February 21, 2017

VIA EMAIL AND OVERNIGHT DELIVERY

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

RE: T-Mobile Northeast LLC - CT11108A
Notice of Exempt Modification
Danbury Hospital, Locust Avenue (a/k/a 24 Hospital Avenue), Danbury, CT 06810
LAT: 41-24-18.23
LNG: -73-26-43.95

Dear Ms. Bachman:

T-Mobile Northeast LLC ("T-Mobile") currently maintains nine (9) antennas and three (3) RRU's at the 154' and 127' levels of the existing 134' rooftop located at Locust Avenue in Danbury, CT. T-Mobile now intends to install two (2) additional antennas and one (1) RRU to the existing Beta sector antenna frame with a RAD center of 154' AGL.

The Siting Council assumed jurisdiction of a facility at this site in Docket #79 in September 10, 1987. This approval included the conditions that the facility shall be constructed in accordance with all applicable Federal, State and municipal laws and regulations, and shall comply with any future radio frequency standards promulgated by State or Federal agencies. This modification complies with the aforementioned conditions.

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 Mark D. Boughton, Mayor for the City of Danbury, Sharon Calitro, Director of Planning and Zoning, and the property owner, Danbury Hospital.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-72(b)(s).

1. The proposed modifications will not result in an increase in the height of the existing structure. T-Mobile proposes to install two (2) new antennas at a centerline height of 154' on the existing Beta sector antenna frame.

2. The installation of the T-Mobile equipment on the existing antenna frame, as reflected on the attached site plan, will not require an extension of the site boundaries.

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. The incremental effect of the proposed changes will be negligible.

4. The operation of the additional antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, T-Mobile's operations at the site will result in a power density of 4.47%; the combined site operations will result in a total power density of 11.31%.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site. T-Mobile will install the new antennas on the existing antenna frame.

6. The host building can support the proposed loading. As indicated in the attached structural analysis the proposed T-Mobile antenna upgrade will not negatively impact the structural integrity of the host structure.

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

Respectfully submitted,

By:
Eric Dahl, Agent for T-Mobile
860-227-1975
edahl@comcast.net

Attachments

cc: Mayor Mark D. Boughton
Sharon Calitro, Director, Department of Planning and Zoning
Danbury Hospital

LOCUST AV

Location	LOCUST AV	**Mblu**	I12/ / 1/ /
Acct#		**Owner**	DANBURY HOSPITAL
Assessment	$249,467,100	**Appraisal**	$356,381,900
PID	24190	**Building Count**	16

Assessing Distr...

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$300,531,000	$55,850,900	$356,381,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$210,371,500	$39,095,600	$249,467,100

