mount [SM 802-3]	C	None		0.000	126.00	No Ice 1/2" Ice 1" Ice	25.34 33.44 41.56	25.34 33.44 41.56	930 1388 1977
BSAMNT-SBS-2-2 (Mount Bracket)	A	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	67 88 108
BSAMNT-SBS-2-2 (Mount Bracket)	B	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	67 88 108
BSAMNT-SBS-2-2 (Mount Bracket)	C	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice	0.00 0.00 0.00	0.00 0.00 0.00	67 88 108

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						1" Ice			
Miscellaneous [NA 509-1]	A	From Leg	2.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	275 417 598
Miscellaneous [NA 509-1]	B	From Leg	2.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	275 417 598
Miscellaneous [NA 509-1]	C	From Leg	2.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	6.32 7.79 9.36	4.85 6.36 7.94	275 417 598
12.5' x 2.375" Pipe (Hoirz)	A	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	2.97 4.25 5.54	1.07 1.54 2.01	30 52 83
12.5' x 2.375" Pipe (Hoirz)	B	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	2.97 4.25 5.54	1.07 1.54 2.01	30 52 83
12.5' x 2.375" Pipe (Hoirz)	C	From Leg	4.00 0 0	0.000	126.00	No Ice 1/2" Ice 1" Ice	2.97 4.25 5.54	1.07 1.54 2.01	30 52 83
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	96 132 175
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	96 132 175
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	96 132 175
(2) JAHH-65B-R3B_TIA w/ Mount Pipe	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	89 165 250
(2) JAHH-65B-R3B_TIA w/ Mount Pipe	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	89 165 250
(2) JAHH-65B-R3B_TIA w/ Mount Pipe	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	9.35 9.92 10.46	7.65 8.83 9.73	89 165 250
(2) APL868013_TIA w/ Mount Pipe	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	3.10 3.48 3.85	4.80 5.42 6.04	30 69 113
(2) APL868013_TIA w/ Mount Pipe	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	3.10 3.48 3.85	4.80 5.42 6.04	30 69 113
(2) APL868013_TIA w/ Mount Pipe	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	3.10 3.48 3.85	4.80 5.42 6.04	30 69 113
B2/B66A RRH-BR049	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
B2/B66A RRH-BR049	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106
B2/B66A RRH-BR049	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106
B5/B13 RRH-BR04C	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106
B5/B13 RRH-BR04C	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106
B5/B13 RRH-BR04C	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	70 87 106
CBC78T-DS-43-2X	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	21 27 35
CBC78T-DS-43-2X	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	21 27 35
CBC78T-DS-43-2X	C	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	21 27 35
RRFDC-3315-PF-48	A	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	3.36 3.60 3.84	2.19 2.39 2.61	32 61 93
DB-B1-6C-12AB-0Z	B	From Leg	4.00 0 2	0.000	126.00	No Ice 1/2" Ice 1" Ice	2.60 2.81 3.04	2.08 2.27 2.47	55 78 105
**									
Site Pro 1 VFA12-HD	A	From Leg	2.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
Site Pro 1 VFA12-HD	B	From Leg	2.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
Site Pro 1 VFA12-HD	C	From Leg	2.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	658 804 1015
AIR 6449 B77D	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	3.64 4.00 4.37	1.72 2.02 2.33	82 111 145
AIR 6449 B77D	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	3.64 4.00 4.37	1.72 2.02 2.33	82 111 145
AIR 6449 B77D	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	3.64 4.00 4.37	1.72 2.02 2.33	82 111 145

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
AIR 6419 B77G	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	66 92 120
AIR 6419 B77G	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	66 92 120
AIR 6419 B77G	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	66 92 120
QD6616-7_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	13.82 14.43 15.00	8.46 9.66 10.55	156 258 369
QD6616-7_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	13.82 14.43 15.00	8.46 9.66 10.55	156 258 369
QD8616-7_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	19.05 19.79 20.54	11.74 13.27 14.83	183 316 460
RRUS 32 B2	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	53 74 98
RRUS 32 B2	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	53 74 98
RRUS 32 B2	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	53 74 98
DC9-48-60-24-8C-EV	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	26 63 104
DC9-48-60-24-8C-EV	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	26 63 104
DC9-48-60-24-8C-EV	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	26 63 104
DMP65R-BU8D_TIA w/ Mount Pipe	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	18.11 18.84 19.59	10.26 11.78 13.33	138 260 392
DMP65R-BU6D_TIA w/ Mount Pipe	B	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	12.95 13.55 14.11	7.26 8.43 9.31	115 207 308
DMP65R-BU6D_TIA w/ Mount Pipe	C	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	12.95 13.55 14.11	7.26 8.43 9.31	115 207 308
RRUS 4478 B14	A	From Leg	4.00 0 0	0.000	115.00	No Ice 1/2" Ice 1" Ice	2.02 2.20 2.39	1.25 1.40 1.55	59 77 97
RRUS 4478 B14	B	From Leg	4.00	0.000	115.00	No Ice	2.02	1.25	59

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0			1/2" Ice	2.20	1.40	77
			0			1" Ice	2.39	1.55	97
RRUS 4478 B14	C	From Leg	4.00	0.000	115.00	No Ice	2.02	1.25	59
			0			1/2" Ice	2.20	1.40	77
			0			1" Ice	2.39	1.55	97
RRUS 32 B66A	A	From Leg	4.00	0.000	115.00	No Ice	2.86	1.78	55
			0			1/2" Ice	3.09	1.97	77
			0			1" Ice	3.32	2.17	103
RRUS 32 B66A	B	From Leg	4.00	0.000	115.00	No Ice	2.86	1.78	55
			0			1/2" Ice	3.09	1.97	77
			0			1" Ice	3.32	2.17	103
RRUS 32 B66A	C	From Leg	4.00	0.000	115.00	No Ice	2.86	1.78	55
			0			1/2" Ice	3.09	1.97	77
			0			1" Ice	3.32	2.17	103
RRUS E2 B29	A	From Leg	4.00	0.000	115.00	No Ice	3.15	1.29	60
			0			1/2" Ice	3.36	1.44	83
			0			1" Ice	3.59	1.60	110
RRUS E2 B29	B	From Leg	4.00	0.000	115.00	No Ice	3.15	1.29	60
			0			1/2" Ice	3.36	1.44	83
			0			1" Ice	3.59	1.60	110
RRUS E2 B29	C	From Leg	4.00	0.000	115.00	No Ice	3.15	1.29	60
			0			1/2" Ice	3.36	1.44	83
			0			1" Ice	3.59	1.60	110
RRUS 4449 B5/B12	A	From Leg	4.00	0.000	115.00	No Ice	1.97	1.41	71
			0			1/2" Ice	2.14	1.56	90
			0			1" Ice	2.33	1.73	111
RRUS 4449 B5/B12	B	From Leg	4.00	0.000	115.00	No Ice	1.97	1.41	71
			0			1/2" Ice	2.14	1.56	90
			0			1" Ice	2.33	1.73	111
RRUS 4449 B5/B12	C	From Leg	4.00	0.000	115.00	No Ice	1.97	1.41	71
			0			1/2" Ice	2.14	1.56	90
			0			1" Ice	2.33	1.73	111
RRUS 32 B30	A	From Leg	4.00	0.000	115.00	No Ice	2.74	1.67	53
			0			1/2" Ice	2.96	1.86	74
			0			1" Ice	3.19	2.05	98
RRUS 32 B30	B	From Leg	4.00	0.000	115.00	No Ice	2.74	1.67	53
			0			1/2" Ice	2.96	1.86	74
			0			1" Ice	3.19	2.05	98
RRUS 32 B30	C	From Leg	4.00	0.000	115.00	No Ice	2.74	1.67	53
			0			1/2" Ice	2.96	1.86	74
			0			1" Ice	3.19	2.05	98
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TA08025-B604	A	From Leg	4.00	0.000	105.00	No Ice	1.96	0.98	64
			0			1/2" Ice	2.14	1.11	81
			0			1" Ice	2.32	1.25	100
TA08025-B605	A	From Leg	4.00	0.000	105.00	No Ice	1.96	1.13	75
			0			1/2" Ice	2.14	1.27	93
			0			1" Ice	2.32	1.41	114
RDIDC-9181-PF-48	A	From Leg	4.00	0.000	105.00	No Ice	2.01	1.17	22

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0			1/2" Ice	2.19	1.31	40
			0			1" Ice	2.37	1.46	60
TA08025-B604	B	From Leg	4.00	0.000	105.00	No Ice	1.96	0.98	64
			0			1/2" Ice	2.14	1.11	81
			0			1" Ice	2.32	1.25	100
TA08025-B605	B	From Leg	4.00	0.000	105.00	No Ice	1.96	1.13	75
			0			1/2" Ice	2.14	1.27	93
			0			1" Ice	2.32	1.41	114
TA08025-B604	C	From Leg	4.00	0.000	105.00	No Ice	1.96	0.98	64
			0			1/2" Ice	2.14	1.11	81
			0			1" Ice	2.32	1.25	100
TA08025-B605	C	From Leg	4.00	0.000	105.00	No Ice	1.96	1.13	75
			0			1/2" Ice	2.14	1.27	93
			0			1" Ice	2.32	1.41	114
MX08FRO665-21_TIA w/ Mount Pipe	A	From Leg	4.00	0.000	105.00	No Ice	12.73	7.53	108
			0			1/2" Ice	13.33	8.72	200
			0			1" Ice	13.89	9.62	301
MX08FRO665-21_TIA w/ Mount Pipe	B	From Leg	4.00	0.000	105.00	No Ice	12.73	7.53	108
			0			1/2" Ice	13.33	8.72	200
			0			1" Ice	13.89	9.62	301
MX08FRO665-21_TIA w/ Mount Pipe	C	From Leg	4.00	0.000	105.00	No Ice	12.73	7.53	108
			0			1/2" Ice	13.33	8.72	200
			0			1" Ice	13.89	9.62	301
Sabre_C10837002C-32788_Sector_(3)	A	None		0.000	105.00	No Ice	18.52	18.52	2028
						1/2" Ice	28.00	28.00	3067
						1" Ice	37.48	37.48	4106

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice

Comb. No.	Description
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	272940	22970	-13332
	Max. H_x	18	272940	22970	-13332
	Max. H_z	7	-237009	-20712	12036
	Min. Vert	7	-237009	-20712	12036
	Min. H_x	7	-237009	-20712	12036
	Min. H_z	18	272940	22970	-13332
Leg B	Max. Vert	10	264474	-22191	-12555
	Max. H_x	23	-228655	19916	11235
	Max. H_z	23	-228655	19916	11235
	Min. Vert	23	-228655	19916	11235
	Min. H_x	10	264474	-22191	-12555
	Min. H_z	10	264474	-22191	-12555
Leg A	Max. Vert	2	270697	38	26182
	Max. H_x	21	11910	3087	799
	Max. H_z	2	270697	38	26182
	Min. Vert	15	-235130	-41	-23575
	Min. H_x	9	12116	-3087	817
	Min. H_z	15	-235130	-41	-23575

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	150 - 140	3.52	39	0.230	0.019
T2	140 - 120	3.01	47	0.227	0.017
T3	120 - 100	2.07	47	0.187	0.013
T4	100 - 80	1.33	47	0.141	0.009
T5	80 - 60	0.79	47	0.097	0.007

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	60 - 40	0.42	47	0.060	0.005
T7	40 - 20	0.19	47	0.034	0.003
T8	20 - 0	0.06	47	0.017	0.002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	Site Pro 1 VFA12-HD	39	3.52	0.230	0.019	106388
140.00	Sector Mount [SM 802-3]	47	3.01	0.227	0.017	54346
126.00	Sector Mount [SM 802-3]	47	2.34	0.202	0.014	26027
115.00	Site Pro 1 VFA12-HD	47	1.87	0.175	0.011	21960
105.00	TA08025-B604	47	1.49	0.153	0.010	22981

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	150 - 140	15.28	2	1.002	0.081
T2	140 - 120	13.05	2	0.988	0.075
T3	120 - 100	8.96	18	0.814	0.054
T4	100 - 80	5.73	18	0.613	0.041
T5	80 - 60	3.38	18	0.421	0.032
T6	60 - 40	1.82	18	0.258	0.023
T7	40 - 20	0.82	18	0.148	0.013
T8	20 - 0	0.26	18	0.074	0.007

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	Site Pro 1 VFA12-HD	2	15.28	1.002	0.081	24703
140.00	Sector Mount [SM 802-3]	2	13.05	0.988	0.075	12616
126.00	Sector Mount [SM 802-3]	18	10.11	0.878	0.061	6002
115.00	Site Pro 1 VFA12-HD	18	8.07	0.761	0.049	5027
105.00	TA08025-B604	18	6.45	0.662	0.043	5274

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	150	Leg	A325N	0.750	4	1846	30101	0.061 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	2426	6986	0.347 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.500	1	633	8836	0.072 ✔	1.05	Bolt Shear
T2	140	Leg	A325N	1.000	4	10974	54517	0.201 ✔	1.05	Bolt Tension

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	0.625	1	6412	9788	0.655 ✔	1.05	Member Bearing
T3	120	Leg	A325N	1.000	6	14295	54517	0.262 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	6557	9788	0.670 ✔	1.05	Member Bearing
T4	100	Leg	A325N	1.000	8	15554	54517	0.285 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	7040	9788	0.719 ✔	1.05	Member Bearing
T5	80	Leg	A325N	1.250	8	19607	87220	0.225 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	6823	9788	0.697 ✔	1.05	Member Bearing
T6	60	Leg	A325N	1.250	8	23308	87220	0.267 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	7022	9788	0.717 ✔	1.05	Member Bearing
T7	40	Leg	A325N	1.250	8	26653	87220	0.306 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.750	1	7622	14355	0.531 ✔	1.05	Member Bearing
T8	20	Diagonal	A325N	0.750	1	8020	14355	0.559 ✔	1.05	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	Pipe 2.875" x 0.203" (2.5 STD)	10.00	4.33	54.9 K=1.00	1.704	-8264	65284	0.127 [1] ✔
T2	140 - 120	Pipe 2.875" x 0.203" (2.5 STD)	20.00	4.67	59.1 K=1.00	1.704	-45872	62849	0.730 [1] ✔
T3	120 - 100	Pipe 4.5" x 0.237" (4 STD)	20.03	4.67	37.2 K=1.00	3.174	-95491	138323	0.690 [1] ✔
T4	100 - 80	Pipe 5.563" x 0.258" (5 STD)	20.03	6.26	40.0 K=1.00	4.300	-136171	184163	0.739 [1] ✔
T5	80 - 60	Pipe 6.625" x 0.280" (6 STD)	20.03	6.26	33.5 K=1.00	5.581	-172642	248307	0.695 [1] ✔
T6	60 - 40	Pipe 8.625" x 0.322" (8 STD)	20.03	6.26	25.6 K=1.00	8.399	-206575	387660	0.533 [1] ✔
T7	40 - 20	Pipe 8.625" x 0.50" (8 XS)	20.03	9.35	39.0 K=1.00	12.763	-236140	550137	0.429 [1] ✔
T8	20 - 0	Pipe 8.625" x 0.50" (8 XS)	20.03	9.35	39.0 K=1.00	12.763	-265716	550137	0.483 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L 1.5 x 1.5 x 3/16	7.40	3.42	139.8 K=1.00	0.527	-2339	7723	0.303 [1] ✔
T2	140 - 120	L 2 x 2 x 3/16	7.60	3.51	110.3 K=1.03	0.715	-6393	15901	0.402 [1] ✔
T3	120 - 100	L 2 x 2 x 3/16	9.00	4.28	130.5 K=1.00	0.715	-6534	12020	0.544 [1] ✔
T4	100 - 80	L 2.5 x 2.5 x 3/16	11.48	5.51	133.7 K=1.00	0.902	-6692	14452	0.463 [1] ✔
T5	80 - 60	L 3 x 3 x 3/16	13.20	6.33	127.4 K=1.00	1.090	-6707	19229	0.349 [1] ✔
T6	60 - 40	L 3 x 3 x 3/16	14.99	7.14	143.6 K=1.00	1.090	-7132	15124	0.472 [1] ✔
T7	40 - 20	L 3.5 x 3.5 x 1/4	18.07	8.74	151.1 K=1.00	1.690	-7745	21178	0.366 [1] ✔
T8	20 - 0	L 3.5 x 3.5 x 1/4	19.81	9.61	166.2 K=1.00	1.690	-8219	17503	0.470 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L 3 x 3 x 1/4	6.00	5.49	115.6 K=1.04	1.438	-633	30004	0.021 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	Pipe 2.875" x 0.203" (2.5 STD)	10.00	0.67	8.4	1.704	7384	82817	0.089 [1] ✔
T2	140 - 120	Pipe 2.875" x 0.203" (2.5 STD)	20.00	0.67	8.4	1.704	43897	82817	0.530 [1] ✔
T3	120 - 100	Pipe 4.5" x 0.237" (4 STD)	20.03	0.67	5.3	3.174	85770	154259	0.556 [1] ✔
T4	100 - 80	Pipe 5.563" x 0.258" (5 STD)	20.03	0.63	4.0	4.300	124434	208974	0.595 [1] ✔
T5	80 - 60	Pipe 6.625" x 0.280" (6 STD)	20.03	0.63	3.3	5.581	156853	271254	0.578 [1] ✔
T6	60 - 40	Pipe 8.625" x 0.322" (8 STD)	20.03	0.63	2.6	8.399	186461	408204	0.457 [1] ✔
T7	40 - 20	Pipe 8.625" x 0.50" (8 XS)	20.03	0.67	2.8	12.763	213223	620268	0.344 [1] ✔
T8	20 - 0	Pipe 8.625" x 0.50" (8 XS)	20.03	0.67	2.8	12.763	238041	620268	0.384 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L 1.5 x 1.5 x 3/16	7.40	3.42	93.4	0.308	2426	13381	0.181 [1] ✔
T2	140 - 120	L 2 x 2 x 3/16	7.60	3.51	71.0	0.431	6412	18739	0.342 [1] ✔
T3	120 - 100	L 2 x 2 x 3/16	9.00	4.28	86.0	0.431	6557	18739	0.350 [1] ✔
T4	100 - 80	L 2.5 x 2.5 x 3/16	10.45	5.01	79.3	0.571	7040	24840	0.283 [1] ✔
T5	80 - 60	L 3 x 3 x 3/16	12.11	5.79	75.7	0.712	6823	30968	0.220 [1] ✔
T6	60 - 40	L 3 x 3 x 3/16	13.86	6.58	85.7	0.712	7022	30968	0.227 [1] ✔
T7	40 - 20	L 3.5 x 3.5 x 1/4	18.07	8.74	97.8	1.103	7622	48000	0.159 [1] ✔
T8	20 - 0	L 3.5 x 3.5 x 1/4	19.81	9.61	107.4	1.103	8020	48000	0.167 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	150 - 140	L 3 x 3 x 1/4	6.00	5.49	74.3	0.961	609	41801	0.015 [1] ✔

