Filed by:
Rick Woods, Site Development Manager - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.614.0389 - rwoods@sbasite.com

November 18, 2024

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

RE: Notice of Exempt Modification
1050 Buckley Highway, Union CT 06076
Latitude: 41.999219
Longitude: -72.152397
T-Mobile Site#: CT11144C

Dear Ms. Bachman:

T-Mobile currently maintains antennas at the 140-foot level of the existing 173-foot lattice tower at 1050 Buckley Highway, Union CT 06076. The tower is owned by SBA Towers X, LLC. The property is owned by Wayne Kemp and Kathy-Lee Kemp. T-Mobile now intends to remove (3) antennas, (3) TMAs, (9) coax cables, (3) hybrid cables and replace them with (3) 3 antennas, (3) Radios, and (2) hybrid cables.

Planned Modifications:

TOWER

Remove:
(3) RFS APX16DWV-16DWVS-E-A20
(3) Ericsson Twin Style 1A PCS TMA
(9) 1-5/8" coax
(3) 1-1/4" hybrid cables

Install New:
(3) RFS APXVLL19P_43-C-A20
(3) Ericsson 4460 B25+B66
(2) 1.9" hybrid cables

Existing equipment to remain:
(3) RFS APXVAALL24_43-U-NA20 antennas
(3) Ericsson 4449 B71+B85 RRUs
(3) side arm mounts

Reserved Lease Entitlements
(1) Commscope VHLP2-11W/A Microwave
(2) Ceragon RFU-D ODUs
(5) 1-5/8" coax
(2) .325 DC cables
(2) ½" fiber cables

GROUND

Install New:

- (1) Slackbox for Fiber management
- (1) 6160 V2 AC Equipment Cabinet
- (1) B160 Battery Cabinet

This facility was approved by Site plan approval by the Town of Union PZC, granted September 16, 1998. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to First Selectman David D, Eaton and Dan Camerota, ZEO/ Planning and Zoning Commissioner of the Town of Union. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

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

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

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Rick Woods
Site Development Manager

SBA Communications Corporation
134 Flanders Road
Suite 125
Westborough, MA 01581

508.251.0720 x3800 + **T**
508.614.0389 + **C**
rwoods@sbasite.com

Your Signal Starts Here.

Exhibit List

Exhibit 1	Check Copy
Exhibit 2	FedEx Labels
Exhibit 3	Property Card
Exhibit 4	Property Map
Exhibit 5	Zoning Approval Documents
Exhibit 6	EME
Exhibit 7	Structural Analysis
Exhibit 8	Mount Analysis
Exhibit 9	Construction Drawings

Attachments:
Cc:
First Selectman David D Eaton
Union Town Hall
1043 Buckley Hwy
Union CT 06076

Dan Camerota, ZEO/ Planning and Zoning Commissioner
Union Town Hall
1043 Buckley Hwy
Union CT 06076

Wayne Kemp and Kathy-Lee Kemp
1050 Buckley Highway
Union, CT 06076

EXHIBIT 1

EXHIBIT 2

ORIGIN ID:BBFA (508) 768-7960
JOHN MORRISON
SBA COMMUNICATIONS CORPORATION
134 FLANDERS
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 18NOV24
ACTWGT: 1.00 LB
CAD: 255382542/INET4535

BILL SENDER

TO **WAYNE & KATHY-LEE KEMP**

1050 BUCKLEY HIGHWAY

UNION CT 06076

(508) 614-0389
INV:
PO:

REF: 10-56-92009-6089

DEPT:

580J5/582E/C6C4

FedEx Express

J244024091001uv

TUE - 19 NOV 5:00P
STANDARD OVERNIGHT

TRK# 0201 **7700 4642 9957**

EB QCWA

06076
CT-US BDL

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID:BBFA (508) 768-7960
JOHN MORRISON
SBA COMMUNICATIONS CORPORATION
134 FLANDERS
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 18NOV24
ACTWGT: 1.00 LB
CAD: 255382542/INET4535

BILL SENDER

TO **DAVID EATON**
UNION TOWN HALL FIRST SELECTMAN
1043 BUCKLEY HWY

UNION CT 06076

(508) 614-0389
INV:
PO:

REF: 10-56-92009-6089

DEPT:

580J5/582E/C6C4

FedEx Express

J244024091001uv

TUE - 19 NOV 5:00P
STANDARD OVERNIGHT

TRK# 0201 **7700 4635 7748**

EB QCWA

06076
CT-US BDL

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ORIGIN ID:BBFA (508) 768-7960
JOHN MORRISON
SBA COMMUNICATIONS CORPORATION
134 FLANDERS
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 18NOV24
ACTWGT: 1.00 LB
CAD: 255382542/INET4535

BILL SENDER

TO **DAN CAMEROTA**
UNION TOWN HALL ZONING COMMISSIONER
1043 BUCKLEY HWY

UNION CT 06076
(508) 614-0389
INV:
PO:

REF: 10-56-92009-6089
DEPT:

580J5/582E/C60C4

FedEx Express

J244024091001uv

TUE - 19 NOV 5:00P
STANDARD OVERNIGHT

TRK# 0201 **7700 4638 5792**

EB QCWA

06076
CT-US BDL

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
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EXHIBIT 3

1050 BUCKLEY HIGHWAY

Location	1050 BUCKLEY HIGHWAY	**Mblu**	13/ 18/ 020/ /
Acct#	00023000	**Owner**	KEMP WAYNE & KATHY LEE
Assessment	$448,160	**Appraisal**	$640,230
PID	186	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$403,770	$236,460	$640,230
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$282,640	$165,520	$448,160

Owner of Record

Owner	KEMP WAYNE & KATHY LEE	**Sale Price**	$135,000
Co-Owner		**Certificate**	
Address	1050 BUCKLEY HWY UNION, CT 06076	**Book & Page**	39/384
		Sale Date	11/14/1996
		Instrument	Q

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
KEMP WAYNE & KATHY LEE	$135,000		39/384	Q	11/14/1996

Building Information

Building 1 : Section 1

Year Built:	1959
Living Area:	1,720
Replacement Cost:	$232,042
Building Percent Good:	64
Replacement Cost Less Depreciation:	$148,510

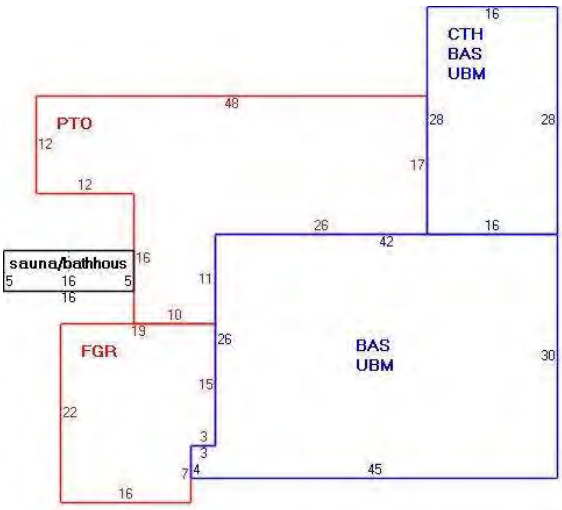
Building Attributes

Field	Description
Style	Ranch
Model	Residential
Grade:	C+
Stories:	1 Story
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable or Hip
Roof Cover	Asphalt
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Quarry Tile
Heat Fuel	Oil
Heat Type:	Forced Air
AC Type:	Central
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	5 Rooms
Bath Style:	Modern
Kitchen Style:	Average

Building Photo

(https://images.vgsi.com/photos/UnionCTPhotos//00\00\01\12.jpg)

Building Layout



(ParcelSketch.ashx?pid=186&bid=186)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,720	1,720
CTH	Cathedral Ceiling	448	0
FGR	Garage	397	0
PTO	Patio	866	0
UBM	Unfinished Basement	1,720	0
		5,151	1,720

Building 2 : Section 1

Year Built: 1999
Living Area: 2,200
Replacement Cost: $224,312
Building Percent Good: 77

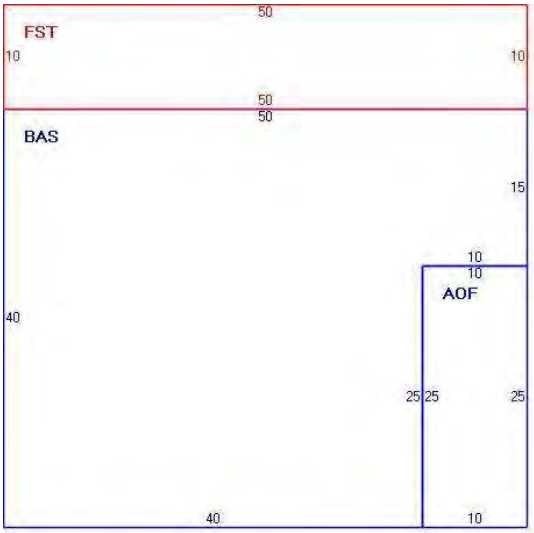
Replacement Cost
Less Depreciation: $172,720

Building Attributes : Bldg 2 of 3	
Field	**Description**
STYLE	Garage/Office
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable or Hip
Roof Cover	Asphalt
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Gravity Air
AC Type	None/Partial
Bldg Use	STORE/SHOP
Total Rooms	
Total Bedrms	
Total Baths	
1st Floor Use:	
Heat/AC	None
Frame Type	Wood Frame
Baths/Plumbing	Light
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	Light
Wall Height	13.00
% Comn Wall	0.00

Building Photo

(https://images.vgsi.com/photos/UnionCTPhotos//default.jpg)

Building Layout



(ParcelSketch.ashx?pid=186&bid=808)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,750	1,750
AOF	Office	250	250
FST	Finished Utility/Storage	500	200
		2,500	2,200

Building 3 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost
Less Depreciation: $0

Building Attributes : Bldg 3 of 3

Field	Description
Style	Vacant Land
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:	

Building Photo

(https://images.vgsi.com/photos/UnionCTPhotos//default.jpg)

Building Layout

(ParcelSketch.ashx?pid=186&bid=819)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
WHL	WHIRLPOOL	1.00 UNITS	$2,310	1
FPL1	FIREPLACE 1 ST	1.00 UNITS	$1,450	1
SNA	SAUNA	192.00 S.F.	$9,220	1

Land

Land Use

Use Code	1010
Description	Single Fam MDL-01
Zone	CI
Neighborhood	12
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	5.40
Frontage	0
Depth	0
Assessed Value	$165,520
Appraised Value	$236,460

Outbuildings

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FGR2	GARAGE-GOOD			2400.00 S.F.	$67,200	3
PAV1	PAVING-ASPHALT			3500.00 S.F.	$2,360	2

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	$403,770	$236,460	$640,230
2017	$334,280	$247,630	$581,910
2013	$334,280	$247,630	$581,910

Assessment			
Valuation Year	Improvements	Land	Total
2018	$282,640	$165,520	$448,160
2017	$234,000	$173,340	$407,340
2013	$234,000	$173,340	$407,340

EXHIBIT 4

neccog

Ashford Brooklyn Canterbury Chaplin Eastford Hampton Killingly Plainfield Pomfret Putnam Scotland Sterling Thompson Union Voluntown Woodstock

Parcel Information:

Report Generated: *7/31/2019 11:42:39 AM*

GIS ID: CT-145-13-18-000020

Assessment: $407,340.00

Owner Name: ***KEMP WAYNE & KATHY LEE***

Appraissal:

Street Address: 1050 BUCKLEY HIGHWAY

Mailing Address:

Land: 5.40

Buildings:

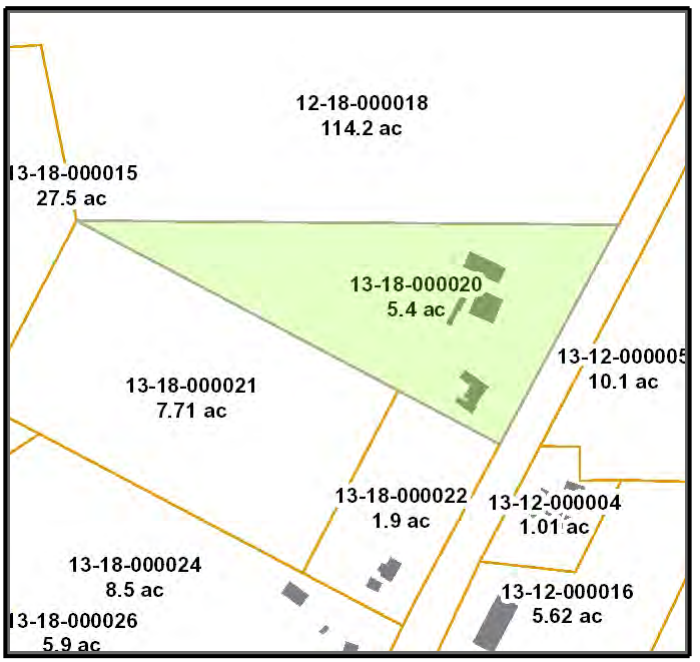
	Land Value:	Improvement Value:	Total Value:
Appraised			
Assessed			$407,340.00

Sale Date:

Sale Price: $135,000

Year Built: 1959

Primary Structure Area: 1,720.00 sq. ft.