Owner of Record

Owner DANBURY HOSPITAL
Co-Owner
Address 24 HOSPITAL AVE
DANBURY, CT 06810

Sale Price $0
Book & Page 0679/0464
Sale Date 05/26/1983

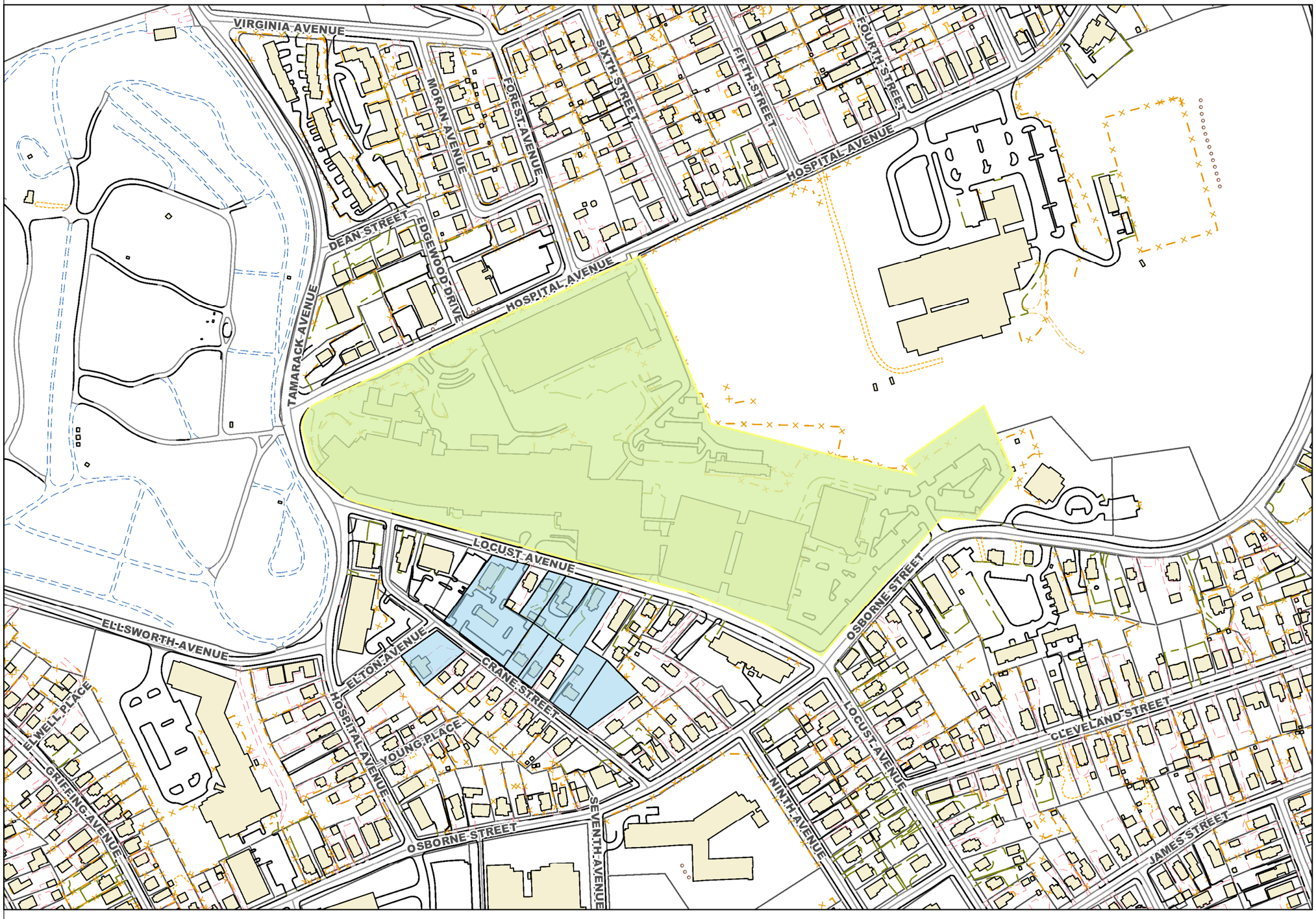
Ownership History

Ownership History			
Owner	**Sale Price**	**Book & Page**	**Sale Date**
DANBURY HOSPITAL	$0	0679/0464	05/26/1983

Building Information

Building 1 : Section 1

Year Built: 1970
Living Area: 295,646
Replacement Cost: $69,493,425



Not a legal survey.

NOTES:

1. THE PROPOSED LESSEE (T–MOBILE) ANTENNA INSTALLATION TO CONSIST OF A TOTAL OF (11) ANTENNAS, (4) REMOTE RADIO UNITS, ASSOCIATED CABLES AND APPURTENANCES.

2. PROPOSED ANTENNA & EQUIPMENT LOCATIONS SHOWN HEREIN ARE SUBJECT TO STRUCTURAL EVALUATION OF HOST BUILDING CONSIDERING EXISTING AND PROPOSED LOADINGS.