[1] P_u / ϕP_n controls

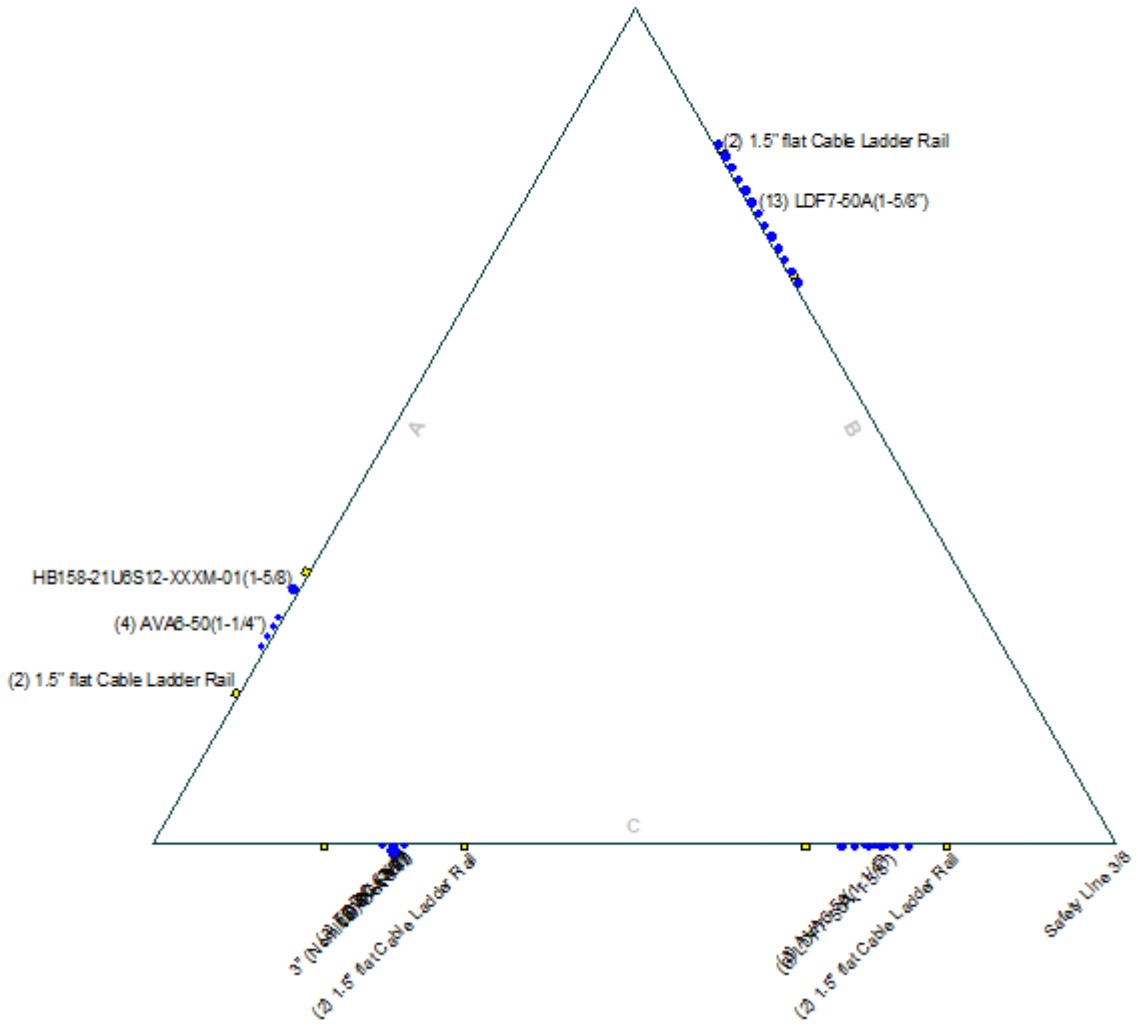
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	150 - 140	Leg	Pipe 2.875" x 0.203" (2.5 STD)	2	-8264	68548	12.1	Pass
T2	140 - 120	Leg	Pipe 2.875" x 0.203" (2.5 STD)	21	-45872	65992	69.5	Pass
T3	120 - 100	Leg	Pipe 4.5" x 0.237" (4 STD)	48	-95491	145239	65.7	Pass
T4	100 - 80	Leg	Pipe 5.563" x 0.258" (5 STD)	75	-136171	193371	70.4	Pass
T5	80 - 60	Leg	Pipe 6.625" x 0.280" (6 STD)	94	-172642	260722	66.2	Pass
T6	60 - 40	Leg	Pipe 8.625" x 0.322" (8 STD)	115	-206575	407043	50.8	Pass
T7	40 - 20	Leg	Pipe 8.625" x 0.50" (8 XS)	136	-236140	577644	40.9	Pass
T8	20 - 0	Leg	Pipe 8.625" x 0.50" (8 XS)	151	-265716	577644	46.0	Pass
T1	150 - 140	Diagonal	L 1.5 x 1.5 x 3/16	10	-2339	8110	28.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
							33.1 (b)	
T2	140 - 120	Diagonal	L 2 x 2 x 3/16	24	-6393	16696	38.3	Pass
							62.4 (b)	
T3	120 - 100	Diagonal	L 2 x 2 x 3/16	54	-6534	12621	51.8	Pass
							63.8 (b)	
T4	100 - 80	Diagonal	L 2.5 x 2.5 x 3/16	80	-6692	15174	44.1	Pass
							68.5 (b)	
T5	80 - 60	Diagonal	L 3 x 3 x 3/16	101	-6707	20190	33.2	Pass
							66.4 (b)	
T6	60 - 40	Diagonal	L 3 x 3 x 3/16	122	-7132	15880	44.9	Pass
							68.3 (b)	
T7	40 - 20	Diagonal	L 3.5 x 3.5 x 1/4	143	-7745	22237	34.8	Pass
							50.6 (b)	
T8	20 - 0	Diagonal	L 3.5 x 3.5 x 1/4	158	-8219	18378	44.7	Pass
							53.2 (b)	
T1	150 - 140	Top Girt	L 3 x 3 x 1/4	5	-633	31504	2.0	Pass
							6.8 (b)	
							Summary	
						Leg (T4)	70.4	Pass
						Diagonal (T4)	68.5	Pass
						Top Girt (T1)	6.8	Pass
						Bolt Checks	68.5	Pass
						RATING =	**70.4**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(2) 1.5" flat Cable Ladder Rail
(13) LDF7-50A(1-5/8")
A
B
C
HB158-21U6S12-XXXM-01(1-5/8)
(4) AVA6-50(1-1/4")
(2) 1.5" flat Cable Ladder Rail
(2) 1.5" flat Cable Ladder Rail
(2) 1.5" flat Cable Ladder Rail
Safety Line 3/8

APPENDIX C

ADDITIONAL CALCULATIONS

PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
Phone 614.221.6679 www.pauljford.com

Page	1	of	1
By	CMH	Date	6/8/2023
Project #	13323-0016		

Self-Support Tower Anchor Rod Capacity - TIA-H

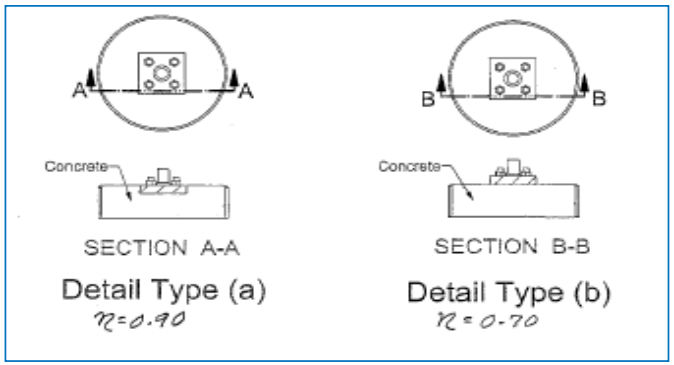
Loads

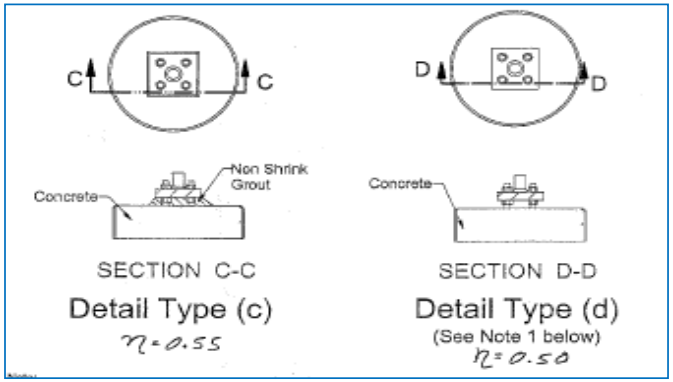
Compression :	272.9	kips	Tension :	237	kips
Comp. Shear :	26.6	kips	Ten.Shear :	24	kips

Code:	TIA-H
Maximum Ratio:	1.00
Grout f'c ≥ 5000 psi:	Yes

Existing Anchor Rods

Anchor Rod ø :	1 1/2	in	l_{ar} :	1.5	inches		
Anchor Rod Quantity :	8		Comp. M_u :	25.94	k-in	Ten. M_u :	23.40 k-in
Anchor Rod Grade :	F1554 Gr. 36		f_c :	0.90			
F_y :	36	ksi	f_v :	0.75			
F_u :	58	ksi	f_f :	0.90			
Threads per Inch	6		f_vR_{nv} :	307.48	kips		
Net Tensile Area	1.41	in^2					
f_t :	0.75		f_fM_n :	137.41	k-in		
f_tR_{nt} :	489.03	kip	f_cR_{nc} :	458.04	kips		
Anchor Rod Ratio :	0.583		f_cR_{nvc} :	206.12	kips		





PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
Phone 614.221.6679 www.pauljford.com

Job Number: 13323-0016
Site Number: 702499
Site Name: Norwich, CT
By: CMH
Date: 6/8/2023

Version 1.3a, Effective 07/03/2019

DRILLED PIER STEEL ANALYSIS - STEEL CALCULATIONS - TIA-222-H

BASED ON ACI 318-14, SECTION 10 (ASSUMING TIE REINFORCEMENT)

ROCK ANCHOR CHECK - TOWER COMPRESSION LEG

Factored Internal Loads from Analysis

Reference Standard =	TIA-222-H	
ACI Code =	ACI 318-14	
Maximum Ratio =	100.0%	
Axial Load, Pu =	272.9	kips, (+Comp, -Tension)
Moment, Mu =	114.4	k-ft (Must be Positive)
Depth to Analysis Section =	3.80	ft, from Grade

Factored Internal Loads

Load Factor =	1.0	
Axial Load, Pu = ΦPn =	272.9	kips
Moment, Mu =	114.4	k-ft

Drilled Pier Geometry and Concrete Specifications

Diameter =	42	in
fc' =	0.416	ksi
εc =	0.003	in/in
β1 =	0.85	
Ag =	1385.4	in^2
Height Above Grade =	0.5	ft
Depth Below Grade =	3.8	ft

Nominal Axial Load and Moment

ΦPn(max) =	488.4	kips
ΦPn(min) =	-406.4	kips
ΦPn =	272.9	kips
Φ =	0.650	
ΦMn (Resultant) =	205.5	k-ft
at θ =	180.00	degrees
NA Depth =	27.88	in

Rebar Size and Specifications

	Existing	Bar Circle 2	
Bar Size =	#10		
Override Bar Diameter =			in
Bar Diameter =	1.2700	0.0000	in
Bar Area =	1.2700	0.0000	in^2
Effective Bar Area =	1.2700	0.0000	in^2
Number Bars =	5		
Spacing =	Symmetric		
fy =	71.1111111		ksi
Es =	29000	29000	ksi
εy =	0.00245	0.00000	in/in
Tie Size =	#4		
Clear Cover to Ties =	6.865		in
Bar Circle =	26		in
Adjust =	18.0000		
% of Area Effective =	100.0%	100.0%	
Include in Calcs =	Yes	Yes	
Bar Circle Valid =	Yes	No	

AXIAL RATIO* = **53.2%** **OK**

MOMENT RATIO* = **53.0%** **OK**

*Rating per TIA-222-H Section 15.5

Minimum Required Steel

Seismic Design Category =	B		
As(min) =	6.93	sq in	TIA-222-H, 9.4.1
As =	6.35	sq in	
Stl Area Reduction Factor =	1.00		

PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
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Job Number: 13323-0016
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By: CMH
Date: 6/8/2023

Version 1.3a, Effective 07/03/2019

DRILLED PIER STEEL ANALYSIS - STEEL CALCULATIONS - TIA-222-H

BASED ON ACI 318-14, SECTION 10 (ASSUMING TIE REINFORCEMENT)

Factored Internal Loads from Analysis

Reference Standard =	TIA-222-H	
ACI Code =	ACI 318-14	
Maximum Ratio =	100.0%	
Axial Load, Pu =	-237.0	kips, (+Comp, -Tension)
Moment, Mu =	103.2	k-ft (Must be Positive)
Depth to Analysis Section =	3.80	ft, from Grade

Factored Internal Loads

Load Factor =	1.0	
Axial Load, Pu = ΦPn =	-237.0	kips
Moment, Mu =	103.2	k-ft

Drilled Pier Geometry and Concrete Specifications

Diameter =	42	in
fc' =	0.416	ksi
εc =	0.003	in/in
β1 =	0.85	
Ag =	1385.4	in^2
Height Above Grade =	0.5	ft
Depth Below Grade =	3.8	ft

Nominal Axial Load and Moment

ΦPn(max) =	488.4	kips
ΦPn(min) =	-406.4	kips
ΦPn =	-237.0	kips
Φ =	0.900	
ΦMn (Resultant) =	174.7	k-ft
at θ =	0.00	degrees
NA Depth =	8.57	in

Rebar Size and Specifications

	Existing	Bar Circle 2	
Bar Size =	#10		
Override Bar Diameter =			in
Bar Diameter =	1.2700	0.0000	in
Bar Area =	1.2700	0.0000	in^2
Effective Bar Area =	1.2700	0.0000	in^2
Number Bars =	5		
Spacing =	Symmetric		
fy =	71.1111111		ksi
Es =	29000	29000	ksi
εy =	0.00245	0.00000	in/in
Tie Size =	#4		
Clear Cover to Ties =	6.865		in
Bar Circle =	26		in
Adjust =	18.0000		
% of Area Effective =	100.0%	100.0%	
Include in Calcs =	Yes	Yes	
Bar Circle Valid =	Yes	No	

ROCK ANCHOR CHECK - TOWER UPLIFT LEG

AXIAL RATIO* = 55.5% OK

MOMENT RATIO* = 56.2% OK

*Rating per TIA-222-H Section 15.5

Minimum Required Steel

Seismic Design Category =	B		
As(min) =	6.93	sq in	TIA-222-H, 9.4.1
As =	6.35	sq in	
Stl Area Reduction Factor =	1.00		

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

1) Paul J. Ford and Company has not made a field inspection to verify the tower member sizes or the antenna/coax loading. If the existing conditions are not as represented on these drawings, we should be contacted immediately to evaluate the significance of the deviation.

2) No allowance was made for any damaged, missing, or rusted members. The analysis of this tower assumes that no physical deterioration has occurred in any of the structural components of the tower and that all the tower members have the same load carrying capacity as the day the tower was erected.

3) It is not possible to have all the detailed information to perform a thorough analysis of every structural sub-component of an existing tower. The structural analysis by Paul J. Ford and Company verifies the adequacy of the main structural members of the tower. Paul J. Ford and Company provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc.

4) The structural integrity of the existing tower foundation can only be verified if exact foundation sizes and soil conditions are known. Paul J. Ford and Company will not accept any responsibility for the adequacy of the existing foundations unless the foundation sizes and a soils report are provided.

5) This tower has been analyzed according to the minimum design wind loads recommended by the Telecommunications Industry Association Standard ANSI/TIA-222-H. If the owner or local or state agencies require a higher design wind load, Paul J. Ford and Company should be made aware of this requirement.

6) The enclosed sketches are a schematic representation of the tower that we have analyzed. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions and for the proper fit and clearance in the field.

