



April 3, 2015

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

RE: Notice of Exempt Modification
29 Mahoney Road, Colchester, CT 06415
N 41° 33' 52.2"
W 72° 15' 5.97"
T-Mobile Site #: CT11472A_L700

Members of the Siting Council:

On behalf of T-Mobile, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 29 Mahoney Road, Colchester, CT 06415.

The 29 Mahoney Road, Colchester, CT facility consists of a 180' Monopole Tower owned and operated by SBA Properties, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

As part of T-Mobile's L700 project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site along with the required fee of \$625.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The overall height of the structure will be unaffected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than the new equipment cabinets.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
4. The changes in radio frequency power density will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, SBA Communications on behalf of T-Mobile, respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at 508.251.0720 x 3804 with any questions you may have concerning this matter.

Thank you,



Kri Pelletier
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbsite.com



**T-Mobile
Equipment Modification**

29 Mahoney Road, Colchester, CT 06415
Site number CT11472A_L700

Tower Owner: SBA Properties, LLC

Equipment Configuration: Monopole

Current and/or approved:

- (12) EMS RR90-17-02DP
- (3) TMAs
- (12) 1-5/8" lines

Planned Modifications:

- (9) EMS RR90-17-02DP
- (3) Commscope LNX-6514DS
- (6) Allen Telecom FE15501P77/75
- (3) Kathrein 782 11056
- (12) 1-1/4" lines

Structural Information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed modifications.

Power Density:

The anticipated Maximum Composite contributions from the T-Mobile facility are 3.12% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 35.32% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE%	
Carrier	MPE%
T-Mobile	3.12
AT&T	13.94 %
Verizon Wireless	18.26 %
Site Total MPE %:	35.32 %



April 3, 2015

Mr. Stan Soby
First Selectman
Town of Colchester
127 Norwich Avenue
Colchester, CT 06415

RE: Telecommunications Facility @ 29 Mahoney Road, Colchester, CT 06415

Dear Mr. Soby,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review T-Mobile's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes T-Mobile's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at 508.251.0720 x 3804.

Thank you,

A handwritten signature in black ink, appearing to read "Kri Pelletier", is written over a light blue horizontal line.

Kri Pelletier
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbsite.com



April 3, 2015

Colchester Fish & Game Club, Inc.
PO Box 257
Colchester CT 06415

RE: Telecommunications Facility @ 29 Mahoney Road, Colchester, CT 06415

To Whom It May Concern:

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (R.C.S.A.) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review T-Mobile's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes T-Mobile's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at 508.251.0720 x 3804.

Thank you,

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Kri Pelletier
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbsite.com

SBA Network Services, LLC

To: CONNECTICUT SITING COUNCIL 129986

Check Number: 2091854

Date: 02/17/2015

Invoice Number	Invoice Date	Description	Gross Amount	Taxes Withheld	Net Amount
PRSF02161518	02/17/2015	CT11472A_L700 CSC	\$625.00	\$0.00	\$625.00

_____ \$625.00 _____ \$0.00 _____ \$625.00

SBA Network Services, LLC
5900 Broken Sound Parkway NW
Boca Raton, FL 33487-2797
(561) 995-7676

Wells Fargo Bank

2091854

061209756

129986

Six Hundred Twenty Five Dollars And 00 Cents

DATE

AMOUNT

02/17/2015

\$625.00

Void After 120 Days

Pay to the Order of:

CONNECTICUT SITING COUNCIL
ACCOUNTS RECEIVABLE
TEN FRANKLIN SQUARE

NEW BRITAIN, CT 06051

Brian Lazarus

⑈ 2091854⑈⑈061209756⑈⑈2079900424566⑈



**Structural Analysis for
SBA Network Services, Inc.**

180' Monopole Tower

**SBA Site Name: Colchester 3
SBA Site ID: CT02652-S-01
T-Mobile Sit ID: CT11472A**

FDH Project Number 15BHJU1400

Analysis Results

Tower Components	94.5%	Sufficient
Foundation	89.5%	Sufficient

Prepared By:

Tyler Ferguson
Project Engineer I

Reviewed By:

Dennis D. Abel, PE
Director of Structural Engineering
CT PE License No. 23247

FDH Engineering, Inc.
6521 Meriden Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com



03-24-2015

March 24, 2015

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Colchester, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F* and *2005 Connecticut State Building Code (CSBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, geotechnical data, and member sizes was obtained from:

- Valmont Microflect (Order No. 11277-00) original design drawings dated March 29, 2000
- FDH Engineering, Inc. (Project No. 1465721600) Geotechnical Evaluation of Subsurface Conditions dated May 22, 2014
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CSBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from T-Mobile in place at 177 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CTBC* provided the **Recommendations** listed below are satisfied. Furthermore, given the existing foundation dimensions (see Valmont Microflect Order No. 11277-00) and utilizing the existing soil parameters (see FDH Engineering, Inc. Project No. 1), the foundation should have the necessary capacity to support both the proposed and existing loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and *2005 CSBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the monopole's shaft.
2. The existing TMAs should be installed directly behind the existing/proposed panel antennas.