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

SITE COORDINATES: LAT.: 41°–24'–18.23" N
LNG.: 73°–26'–43.95" W

GROUND ELEVATION: 487'± A.M.S.L.
SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

T-MOBILE RF CONFIGURATION

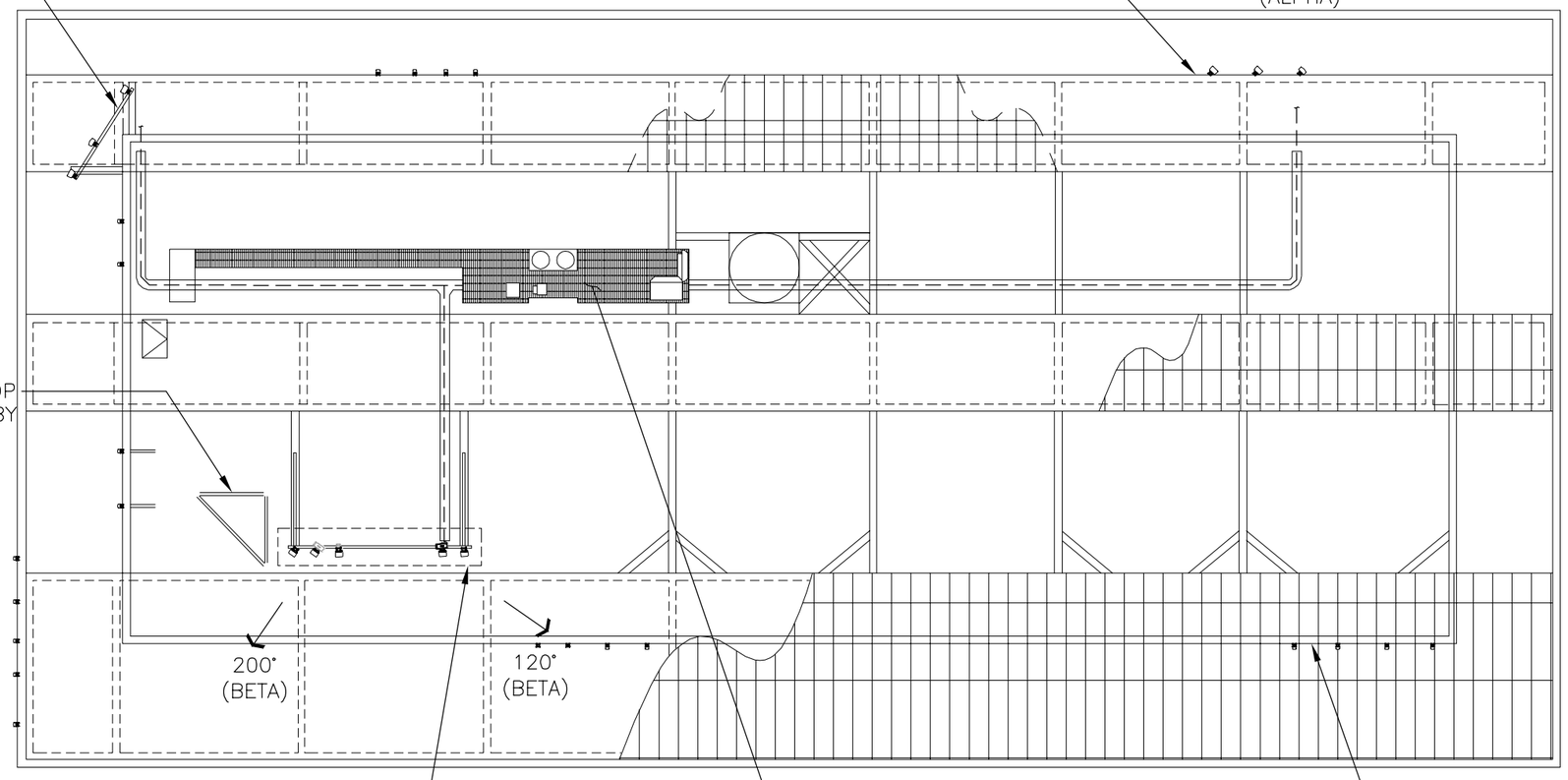
4SEC-794DB_1xAIR+1QP+1DP

EXISTING LESSEE GAMMA SECTOR PANEL ANTENNAS, TYPICAL OF THREE (3) FACADE MOUNTED ON EXISTING ANTENNA FRAME WALL IN FRONT OF MECHANICAL SCREEN.