7) Miscellaneous items such as antenna mounts etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

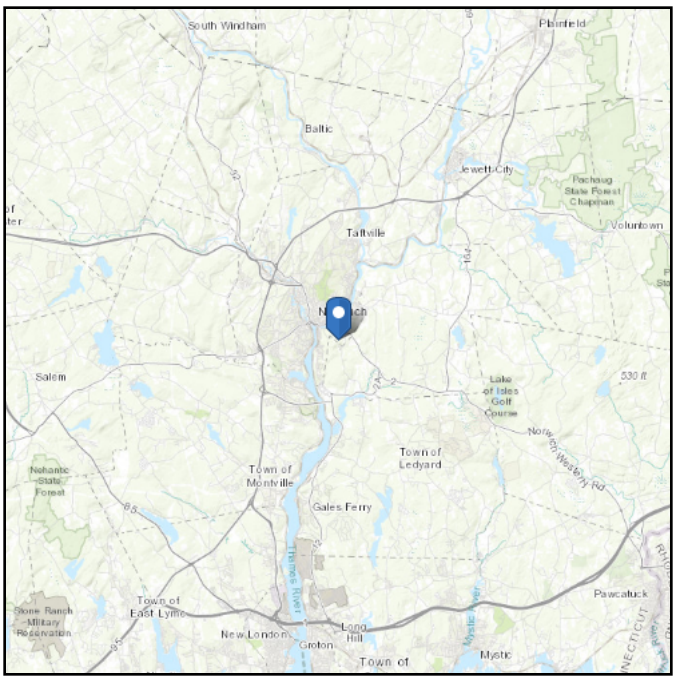
Municipality	Basic Design Wind Speeds, V (mph)				Allowable Stress Design Wind Speeds, V_{asd} (mph)				Ground Snow Load p_g (psf)	MCE Ground Accelerations		Wind-Borne Debris Region[1]		Hurricane-Prone Region
	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV		S_S (g)	S_1 (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	
New Milford	110	115	125	130	85	89	97	101	35	0.198	0.055			
Newington	110	120	130	135	85	93	101	105	30	0.195	0.055			Yes
Newtown	110	120	130	130	85	93	101	101	30	0.209	0.055			Yes
Norfolk	105	115	125	130	81	89	97	101	40	0.165	0.054			
North Branford	115	125	135	135	89	97	105	105	30	0.204	0.054			Yes
North Canaan	105	115	125	130	81	89	97	101	40	0.164	0.054			
North Haven	110	120	130	135	85	93	101	105	30	0.204	0.054			Yes
North Stonington	120	130	140	140	93	101	108	108	30	0.186	0.052			Yes
Norwalk	110	120	130	135	85	93	101	105	30	0.240	0.056		Type B	Yes
Norwich	115	125	135	140	89	97	105	108	30	0.194	0.054			Yes
Old Lyme	120	130	135	140	93	101	105	108	30	0.201	0.053	Type B	Type B	Yes
Old Saybrook	120	130	135	140	93	101	105	108	30	0.202	0.053	Type B	Type B	Yes
Orange	110	120	130	135	85	93	101	105	30	0.201	0.054			Yes
Oxford	110	120	130	135	85	93	101	105	30	0.199	0.054			Yes
Plainfield	115	125	135	140	89	97	105	108	30	0.187	0.054			Yes
Plainville	110	120	130	135	85	93	101	105	35	0.191	0.055			Yes
Plymouth	110	120	125	130	85	93	97	101	35	0.185	0.054			Yes
Pomfret	115	125	130	135	89	97	101	105	40	0.182	0.055			Yes
Portland	110	120	130	135	85	93	101	105	30	0.208	0.056			Yes
Preston	120	125	135	140	93	97	105	108	30	0.191	0.053			Yes
Prospect	110	120	130	135	85	93	101	105	30	0.197	0.054			Yes
Putnam	115	125	130	135	89	97	101	105	40	0.184	0.055			Yes
Redding	110	120	125	130	85	93	97	101	30	0.228	0.056			Yes
Ridgefield	110	120	125	130	85	93	97	101	30	0.243	0.057			Yes
Rocky Hill	110	120	130	135	85	93	101	105	30	0.200	0.055			Yes
Roxbury	110	120	125	130	85	93	97	101	35	0.196	0.054			Yes
Salem	115	125	135	140	89	97	105	108	30	0.205	0.055			Yes
Salisbury	105	115	125	130	81	89	97	101	40	0.116	0.054			
Scotland	115	125	135	135	89	97	105	105	30	0.188	0.054			Yes
Seymour	110	120	130	135	85	93	101	105	30	0.200	0.054			Yes
Sharon	105	115	125	130	81	89	97	101	40	0.171	0.054			
Shelton	110	120	130	135	85	93	101	105	30	0.203	0.054			Yes

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 41.514847
Longitude: -72.061689
Elevation: 292.22 ft (NAVD 88)



Wind

Results:

Wind Speed	125 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	97 Vmph
100-year MRI	102 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Mon Jan 09 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

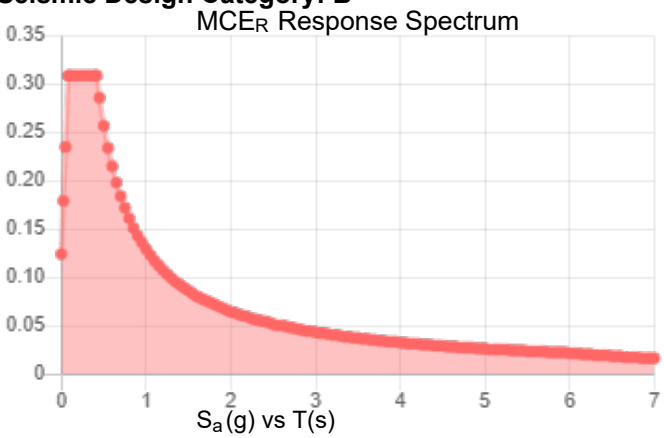
D - Stiff Soil

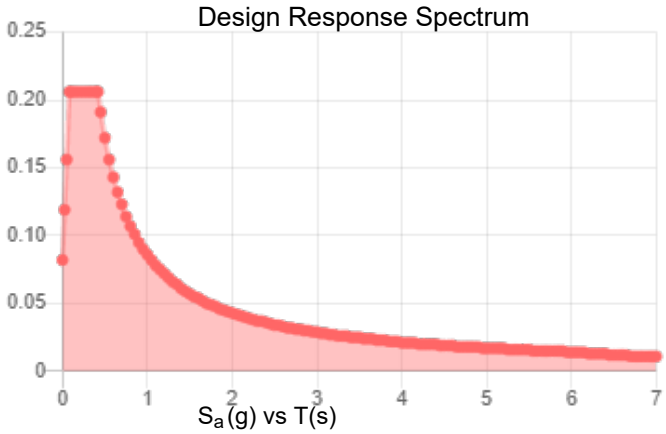
Site Soil Class:

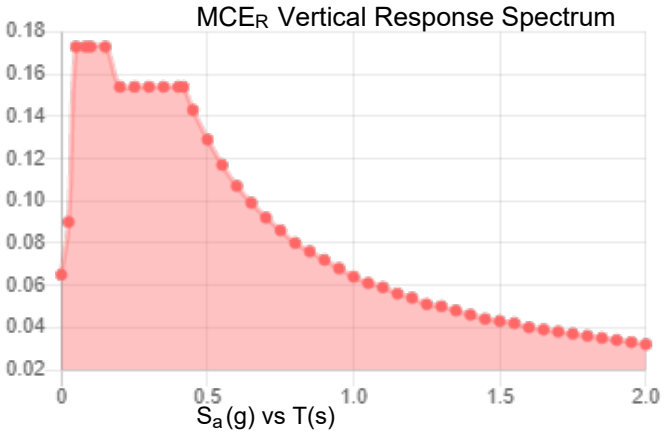
Results:

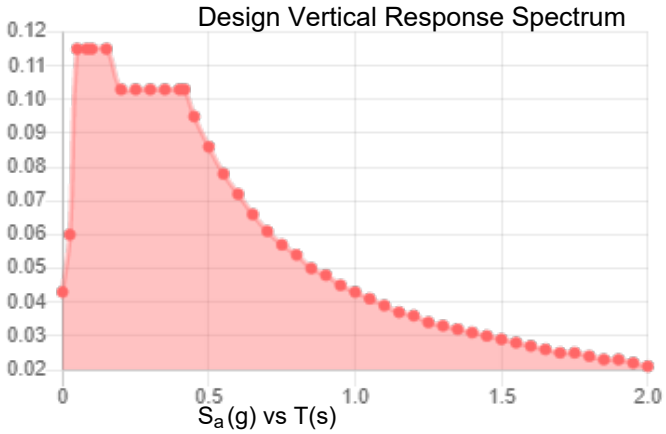
S_S :	0.193	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.106
F_v :	2.4	PGA_M :	0.169
S_{MS} :	0.309	F_{PGA} :	1.588
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.206	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Mon Jan 09 2023**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Jan 09 2023

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Radio Frequency Safety Survey Report Predictive (RFSSRP) Prepared For AT&T

Site Name:	NORWICH SE
FA#	10071188
USID:	24530
Site ID:	CTL05468
Address:	2 HINCKLEY HILL ROAD PRESTON, CT 06365
County:	NEW LONDON
Latitude:	41.51509565
Longitude:	-72.06164729
Structure Type:	SELF SUPPORT
Property Owner:	EIP COMMUNICATIONS I, LLC
Pace Job:	MRCTB054025
RFDS Technology	5G NR 1SR CBAND

Report Information

Report Writer: Parul

Report Generated Date: 07-06-2022

Compliance Statement

AT&T Mobility Compliance Statement: Based on the information collected, AT&T Mobility will be Compliant when the remediation recommended in section 5 or appropriate remediation determined by AT&T is implemented

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1. Executive Summary

1.1 Site Summary

Max Predictive Spatial Average MPE% & Location on Site (General Public)	84043.80% on Antennas Centerline Level & at AT&T Sec-A antenna no. #A3-2
Max Predictive Spatial Average MPE% on Ground (General Public)	1.64%
AT&T Mobility Site Compliance	AT&T Mobility will be Compliant by implementing remediation recommended as per section 5 in this report.

TABLE 1: Site Summary

1.2 Signage Summary (Proposed)

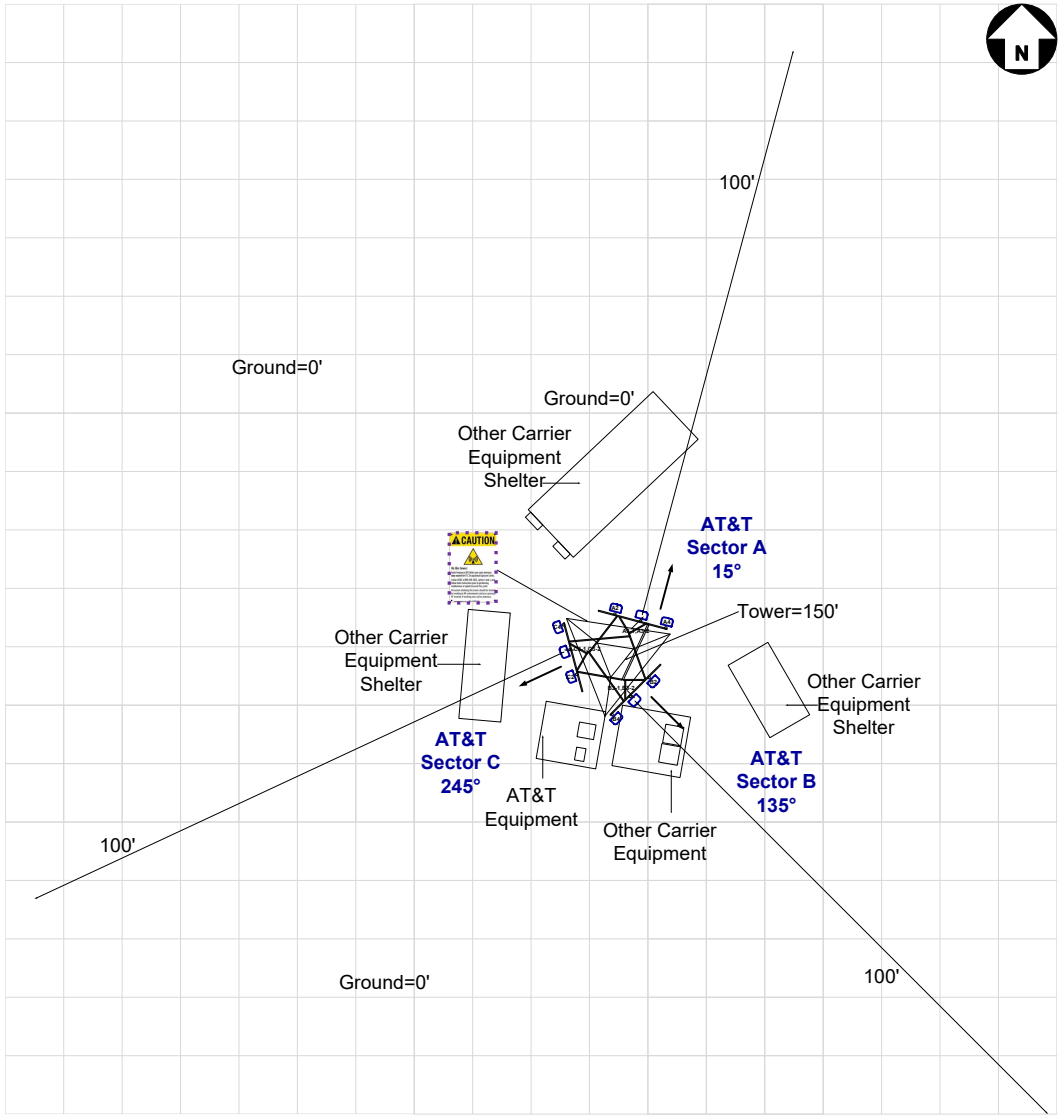
AT&T Signage Locations	Sign Type									
	Safety Instructions	Notice Sign 2	Caution Sign 2	Caution Sign 2B	Caution Sign 2C	Caution 7"x7"	Warning Sign 1B	RF Exposure Map	Lock	Barriers
Access Point(s)				1						
Alpha										
Beta										
Gamma										

TABLE 2: Signage Summary (Proposed)

1.3 List of Documents used to prepare this Report

- 10071188_AE201_220510_CTL05468_REV1
- NEW-ENGLAND_CONNECTICUT_CTL05468_2021-5G-NR-Radio_5G-NR-1SR-CBAND_mm093q_PTN_10071188_24530_04-09-2021_Final-Approved_v3.00

2. Site Scale Map



AT&T Antenna	Proposed	Proposed Signage									
Panel	Barrier	Safety Instructions	Notice 2	Caution 2	Caution 2B	Caution 2C	Caution 7"x7"	Warning 1B	RF Exposure Map	Lock	***Map Scale = 10 ft***
OMNI	Posts										

3. Antenna Inventory

Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (0)	HBW (0)	Antenna Gain (dBd)	Antenna Aperture (ft)	Transmitter Power (Watts)	Total Loss (dB)	Total ERP (Watts)	Total EIRP (Watts)
A2	AT&T	Quintel	QD8616-7	Panel	700	LTE(B29)	15	72	12.75	8	60.00	0.5	1007.28	1652.54
A2	AT&T	Quintel	QD8616-7	Panel	700	LTE(FN)	15	72	12.75	8	120.00	0.5	2014.56	3305.07
A2	AT&T	Quintel	QD8616-7	Panel	1900	LTE/5G	15	62	15.05	8	120.00	0.5	3421.22	5612.82
A2	AT&T	Quintel	QD8616-7	Panel	2100	LTE/5G	15	62	15.35	8	120.00	0.5	3665.91	6014.25
A3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	15	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	15	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
A4	AT&T	CCI	DMP65R-BU8D	Panel	700	LTE(B12)	15	75	12.95	8	120.00	0.5	2109.51	3460.84
A4	AT&T	CCI	DMP65R-BU8D	Panel	850	5G	15	64	13.85	8	120.00	0.5	2595.26	4257.76
A4	AT&T	CCI	DMP65R-BU8D	Panel	2300	LTE	15	64	15.95	8	75.00	0.5	2630.64	4315.80
B2	AT&T	Quintel	QD6616-7	Panel	700	LTE(B29)	135	71	12.05	6	60.00	0.5	857.34	1406.54
B2	AT&T	Quintel	QD6616-7	Panel	700	LTE(FN)	135	71	12.05	6	120.00	0.5	1714.67	2813.07
B2	AT&T	Quintel	QD6616-7	Panel	1900	LTE/5G	135	67	15.05	6	120.00	0.5	3421.22	5612.82
B2	AT&T	Quintel	QD6616-7	Panel	2100	LTE/5G	135	62	15.55	6	120.00	0.5	3838.67	6297.69
B3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	135	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	135	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
B4	AT&T	CCI	DMP65R-BU6D	Panel	700	LTE(B12)	135	74	11.85	6	120.00	0.5	1637.50	2686.47
B4	AT&T	CCI	DMP65R-BU6D	Panel	850	5G	135	63	12.45	6	120.00	0.5	1880.10	3084.47
B4	AT&T	CCI	DMP65R-BU6D	Panel	2300	LTE	135	54	16.25	6	75.00	0.5	2818.78	4624.46

Table 3.1: Antenna Inventory Table

Note: **^ Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.**
* 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor[1] are used to calculate Transmitter Power & ERP/EiRP

Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (0)	HBW (0)	Antenna Gain (dBd)	Antenna Aperture (ft)	Transmitter Power (Watts)	Total Loss (dB)	Total ERP (Watts)	Total EIRP (Watts)
C2	AT&T	Quintel	QD6616-7	Panel	700	LTE(B29)	245	71	12.05	6	60.00	0.5	857.34	1406.54
C2	AT&T	Quintel	QD6616-7	Panel	700	LTE(FN)	245	71	12.05	6	120.00	0.5	1714.67	2813.07
C2	AT&T	Quintel	QD6616-7	Panel	1900	LTE/5G	245	67	15.05	6	120.00	0.5	3421.22	5612.82
C2	AT&T	Quintel	QD6616-7	Panel	2100	LTE/5G	245	62	15.55	6	120.00	0.5	3838.67	6297.69
C3-1	AT&T	Ericsson	AIR 6419 B77G^	Panel	3450	5G	245	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C3-2	AT&T	Ericsson	AIR 6449 B77D^	Panel	3840	5G	245	11	23.5	2.55	108.44*	0	24277.05*	39828.68*
C4	AT&T	CCI	DMP65R-BU6D	Panel	700	LTE(B12)	245	74	11.85	6	120.00	0.5	1637.50	2686.47
C4	AT&T	CCI	DMP65R-BU6D	Panel	850	5G	245	63	12.45	6	120.00	0.5	1880.10	3084.47
C4	AT&T	CCI	DMP65R-BU6D	Panel	2300	LTE	245	54	16.25	6	75.00	0.5	2818.78	4624.46

Table 3.2: Antenna Inventory Table

Note: **^ Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.**

* 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor[1] are used to calculate Transmitter Power & ERP/EiRP