Taxlot highlighted in blue

EXHIBIT 5

Copy Distribution:

White - Planning & Zoning Commission
Yellow - Building Inspector
Blue - Assessor
Green - Applicant

OP# 9719

Date 9-16-98

TOWN OF UNION, CONNECTICUT

OCCUPANCY/USE PERMIT

This is to certify that the Planning and Zoning Commission and/or the Building Official of the Town of Union, Connecticut, have inspected the

158' RADIO TOWER

(sized _____) located at 1050 BUCKLEY HWY

and permitted under Zoning Permit No. 505 issued to

WAYNE KEMP of 1050 BUCKLEY HWY

and the location and use of this structure and premises complies with the provisions of The Town of Union Zoning Regulations and substantially complies with the Connecticut Building Code.

Inspected for Connecticut Building Code Compliance

by Edward F Stanewski

Date 9-16-98

Use Group _____

Type of Construction _____

Live load 1st floor _____

Live load 2nd floor _____

Fire Grading _____

Inspection for Zoning Compliance by:

James Burgh

Date Inspected 11/4/98

PLANNING AND ZONING COMMISSION
TOWN OF UNION, CONNECTICUT

James Burgh
Chairman

Joseph Kratochvil
(Acct.) Secretary

TELEPHONE TOWER
RADIO TOWER

Copy Distribution:

White - Planning & Zoning Commission
Yellow - Building Inspector
Blue - Assessor
Green - Applicant

ZP # № 505
Date 6-4-97

TOWN OF UNION, CONNECTICUT

ZONING PERMIT

This is to certify that the Planning and Zoning Commission of the Town of Union, Connecticut, acting upon the application of WAYNE KEMP presently residing at 1050 BUCKLEY HIGHWAY do hereby approve and grant said applicant a Zoning Permit for:

RADIO TOWER
sized 158 feet high

to be located at the following location: 1050 BUCKLEY HIGHWAY.

Be it understood that the requirements of the Zoning Regulations of the Town of Union Connecticut be fulfilled and that before occupancy of said structure or use of such building an Occupancy/Use Permit must be obtained from the Building Inspector and the Planning & Zoning Commission.

This document is not a Building Permit but is an approval from the Zoning Board that what you propose to do complies with the Town of Union Zoning Regulations.

A BUILDING PERMIT MUST BE OBTAINED BEFORE CONSTRUCTION BEGINS. PLEASE BE SURE TO CONTACT THE BUILDING INSPECTOR BEFORE PROCEEDING WITH ANY CONSTRUCTION.

PLANNING AND ZONING COMMISSION
TOWN OF UNION, CONNECTICUT

James Dunk
Chairman

Diane Williams
Secretary

PLANNING AND ZONING COMMISSION

TOWN OF UNION, CONNECTICUT

Mail Address: 1024 Buckley Highway, Union, CT 06076

SPECIAL PERMIT

Description of Premises: 1052 BUCKLEY HIGHWAY UNION CT

Nature of Special Permit: TO PERMIT THE CONSTRUCTION OF A TELECOMMUNICATIONS FACILITY

Applicable Regulation(s): UNION PZ SECTION 3.11

Owners of Record: WAYNE & KATHY KEMP

Date Issued: JUNE 4, 1997

Chairman Union Planning & Zoning

COPY

EXHIBIT 6

Radio Frequency Exposure Analysis Report

November 14, 2024

T-Mobile

Site Name: Union/I-84 X73-74/Cemet1
Site ID: CT11144C
Site Address: 1050 Buckley Highway, Union, CT 06076

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2025

Signed 14 November 2024

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	2.74001 µW/cm^2
Cumulative General Population % MPE (Ground Level):	0.39882%
Cumulative Calculated Power Density (Adj. Structure):	5.05441 µW/cm^2
Cumulative General Population % MPE (Adj. Structure):	0.73311%

November 14, 2024

T-Mobile
Attn: Adam Sullivan
15 Commerce Way, Suite B
Norton, MA 02379

RF Exposure Analysis for Site: **Union/I-84 X73-74/Cemet1**

Centerline was contracted to analyze the proposed T-Mobile facility at **1050 Buckley Highway, Union, CT 06076** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

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

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

Calculation Methodology

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

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

Data & Results

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

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level and adjacent 18' building (0-6' spatial average). The results from highest cumulative sample point at ground level & the adjacent 18' building. surrounding the site are displayed in the tables below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

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

The following files were used in completing this report:

RFDS:	CT11144C _RF_FINAL_RFDS_67D998E_Equipment Upgrade__8_2024-10-08
CD:	CT11144C_A and E_FCD_EquipUpgrade_R1_20241002-SSD_BBapprove_RFApprove

CENTERLINE

Maximum Calculated Cumulative Power Density (Location: Ground @ approximately 10' North of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
T-Mobile A 1	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.08729	1000.00	0.00873
T-Mobile A 1	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.08729	1000.00	0.00873
T-Mobile A 1	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.12700	1000.00	0.01270
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.07107	466.67	0.01523
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.07128	400.00	0.01782
T-Mobile B 3	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00018	1000.00	0.00002
T-Mobile B 3	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00018	1000.00	0.00002
T-Mobile B 3	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.00007	1000.00	0.00001
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.00006	466.67	0.00001
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.00029	400.00	0.00007
T-Mobile C 5	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00058	1000.00	0.00006
T-Mobile C 5	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00058	1000.00	0.00006
T-Mobile C 5	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.00087	1000.00	0.00009
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.00064	466.67	0.00014
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.00051	400.00	0.00013
Tolland County A 7	GENERIC OMNI	450	12.00	178.00	1.00	25.00	396.22	0.00054	300.00	0.00018
Tolland County A 8	GENERIC OMNI	1900	9.96	174.00	1.00	25.00	247.71	0.00150	1000.00	0.00015
Tolland County A 9	GENERIC OMNI	850	5.96	173.00	1.00	25.00	98.61	0.00177	566.67	0.00031
Tolland County B 10	GENERIC YAGI	700	11.10	170.00	1.00	2.00	25.76	0.00003	466.67	0.00001
Verizon A 11	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.08244	1000.00	0.00824
Verizon A 12	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.01278	1000.00	0.00128
Verizon A 13	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.08023	466.67	0.01719
Verizon A 14	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.08267	566.67	0.01459
Verizon A 15	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.08637	1000.00	0.00864
Verizon B 16	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.00002	1000.00	0.00000
Verizon B 17	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.00000	1000.00	0.00000
Verizon B 18	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.00035	466.67	0.00008
Verizon B 19	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.00001	566.67	0.00000
Verizon B 20	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.00003	1000.00	0.00000
Verizon C 21	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.00012	1000.00	0.00001
Verizon C 22	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.00001	1000.00	0.00000
Verizon C 23	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.00016	466.67	0.00003

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Verizon C 24	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.00022	566.67	0.00004
Verizon C 25	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.00007	1000.00	0.00001
Unknown A 26	GENERIC MICROWAVE	23000	38.55	140.00	1.00	0.10	716.14	0.00000	1000.00	0.00000
AT&T A 27	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.12770	466.67	0.02736
AT&T A 27	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.13157	566.67	0.02322
AT&T A 28	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.13121	1000.00	0.01312
AT&T A 28	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.13747	1000.00	0.01375
AT&T B 29	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.00056	466.67	0.00012
AT&T B 29	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.00001	566.67	0.00000
AT&T B 30	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.00003	1000.00	0.00000
AT&T B 30	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.00005	1000.00	0.00001
AT&T C 31	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.00026	466.67	0.00006
AT&T C 31	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.00034	566.67	0.00006
AT&T C 32	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.00019	1000.00	0.00002
AT&T C 32	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.00012	1000.00	0.00001
Dish A 33	JMA MX08FRO665-21	600	11.35	60.00	4.00	30.00	1637.50	0.42848	400.00	0.10712
Dish A 33	JMA MX08FRO665-21	2007	15.75	60.00	4.00	40.00	6013.40	0.50912	1000.00	0.05091
Dish A 33	JMA MX08FRO665-21	2100	16.75	60.00	4.00	40.00	7570.42	0.46378	1000.00	0.04638
Dish B 34	JMA MX08FRO665-21	600	11.35	180.00	4.00	30.00	1637.50	0.00012	400.00	0.00003
Dish B 34	JMA MX08FRO665-21	2007	15.75	180.00	4.00	40.00	6013.40	0.00002	1000.00	0.00000
Dish B 34	JMA MX08FRO665-21	2100	16.75	180.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Dish C 35	JMA MX08FRO665-21	600	11.35	300.00	4.00	30.00	1637.50	0.00000	400.00	0.00000
Dish C 35	JMA MX08FRO665-21	2007	15.75	300.00	4.00	40.00	6013.40	0.00001	1000.00	0.00000
Dish C 35	JMA MX08FRO665-21	2100	16.75	300.00	4.00	40.00	7570.42	0.00001	1000.00	0.00000
Tolland County A 36	GENERIC OMNI	850	5.96	71.00	1.00	25.30	99.80	0.01175	566.67	0.00207
							Cumulative Power Density:	**2.74001 µW/cm²**	**Cumulative % MPE:**	**0.39882%**