EXISTING LESSEE ALPHA SECTOR PANEL ANTENNAS, TYPICAL OF THREE (3) FACADE MOUNTED ON EXISTING ANTENNA FRAME WALL IN FRONT OF MECHANICAL SCREEN.

60° (ALPHA)

255° (GAMMA)



EXISTING ROOFTOP LATTICE TOWER BY OTHER.

EXISTING LESSEE BETA SECTOR PANEL ANTENNAS, TYPICAL OF THREE (3) WITH PROPOSED LESSEE BETA SECTOR PANEL ANTENNAS,TYPICAL OF (2), MOUNTED ON EXISTING ANTENNA FRAME BEHIND MECHANICAL SCREEN WALL.

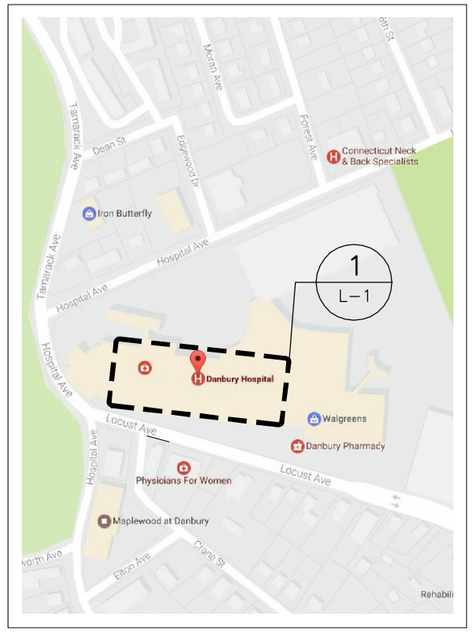
EXISTING STEEL MECHANICAL PLATFORM WITH (3) LESSEE EQUIPMENT CABINETS.

EQUIPMENT BY OTHERS, TYP.

1 / L–1 **ROOFTOP PLAN**
SCALE: 1" = 20'

APPROXIMATE NORTH

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.



KEY PLAN
SCALE: N.T.S.

APPROXIMATE NORTH

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	2/15/17	LGL	CAG	LEASE EXHIBIT – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