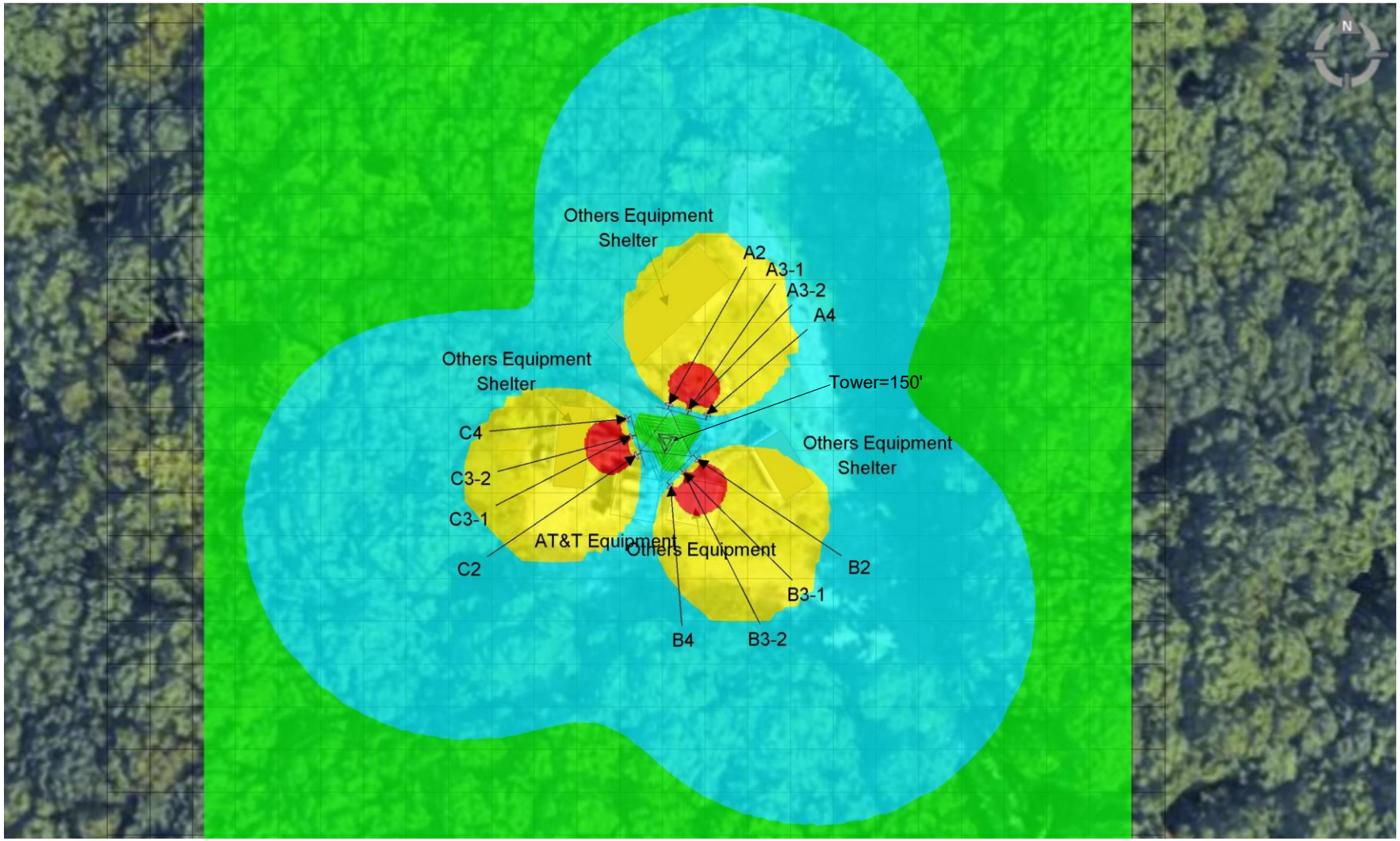
Antenna Heights (Z)

Ant ID	Operator	Antenna Radiation Centerline	Z-Height from Ground
A2	AT&T	115.00	111.00
A3-1	AT&T	116.78	115.50
A3-2	AT&T	113.23	111.95
A4	AT&T	115.00	111.00
B2	AT&T	115.00	112.00
B3-1	AT&T	116.78	115.50
B3-2	AT&T	113.23	111.95
B4	AT&T	115.00	112.00
C2	AT&T	115.00	112.00
C3-1	AT&T	116.78	115.50
C3-2	AT&T	113.23	111.95
C4	AT&T	115.00	112.00

Table 3.3: Antenna Height(s) Summary Table

4. Predicted Emission

4.1 Predictive Cumulative MPE Contribution from All Sources at Antennas Centerline Level (115 ft.)



Max. Predictive Spatial Average MPE% = **84043.80%**

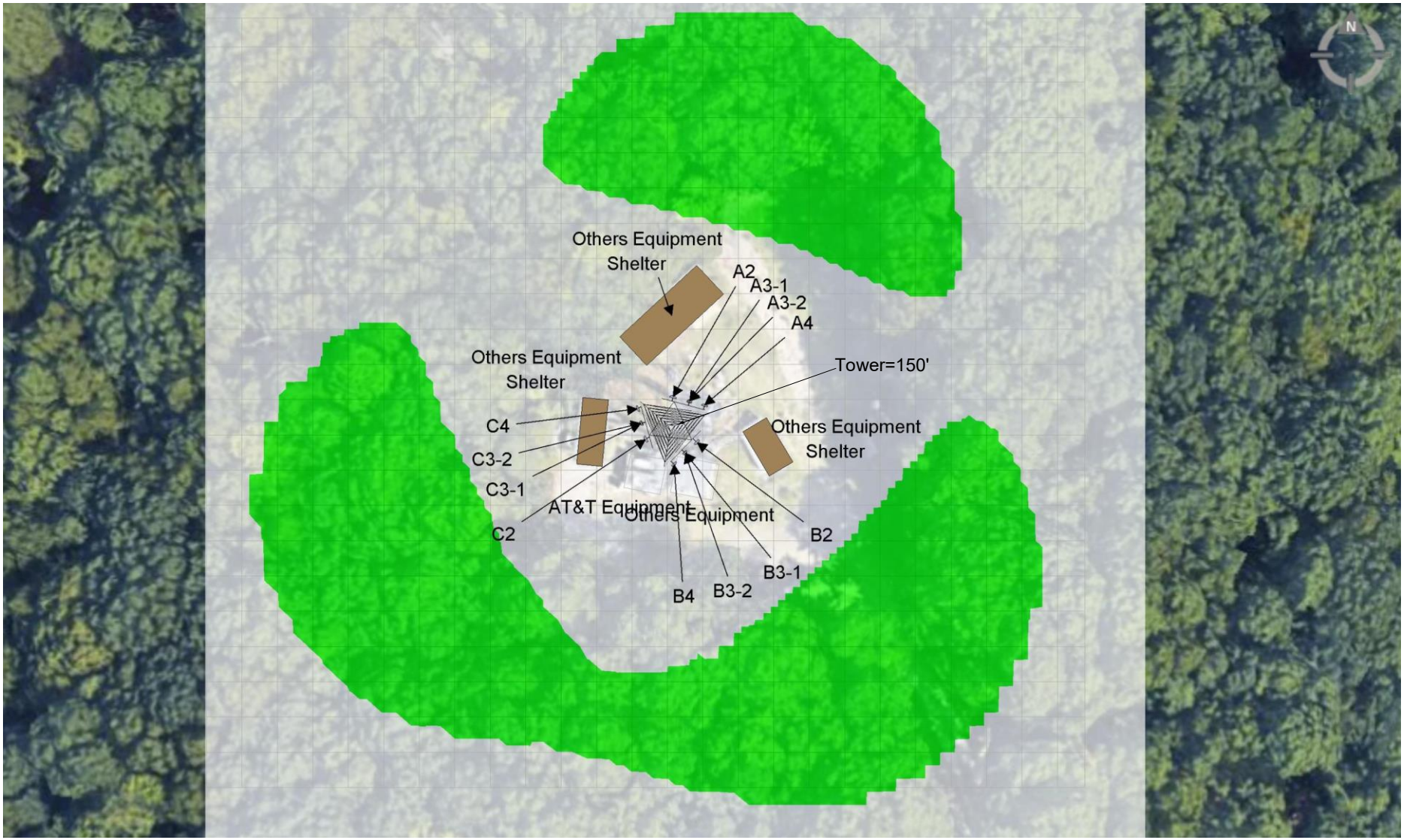
Proposed Barrier
Proposed Posts

% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

4.2 Predictive Cumulative MPE Contribution from All Sources at Ground Level (0 ft.)



Max. Predictive Spatial Average MPE% = **1.64%**

Proposed Barrier
Proposed Posts

% of FCC General Public Exposure Limit (Predictive Spatial Average)

Non-Simulated	0-1	1-100	100-500	500-5000	>5000

Map Scale = 10 ft

5. Statement of Compliance

5.1 Statement of AT&T Mobility Compliance

At the time of our Analysis, AT&T Mobility is required to take action to fulfill their Obligations to comply with the FCC's mandate as defined in OET-65

Recommendations

AT&T Alpha Sector:

- No actions required.

AT&T Beta Sector:

- No actions required.

AT&T Gamma Sector:

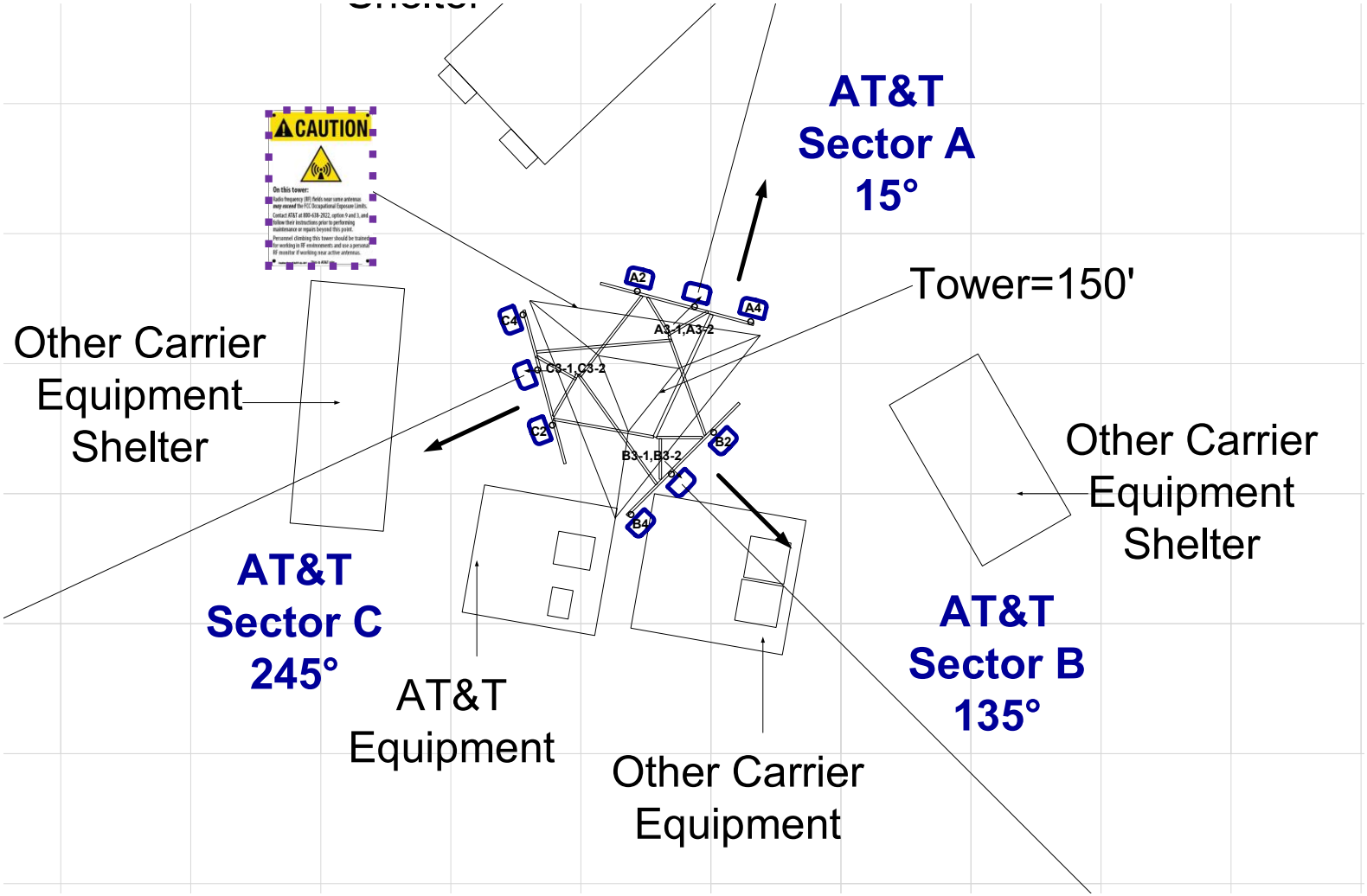
- No actions required.

Tower:

- One Caution 2B Sign to be posted at the climbing access, facing outwards so approaching people can see as shown in "Recommendations Map – Detailed View" on page 11. (1 Total Sign)

Recommendations Map – Detailed View

AT&T Alpha, Beta & Gamma Sectors



AT&T Antenna	Proposed	Proposed Signage									
Panel	Barrier	Safety Instructions	Notice 2	Caution 2	Caution 2B	Caution 2C	Caution 7"x7"	Warning 1B	RF Exposure Map	Lock	***Map Scale = 10 ft***
OMNI	Posts										

Appendix A – Statement of Limiting Conditions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at full power at all times. AT&T has further recommended to assume a 75% duty cycle of maximum radiated power for all LTE & 5G carriers (& consider 100% duty cycle for all UMTS carriers).

In this site compliance report, it is assumed that Mechanical Tilt value of "0°" MUST be retained for C-BAND and/or DoD AAS^ antenna(s) at all times to ensure that "EME (Predictive) Study" shall remain valid.

AT&T recommended to consider - For C-BAND and/or DoD AAS^ antenna(s) 75% TDD duty Cycle, 1.5dB Power Tolerance & 0.32 Power Reduction factor[1] are used to calculate Transmitter Power & ERP/EiRP.

AT&T recommended to use worst-case tilts for the simulations.

***Power Reduction Factor**: IEC Standard 62232: 2017 allows for a statistically conservative power density model to more realistically define the RF exposure area. AT&T recommends a "0.32" factor to calculate the "Actual Maximum" (time averaged) power value, which accounts for "Beam Scanning," "Scheduling," and "RBS Utilization" This recommended value is a conservative figure modelled and supported by other vendors and through measurements published in scientific articles and white papers by IEEE and others. Those publication are listed below:*

1. IEEE Access, Time-Averaged Realistic Maximum Power Levels for the Assessment of RF Exposure for 5G Radio Base Stations Using Massive MIMO (Published Sept. 18, 2017 / BJÖRN THORS, ANDERS FURUSKÄR, DAVIDE COLOMBI, AND CHRISTER TÖRNEVIK)
2. IEEE Explore, A Statistical Approach for RF Exposure Compliance Boundary Assessment in Massive MIMO Systems (Published Jan. 25, 2018 / Paolo Baracca, Andreas Weber, Thorsten Wild, Christophe Grangeat)
3. IEEE Access, In-situ Measurement Methodology for the Assessment of 5G NR Massive MIMO Base Station Exposure at Sub-6 GHz Frequencies (Published Dec. 20, 2019 / SAM AERTS, LEEN VERLOOCK, MATTHIAS VAN DEN BOSSCHE, DAVIDE COLOMBI, LUC MARTENS, CHRISTER TÖRNEVIK AND WOUT JOSEPH)
4. Applied Sciences, Analysis of the Actual Power and EMF Exposure from Base Stations in a Commercial 5G Network (Published July 30, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)
5. Ofcom Technical Report, Electromagnetic Field (EMF) measurements near 5G mobile phone base stations (Published Feb. 21, 2020 / Davide Colombi, Paramananda Joshi, Bo Xu, Fatemeh Ghasemifard, Vignesh Narasaraju and Christer Törnevik)

MobileComm believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor). Thus, at any time, if power density measurements were made, we believe the real time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modelling in this way, MobileComm has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Other Carrier" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, MobileComm uses the closest frequency in the antenna's range that corresponds to the highest Maximum Exposure Limit (MPE), resulting in a conservative analysis.

Appendix B – FCC Guidelines and Emissions Threshold Limits

All power density values used in this report were analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (µW/cm2).The number of µW/cm2 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 microwatts per square centimeter (µW/cm2). The general population exposure limit for the 700 and 800 MHz Bands is approximately 467 µW/cm2 and 567 µW/cm2 respectively, and the general population exposure limit for the 1900 MHz PCS and 2100 MHz AWS bands is 1000 µW/cm2. 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, have been properly trained in RF safety 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, have been trained in RF safety and can exercise control over his or her exposure by leaving the area or by some other appropriate means. The Occupational/Controlled exposure limits all utilized frequency bands is five (5) times the FCC's General Public / Uncontrolled exposure limit.

Additional details can be found in FCC OET 65.

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-I,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-I,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations.

A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- *are exposed to RF energy as a consequence of their employment;*
- *have been made aware of the possibility of exposure; and*
- *can exercise control over their exposure.*

FCC guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

Appendix D – General Safety Recommendations

The following are general recommendations appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.

2. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:

- *adding new antennas that may have been located on the site*
- *removing of any existing antennas*
- *changes in the radiating power or number of RF emitters*

3. Post the appropriate SAFETY INSTRUCTIONS, NOTICE, CAUTION & WARNING sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in the report section above, to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.

4. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.

5. For a General Public environment the five color levels identified in measured RF emission diagram can be interpreted in the following manner:

- *White represents areas predicted to be greater than or equal to 0% and less than 1% of the MPE general public limits*
- *Green represents areas predicted to be greater than or equal to 1% and less than 100% of the MPE general public limits*
- *Blue represents areas predicted to be greater than or equal to 100% and lesser than 500% of the MPE general public limits.*
- *Yellow represents areas predicted to be greater than or equal to 500% and lesser than 5000% of the MPE general public limits.*
- *Red areas indicates predicted levels greater than or equal to 5000% of the MPE general public limits.*

Appendix E – References

1 - FCC Definition

FCC defines an Occupational or Controlled environment as one where persons are exposed to RF fields as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Typical criteria for an Occupational or Controlled environment is restricted access (i.e. locked doors, gates, etc.) to areas where antennas are located coupled with proper RF warning signage.

FCC defines a site as a General Public or Uncontrolled environment when human exposure to RF fields occurs to the general public or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over the exposure. Typical criteria for a General Public or Uncontrolled environment are unrestricted access (i.e. unlocked or no restrictions) to areas where antennas are located without proper RF warning signage being posted.

2 - Physical Testing measurement procedure and Tools

The Narda Broadband Field Meter NBM-550 can make rapid conformance measurements with evaluation in the time domain when used in conjunction EA5091 probe. This probe is a so-called Shaped Probe, i.e. it is frequency weighted so that it automatically takes account of the FCC Occupational limit values. To collect data, the probe is pointed towards the potential source(s) of EME radiation and moved slowly from ground level up to slightly above head height (approx. 6 ft).