CENTERLINE

Maximum Calculated Cumulative Power Density
(Location: Adjacent 18' Building @ approximately 10' North of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
T-Mobile A 1	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.11079	1000.00	0.01108
T-Mobile A 1	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.11079	1000.00	0.01108
T-Mobile A 1	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.16081	1000.00	0.01608
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.09055	466.67	0.01940
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.09358	400.00	0.02340
T-Mobile B 3	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00020	1000.00	0.00002
T-Mobile B 3	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00020	1000.00	0.00002
T-Mobile B 3	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.00006	1000.00	0.00001
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.00007	466.67	0.00002
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.00030	400.00	0.00008
T-Mobile C 5	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00099	1000.00	0.00010
T-Mobile C 5	RFS APXVLL19P_43-C-A20	1900	16.24	140.00	4.00	40.00	6731.63	0.00099	1000.00	0.00010
T-Mobile C 5	RFS APXVLL19P_43-C-A20	2100	17.33	140.00	4.00	60.00	12978.10	0.00155	1000.00	0.00016
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	700	13.65	140.00	4.00	40.00	3707.83	0.00093	466.67	0.00020
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	600	12.95	140.00	4.00	40.00	3155.88	0.00078	400.00	0.00019
Tolland County A 7	GENERIC OMNI	450	12.00	178.00	1.00	25.00	396.22	0.00068	300.00	0.00023
Tolland County A 8	GENERIC OMNI	1900	9.96	174.00	1.00	25.00	247.71	0.00189	1000.00	0.00019
Tolland County A 9	GENERIC OMNI	850	5.96	173.00	1.00	25.00	98.61	0.00223	566.67	0.00039
Tolland County B 10	GENERIC YAGI	700	11.10	170.00	1.00	2.00	25.76	0.00004	466.67	0.00001
Verizon A 11	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.10692	1000.00	0.01069
Verizon A 12	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.01658	1000.00	0.00166
Verizon A 13	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.10358	466.67	0.02220
Verizon A 14	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.10672	566.67	0.01883
Verizon A 15	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.11228	1000.00	0.01123
Verizon B 16	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.00002	1000.00	0.00000
Verizon B 17	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.00000	1000.00	0.00000
Verizon B 18	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.00042	466.67	0.00009
Verizon B 19	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.00001	566.67	0.00000
Verizon B 20	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.00003	1000.00	0.00000
Verizon C 21	GENERIC PANEL 6FT	1900	15.84	150.00	4.00	40.00	6139.32	0.00018	1000.00	0.00002
Verizon C 22	GENERIC PANEL 1FT	3600	15.35	150.00	4.00	5.00	685.54	0.00001	1000.00	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Verizon C 23	GENERIC PANEL 6FT	700	12.33	150.00	4.00	40.00	2736.02	0.00028	466.67	0.00006
Verizon C 24	GENERIC PANEL 6FT	850	12.62	150.00	4.00	40.00	2924.96	0.00033	566.67	0.00006
Verizon C 25	GENERIC PANEL 6FT	2100	16.39	150.00	4.00	40.00	6968.19	0.00012	1000.00	0.00001
Unknown A 26	GENERIC MICROWAVE	23000	38.55	140.00	1.00	0.10	716.14	0.00000	1000.00	0.00000
AT&T A 27	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.17789	466.67	0.03812
AT&T A 27	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.18328	566.67	0.03234
AT&T A 28	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.18363	1000.00	0.01836
AT&T A 28	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.19283	1000.00	0.01928
AT&T B 29	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.00072	466.67	0.00015
AT&T B 29	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.00002	566.67	0.00000
AT&T B 30	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.00004	1000.00	0.00000
AT&T B 30	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.00006	1000.00	0.00001
AT&T C 31	GENERIC PANEL 6FT	700	12.33	120.00	4.00	40.00	2736.02	0.00049	466.67	0.00011
AT&T C 31	GENERIC PANEL 6FT	850	12.62	120.00	4.00	40.00	2924.96	0.00056	566.67	0.00010
AT&T C 32	GENERIC PANEL 6FT	1900	15.84	120.00	4.00	40.00	6139.32	0.00031	1000.00	0.00003
AT&T C 32	GENERIC PANEL 6FT	2100	16.39	120.00	4.00	40.00	6968.19	0.00020	1000.00	0.00002
Dish A 33	JMA MX08FRO665-21	600	11.35	60.00	4.00	30.00	1637.50	0.97542	400.00	0.24385
Dish A 33	JMA MX08FRO665-21	2007	15.75	60.00	4.00	40.00	6013.40	1.18597	1000.00	0.11860
Dish A 33	JMA MX08FRO665-21	2100	16.75	60.00	4.00	40.00	7570.42	1.10552	1000.00	0.11055
Dish B 34	JMA MX08FRO665-21	600	11.35	180.00	4.00	30.00	1637.50	0.00010	400.00	0.00002
Dish B 34	JMA MX08FRO665-21	2007	15.75	180.00	4.00	40.00	6013.40	0.00001	1000.00	0.00000
Dish B 34	JMA MX08FRO665-21	2100	16.75	180.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Dish C 35	JMA MX08FRO665-21	600	11.35	300.00	4.00	30.00	1637.50	0.00000	400.00	0.00000
Dish C 35	JMA MX08FRO665-21	2007	15.75	300.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish C 35	JMA MX08FRO665-21	2100	16.75	300.00	4.00	40.00	7570.42	0.00001	1000.00	0.00000
Tolland County A 36	GENERIC OMNI	850	5.96	71.00	1.00	25.30	99.80	0.02244	566.67	0.00396
							Cumulative Power Density:	**5.05441 µW/cm²**	**Cumulative % MPE:**	**0.73311%**

Summary

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

Michelle Stone
RF EME Technical Writer II
Centerline

EXHIBIT 7

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

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sbasite.com

Structural Analysis Report

Client: T-Mobile

Client Site ID / Name: CT11144C / Union 4
Application #: 260504, v1

SBA Site ID / Name: CT24369-A / Union 4 CT

168' Modified Self Supporting Tower

1050 Buckley Highway
Union, CT 06076
Lat: 41.9992, Long: -72.1524

Project number: CT24369-TMO-091624

Analysis Results

Tower	92.2%	Pass
Foundation	92.3%	Pass

Change in tower stress due to mount modification / replacement	N/A

09/23/'24

Nitesh Ahuja, P.E.
Connecticut P.E. # 27942

September 23, 2024

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Introduction

The purpose of this report is to summarize the analysis results on the 168' Modified Self Supporting Tower to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower Mapping	TEP, Project # 263470.515260, dated 5/5/2021
Foundation Mapping	TEP, Project # 263470.515260, dated 5/5/2021
Geotechnical report	Dr. Clarence Welti, P.E., P.C., dated 5/24/2002
Sup. Geo. report	GPD, Project # 2021778.24369.01, dated 10/29/2021
Modification drawings	Unknown
Carrier MA	TES, Project # CT24369-VZW-022224, dated 2/27/2024
Latest SA Report	SBAE, Project # 151104, dated 09/10/2024

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut / Tolland / Union
Governing Codes	ANSI/TIA-222-H , 2021 IBC, 2022 CSBC
Ultimate Wind Speed (3-Sec gust)	120 mph
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.5
Risk category	II
Exposure Category	B
Topographic Category	1
Crest Height	0 ft.
Ground Elevation	996.51 ft.
Seismic Parameter S_s	0.178
Seismic Parameter S_1	0.055

This structural analysis is based upon the tower being classified as a Risk category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Type	Qty	Manufacturer	Model	Feed Line Size	Mount Type Qty.	Carrier
168	178	Dipole	1		20' Dipole	(1) 1-5/8" (1) 1-1/4" (1) 7/8" (1) 7/8"	Direct	Tolland County
	174	Omni	1		8' Omni			
	173	Dipole	1		6' Dipole			
	170	Yagi	1		6' Yagi			
154	154						(3) Standoffs	Abandoned
150	151.9	Panel	3	Samsung	MT6413 77A	(12) 1-5/8" (2) 1-1/4" Hybrid	(3) Sector Frames (3) Dual Antenna Mount	Verizon
	150	Panel	6	Commscope	SBNHH-1D65B			
		Panel	4	Antel	WPA-80063/4CF			
		Panel	2	Antel	WPA-80080/4CF			
		RRU	3	Samsung	B2/B66A RRH ORAN (RF4439d-25A)			
		RRU	3	Samsung	B5/B13 RRH ORAN (RF4461d-13A)			
		OVP	2	RFS	DB-B1-6C-12AB-0Z			
140	140	Panel	3	RFS	APX16DWV-16DWVS-E-A20	(6) 1-5/8" (3) 1-1/4" Hybrid (2) 0.325" DC Power (2) 1/2" Fiber	(3) Standoffs	T-Mobile
		Panel	3	RFS	APXVAALL24_43-U-NA20			
		TMA	3	GenEricsson	Twin Style 1A-PCS			
		RRU	3	Ericsson	4449 B71 + B12			
		RRU	3	Ericsson	4415 B66A			
		Dish	1	Commscope	VHLP2-11W/A			
		ODU	2	Ceragon	RFU-D			
120	120	Panel	3	Powerwave	7770	(6) 1-1/4" (1) 3" Conduit (2) 3/4" DC Power (1) 5/16" Fiber	(3) Sector Frames	AT&T
		Panel	1	Commscope	SBNH-1D6565C			
		Panel	1	KMW	AM-X-CW-16-65-00T-RET			
		Panel	1	Powerwave	P65-17-XLH-RR			
		TMA	6	Powerwave	LGP21401			
		Diplexer	6		782 10250			
		RRU	6	Ericsson	RRU 11			
		RRU	3	Ericsson	RRUS 11-700			
		OVP	1	Raycap	DC6-48-60-18-8F			
105	105	Panel	3	JMA Wireless	MX08FRO665-21	(1) 1.6" Hybrid	(3) Sector Frames	Dish Wireless
		RRU	3	Fujitsu	TA08025-B605			
		RRU	3	Fujitsu	TA08025-B604			
		OVP	1	Raycap	RDIDC-9181-PF-48			
93	93	Dipole	1		Dipole	(1) 3/8"	Direct	Unkown
87	87						(1) T-Frame	Abandoned
82	82	GPS	1		GPS	(1) 1/2"	Direct	Unkown
71	71	Dipole	1		12' Dipole	(1) 3/8"	Direct	Tolland County

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 260504, v1 from T-Mobile and is listed in Table 4.

Table 4 Proposed Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Type	Qty	Manufacturer	Model	Feed Line Size	Mount Type Qty.	Carrier
140	140	Panel	3	RFS	APXVLL19P_43-C-A20	(5) 1-5/8" (2) 1.9" Hybrid (2) 0.325" DC Power (2) 1/2" Fiber	(3) Standoffs	T-Mobile
		Panel	3	RFS	APXVAALL24_43-U-NA20			
		RRU	3	Ericsson	4449 B71 + B85			
		RRU	3	Ericsson	4460 B25 + B66			
		Dish	1	Commscope	VHLP2-11W/A			
		ODU	2	Ceragon	RFU-D			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

Structural Component	% capacity	Analysis Result
Leg	92.2	Pass
Diagonal	75.3	Pass
Secondary Horizontal	34.1	Pass
Top girt	6.8	Pass
Bolt	76.1	Pass
Anchor Bolt	57.7	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	92.3	Pass

Operational Condition (Rigidity)

The results of the twist and sway values for the final proposed loading from the carrier based on service winds as specified in the Analysis Criteria are shown below in table 7;

Table 7 Twist and Sway (for dishes only)

Elev. (ft.)	Model	Calculated Twist/Sway (°)
140.0	VHLP2-11W/A	0.2517

Client must review the operational limits of the Microwave dish

Conclusions

Based on the analysis results, the existing tower and foundation were found to be ***sufficient*** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

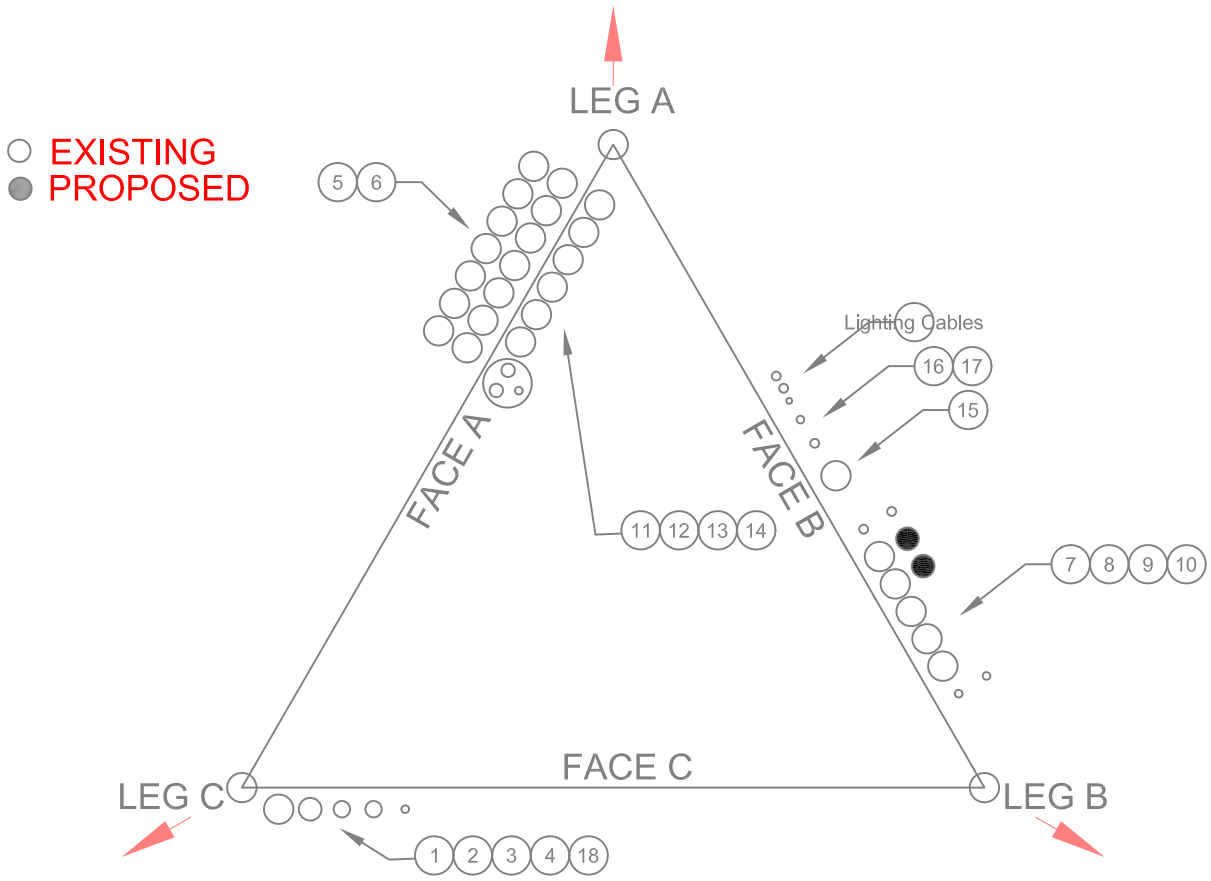
Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