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
177	(12) EMS RR90-17-02DP (3) TMA's	(12) 1-5/8"	T-Mobile	177	(1) Low Profile Platform
167	(6) Antel BXA-70063/6CF (6) Antel BXA-171063/12CF (3) Alcatel Lucent RRH2X40-AWS (3) Alcatel Lucent RRH2X40-07-U (1) RFS DB-T1-6Z-8AB-0Z	(12) 1-5/8"	Verizon	167	(1) Low Profile Platform
160	(3) CCI HPA-65R-BUU-H8 (3) Ericsson RRUS-11 (3) Ericsson RRUS A2 MODULE (3) Ericsson RRUS 12 w/ Solar Shield (6) Powerwave LGP21401 TMA (12) Powerwave 7020.00 RET (6) Powerwave LGP21901 Diplexer (1) Raycap DC06-48-60-18-8F	(12) 1-5/8" (2) 3/4" DC (1) 3/8" Fiber	New Cingular	157	(1) Low Profile Platform
157	(6) Powerwave 7770				

1. Coax installed inside pole's shaft unless otherwise noted.

Proposed Carrier – Final Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
177	(9) EMS RR90-17-02DP (3) Commscope LNX-6514DS (6) Allen Telecom FE15501P77/75 (3) Kathrein 782 11056	(12) 1-1/4"	T-Mobile	177	(1) Low Profile Platform

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Base Plate	60 ksi
Anchor Bolts	75 ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. *Note: Capacities up to 100% are considered acceptable.* **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information.

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	180 - 127	Pole	TP49.14x35.77x0.219	83.4	Pass
L2	127 - 92.75	Pole	TP47.3776x42.34x0.3125	87.0	Pass
L3	92.75 - 45.75	Pole	TP51.35x40.9498x0.375	94.5	Pass
L4	45.75 - 0	Pole	TP60x49.1773x0.438	93.7	Pass
		Anchor Bolts	(20) 2.25" Ø w/ BC = 68.625"	86.7	Pass
		Base Plate	PL 74.62" Ø x 2.75" thick	64.2	Pass

*Capacities include a 1/3 allowable stress increase for wind per TIA/EIA-222-F Standards.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)*	Original Design (TIA/EIA-222-F)
Axial	44 k	56 k
Shear	41 k	40 k
Moment	4,804 k-ft	5,045 k-ft

*Foundation determined to be adequate per independent analysis.

GENERAL COMMENTS

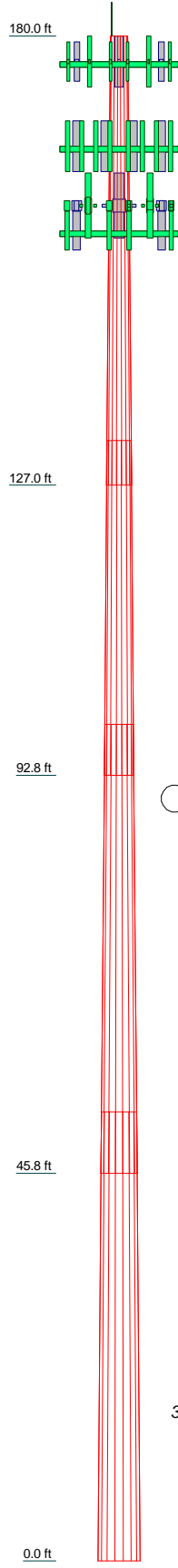
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX

Section	1	2	3	4
Length (ft)	53.00	39.50	53.00	53.00
Number of Sides	16	16	16	16
Thickness (in)	0.2190	0.3130	0.3750	0.4380
Socket Length (ft)	5.25	6.00	7.25	49.1139
Top Dia (in)	24.9100	34.2562	40.4861	60.0000
Bot Dia (in)	35.7700	42.3400	51.3500	60.0000
Grade		A572-65		
Weight (K)	3.8	5.1	9.8	13.6