Spatial Average Measurement A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

3 - Site Safety Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: *Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.*

Training and Qualification Verification: *All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).*

Physical Access Control: *Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:*

- *Locked door or gate*
- *Alarmed door*
- *Locked ladder access*
- *Restrictive Barrier at antenna locations (e.g. Chain link with posted RF Sign)*

RF Signage: *Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.*

Assume all antennas are active: *Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.*

Maintain a 3 foot clearance from all antennas: *There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.*

Rooftop RF Emissions Diagram: *Section 4 of this report contains an RF Emissions Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas on the rooftop. This analysis is all theoretical and assumes a duty cycle of 75% for each transmitting antenna at full power. This analysis is a worst case scenario. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.*

4 - Definitions

Compliance- *The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.*

Decibel (dB) – *A unit for measuring power or strength of a signal.*

Duty Cycle – *The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 75% corresponds to continuous operation.*

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – *The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna, this product is divided by the cable losses*

Effective Radiated Power (ERP) – *In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.*

Gain (of an antenna in dbd) – *The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from a reference dipole. Gain is a measure of the relative efficiency of a directional antennas as compared to a reference dipole.*

General Population/Uncontrolled Environment – *Defined by the FCC, as an area where RFR exposure may occur to persons who are unaware of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.*

Generic Antenna – *For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, MobileComm will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.*

Isotropic Antenna – *An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.*

Maximum Measurement – *This measurement represents the single largest measurement recorded when performing a spatial average measurement.*

Maximum Exposure Limit (MPE) – *The RMS and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.*

Occupational/Controlled Environment – *Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are aware of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.*

Radio Frequency Radiation – *Electromagnetic waves that are propagated from antennas through space.*

Spatial Average Measurement – *A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.*

Transmitter Power Output (TPO) – *The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.*

Appendix F – Proprietary Statement

This report was prepared for the use of AT&T Mobility, LLC to meet requirements specified in AT&T's corporate RF safety guidelines. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by MobileComm are based solely on the information provided by AT&T Mobility and all observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to MobileComm so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

PROJECT:	5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 5G NR RADIO, 5G NR 1SR CBAND + DOD
SITE NUMBER:	CTL05468
USID:	24530
FA NUMBER:	10071188
PTN NUMBER:	2051A11KNJ/2051A11KNH
PACE NUMBER:	MRCTB054025/MRCTB055488/MRCTB053304/MRCTB055506
SITE NAME:	NORWICH SE
SITE ADDRESS:	2 HINCKLEY HILL ROAD PRESTON, CT 06365

PROJECT INFORMATION

SITE NAME:	NORWICH SE
SITE NUMBER:	CTL05468
SITE ADDRESS:	2 HINCKLEY HILL ROAD PRESTON, CT 06365
FA NUMBER:	10071188
PTN NUMBER:	2051A11KNJ/2051A11KNH
PACE NUMBER:	MRCTB054025/MRCTB055488/MRCTB053304/MRCTB055506
USID NUMBER:	24530 702499
APPLICANT:	AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701
OWNER:	EIP COMMUNICATIONS I, LLC TWO ALLEGHENY CENTER NOVA TOWER 2, SUITE 703 PITTSBURGH, PA 15212
JURISDICTION:/ ZONING:	NEW LONDON COUNTY
COUNTY:	NEW LONDON
SITE COORDINATES FROM	(RFDS)
LATITUDE:	41.5136919° / 41°30'49.29084"
LONGITUDE:	−72.0633989° / −72°3'48.23604"
GROUND ELEV.:	300'
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
AT&T RF MANAGER:	DEEPAK RATHORE
PHONE:	(860) 965−3068
EMAIL:	dr701e@att.com

PROJECT CONSULTANTS

PROJECT MANAGER:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	SHARON KEEFE (978) 930−3918
EMAIL:	Sharon.Keefe@smartlinkllc.com
SITE AQUISITION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	KRISTINA COTTONE (978) 551−8627
EMAIL:	Kristina.Cottone@smartlinkllc.com
ENGINEER/ARCHITECT:	FULLERTON ENGINEERING, P.C.
ADDRESS:	1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173
CONTACT:	AHMED GARCEVIC (847) 908−8400
EMAIL:	agarcevic@FullertonEngineering.com
CONSTRUCTION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	KRISTINA COTTONE (978) 551−8627
EMAIL:	kristina.cottone@smartlinkgroup.com

SCOPE OF WORK

PROJECT SCOPE HEREIN BASED ON RFDS ID # 4462274, VERSION 4.00 LAST UPDATED 07/03/23.

EXISTING TOWER EQUIPMENT TO BE REMOVED:
- (3) POWERWAVE 7770 ANTENNAS
- (1) CCI OPA65R−LCUU−H8 ANTENNA
- (2) CCI OPA65R−LCUU−H6 ANTENNAS
- (1) KMW EPBQ−654L8H8−L2 ANTENNA
- (2) KMW EPBQ−654L8H6−L2 ANTENNAS
- (12) 1−1/4" COAX CABLES
- (4) DC6−48−60−18−8F RAYCAPS
- (2) FIBER CABLES

EXISTING TOWER EQUIPMENT TO REMAIN:
- (1) CCI DMP65R−BU8DA ANTENNA
- (2) CCI DMP65R−BU6DA ANTENNAS
- (3) RRUS−4449 B5/B12
- (3) RRUS−E2 B29
- (7) DC CABLES

EXISTING TOWER EQUIPMENT TO BE RELOCATED:
- (3) RRUS−4478 B14
- (3) RRUS−32 B66A
- (3) RRUS−32 B2
- (3) RRUS−32 B30

NEW TOWER EQUIPMENT TO BE INSTALLED:
- (1) QUINTEL QD8616−7 ANTENNA
- (2) QUINTEL QD6616−7 ANTENNAS
- (3) ERICSSON AIR6419 B77G STACKED ANTENNAS
- (3) ERICSSON AIR6449 B77D STACKED ANTENNAS
- (3) Y−CABLES
- (3) DC9−48−60−24−8C−EV RAYCAP UNITS
- (3) 24 PAIR FIBER AND (2) 6AWG6 DC POWER CABLES

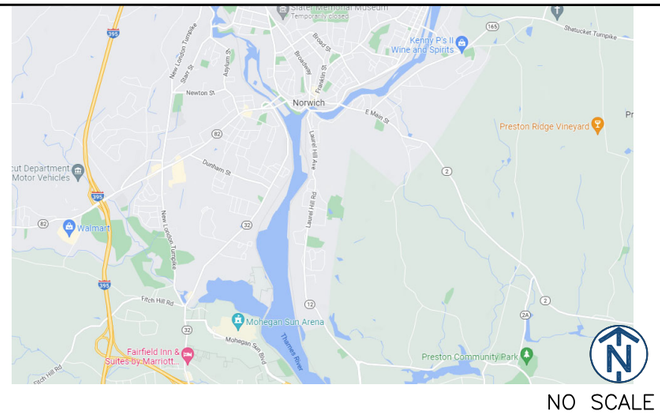
GROUND EQUIPMENT TO BE REMOVED:
- (3) RRUWS
- (1) UMTS CABINET

REMOVE AND REPLACE EXISTING BATTERIES
DECOMMISSION EXISTING UMTS

GROUND EQUIPMENT TO BE INSTALLED:
- (1) RBS 6651 AND IDLE XCEDE CABLES
- (4) NEW RECTIFIERS IN EXISTING POWER PLANT
- (1) NEW BATTERY CABINET W/ (2) STRINGS OF BATTERIES

- CONTRACTOR SHALL FURNISH ALL MATERIAL WITH THE EXCEPTION OF AT&T SUPPLIED MATERIAL.
- ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE.

SITE LOCATION MAP



NO SCALE

DIRECTIONS

SCAN QR CODE FOR LINK
TO SITE LOCATION MAP

APPLICABLE BUILDING CODES AND STANDARDS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE 2022 CONNECTICUT STATE BUILDING CODE SUPPLEMENT
ELECTRICAL CODE:	2020 NATIONAL ELECTRICAL CODE

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- ADA ACCESS REQUIREMENTS ARE NOT REQUIRED.
- THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE

DRAWING INDEX

T1	TITLE SHEET
SP1	NOTES AND SPECIFICATIONS
SP2	NOTES AND SPECIFICATIONS
A1	COMPOUND PLAN
A2	EQUIPMENT PLAN
A3	ELEVATIONS
A4	ANTENNA PLANS
A5A	EQUIPMENT DETAILS
A5B	EQUIPMENT DETAILS
A6	ANTENNA & CABLE CONFIGURATION
A7	CABLE NOTES AND COLOR CODING
A8	GROUNDING DETAILS
A9	PLUMBING DIAGRAMS

NOTE: DRAWING SCALES ARE FOR 11"x17" SHEETS UNLESS OTHERWISE NOTED

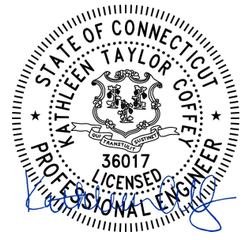
at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/28/22	90% REVIEW	SM
1	05/10/22	FOR CONSTRUCTION	SM
2	12/14/22	FOR CONSTRUCTION	SM
3	12/14/23	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.



SITE NAME
NORWICH SE

SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1

PROJECT# 2021.0215.0017

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR/CM – SMARTLINK
   OWNER – AT&T WIRELESS

2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.

3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.

5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.

10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.

11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.

12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.

14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.

15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.

16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.

19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.

20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.

21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2–A OT 2–A:10–B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.

22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.

24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.

25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.

26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE–APPROVED BY THE LOCAL JURISDICTION.

28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.

29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.

30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS–BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.

31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.

32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).

33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.

34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.

36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.

37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.

ANTENNA MOUNTING

40. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA–222 OR APPLICABLE LOCAL CODES.

41. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT–DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.

42. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC–COATING (HOT–DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.

43. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

44. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.

45. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.

46. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50–OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.

47. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/– 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/– 0.5% AS DEFINED BY THE RFDS. REFER TO ND–00246.

48. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.

49. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.

50. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

TORQUE REQUIREMENTS

51. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.

52. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
   A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
   B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.

FIBER & POWER CABLE MOUNTING

53. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.

54. THE TYPE TC–ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC–ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.

55. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC–ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO

    ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.

63. CONTRACTOR SHALL VERIFY THE DOWN–TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.

64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.

65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'–0".

66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'–0" OC.

67. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.

68. CONTRACTOR SHALL GROUND ALL EQUIPMENT. INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.

69. CONTRACTOR SHALL PROVIDE STRAIN–RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN–RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

70. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

GENERAL CABLE AND EQUIPMENT NOTES

71. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.

72. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.

73. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

74. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE–HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.

75. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
   A. TEMPERATURE SHALL BE ABOVE 50° F.
   B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
   C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
   D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS

76. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
   A. GROUNDING AT THE ANTENNA LEVEL.
   B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'–0", ADDITIONAL CABLE GROUNDING REQUIRED.
   C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
   D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
   E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.

77. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'–0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

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STATE OF CONNECTICUT
KATHLEEN TAYLOR COFFEY
36017
LICENSED
PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

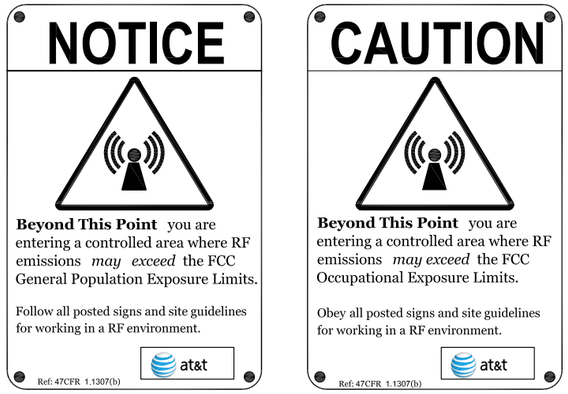
SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
NOTES AND SPECIFICATIONS

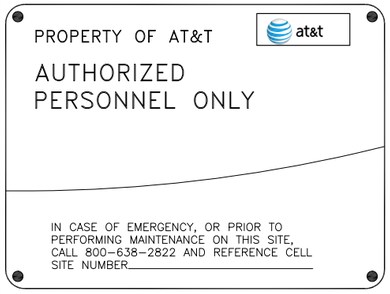
SHEET NUMBER
SP1

PROJECT# 2021.0215.0017



ALERTING SIGNS

ALERTING SIGN



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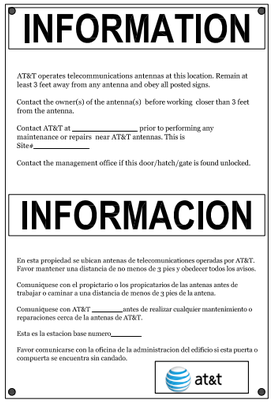

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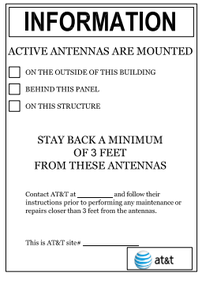

INFO SIGN #2

INFO SIGN #3

ALERTING SIGN (FOR CELL SITE BATTERIES)

ALERTING SIGN (FOR DIESEL FUEL)

ALERTING SIGN (FOR PROPANE)

GENERAL SIGNAGE GUIDELINES

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	STRIPING	NOTICE SIGN	CAUTION SIGN
TOWERS							
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN 9 FT ABOVE GROUND
SEC TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
LIGHT POLES/FLAG POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
UTILITY WOOD POLES (JPA)	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%; NOTICE SIGN; OVER 99%: CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND: ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT EXPOSURE AT 6FT ABOVE GROUND OR AT OUTSIDE OF SURFACE OF ADJACENT BUILDING	
TOWERS							
AT ALL ACCESS POINTS TO THE ROOF	X			X			
ON ANTENNAS	X		X	X			
CONCEALED ANTENNAS	X	X		X			
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X		X			
ANTENNAS ON SUPPORT STRUCTURE	X	X		X			
ROOFVIEW GRAPH						EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNA /BARRIER	
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X			
RADIATION AREA IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X	DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH		
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO STEEPLE			CAUTION SIGN AT THE ANTENNAS
WATER STATIONS	ACCESS TO LADDER	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO LADDER			CAUTION SIGN BESIDE INFO SIGN #1, MIN. 9FT ABOVE GROUND

NOTES FOR ROOFTOP SITES:

1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR
2. IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED
3. SHOULD THE REQUIRED STRIPING AREAS INTERFERE WITH ANY STRUCTURE OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.). PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.

SIGNAGE GUIDELINES CHART

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550 COCHITUATE ROAD
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1362 MELLON ROAD
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PRESTON, CT 06365

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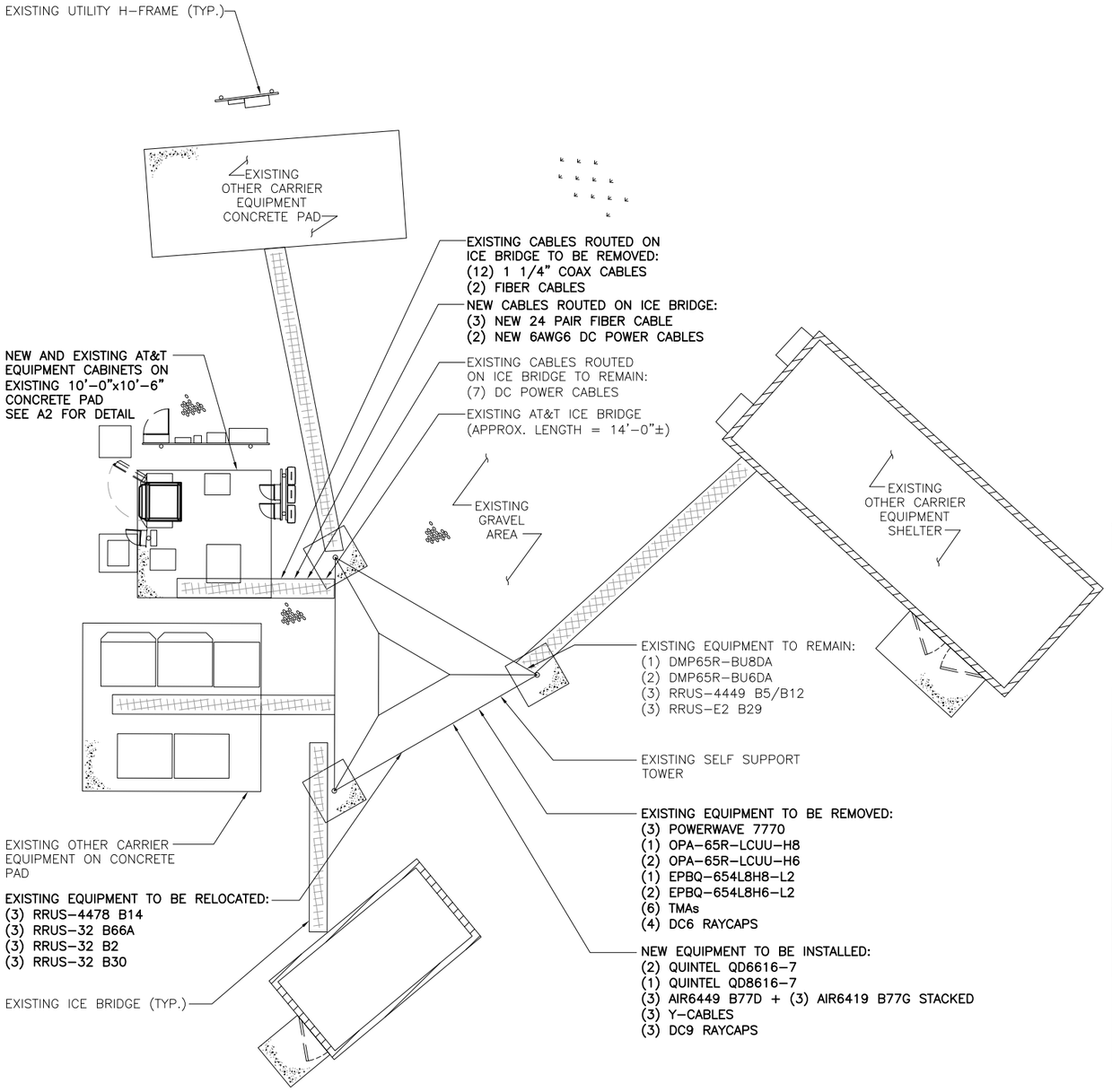
ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
℄	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
FIF	FACILITY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MCPA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PPC	POWER PROTECTION CABINET
PL	PROPERY LINE
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