COAX LAYOUT



CT24369-A					
#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Tolland County	1-5/8"	1	168	
2		1-1/4"	1		
3		7/8"	1		
4		7/8"	1		
5	Verizon	1-5/8"	12	150	
6		1-1/4"	2		Hybrid
7	T-Mobile	1-5/8"	5	140	
8		1.9"	2		Hybrid [Proposed]
9		0.325"	2		DC Power
10		1/2"	2		Fiber
11	AT&T	1-1/4"	6	120	
12		3"	1		Conduit
13		3/4"	2		DC Power
14		5/16"	1		Fiber
15	Dish Wireless	1.6"	1	105	Hybrid
16	Unkown	3/8"	1	93	
17		1/2"	1	82	
18	Tolland County	3/8"	1	71	

EXHIBIT 8

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Antenna Mount Analysis Report

Existing Self Support Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT24369-A-SBA

Customer Site Name: Union 4 CT

Carrier Name: T-Mobile (App#: 260504-1)

Carrier Site ID / Name: CT11144C / Union 4

Site Location: 1050 Buckley Highway

Union, Connecticut

TOLLAND County

Latitude: 41.999200

Longitude: -72.152400

Analysis Result:

Max Structural Usage: 78.6% [Pass]

Report Prepared By: Sandesh Khawas Bhujel

NOTE: Mount for dish to be installed as per placement diagram on tie back members. Any deviations, unless explicitly approved by TES, may render this analysis invalid, if the proposed parts are not installed in accordance with this analysis.

Introduction

The purpose of this report is to summarize the analysis results on the (3) Sector Frames at 140.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount mapping by TOWER ENGINEERING PROFESSIONALS, dated 09/28/2022
Antenna Loading	SBA Application #: 260504, v1, dated 8/29/2024
Modification Drawings	N/A

Analysis Criteria

Wind Speed Used in the Analysis: 120 mph (3-Sec. Gust) (Ultimate Wind Speed)
Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1.5" radial ice concurrent
Service Load Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-H / IBC 2021
Exposure Category: C
Risk Category: II
Topographic Category: 1
Crest Height (Ft): 0
Ground Elevation Factor: 0.965

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) Sector Frames at 140.00' elevation

Final Antenna Configuration

3	RFS APXVLL19P_43-C-A20
3	RFS APXVAALL24_43-U-NA20
1	Commscope VHLP2-11W/A
2	Ceragon RFU-D
3	Ericsson 4449 B71 + B85*
3	Ericsson 4460 B25 + B66*

* Equipment to be flush mounted directly to the mount members and are not shown in the placement diagram.

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 78.6%, which occurs in the standoff arm. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

NOTE: Mount for dish to be installed as per placement diagram on tie back members. Any deviations, unless explicitly approved by TES, may render this analysis invalid, if the proposed parts are not installed in accordance with this analysis.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.


26/09/2022 11:34

Structure: CT24369-A-SBA - Union 4 CT

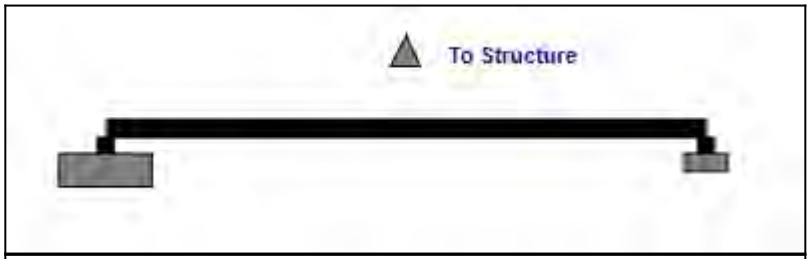
Sector: **A**

Structure Type: Self Support

Mount Elev: 140.00

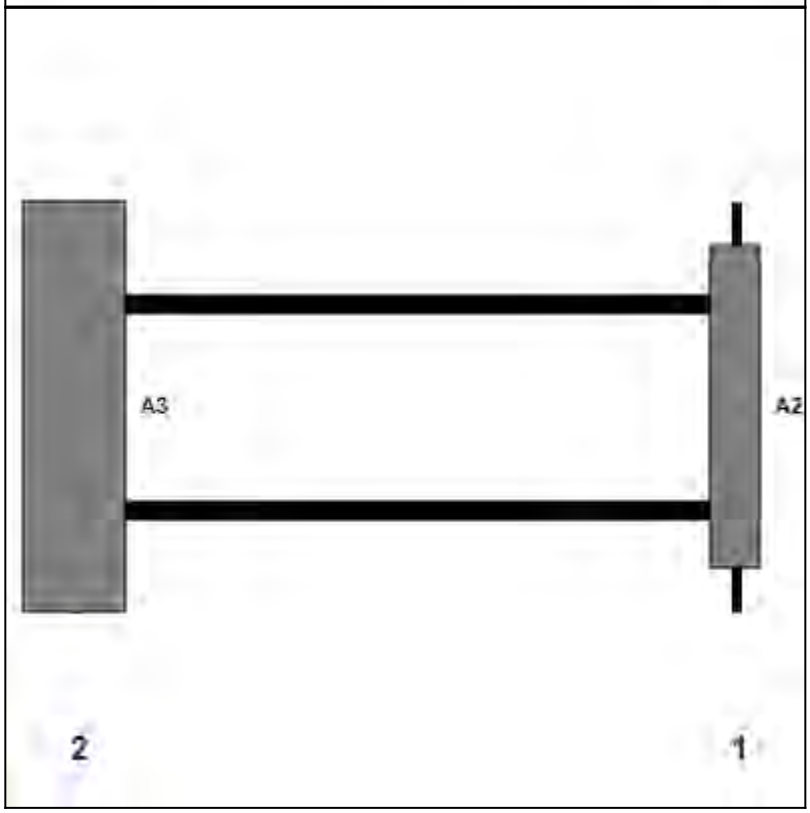
9/10/2024

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	155.00	1	a	Front	48.00		Added	
A3	APXVAALL24_43-U-NA20	95.90	24.00	0.10	2	a	Front	48.00		Retained	

Structure: CT24369-A-SBA - Union 4 CT

Sector: B

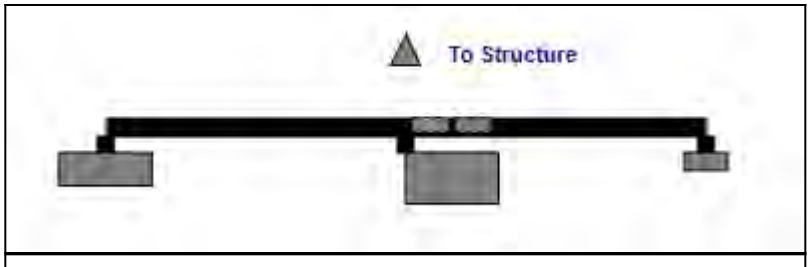
Structure Type: Self Support

Mount Elev: 140.00

9/10/2024

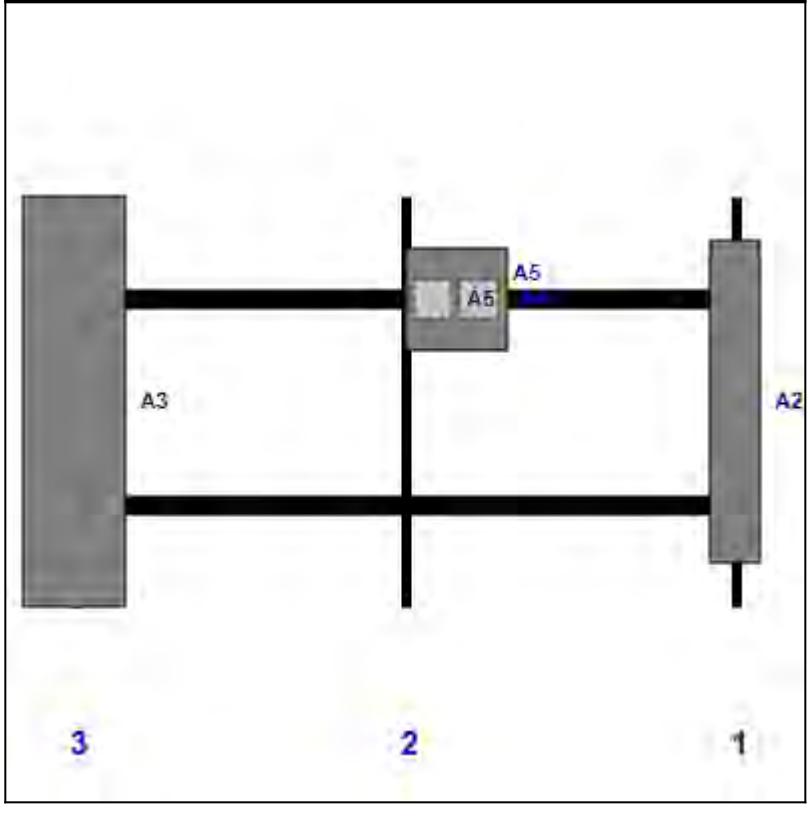
Tower Engineering Solutions

Plan View



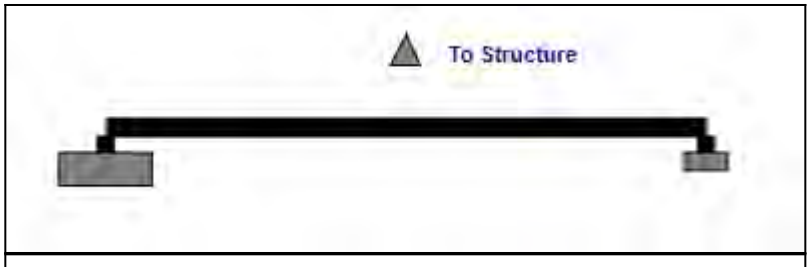
Front View

Looking Toward Structure



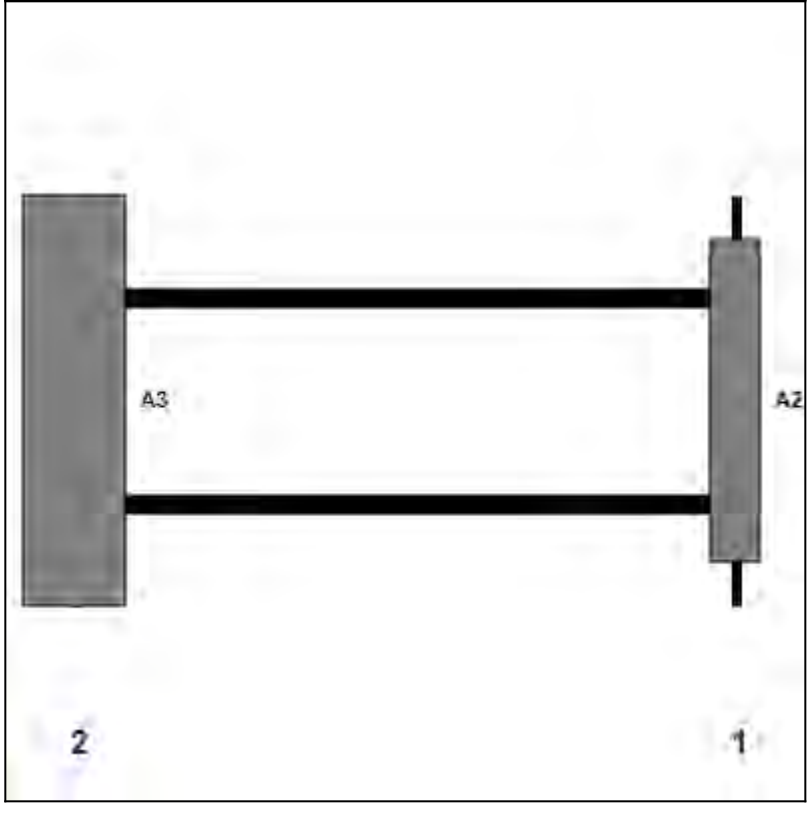
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	155.00	1	a	Front	48.00		Added	
A4	VHLP2-11W/A	24.00	24.00	77.50	2	a	Front	24.00	12.00	Retained	
A5	RFU-D	9.17	9.05	77.50	2	a	Behind	24.00	17.50	Retained	
A5	RFU-D	9.17	9.05	77.50	2	b	Behind	24.00	6.50	Retained	
A3	APXVAALL24_43-U-NA20	95.90	24.00	0.10	3	a	Front	48.00		Retained	