DESIGNED APPURTENANCE LOADING

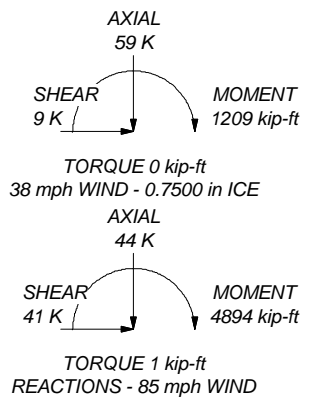
TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	180	RRH2X40-07-U	167
(1) Low Profile Platform	177	RRUS 12 W/SOLAR SHIELD	157
(3) RR90-17-02DP w/Mount Pipe	177	(2) LGP21401 TMA	157
(3) RR90-17-02DP w/Mount Pipe	177	(2) LGP21401 TMA	157
(3) RR90-17-02DP w/Mount Pipe	177	(2) LGP21401 TMA	157
LNX-6514DS w/ Mount Pipe	177	(4) 7020.00 RET	157
LNX-6514DS w/ Mount Pipe	177	(4) 7020.00 RET	157
LNX-6514DS w/ Mount Pipe	177	(4) 7020.00 RET	157
(2) FE15501P77/75	177	(2) LGP21901 Diplexer	157
(2) FE15501P77/75	177	(2) LGP21901 Diplexer	157
(2) FE15501P77/75	177	(2) LGP21901 Diplexer	157
782 11056	177	DC6-48-60-18-8F	157
782 11056	177	(2) 7770 w/Mount Pipe	157
782 11056	177	(2) 7770 w/Mount Pipe	157
DB-T1-6Z-8AB-0Z	167	(2) 7770 w/Mount Pipe	157
(1) Low Profile Platform	167	(1) Low Profile Platform	157
(2) BXA-70063/6CF w/ Mount Pipe	167	HPA-65R-BUU-H8 w/ Mount Pipe	157
(2) BXA-70063/6CF w/ Mount Pipe	167	HPA-65R-BUU-H8 w/ Mount Pipe	157
(2) BXA-70063/6CF w/ Mount Pipe	167	HPA-65R-BUU-H8 w/ Mount Pipe	157
(2) BXA-171063/12CF w/ Mount Pipe	167	RRUS-11	157
(2) BXA-171063/12CF w/ Mount Pipe	167	RRUS-11	157
(2) BXA-171063/12CF w/ Mount Pipe	167	RRUS-11	157
RRH2X40-AWS	167	RRUS A2 MODULE	157
RRH2X40-AWS	167	RRUS A2 MODULE	157
RRH2X40-AWS	167	RRUS A2 MODULE	157
RRH2X40-07-U	167	RRUS 12 W/SOLAR SHIELD	157
RRH2X40-07-U	167	RRUS 12 W/SOLAR SHIELD	157


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 94.5%



 FDH Engineering, Inc. 6521 Meriden Drive, Suite 107 Raleigh, North Carolina 27616 Phone: 9197551012 FAX: 9197551031	Job: Colchester 3, CT02652-S-01
	Project: 15BHJU1400
	Client: SBA Network Services, Inc. Drawn by: Tyler Ferguson App'd:
	Code: TIA/EIA-222-F Date: 03/24/15 Scale: NTS
Tower Analysis	Path:

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11472A

Rt2 / Colchester-Bozrah
29 Mahoney Road
Colchester, CT 06415

April 2, 2015

EBI Project Number: 6215001962

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	35.32 %

April 2, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11472A – Rt2 / Colchester-Bozrah**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **29 Mahoney Road, Colchester, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz Band is $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **29 Mahoney Road, Colchester, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 7) The antennas used in this modeling are the **EMS RR90_17_02DP** for 1900 MHz channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **EMS RR90_17_02DP** has a maximum gain of **14.4 dBd** at its main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 8) The antenna mounting height centerline of the proposed antennas is **177 feet** above ground level (AGL).

- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculations were done with respect to uncontrolled / general public threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP	Make / Model:	EMS RR90_17_02DP
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	177	Height (AGL):	177	Height (AGL):	177
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	6,610.15	ERP (W):	6,610.15	ERP (W):	6,610.15
Antenna A1 MPE%	0.81	Antenna B1 MPE%	0.81	Antenna C1 MPE%	0.81
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	177	Height (AGL):	177	Height (AGL):	177
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%	0.23	Antenna B2 MPE%	0.23	Antenna C2 MPE%	0.23

Site Composite MPE%	
Carrier	MPE%
T-Mobile	3.12
AT&T	13.94 %
Verizon Wireless	18.26 %
Site Total MPE %:	35.32 %

T-Mobile Sector 1 Total:	1.04 %
T-Mobile Sector 2 Total:	1.04 %
T-Mobile Sector 3 Total:	1.04 %
Site Total:	35.32 %

Summary

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

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector 1:	1.04 %
Sector 2:	1.04 %
Sector 3 :	1.04 %
T-Mobile Total:	3.12 %
Site Total:	35.32 %
Site Compliance Status:	COMPLIANT