SYMBOLS

- REVISION
- WORK POINT
- UTILITY POLE
- COMPRESSED STONE
- BRICK
- CONCRETE
- EARTH
- GRAVEL
- MASONRY
- STEEL
- CENTERLINE
- PROPERTY LINE
- LEASE LINE
- EASEMENT LINE
- CHAIN LINK FENCE
- WOOD FENCE
- UE — BELOW GRADE ELECTRIC
- UT — BELOW GRADE TELEPHONE
- OE/OT — OVERHEAD ELECTRIC/TELEPHONE
- SECTION REFERENCE (A / S-1)



COMPOUND PLAN — 0 2' 4' 8' 16' — SCALE: 3/32" = 1'-0" — 1

AT&T STANDARDS TO REFER TO:
ATT-CEM-23001
ATT-TP-76416
ATT-TP-76300
ATT-CEM-18002
ATT-002-290-531
ATT-002-290-701

SITE PHOTO 1 — SCALE: N.T.S. — 2

SITE PHOTO 2 — SCALE: N.T.S. — 3

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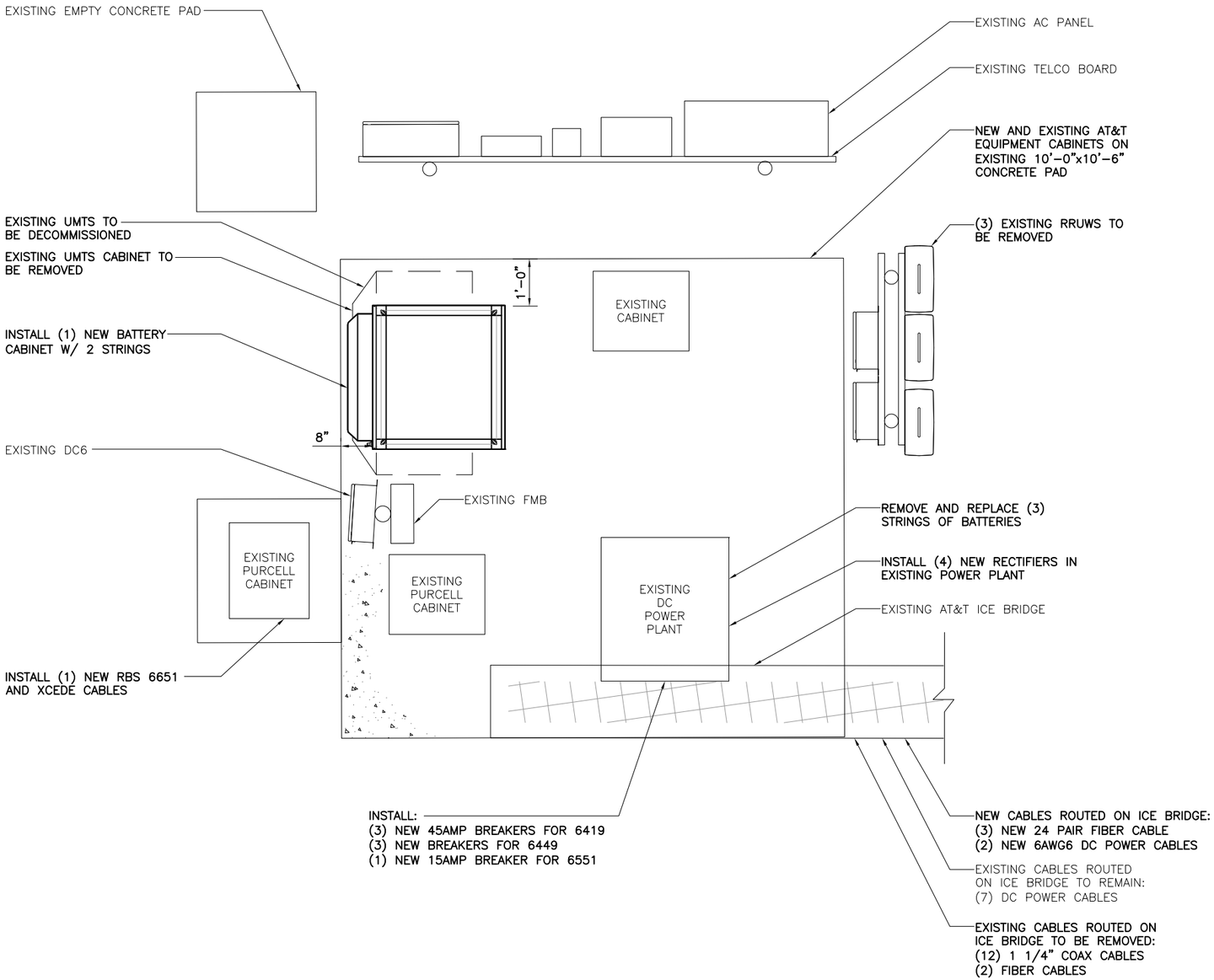
SHEET NAME
COMPOUND PLAN

SHEET NUMBER
A1

PROJECT# 2021.0215.0017



EQUIPMENT PLAN

0 6" 1' 2' 4'

SCALE: 3/8" = 1'–0"

1

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550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

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1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

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1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/28/22	90% REVIEW	SM
1	05/10/22	FOR CONSTRUCTION	SM
2	12/14/22	FOR CONSTRUCTION	SM
3	12/14/23	FOR CONSTRUCTION	KC

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STATE OF CONNECTICUT
KATHLEEN TAYLOR COFFEY
36017
LICENSED
PROFESSIONAL ENGINEER

SITE NAME

NORWICH SE

SITE NUMBER:

CTL05468

SITE ADDRESS

2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME

EQUIPMENT PLAN

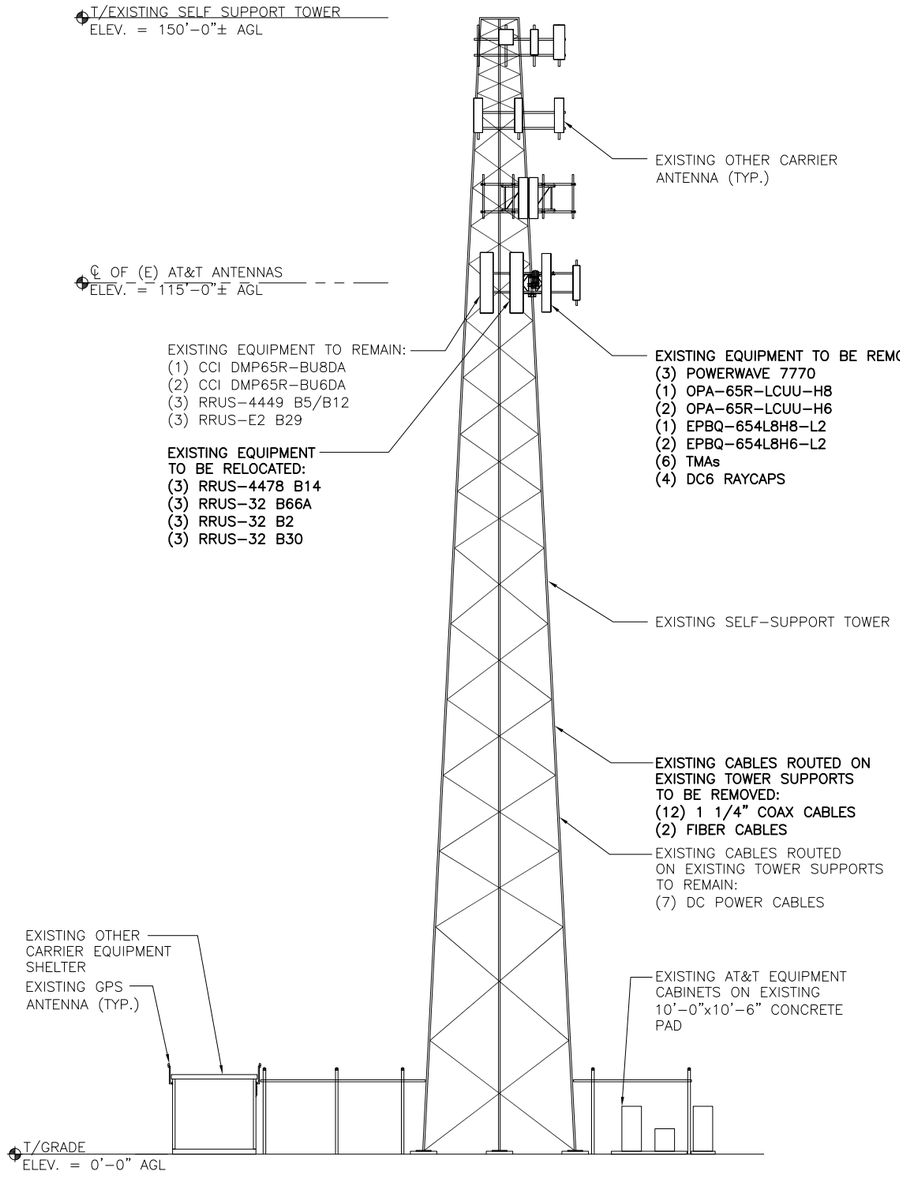
SHEET NUMBER

A2

PROJECT# 2021.0215.0017

NOTES:

1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
3. CABLES NOT SHOWN FOR CLARITY



EXISTING ELEVATION

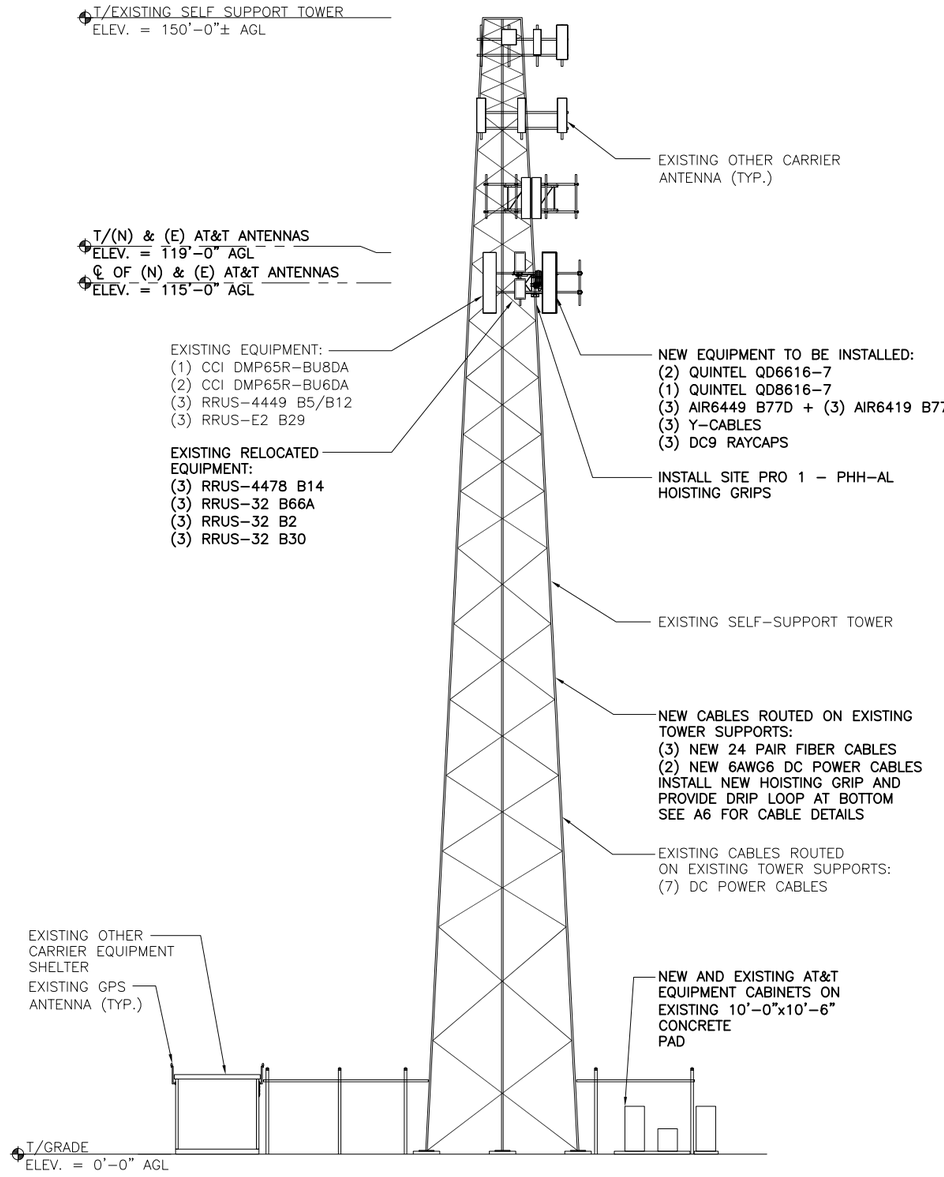
0 10 20 30

SCALE: 1" = 20'-0"

1

NOTES:

1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC
3. 4 FEET MINIMUM INTERSECTOR SEPARATION BETWEEN ANTENNAS EDGE TO EDGE



NEW ELEVATION

0 10 20 30

SCALE: 1" = 20'-0"

2

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SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

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LICENSED
PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

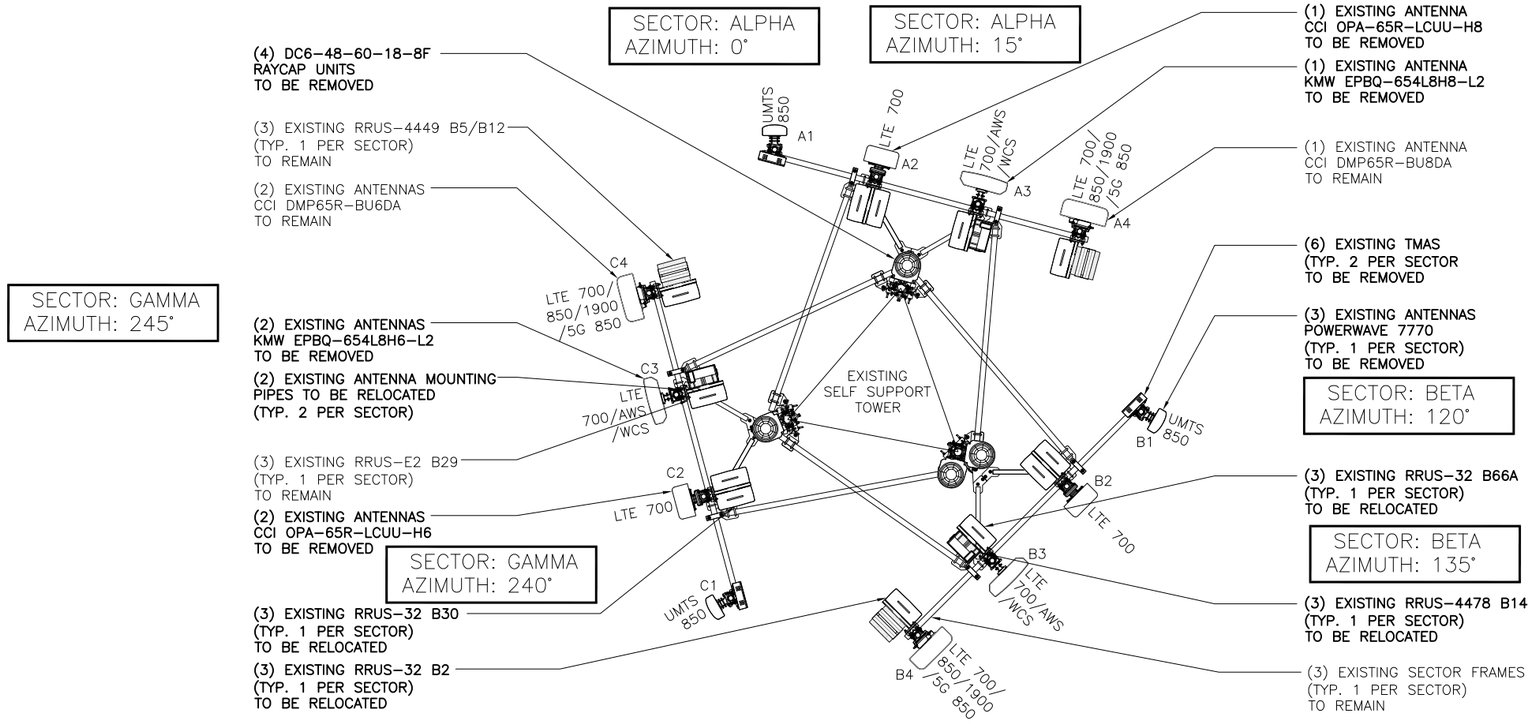
SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

PROJECT# 2021.0215.0017

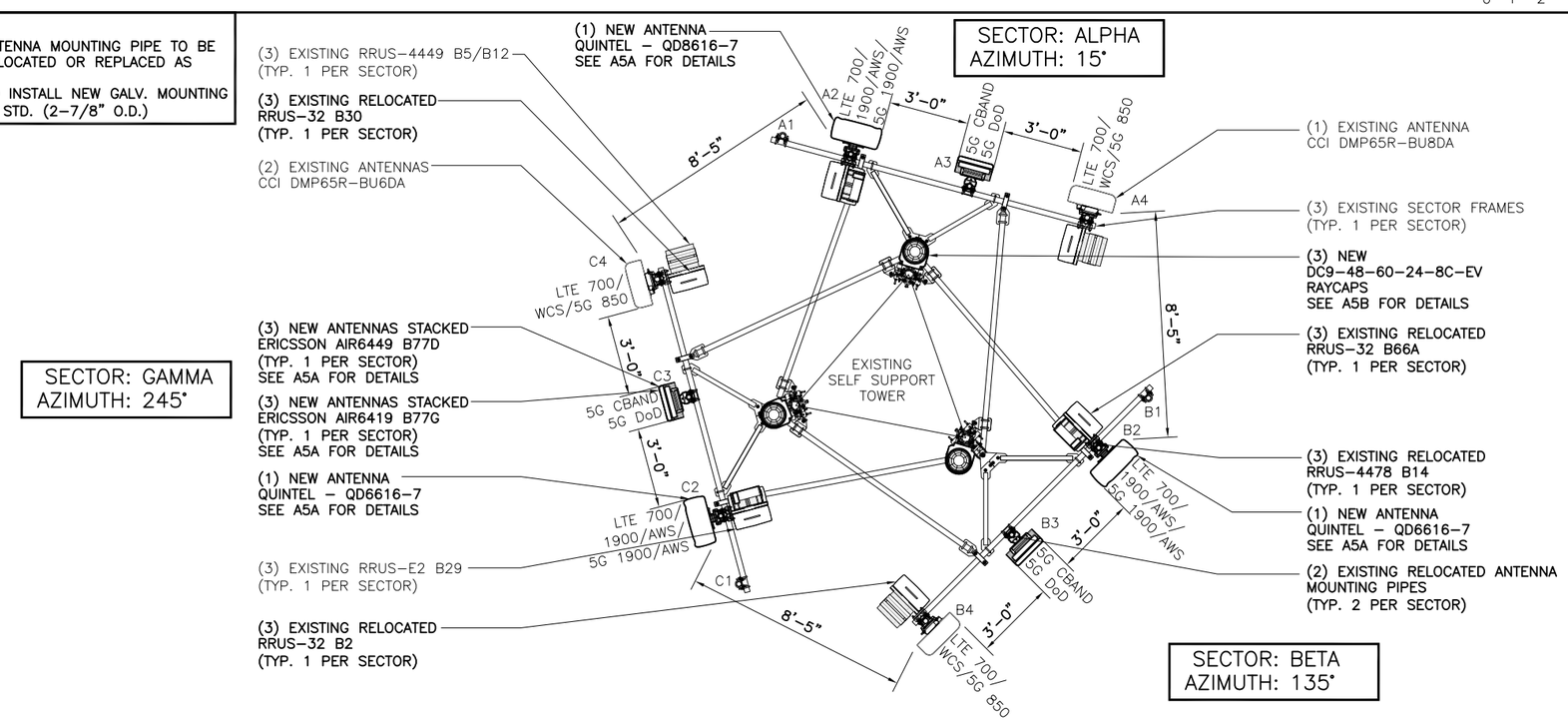


EXISTING ANTENNA PLAN

0 1' 2' 4' 8'

SCALE: 3/16" = 1'-0" | 1

NOTES:
1. EXISTING ANTENNA MOUNTING PIPE TO BE REUSED, RELOCATED OR REPLACED AS REQUIRED
2. IF REQUIRED INSTALL NEW GALV. MOUNTING PIPE(S) 2.5 STD. (2-7/8" O.D.)