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	155.00	1	a	Front	48.00		Added	
A3	APXVAALL24_43-U-NA20	95.90	24.00	0.10	2	a	Front	48.00		Retained	

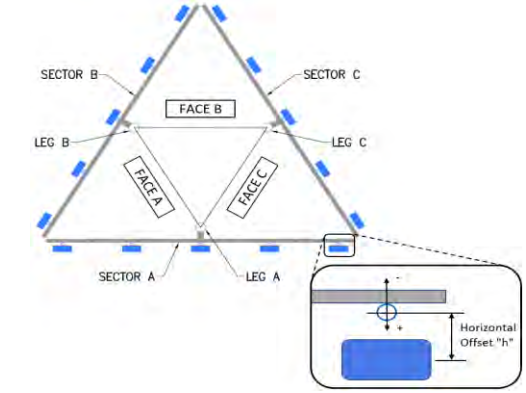
V3.0 Updated on 8-31-2020

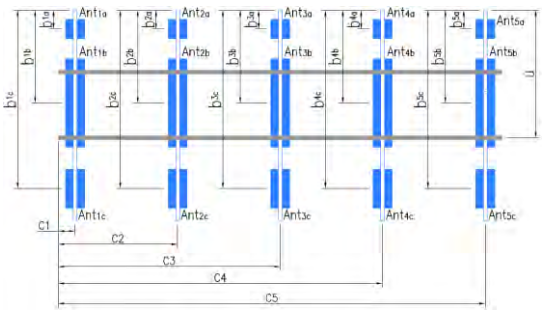
Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	SBA COMMUNICATIONS	**Mapping Date:**	9/28/2022
Site Name:	CT11144C	**Tower Type:**	Self Support
Site Number or ID:	CT24369-A-SBA	**Tower Height (Ft.):**	
Mapping Contractor:	TOWER ENGINEERING PROFESSIONALS	**Mount Elevation (Ft.):**	143'-9"

Please insert the sketches of the antenna mount from the "Sketches" tab with dimensions and members here.





Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2.375"Ø X .125" WALL X 96" LONG		4.25	C1	2.375"Ø X .125" WALL X 96" LONG		4.25
A2	2.875"Ø X .1875" WALL X 108" LONG		4.25	C2	2.875"Ø X .1875" WALL X 108" LONG		4.25
A3				C3			
A4				C4			
A5				C5			
A6				C6			
B1	2.375"Ø X .125" WALL X 96" LONG		4.25	D1			
B2	2.875"Ø X .1875" WALL X 108" LONG		4.25	D2			
B3				D3			
B4				D4			
B5				D5			
B6				D6			

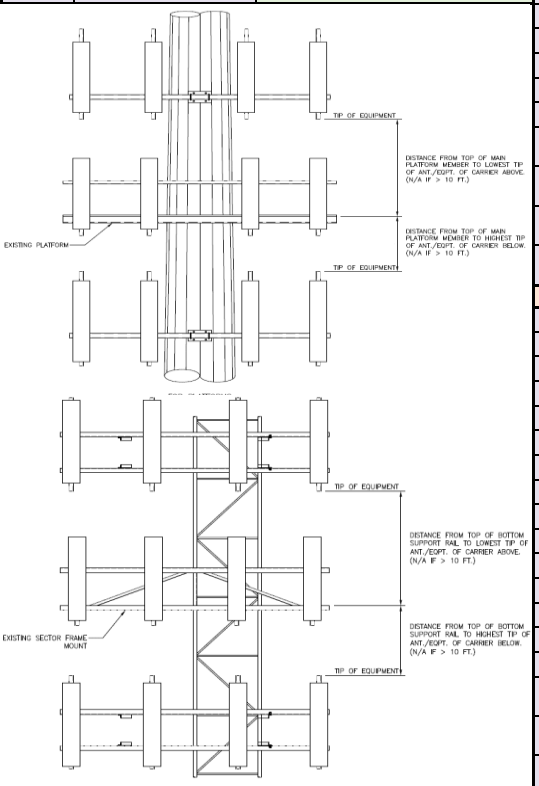
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	

Tower Face Width at Mount Elev. (ft.):	6.75	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	2.875

	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	N/A	13.00	3.50	56.00		#VALUE!			0.00	35, 65
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	N/A	24.00	8.50	96.00		#VALUE!			0.00	36, 69
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	0.00	Deg	Leg A:	0.00	Deg
Sector B:	120.00	Deg	Leg B:	120.00	Deg
Sector C:	240.00	Deg	Leg C:	240.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:		Deg	Outside Face C
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.



Sector B											
Ant_{1a}											
Ant_{1b}	N/A	13.00	3.50	56.00		#VALUE!			120.00	44, 65	
Ant_{1c}											
Ant_{2a}											
Ant_{2b}	N/A	24.00	8.50	96.00		#VALUE!			120.00	45, 69	
Ant_{2c}											
Ant_{3a}											
Ant_{3b}											
Ant_{3c}											
Ant_{4a}											
Ant_{4b}											
Ant_{4c}											
Ant_{5a}											
Ant_{5b}											
Ant_{5c}											
Ant on Standoff											
Ant on Standoff											
Ant on Tower											
Ant on Tower											
Sector C											
Ant_{1a}											
Ant_{1b}	N/A	13.00	3.50	56.00		#VALUE!			240.00	51, 65	
Ant_{1c}											
Ant_{2a}											
Ant_{2b}	N/A	24.00	8.50	96.00		#VALUE!			240.00	52, 69	
Ant_{2c}											
Ant_{3a}											
Ant_{3b}											
Ant_{3c}											
Ant_{4a}											
Ant_{4b}											
Ant_{4c}											
Ant_{5a}											
Ant_{5b}											
Ant_{5c}											
Ant on Standoff											
Ant on Standoff											
Ant on Tower											
Ant on Tower											
Sector D											
Ant_{1a}											
Ant_{1b}											
Ant_{1c}											
Ant_{2a}											
Ant_{2b}											
Ant_{2c}											
Ant_{3a}											
Ant_{3b}											
Ant_{3c}											
Ant_{4a}											
Ant_{4b}											
Ant_{4c}											
Ant_{5a}											
Ant_{5b}											
Ant_{5c}											
Ant on Standoff											
Ant on Standoff											
Ant on Tower											
Ant on Tower											

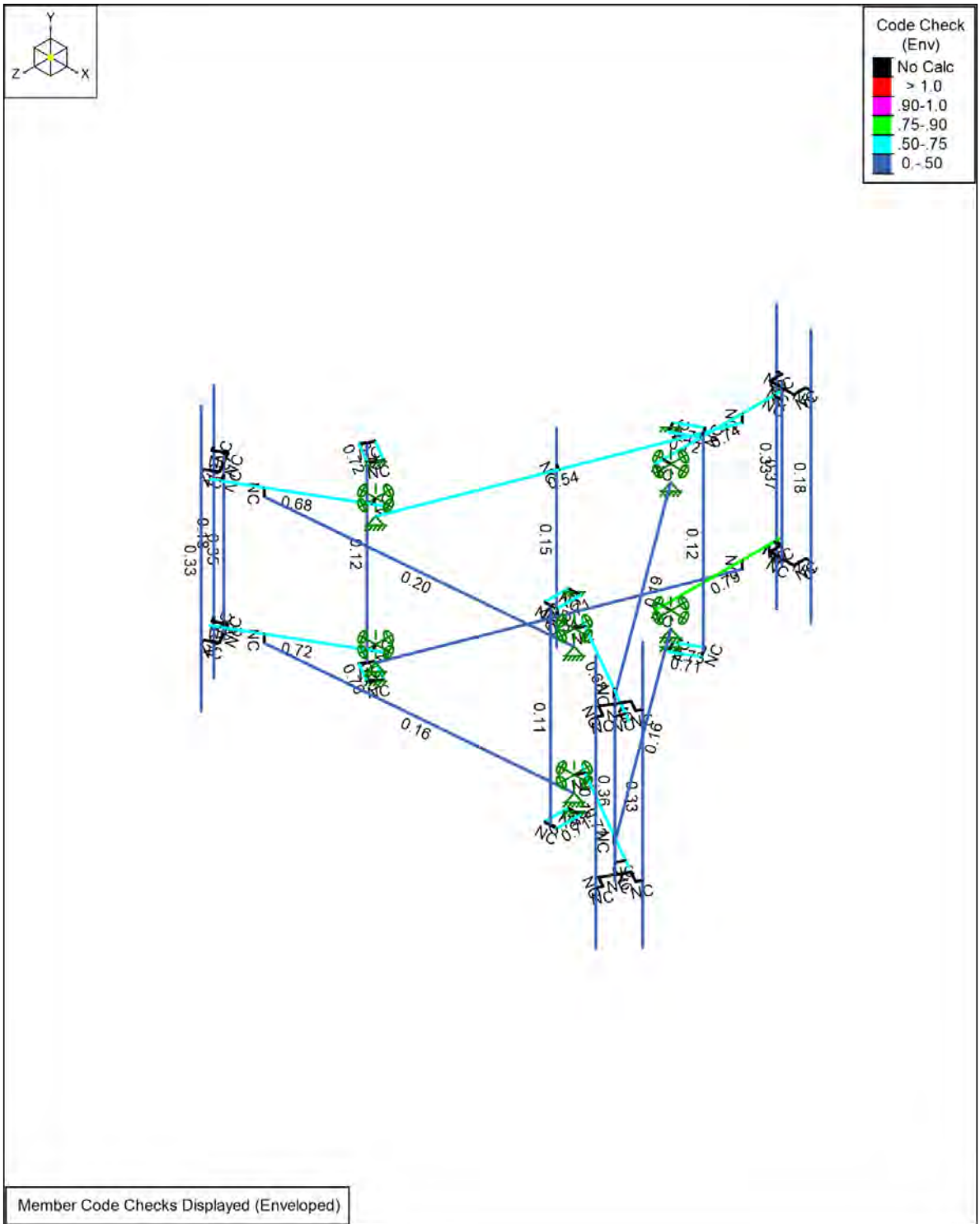
Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