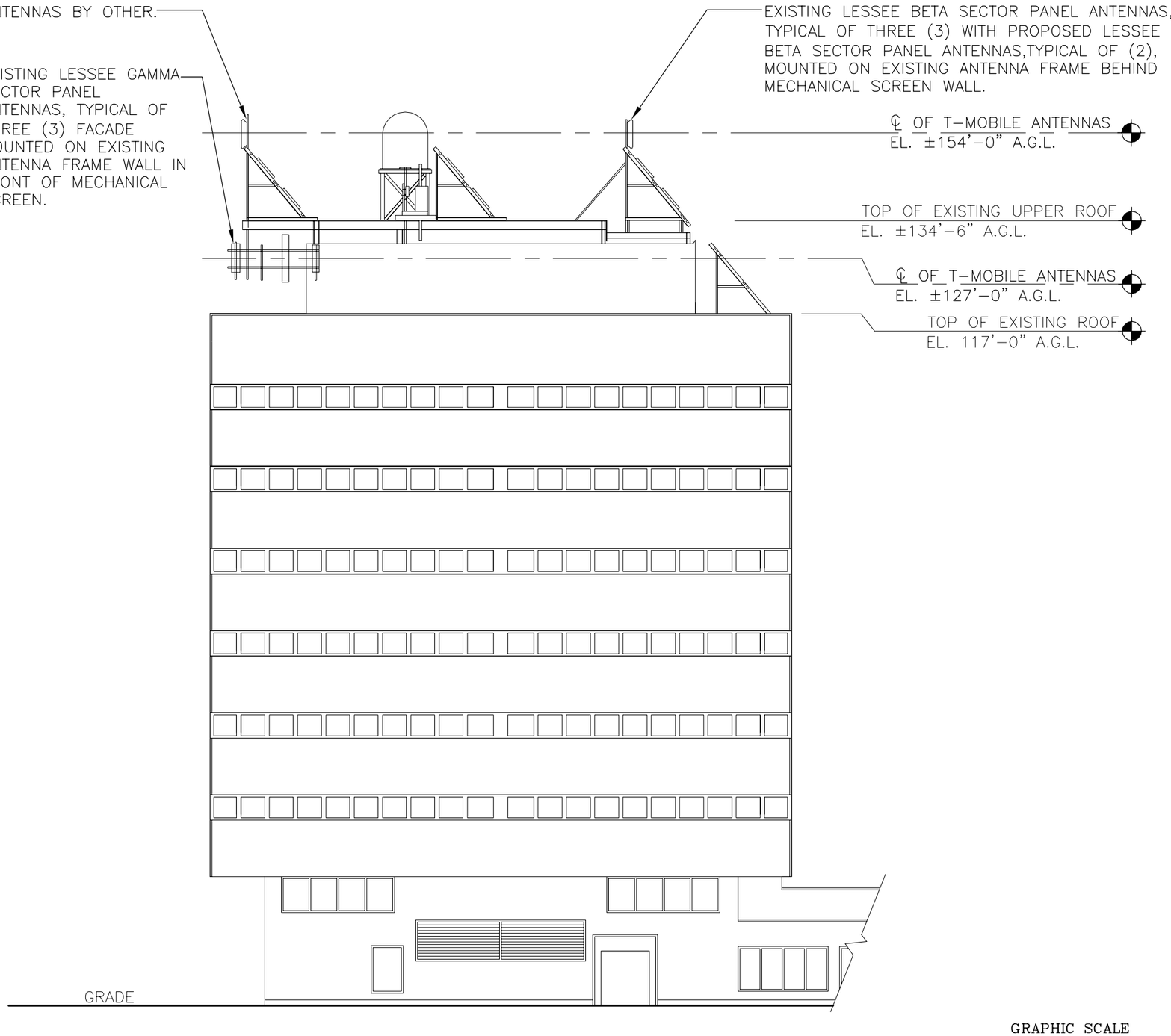
CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road, Branford, CT 06405
www.CentekEng.com

T-MOBILE NORTHEAST LLC

DANBURY HOSPITAL
SITE ID: CT11108A-4TH SECTOR ADD
24 HOSPITAL AVENUE
DANBURY, CT 06810

DATE:	02/13/17
SCALE:	AS SHOWN
JOB NO.	17012.09

SHEET NO. L–1



1 / L-2 **EAST ELEVATION**

SCALE: 1" = 20'

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

T-MOBILE RF CONFIGURATION

4SEC-794DB_1xAIR+1QP+1DP

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	2/15/17	LGL	CAG	LEASE EXHIBIT - ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road, Branford, CT 06405
www.CentekEng.com

T-MOBILE NORTHEAST LLC

DANBURY HOSPITAL

SITE ID: CT11108A-4TH SECTOR ADD

24 HOSPITAL AVENUE
DANBURY, CT 06810

DATE:	02/13/17
SCALE:	AS SHOWN
JOB NO.	17012.09

SHEET NO.
L-2

CENTEK engineering

Centered on Solutions℠

February 6, 2017

Mr. Brian Paul
Transcend Wireless
10 Industrial Ave
Mahwah, NJ 07430

Re: Structural Evaluation Letter ~ Antenna Upgrade
T-Mobile Site Ref ~ CT11108A
24 Hospital Ave
Danbury, CT 06810

Centek Project No. 17012.09

Dear Mr. Paul,

Centek Engineering, Inc. has reviewed the proposed T-Mobile antenna upgrade at the above referenced site. The purpose of the review is to determine the structural adequacy of the existing +/- 134.5-ft tall host building to support the proposed modified antenna configuration. The existing installation consists of three (3) sectors mounted to steel frames attached to the building roof. The review considered the effects of wind load, dead load, ice load and seismic forces in accordance with the 2012 International Building Code as amended by the 2016 CT State Building Code (CSBC).