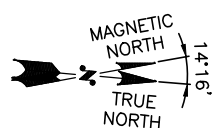
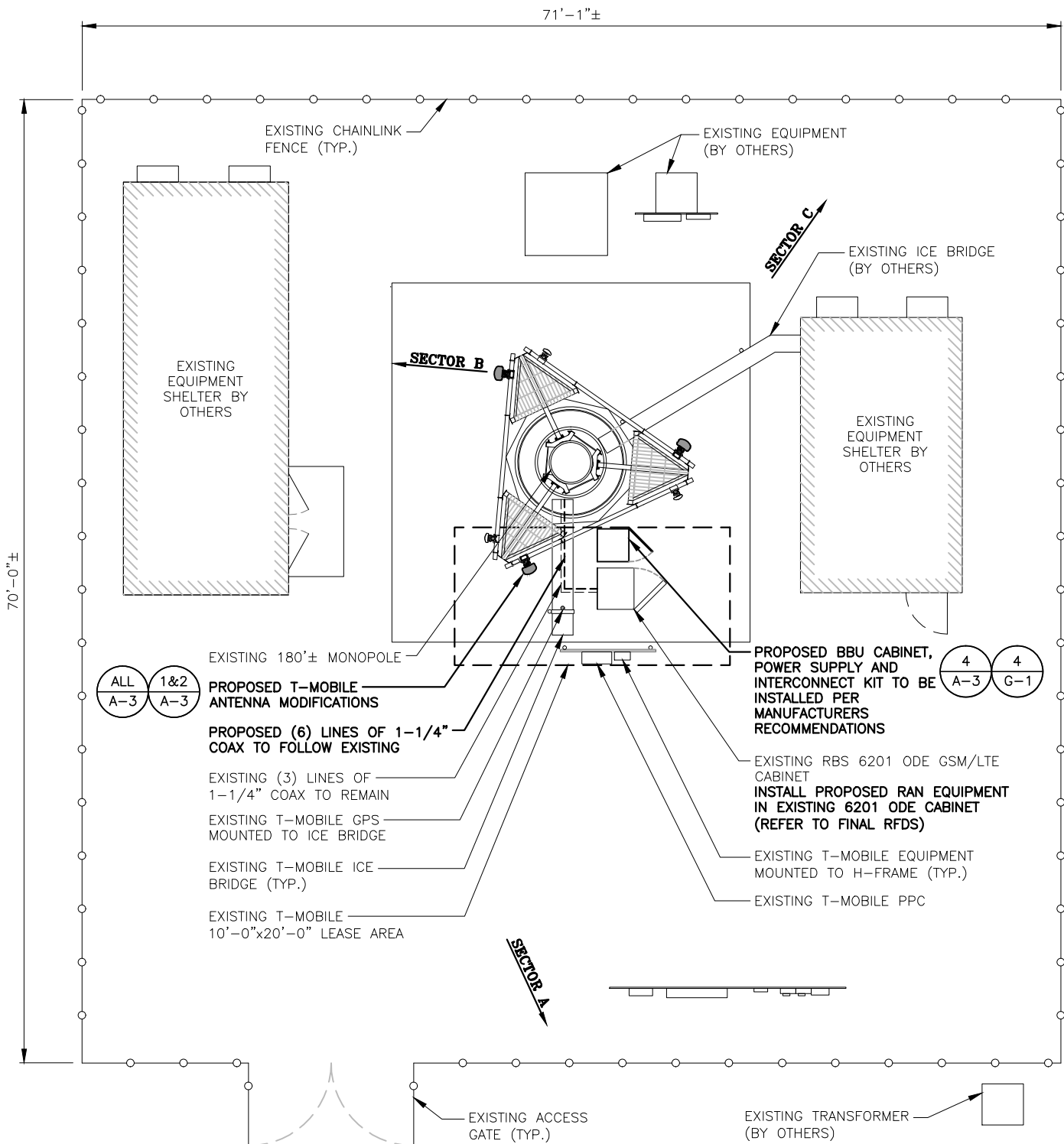
The anticipated composite MPE value for this site assuming all carriers present is **35.32%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

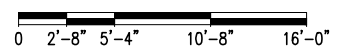


Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



COMPOUND PLAN
 22x34 SCALE: 3/16"=1'-0"
 11x17 SCALE: 3/32"=1'-0"



STRUCTURAL NOTES:

- ADDITIONAL TOWER MAPPING AND STRUCTURAL ANALYSIS ARE REQUIRED PRIOR TO CONSTRUCTION. DRAWINGS ARE SUBJECT TO CHANGE PENDING OUTCOME OF STRUCTURAL ANALYSIS.
- MOUNT ALL ANTENNAS, COAX, ETC. IN ACCORDANCE WITH STRUCTURAL ANALYSIS.