FINAL ANTENNA PLAN

0 1' 2' 4' 8'

SCALE: 3/16" = 1'-0" | 2

NOTES:
1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC
3. 4 FEET MINIMUM INTERSECTOR SEPARATION BETWEEN ANTENNAS EDGE TO EDGE

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PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

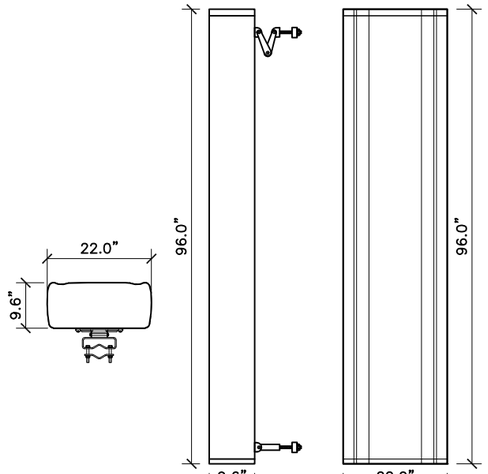
SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A4

PROJECT# 2021.0215.0017



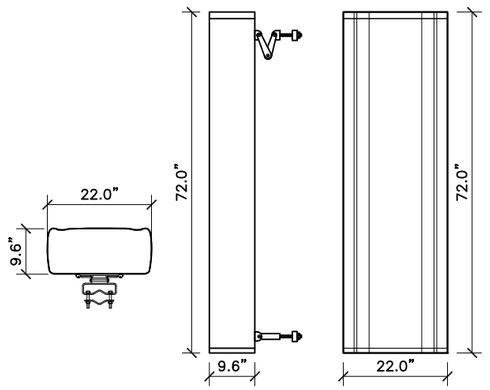
PLAN VIEW SIDE VIEW FRONT VIEW

QUINTEL – QD8616-7

MULTISERVE MULITBAND 16 PORT ANTENNA

FREQUENCY RANGE	2 x 698–728 MHz 4 x 758–798 MHz 2 x 824–894 MHz 8 x 1695–2400 MHZ
ANTENNA	132 Lbs
BRACKET	15 Lbs
TOTAL WEIGHT	147 Lbs

ANTENNA SPEC SCALE: N.T.S. 1



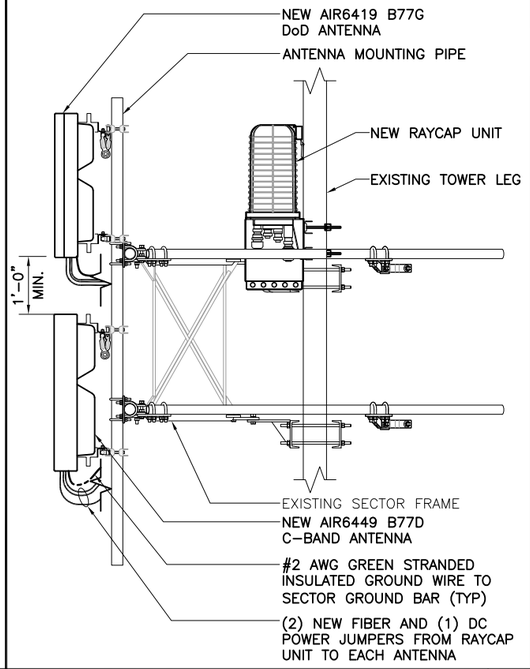
PLAN VIEW SIDE VIEW FRONT VIEW

QUINTEL – QD6616-7

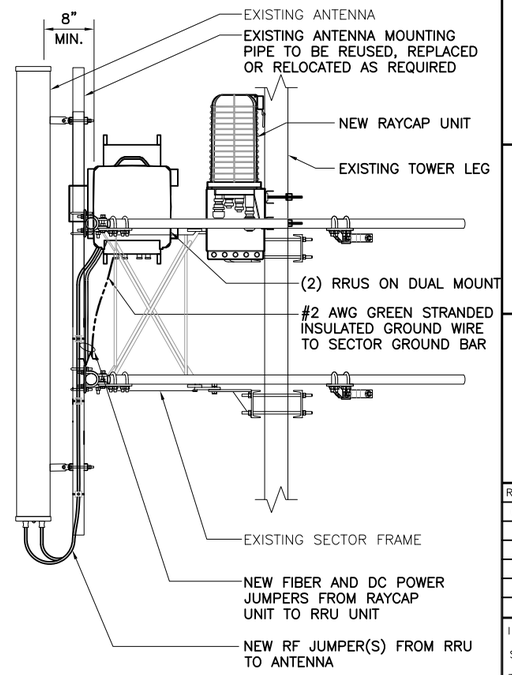
MULTISERVE MULITBAND 16 PORT ANTENNA

FREQUENCY RANGE	2 x 698–728 MHz 4 x 758–798 MHz 2 x 824–894 MHz 8 x 1695–2400 MHZ
ANTENNA WEIGHT	114 Lbs

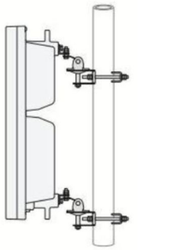
ANTENNA SPEC SCALE: N.T.S. 2



ANTENNA SCHEMATIC SCALE: N.T.S. 3



ANTENNA SCHEMATIC SCALE: N.T.S. 4

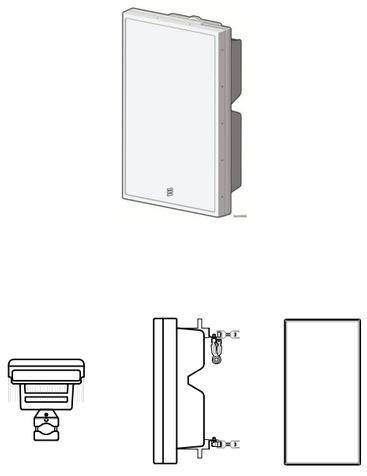


Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

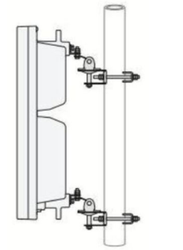
ERICSSON – AIR 6449 B77D MOUNT

BRACKET SUPPORTING AIR WITH TILTING +/–20 DEGREE AND RIGHT/LEFT 30 DEGREE

ANTENNA SPEC SCALE: N.T.S. 5



ANTENNA SPEC SCALE: N.T.S. 6

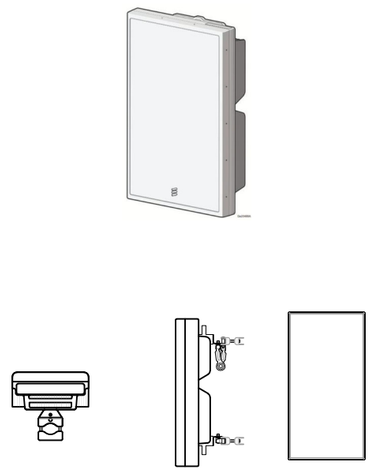


Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 × 50 mm	50 × 50 mm
Maximum outer dimension	Ø114 mm	80 × 80 mm	80 × 80 mm

ERICSSON – AIR 6419 B77G MOUNT

BRACKET SUPPORTING AIR WITH TILTING +/–20 DEGREE AND RIGHT/LEFT 30 DEGREE

ANTENNA SPEC SCALE: N.T.S. 7



ANTENNA SPEC SCALE: N.T.S. 8

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SITE NAME
NORWICH SE

SITE NUMBER:
CTL05468

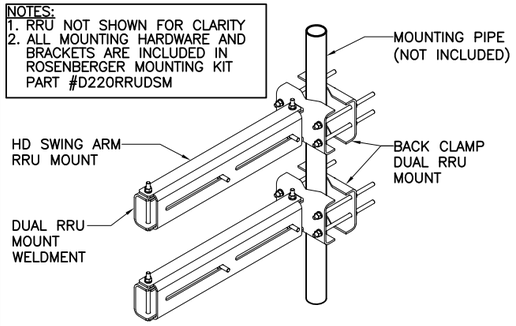
SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
EQUIPMENT DETAILS

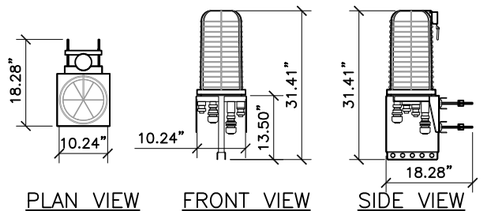
SHEET NUMBER
A5A

PROJECT# 2021.0215.0017

NOTES:
1. RRU NOT SHOWN FOR CLARITY
2. ALL MOUNTING HARDWARE AND BRACKETS ARE INCLUDED IN ROSENBERGER MOUNTING KIT PART #D220RRUDSM



RRU DOUBLE MOUNT DETAIL SCALE: N.T.S. 1



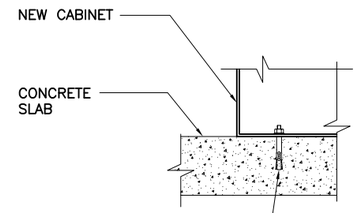
PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP – DC9-48-60-24-8C-EV

SYSTEM WEIGHT	16.0 Lbs
MOUNT WEIGHT	10.2 Lbs
TOTAL WEIGHT	26.2 Lbs

DIMENSIONS (LxWxH) 18.28"x10.24"x31.4"

RAYCAP SPEC SCALE: N.T.S. 2



(4) 1/2"ø HILTI KWIK BOLT 3 EXPANSION ANCHORS
W/MIN. 3-1/4" EMBEDMENT
(TYP OF 4 PER CABINET BASE KIT)

CABINET CONNECTION SCALE: N.T.S. 3

NOT USED SCALE: N.T.S. 4

NOT USED SCALE: N.T.S. 5

NOT USED SCALE: N.T.S. 6

NOT USED SCALE: N.T.S. 7

NOT USED SCALE: N.T.S. 8

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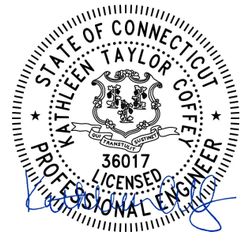

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NORWICH SE

SITE NUMBER:
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SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5B

PROJECT# 2021.0215.0017

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (07/03/23, V4 FINAL)

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	–	–	–	–	–	–	–		(1) (N) DC9-48-60-24-8C-EV
	A-2	(N) LTE 700DE/B14 /PCS/AWS	QD8616-7	QUINTEL	(1) EXISTING RRUS-32 B2 (1) EXISTING RRUS-E2 B29 (1) EXISTING RRUS-32 B66A (1) EXISTING RRUS-4478 B14	15°	115'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	A-3	(N) 5G CBAND 5G DoD	AIR6419 B77G + AIR6449 B77D STACKED	ERICSSON	–	15°	115'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	A-4	(E) LTE 700BC/ 850/WCS	DMP65R-BU8DA	CCI	(1) EXISTING RRUS-32 B30 (1) EXISTING 4449 B5/B12 **(1) NEW Y-CABLE**	15°	115'-0"	**(1) NEW 24-PAIR FIBER CABLE** (3) EXISTING DC POWER CABLES	**140'-0"** 140'-0"	
BETA	B-1	–	–	–	–	–	–	–		(1) (N) DC9-48-60-24-8C-EV
	B-2	(N) LTE 700DE/B14 /PCS/AWS	QD6616-7	QUINTEL	(1) EXISTING RRUS-32 B2 (1) EXISTING RRUS-E2 B29 (1) EXISTING RRUS-32 B66A (1) EXISTING RRUS-4478 B14	135°	115'-0"	SEE ANTENNA B-4 FOR CABLE TYPE AND LENGTH		
	B-3	(N) 5G CBAND 5G DoD	AIR6419 B77G + AIR6449 B77D STACKED	ERICSSON	–	135°	115'-0"	SEE ANTENNA B-4 FOR CABLE TYPE AND LENGTH **(1) NEW 6AWG6 DC POWER CABLE**	 **140'-0"**	
	B-4	(E) LTE 700BC/ 850/WCS	DMP65R-BU6DA	CCI	(1) EXISTING RRUS-32 B30 (1) EXISTING 4449 B5/B12 **(1) NEW Y-CABLE**	135°	115'-0"	**(1) NEW 24-PAIR FIBER CABLE** (2) EXISTING DC POWER CABLES	**140'-0"** 140'-0"	
GAMMA	C-1	–	–	–	–	–	–	–		(1) (N) DC9-48-60-24-8C-EV
	C-2	(N) LTE 700DE/B14 /PCS/AWS	QD6616-7	QUINTEL	(1) EXISTING RRUS-32 B2 (1) EXISTING RRUS-E2 B29 (1) EXISTING RRUS-32 B66A (1) EXISTING RRUS-4478 B14	245°	115'-0"	SEE ANTENNA C-4 FOR CABLE TYPE AND LENGTH		
	C-3	(N) 5G CBAND 5G DoD	AIR6419 B77G + AIR6449 B77D STACKED	ERICSSON	–	245°	115'-0"	SEE ANTENNA C-4 FOR CABLE TYPE AND LENGTH **(1) NEW 6AWG6 DC POWER CABLE**	 **140'-0"**	
	C-4	(E) LTE 700BC/ 850/WCS	DMP65R-BU6DA	CCI	(1) EXISTING RRUS-32 B30 (1) EXISTING 4449 B5/B12 **(1) NEW Y-CABLE**	245°	115'-0"	**(1) NEW 24-PAIR FIBER CABLE** (2) EXISTING DC POWER CABLES	**140'-0"** 140'-0"	

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SITE NAME
NORWICH SE

SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
ANTENNA & CABLE CONFIGURATION

SHEET NUMBER
A6

1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

SCALE: N.T.S. | 1

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

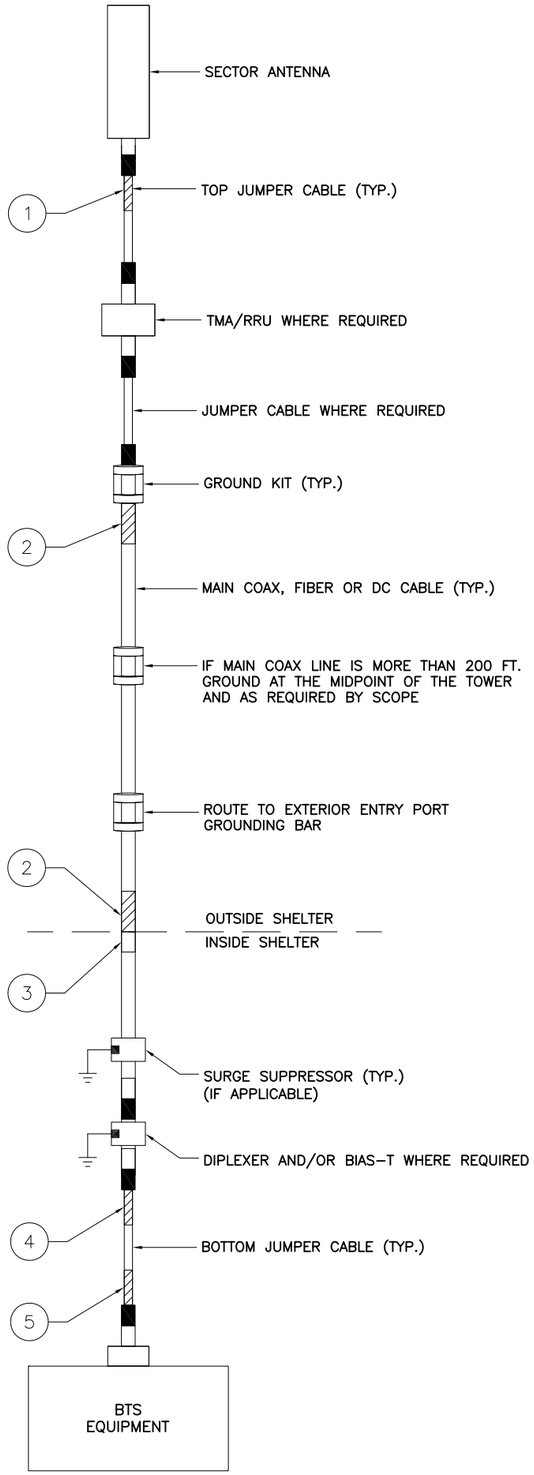
CABLE MARKING DIAGRAM

SCALE: N.T.S. | 2

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S. | 3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. | 4

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/28/22	90% REVIEW	SM
1	05/10/22	FOR CONSTRUCTION	SM
2	12/14/22	FOR CONSTRUCTION	SM
3	12/14/23	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