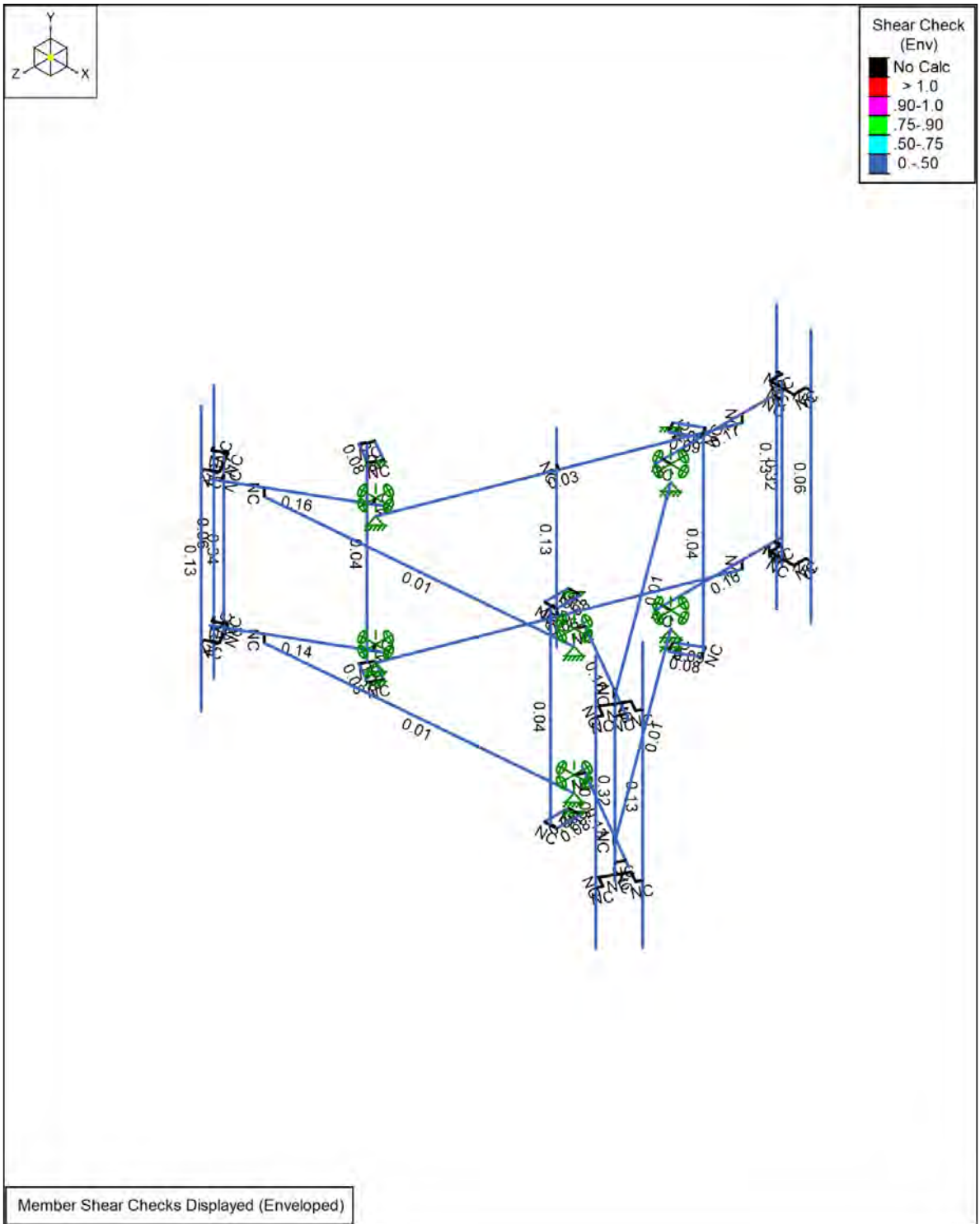
Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

Tower Engineering Solutions, LLC	CT24369-A-SBA_MT_LO_Loads Only_H	SK-1
		Sep 10, 2024
TES Project No. 151104		CT24369-A-SBA_151104_H_RIS…



Tower Engineering Solutions, LLC	CT24369-A-SBA_MT_LO_Loads Only_H	SK-2
		Sep 10, 2024
TES Project No. 151104		CT24369-A-SBA_151104_H_RIS…



Tower Engineering Solutions, LLC	CT24369-A-SBA_MT_LO_Loads Only_H	SK-3
		Sep 10, 2024
TES Project No. 151104		CT24369-A-SBA_151104_H_RIS…

EXHIBIT 9

T··Mobile·®

UNION/I-84 X73-74/CEMET1

1050 BUCKLEY HIGHWAY
UNION, CT 06076
TOLLAND COUNTY

SITE NO.: CT11144C

SITE TYPE: 173'± SELF-SUPPORT TOWER

PROJECT: EQUIPMENT UPGRADE
RF DESIGN GUIDELINE: 67D998E 6160

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

SCOPE OF WORK

REMOVE:
- (3) ANTENNAS
- (3) TMAS
- (3) RADIOS
- (6) COAXIAL CABLES
- (3) HYBRID CABLES
- (1) RBS6201 EQUIPMENT CABINET
- (1) BATTERY CABINET

RELOCATE:
- (1) PIPE MOUNT

INSTALL:
- (3) ANTENNAS
- (3) RADIOS
- (2) HYBRID CABLES
- (1) SLACKBOX FOR FIBER MANAGEMENT
- (1) 6160 V2 AC EQUIPMENT CABINET
- (1) B160 BATTERY CABINET
- RAN EQUIPMENT (REFER TO SHEET RF-1)
- (1) CIRCUIT BREAKER

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-H STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

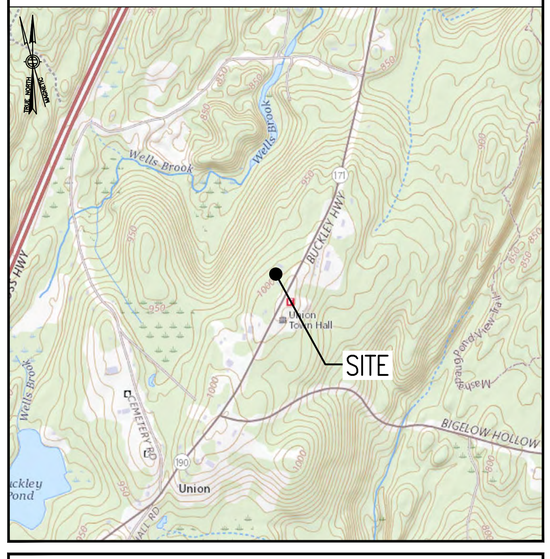
GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1" = 1000'



DIRECTIONS

FROM NORTON, TAKE I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 58 TO MERGE ONTO I-90 WEST TOWARD ALBANY. USE RIGHT 2 LANES TO TAKE EXIT 78 FOR I-84 TOWARD HARTFORD CT/N.Y.CITY. CONTINUE ONTO I-84. ENTER CONNECTICUT. TAKE EXIT 74 TOWARD CT-171/HOLLAND MASS/UNION. TURN LEFT ONTO CT-171 EAST. TURN LEFT TO STAY ON CT-171 EAST. TURN RIGHT TO STAY ON CT-171 EAST. THE SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

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DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SITE NUMBER:	CT11144C
SITE NAME:	UNION/I-84 X73-74/CEMET1
SBA SITE NUMBER:	CT24369-A
SBA SITE NAME:	UNION 4, CT
SBA COLLO APP NUMBER:	N/A
SITE ADDRESS:	1050 BUCKLEY HIGHWAY UNION, CT 06076
PROPERTY OWNER:	NAVIGATOR PROPERTIES LLC. P.O. BOX 1160 KENNEBUNKPORT, ME 04046
TOWER OWNER:	SBA TOWERS X, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	TOLLAND
ZONING DISTRICT:	CT (COMMERCIAL/INDUSTRIAL)
STRUCTURE TYPE:	SELF-SUPPORT TOWER
STRUCTURE HEIGHT:	173'±
STRUCTURE HEIGHT W/APPURT.:	193'±
GROUND ELEVATION:	997'±
TOTAL AMSL:	1,190'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.9992° N41°59'57.00" LONGITUDE: -72.1524° W72°09'08.53"

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

T··Mobile·
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
10/2/24

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	10/02/24	ISSUED FOR CONSTRUCTION	CMC
0	08/27/24	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11144C

SITE ADDRESS:
1050 BUCKLEY HIGHWAY
UNION, CT 06076

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.559

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

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

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

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

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

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.

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

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

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

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

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

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS 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 AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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10/2/24

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APPROVED BY: JMT

SUBMITTALS

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SITE NUMBER:
CT11144C

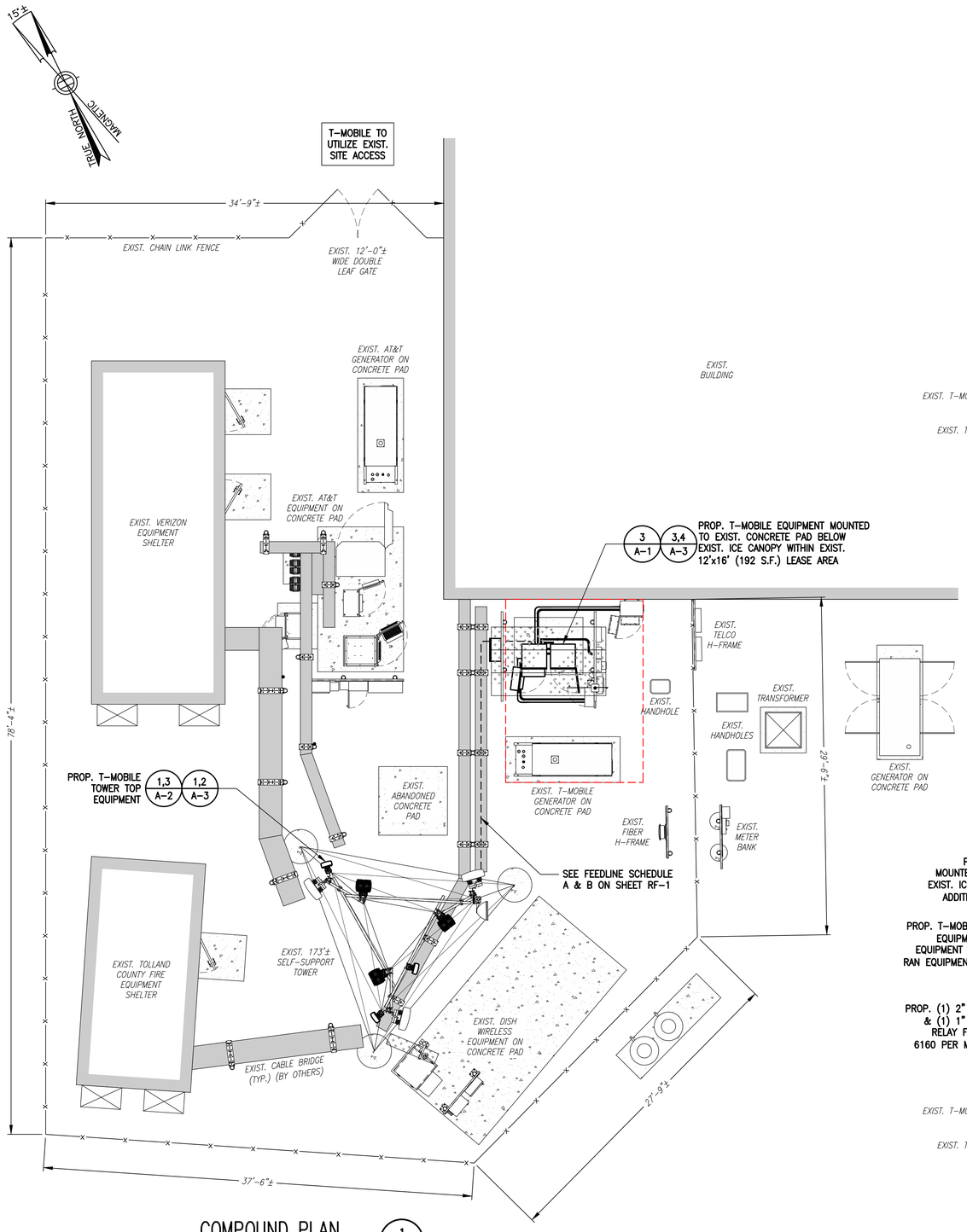
SITE ADDRESS:
1050 BUCKLEY HIGHWAY
UNION, CT 06076

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

1815.559

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.