ANTENNA MOUNT STRUCTURAL ASSESSMENT REQUIREMENT:
 ENGINEER OF RECORD HAS MADE A VISUAL ASSESSMENT ONLY AND DETERMINED THAT THE EXISTING ANTENNA MOUNT IS ADEQUATE TO ACCOMMODATE ADDITIONAL EQUIPMENT LOADS. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY ONLY AND FINAL CONSTRUCTION DETAILS ARE SUBJECT TO CHANGE PENDING THE COMPLETION OF AN ANTENNA MOUNT STRUCTURAL ASSESSMENT.

2
A-2

1&2
A-3

T-MOBILE PLATFORM
 ELEV. = 177.0'± A.G.L. (SBA*)



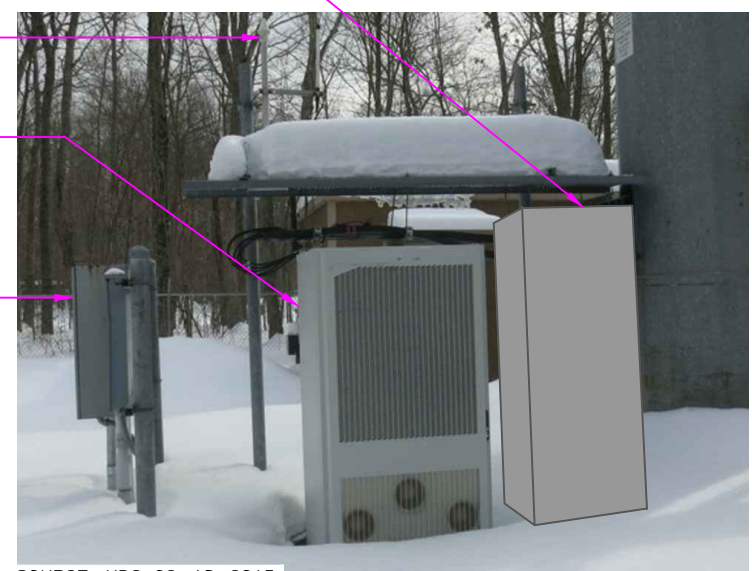
PARTIAL ELEVATION PHOTO DETAIL
 SCALE: N.T.S.

PROPOSED BBU CABINET, POWER SUPPLY AND INTERCONNECT KIT TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS

EXISTING T-MOBILE GPS MOUNTED TO ICE BRIDGE

EXISTING RBS 6201 ODE GSM/LTE CABINET
 INSTALL PROPOSED RAN EQUIPMENT IN EXISTING 6201 ODE CABINET (REFER TO FINAL RFDS)

EXISTING T-MOBILE PPC



EQUIPMENT PHOTO DETAIL
 SCALE: N.T.S.

**T-MOBILE
 NORTHEAST LLC**

35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 648-1116



SBA COMMUNICATIONS CORP.
 33 BOSTON POST ROAD WEST, SUITE 320 TEL: (508) 251-0720
 MARLBOROUGH, MA 01752 FAX: (508) 251-1755



1600 OSGOOD STREET
 BUILDING 20 NORTH, SUITE 3090 TEL: (978) 557-5553
 N. ANDOVER, MA 01845 FAX: (978) 336-5586



Daniel P. Hamm

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	03/12/15	ISSUED FOR CONSTRUCTION	KMS