STATE OF CONNECTICUT · KATHLEEN TAYLOR COFFEY · 36017 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

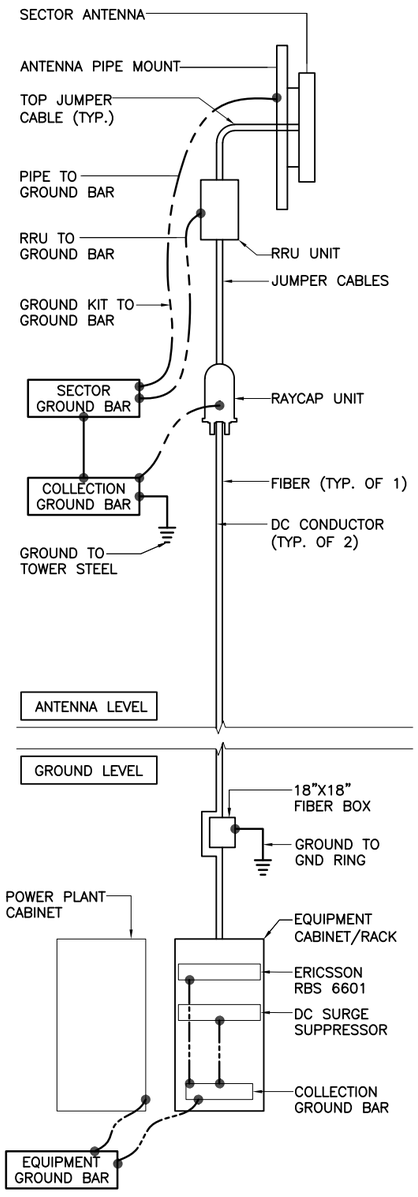
SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

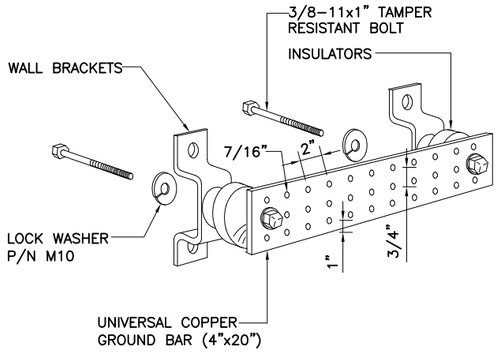
SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7

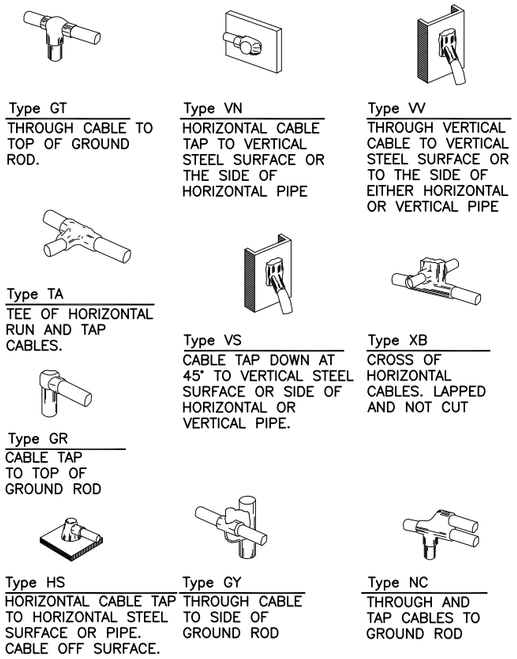
PROJECT# 2021.0215.0017



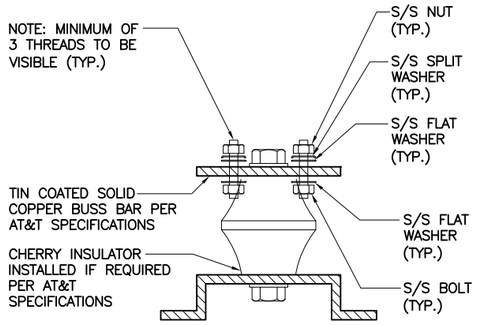
GROUNDING SCHEMATIC — SCALE: N.T.S. — 1



GROUND BAR DETAIL — SCALE: N.T.S. — 2



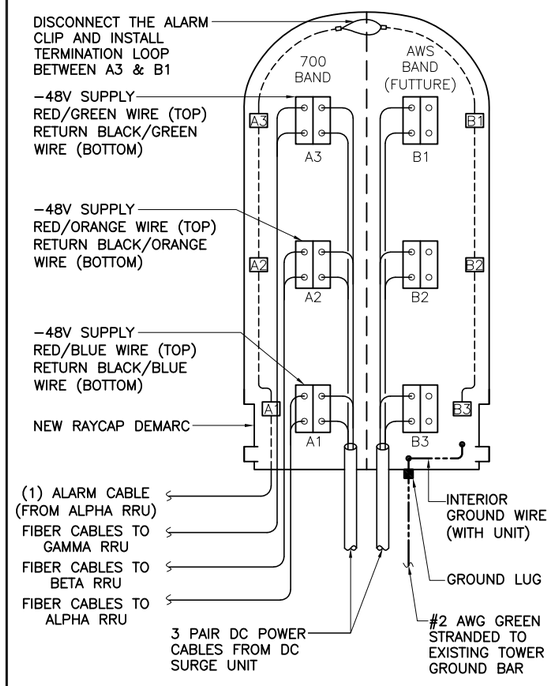
EXOTHERMIC WELD DETAILS — SCALE: N.T.S. — 4



NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

LUG DETAIL — SCALE: N.T.S. — 3



RAYCAP DC POWER AND ALARM DET. — SCALE: N.T.S. — 5

AT&T STANDARDS TO REFER TO:

ATT-CEM-23001
ATT-TP-76416
ATT-TP-76300
ATT-CEM-18002
ATT-002-290-531
ATT-002-290-701

NOT USED — SCALE: N.T.S. — 6

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/28/22	90% REVIEW	SM
1	05/10/22	FOR CONSTRUCTION	SM
2	12/14/22	FOR CONSTRUCTION	SM
3	12/14/23	FOR CONSTRUCTION	KC

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STATE OF CONNECTICUT · KATHLEEN TAYLOR COFFEY · 36017 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

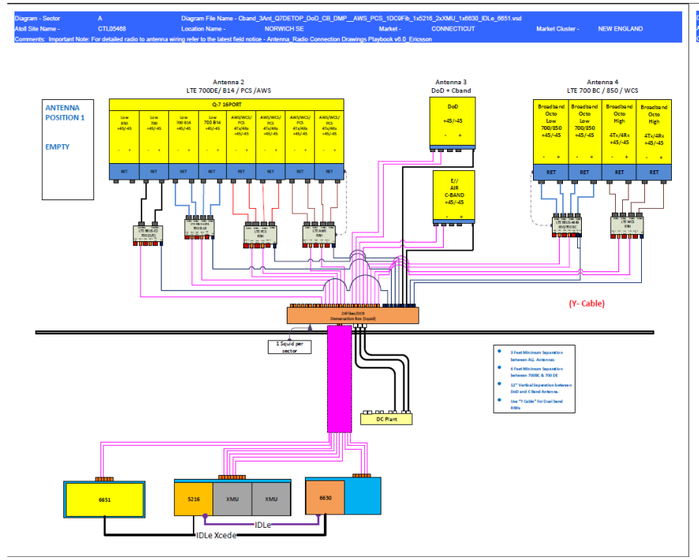
SITE NUMBER:
CTL05468

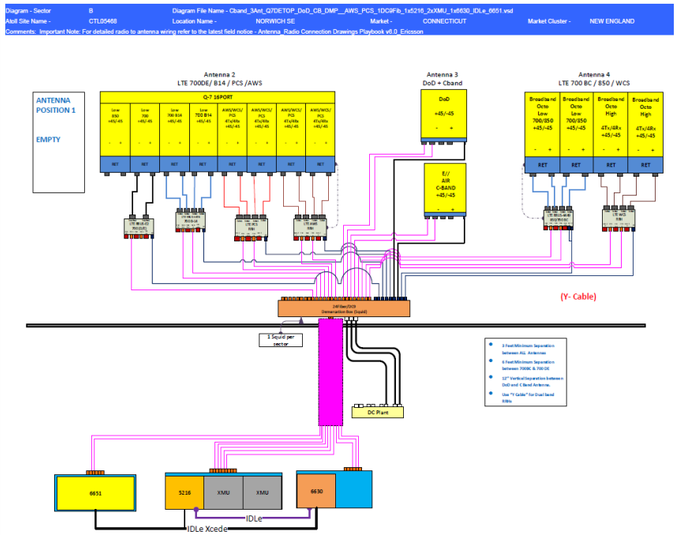
SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

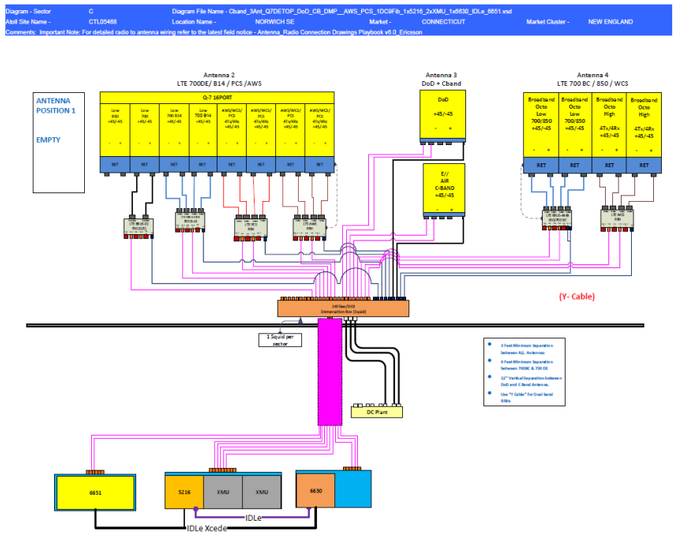
SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
A8

PROJECT# 2021.0215.0017







*BASED ON RFDS V4.0 FINAL, DATED (07/03/23)

PLUMBING DIAGRAMS SCALE: N.T.S. 1

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001899
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	03/28/22	90% REVIEW	SM
1	05/10/22	FOR CONSTRUCTION	SM
2	12/14/22	FOR CONSTRUCTION	SM
3	12/14/23	FOR CONSTRUCTION	KC

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STATE OF CONNECTICUT · KATHLEEN TAYLOR COFFEY · TRANSITUS OCCUPAT · 36017 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
NORWICH SE

SITE NUMBER:
CTL05468

SITE ADDRESS
2 HINCKLEY HILL ROAD
PRESTON, CT 06365

SHEET NAME
PLUMBING DIAGRAMS

SHEET NUMBER
A9

PROJECT# 2021.0215.0017

FedEx

FedEx® Tracking

DELIVERED

Wednesday

12/27/23 at 3:24 PM

Your package was released as requested and safely delivered.

Signed for by: S.IGNATURE NOT REQ

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

TRACKING ID

774565425945

FROM
Smartlink LLC
Carolyn Seeley
6 Jasmine Rd
Oxford, MA US 01540
9787605577

Label Created
12/20/23 6:47 PM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/26/23 3:55 PM

ON THE WAY
WILMINGTON, MA

WILMINGTON, MA
12/27/23 6:28 AM

DELIVERED
EIP Holdings II LLC
100 Summet Street
BOSTON, MA US 02110
9787605577

Delivered
12/27/23 at 3:24 PM

↓ View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774565425945

DELIVERED TO Shipping/Receiving

SHIPPER REFERENCE CTL05468

SHIP DATE 12/26/23

STANDARD TRANSIT 12/28/23 before 5:00 PM

ACTUAL DELIVERY 12/27/23 at 3:24 PM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

FedEx

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

↑ Back to to

Travel history

Ascending

Local Scan Time

Wednesday, 12/20/23

- 6:47 PM
  Shipment information sent to FedEx

Tuesday, 12/26/23

- 3:55 PM
  Picked up
  WEST BOYLSTON, MA
- 3:56 PM
  Shipment arriving early
  WEST BOYLSTON, MA
- 8:32 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA
- 10:07 PM
  At destination sort facility
  RAYNHAM, MA

- 2:39 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 3:55 AM
  Departed FedEx hub
  WILLINGTON, CT
- 5:46 AM
  At local FedEx facility
  WILMINGTON, MA
- 6:28 AM
  On FedEx vehicle for delivery
  WILMINGTON, MA
- 3:23 PM
  Delivered
  BOSTON, MA

3:24 PM
Delivered
BOSTON, MA

↑ Back to to

All (30)

FedEx

FedEx® Tracking

DELIVERED

Wednesday

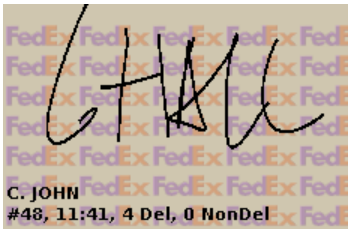
12/27/23 at 11:40 AM

Signed for by: C.JOHN

Obtain proof of delivery

DELIVERY STATUS

Delivered



TRACKING ID

774565131070

FROM
Smartlink LLC
Carolyn Seeley
6 Jasmine Rd
Oxford, MA US 01540
9787605577

Label Created
12/20/23 5:55 PM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/26/23 3:55 PM

ON THE WAY
JOHNSTON, RI
12/27/23 5:48 AM

OUT FOR DELIVERY
JOHNSTON, RI
12/27/23 6:13 AM

DELIVERED
John L. Salomone
Norwich City Hall

Delivered
12/27/23 at 11:40 AM

↓ View travel history

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YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

All (30)

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Investor Relations
Careers
FedEx Blog
Corporate Responsibility
Newsroom
Contact Us

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ShopRunner

LANGUAGE
United States

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FedEx

FedEx® Tracking

DELIVERED

Wednesday

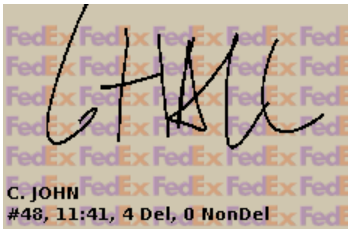
12/27/23 at 11:40 AM

Signed for by: C.JOHN

Obtain proof of delivery

DELIVERY STATUS

Delivered



TRACKING ID

774565359171

FROM
Smartlink LLC
Carolyn Seeley
6 Jasmine Rd
Oxford, MA US 01540
9787605577

Label Created
12/20/23 6:35 PM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/26/23 3:55 PM

ON THE WAY
JOHNSTON, RI
12/27/23 5:36 AM

OUT FOR DELIVERY
JOHNSTON, RI
12/27/23 5:54 AM

DELIVERED
Deanna Rhodes
Norwich City Hall

Delivered
12/27/23 at 11:40 AM

↓ View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774565359171

DELIVERED TO Shipping/Receiving

SHIPPER REFERENCE CTL05468

SHIP DATE 12/26/23

STANDARD TRANSIT 12/28/23 before 5:00 PM

ACTUAL DELIVERY 12/27/23 at 11:40 AM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL PIECES 1

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

FedEx

↑ Back to to

Travel history

Ascending

Local Scan Time

Wednesday, 12/20/23

- 6:35 PM
  Shipment information sent to FedEx

Tuesday, 12/26/23

- 3:55 PM
  Picked up
  WEST BOYLSTON, MA
- 3:56 PM
  Shipment arriving early
  WEST BOYLSTON, MA
- 8:32 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA

Wednesday, 12/27/23

- 2:27 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 3:54 AM
  Departed FedEx hub
  WILLINGTON, CT
- 5:36 AM
  At local FedEx facility
  JOHNSTON, RI
- 5:54 AM
  On FedEx vehicle for delivery
  JOHNSTON, RI
- 11:40 AM
  Delivered
  NORWICH, CT

↑ Back to to

All (30)

FedEx

FedEx® Tracking

DELIVERED

Thursday

12/28/23 at 9:08 AM

Your package was released as requested and safely delivered.

Signed for by: Signature not required

Obtain proof of delivery

DELIVERY STATUS

Delivered

TRACKING ID

774565416208

FROM
Smartlink LLC
Carolyn Seeley
6 Jasmine Rd
Oxford, MA US 01540
9787605577

Label Created
12/20/23 6:46 PM

WE HAVE YOUR PACKAGE
WEST BOYLSTON, MA
12/26/23 3:55 PM

ON THE WAY
BRIDGEPORT, PA
12/28/23 5:32 AM

OUT FOR DELIVERY

DELIVERED
17 Mile Real Estate LLC
69 Harry St
CONSHOHOCKEN, PA US 19428
9787605577

Delivered
12/28/23 at 9:08 AM

↓ View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
pbaker915

SUBMIT

✖ Your email is invalid.

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER 774565416208

DELIVERED TO Shipping/Receiving

SHIPPER REFERENCE CTL05468

SHIP DATE 12/26/23

STANDARD TRANSIT 12/28/23 before 5:00 PM

ACTUAL DELIVERY 12/28/23 at 9:08 AM

Services

SERVICE FedEx 2Day

TERMS Shipper

SPECIAL HANDLING SECTION Deliver Weekday

Package details

WEIGHT 0.5 lbs / 0.23 kgs

TOTAL SHIPMENT WEIGHT 0.5 lbs / 0.23 kgs

PACKAGING FedEx Envelope

↑ Back to to

Travel history

Ascending

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Wednesday, 12/20/23

- 6:46 PM
  Shipment information sent to FedEx

Tuesday, 12/26/23

- 3:55 PM
  Picked up
  WEST BOYLSTON, MA
- 3:56 PM
  Shipment arriving On-Time
  WEST BOYLSTON, MA
- 8:32 PM
  Left FedEx origin facility
  WEST BOYLSTON, MA

Wednesday, 12/27/23

- 2:27 AM
  Arrived at FedEx hub
  WILLINGTON, CT
- 9:03 AM
  Departed FedEx hub
  WILLINGTON, CT
- 7:28 PM
  Arrived at FedEx hub
  NORTHAMPTON, PA

- 5:23 AM
  Arrived at FedEx hub
  BRIDGEPORT, PA
- 5:32 AM
  At local FedEx facility
  BRIDGEPORT, PA
- 6:28 AM
  On FedEx vehicle for delivery
  BRIDGEPORT, PA
- 9:08 AM
  Delivered
  CONSHOHOCKEN, PA

9:08 AM
Delivered
CONSHOHOCKEN, PA

↑ Back to to

All (30)