COMPOUND PLAN

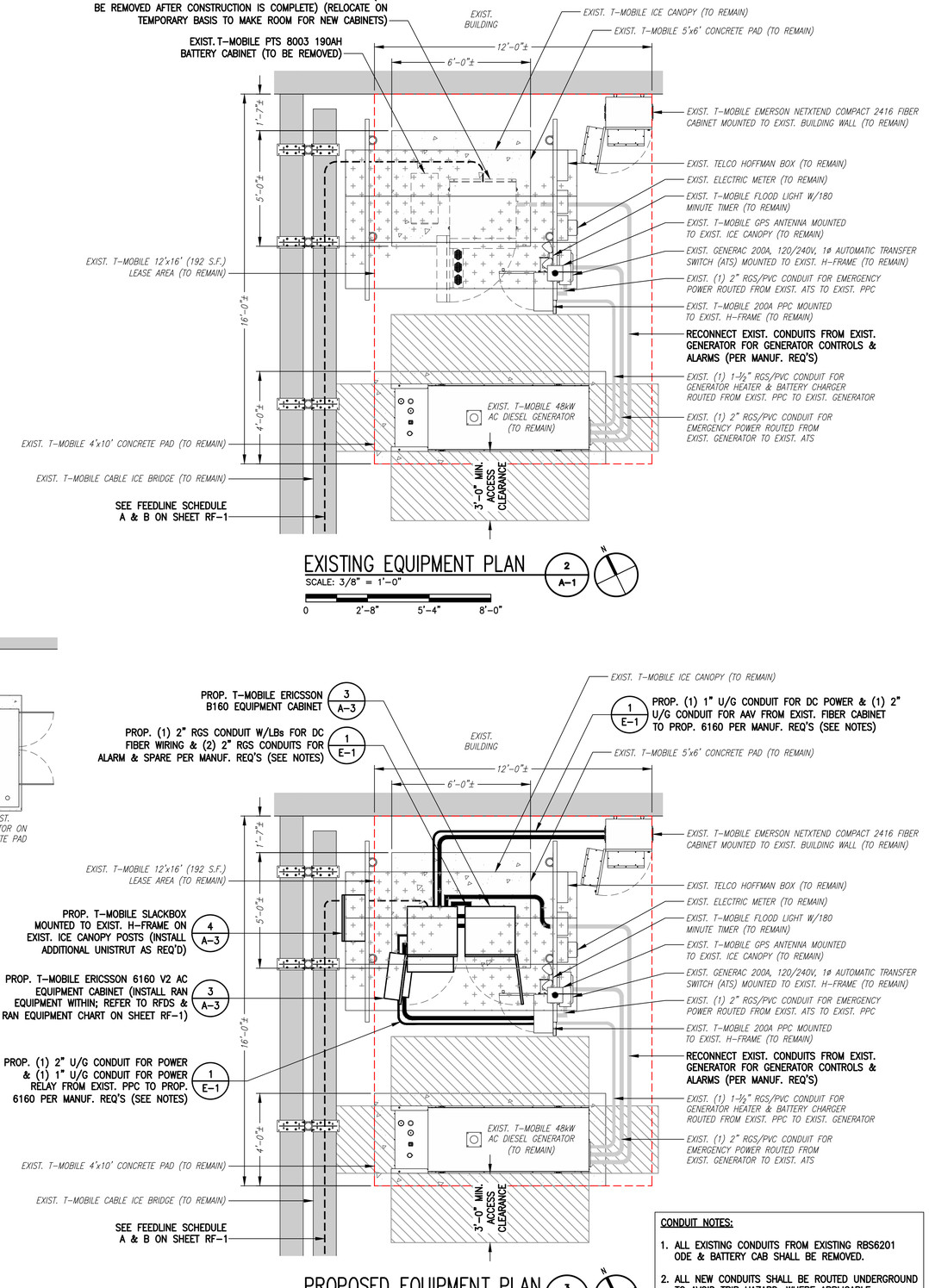
1 A-1

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

0 5'-4" 10'-8" 16'-0"

EXIST. T-MOBILE ERICSSON RBS6201 ODE EQUIPMENT CABINET (TO BE REMOVED AFTER CONSTRUCTION IS COMPLETE) (RELOCATE ON TEMPORARY BASIS TO MAKE ROOM FOR NEW CABINETS)

EXIST. T-MOBILE PTS 8003 190AH BATTERY CABINET (TO BE REMOVED)



EXISTING EQUIPMENT PLAN

2 A-1

SCALE: 3/8" = 1'-0"

0 2'-8" 5'-4" 8'-0"

PROPOSED EQUIPMENT PLAN

3 A-1

SCALE: 3/8" = 1'-0"

0 2'-8" 5'-4" 8'-0"

CONDUIT NOTES:

1. ALL EXISTING CONDUITS FROM EXISTING RBS6201 ODE & BATTERY CAB SHALL BE REMOVED.
2. ALL NEW CONDUITS SHALL BE ROUTED UNDERGROUND TO AVOID TRIP HAZARD, WHERE APPLICABLE.
3. ALL UNDERGROUND CONDUITS SHALL BE PVC. ALL ABOVEGROUND CONDUITS SHALL BE RGS.

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SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A-1

1815.559

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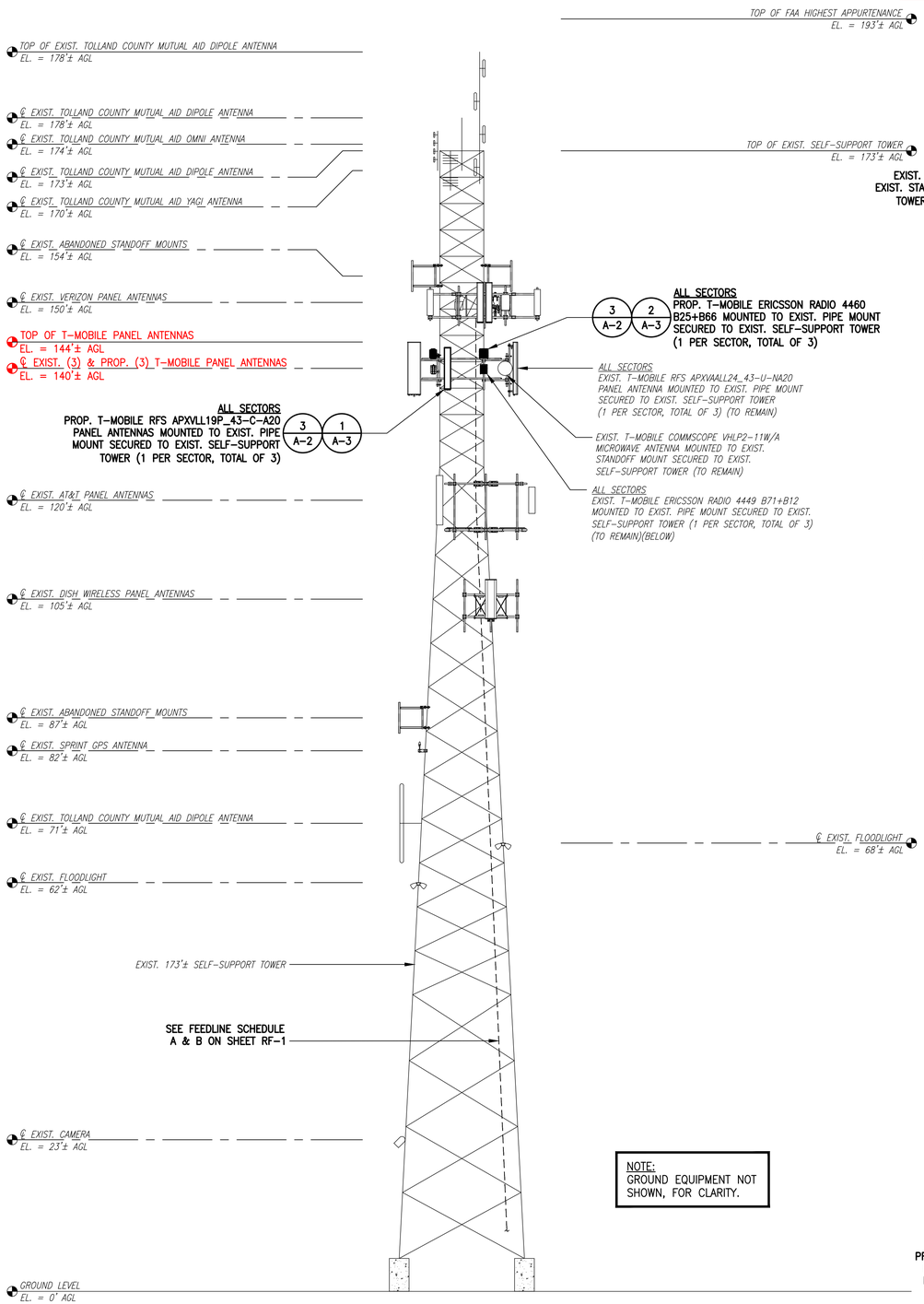
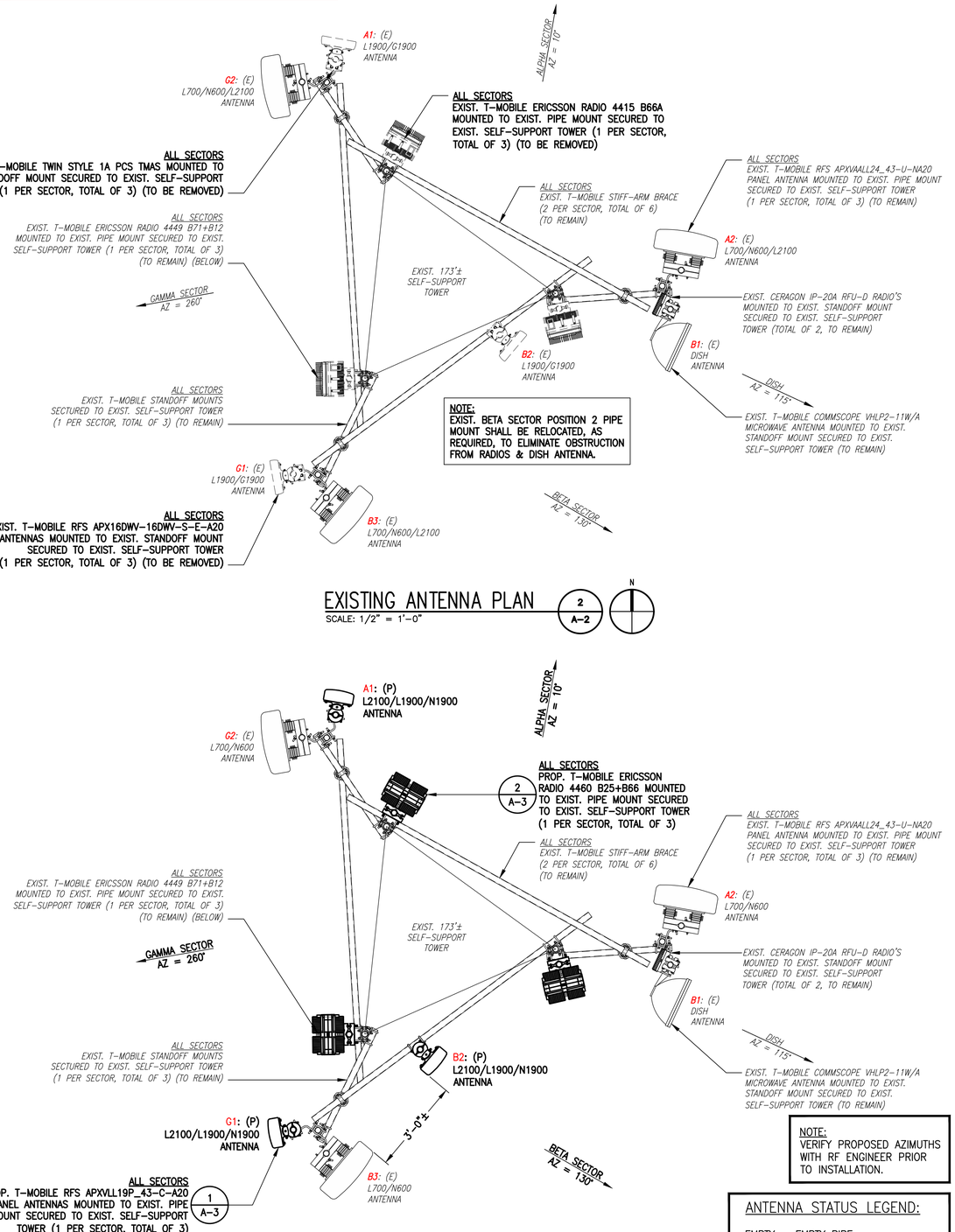
RAD CENTER NOTE:
T-MOBILE ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY T-MOBILE.