SITE NUMBER:
 CT11472A

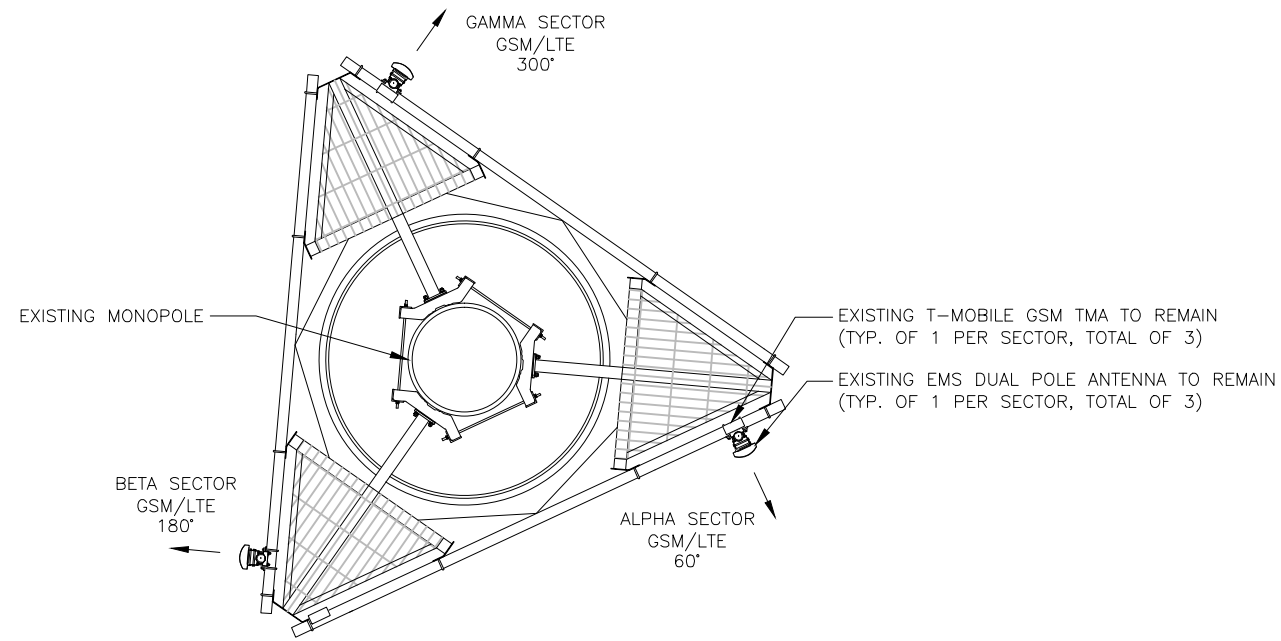
SITE NAME:
 RT2/COLCHESTER-BOZRAH

SITE ADDRESS:
 29 MAHONEY ROAD
 COLCHESTER, CT 06415
 NEW LONDON COUNTY

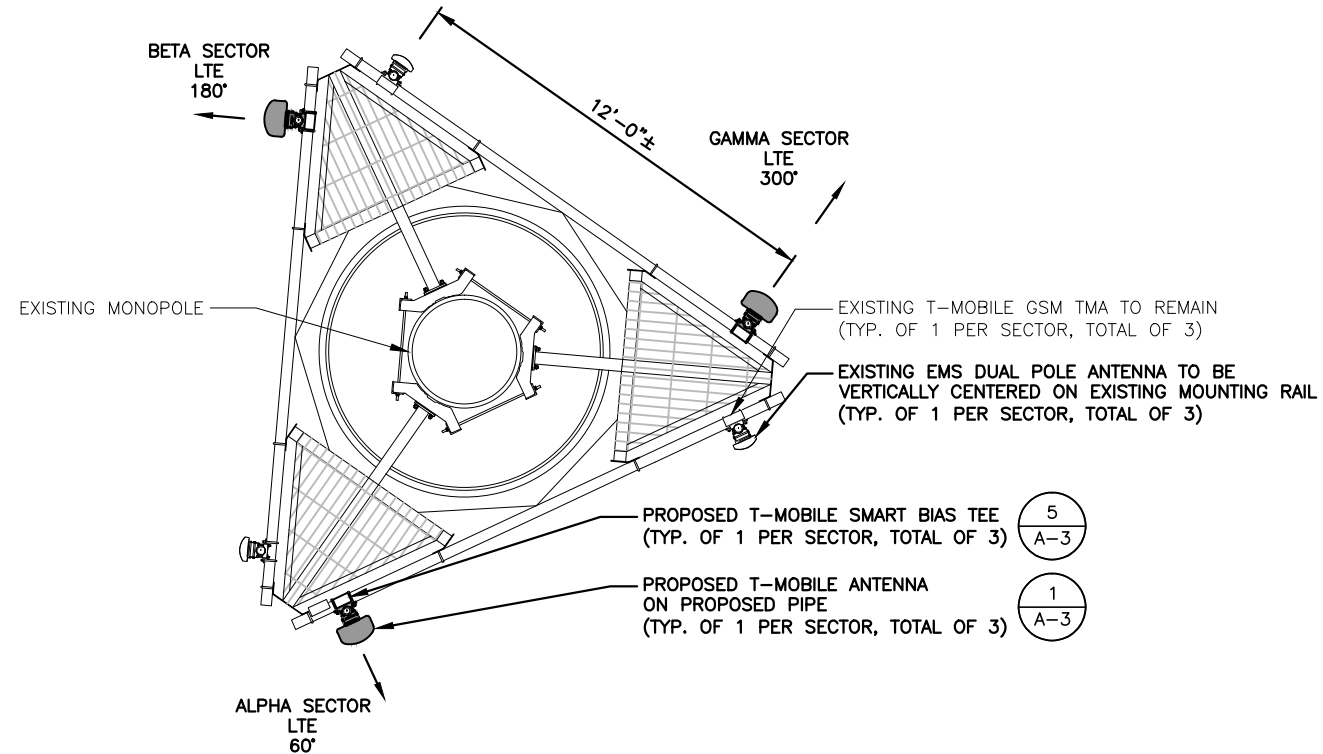
SHEET TITLE
 COMPOUND PLAN &
 ELEVATION

SHEET NUMBER

A-1



EXISTING ANTENNA PLAN (1) A-2
SCALE: N.T.S.