TOWER ELEVATION
SCALE: 1" = 10'-0"
1 A-2
0 10' 20' 30'

NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.



EXISTING ANTENNA PLAN
SCALE: 1/2" = 1'-0"
2 A-2
N

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0"
3 A-2
N

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

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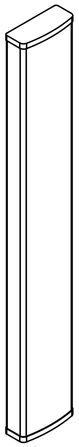
SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A-2

1815.559



RFS APXVLL19P_43-C-A20 ANTENNA

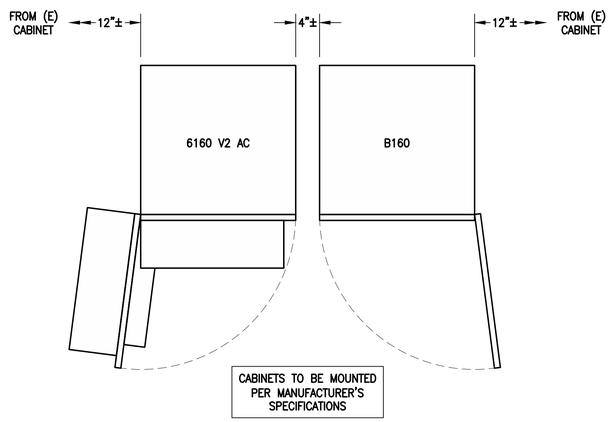
DIMENSIONS: 75.8"H x 11.3"W x 4.6"D
WEIGHT: 49.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

ANTENNA DETAILS — 1 / A-3
SCALE: N.T.S.

ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

RADIO DETAIL — 2 / A-3
SCALE: N.T.S.



ERICSSON 6160 V2 AC EQUIPMENT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL — 3 / A-3
SCALE: N.T.S.

SLACKBOX – HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS — 4 / A-3
SCALE: N.T.S.

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SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.550

FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	SBTS/TMAS/MULTIPLEXERS/RADIOS	CABLES
ALPHA	A1	RFS APXVLL19P_43-C-A20	140'± AGL	10°	0°	2°	L2100/L1900/N1900	ERICSSON RADIO 4460 B25+B66	(P) (2) 2" (6x24) HCS FIBER CABLES (60m±)
	A2	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*10°*	*0°*	*2°*	*L700/N600*	*ERICSSON RADIO 4449 B71+B25*	
BETA	B1	*COMMSCOPE VHLP2-11W/A*	*140'± AGL*	*115°*	*-*	*-*	*DISH*	*CERAGON RADIO IP-20A RFU-D*	
								CERAGON RADIO IP-20A RFU-D	
	B2	RFS APXVLL19P_43-C-A20	140'± AGL	130°	0°	2°	L2100/L1900/N1900	ERICSSON RADIO 4460 B25+B66	
	B3	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*130°*	*0°*	*2°*	*L700/N600*	*ERICSSON RADIO 4449 B71+B25*	
GAMMA	G1	RFS APXVLL19P_43-C-A20	140'± AGL	260°	0°	2°	L2100/L1900/N1900	ERICSSON RADIO 4460 B25+B66	
	G2	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*260°*	*0°*	*2°*	*L700/N600*	*ERICSSON RADIO 4449 B71+B25*	

CABLE NOTE: (E) (6) 1-5/8" COAXIAL CABLES & (3) 1-5/8" (6x12) HCS FIBER CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV7 - 08/12/24

RAD CENTER NOTE:
T-MOBILE ANTENNA RAD CENTER SHOWN IN ABOVE SCHEDULE IS ACCORDING TO RFDS PROVIDED BY T-MOBILE AND MIGHT DIFFER FROM ACTUAL ANTENNA RAD CENTER ON STRUCTURAL ANALYSIS.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	*EXISTING TO REMAIN:*	*(1) ½" COAXIAL CABLE FOR GPS ANTENNA*	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED:	*(6) 1-5/8" COAXIAL CABLES* *(3) 1-¼" (6x12) HCS FIBER CABLES*	
B	PROPOSED:	(2) 2" (6x24) HCS FIBER CABLES (60m±)	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

RAN EQUIPMENT

CABINET	EXISTING	PROPOSED
ERICSSON 6160 V2 AC	*N/A*	(2) BB 6630

NOTE:
RAN EQUIPMENT IS BASED ON RFDS REV7 DATED 08/12/24.

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1050 BUCKLEY HIGHWAY
UNION, CT 06076

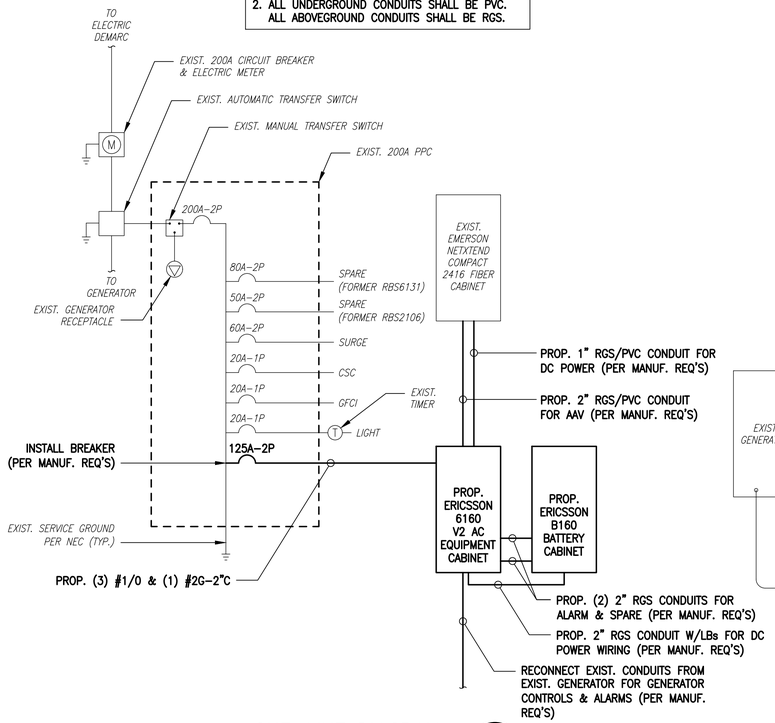
SHEET TITLE
RF DATA

SHEET NUMBER
RF-1

1815.559

CONDUIT NOTES:

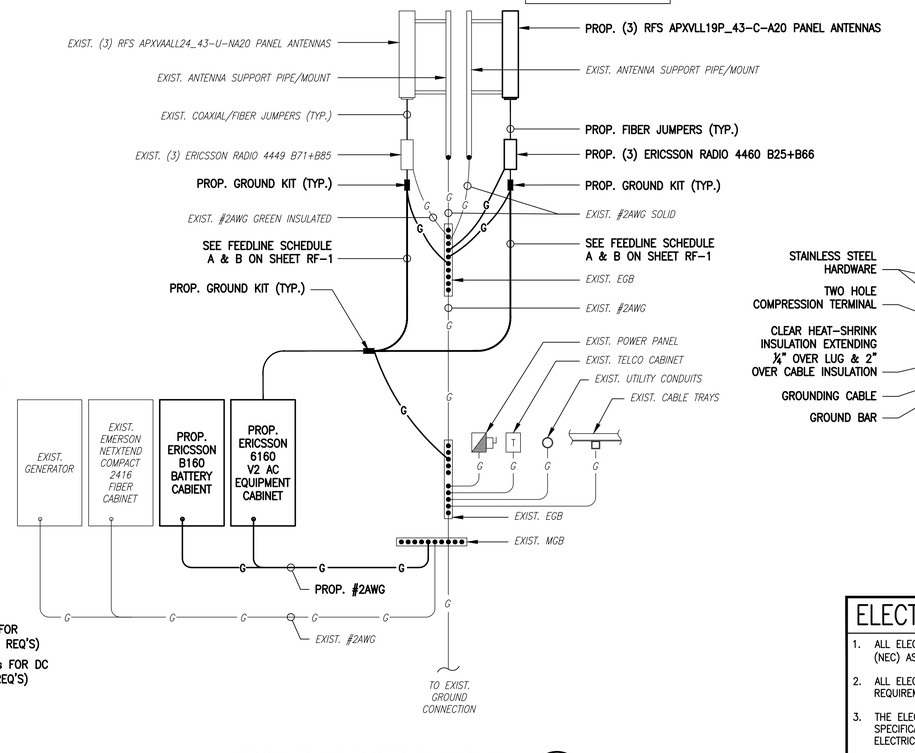
1. ALL CONDUITS SHALL BE ROUTED UNDERGROUND TO AVOID TRIP HAZARD, WHERE APPLICABLE.
2. ALL UNDERGROUND CONDUITS SHALL BE PVC. ALL ABOVEGROUND CONDUITS SHALL BE RGS.



ONE-LINE DIAGRAM (1 / E-1)

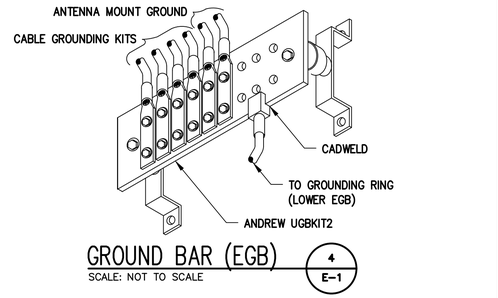
SCALE: NOT TO SCALE

NOTE:
MICROWAVE ANTENNA AND ASSOCIATED EQUIPMENT NOT SHOWN FOR CLARITY



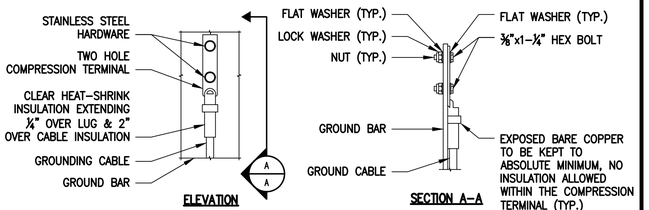
GROUNDING RISER DIAGRAM (2 / E-1)

SCALE: NOT TO SCALE



GROUND BAR (EGB) (4 / E-1)

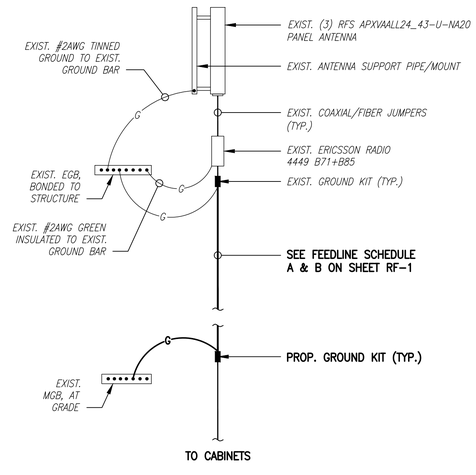
SCALE: NOT TO SCALE



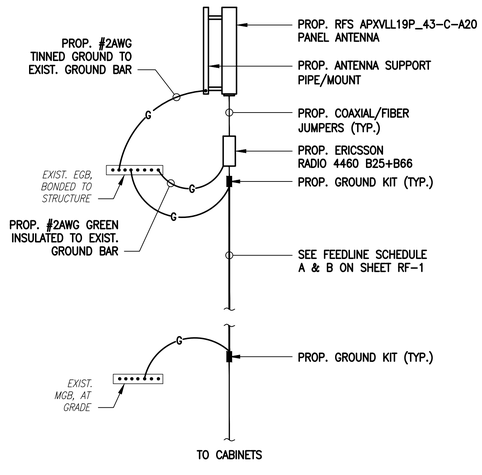
NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, & MGB.

TYPICAL GROUND BAR CONNECTIONS DETAIL (5 / E-1)

SCALE: NOT TO SCALE



L700/N600 ANTENNA



L2100/L1900/N1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (3 / E-1)

SCALE: NOT TO SCALE

ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-Mobile
15 COMMERCE WAY, SUITE B
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SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED PROFESSIONAL CIVIL ENGINEER
10/2/24

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	10/02/24	ISSUED FOR CONSTRUCTION	CMC
0	08/27/24	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11144C

SITE ADDRESS:
1050 BUCKLEY HIGHWAY
UNION, CT 06076

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.559