PROPOSED ANTENNA PLAN (2) A-2
SCALE: N.T.S.

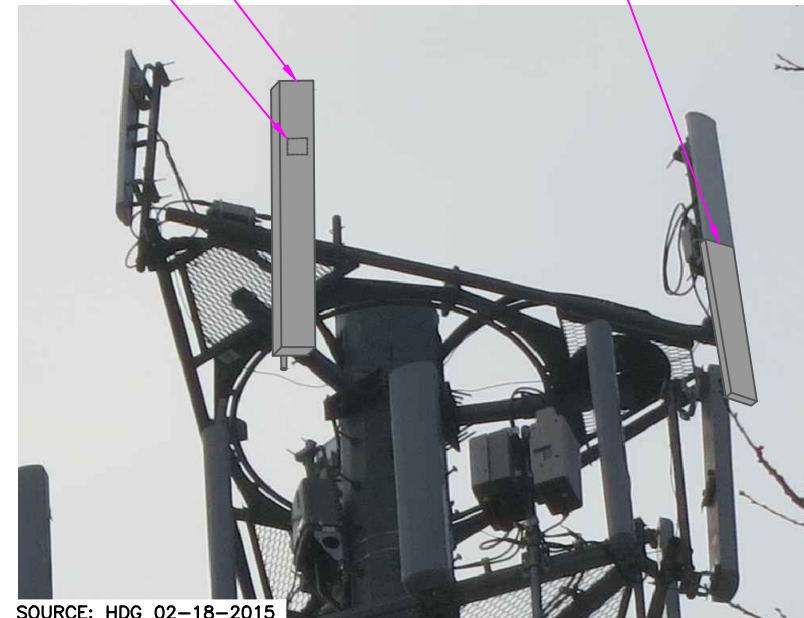
STRUCTURAL NOTES:
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SPECIAL WORK NOTE:
 VERTICALLY CENTER ON EXISTING MOUNTING RAIL, ALL PIPE MASTS AND ANTENNAS

- (1) A-3 PROPOSED T-MOBILE ANTENNA ON PROPOSED PIPE (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- (5) A-3 PROPOSED T-MOBILE SMART BIAS TEE (TYP. OF 1 PER SECTOR, TOTAL OF 3)

EXISTING EMS DUAL POLE ANTENNA TO BE VERTICALLY CENTERED ON EXISTING MOUNTING RAIL (TYP. OF 1 PER SECTOR, TOTAL OF 3)



SOURCE: HDG 02-18-2015

PROPOSED ANTENNA PHOTO DETAIL (3) A-2
SCALE: N.T.S.

**T-MOBILE
NORTHEAST LLC**

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Daniel P. Hamm

CHECKED BY: KB

APPROVED BY: DPH

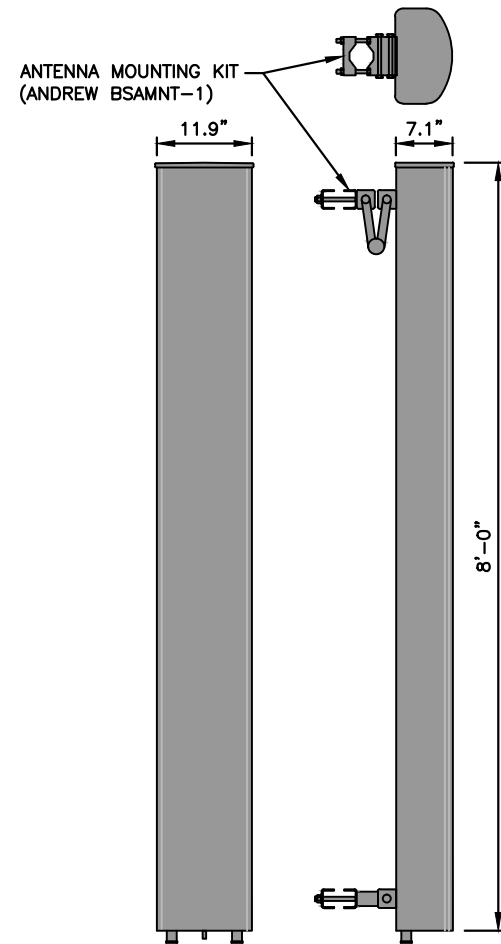
SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	03/12/15	ISSUED FOR CONSTRUCTION	KMS

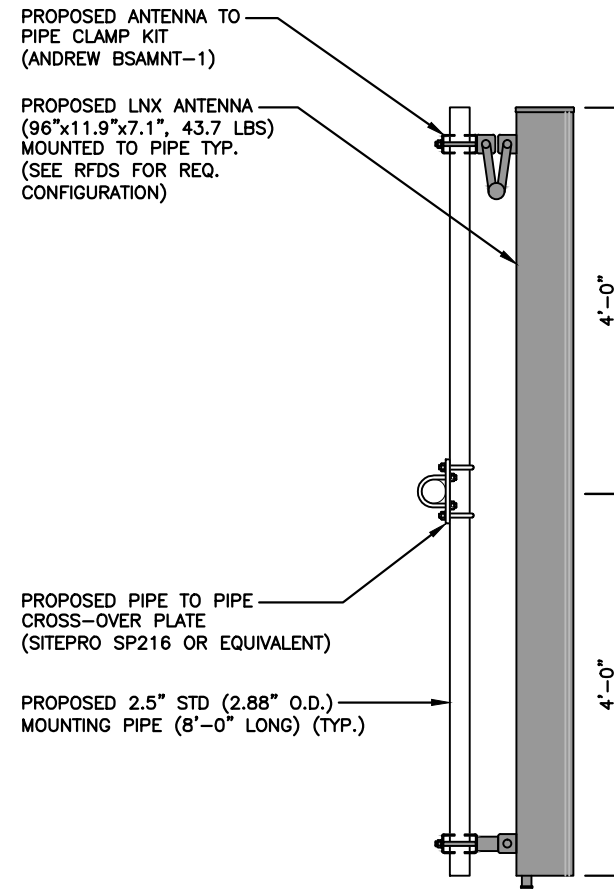
SITE NUMBER:
 CT11472A
 SITE NAME:
 RT2/COLCHESTER-BOZRAH
 SITE ADDRESS:
 29 MAHONEY ROAD
 COLCHESTER, CT 06415
 NEW LONDON COUNTY

SHEET TITLE
 EXISTING &
 PROPOSED ANTENNA
 PLANS

SHEET NUMBER
A-2



LNx ANTENNA DETAIL (1) A-3
SCALE: N.T.S

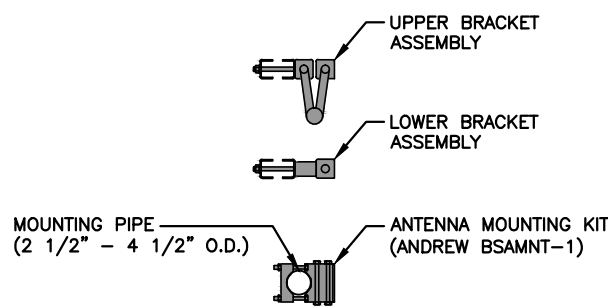


PROPOSED ANTENNA MOUNTING DETAIL (2) A-3
SCALE: N.T.S

ANTENNA MOUNT STRUCTURAL ASSESSMENT REQUIREMENT:
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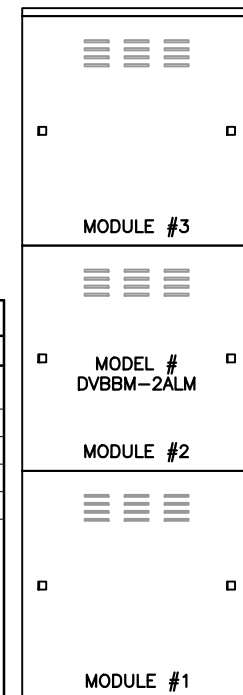
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SPECIAL WORK NOTE:
VERTICALLY CENTER ON EXISTING MOUNTING RAIL, ALL PIPE MASTS AND ANTENNAS

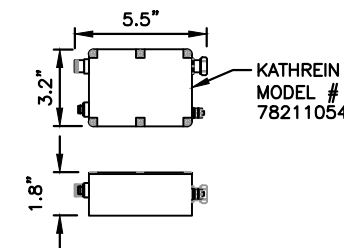


ANTENNA MOUNTING BRACKET (3) A-3
SCALE: N.T.S

BBU DIMENSIONS	
MODEL #	DVBBM-2ALM
MANUF.	MSF DATA SERVICES
WIDTH	28.45"
DEPTH	28.45"
HEIGHT	29.67"
WEIGHT	1,264 LBS
MOUNT BASE WITH (4) 1/2" DROP IN ANCHOR'S WITH 2" MINIMUM EMBEDMENT (INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES)	



BATTERY CABINET (BBU) (4) A-3
SCALE: N.T.S



SMART BIAS TEE (SBT) (5) A-3
SCALE: N.T.S

T-MOBILE NORTHEAST LLC
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SBA

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

Daniel P. Hamm

CHECKED BY: KB

APPROVED BY: DPH

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SHEET TITLE
DETAILS

SHEET NUMBER
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