The existing and proposed T-Mobile loads considered in this analysis consist of the following:

- T-Mobile (Existing to Remain):
  Antennas: Three (3) Ericsson KRC118023 (AIR21) panel antennas, three (3) Ericsson KRD901146 (AIR32) panel antennas, three (3) Andrew LNX6515DS panel antennas and three (3) Ericsson RRUS-11 remote radio units mounted on three (3) existing steel frames with a RAD center elevations of +/- 154-ft AGL (Alpha and Beta Sectors) and +/- 127-ft (Gamma Sector).
- **T-Mobile (Proposed):**
  Antennas: One (1) Ericsson KRD901146 (AIR32) panel antenna, one (1) Andrew LNX6515DS panel antenna and one (1) Ericsson RRUS-11 remote radio unit mounted to the existing Beta Sector antenna frame with a RAD center elevation of +/- 154-ft AGL.

The proposed antenna installation meets the requirements of 2012 International Building Code as amended by the 2016 CT State Building Code considering the ultimate design wind speed of 125 mph as required in Appendix N of the CSBC. Our findings are based on the assumption that the hosting structure, all structural members and appurtenances were properly designed, detailed, fabricated, installed and have been properly maintained since erection.

In conclusion, the proposed T-Mobile antenna upgrade will not negatively impact the structural integrity of the existing host structure. If there are any questions regarding this matter, please feel free to call.

Respectfully Submitted by:

Timothy J. Lynn, PE
Structural Engineer

STATE OF CONNECTICUT
TIMOTHY J. LYNN
No. 29336
LICENSED
PROFESSIONAL ENGINEER

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11108A

Danbury Hospital
24 Hospital Avenue
Danbury, CT 06810

February 10, 2017

EBI Project Number: 6217000478

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	11.31 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

February 10, 2017

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

Emissions Analysis for Site: **CT11108A – Danbury Hospital**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **24 Hospital Avenue, Danbury, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. 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 **24 Hospital Avenue, Danbury, 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 (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 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.

4) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 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

6) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

7) Since the 2100 MHz UMTS radios are ground mounted there are additional cabling losses accounted for. For each ground mounted 2100 MHz UMTS RF path an additional 1.86 dB of cable loss was factored into the calculations used for this analysis. This is based on manufacturers Specifications for 175 feet of 1-5/8" coax cable on each path.

8) 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.

9) For the following calculations the sample point was the top of a 6-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.

10) The antennas used in this modeling are the **Ericsson AIR32 B66A/B2A** & **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-A1M** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR32 B66A/B2A** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope LNX-6515DS-A1M** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. 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.

11) The antenna mounting height centerline of the proposed antennas are **154 feet** above ground level (AGL) for sectors A & B and **127 feet** above ground level (AGL) for sector C.

12) 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.

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

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	154	Height (AGL):	154	Height (AGL):	127
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	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A1 MPE%	1.53	Antenna B1 MPE%	1.53	Antenna C1 MPE%	2.29
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	154	Height (AGL):	154	Height (AGL):	127
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	Channel Count	6
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	7,002.81	ERP (W):	7,002.81	ERP (W):	7,002.81
Antenna A2 MPE%	1.15	Antenna B2 MPE%	1.15	Antenna C2 MPE%	1.72
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M	Make / Model:	Commscope LNX-6515DS-A1M
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	154	Height (AGL):	154	Height (AGL):	127
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.30	Antenna B3 MPE%	0.30	Antenna C3 MPE%	0.45

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**4.47 %**
On Site Readings	4.38 %
Sprint	2.46 %
Site Total MPE %:	**11.31 %**

T-Mobile Sector A Total:	2.99 %
T-Mobile Sector B Total:	2.99 %
T-Mobile Sector C Total:	4.47 %
Site Total:	11.31 %

T-Mobile _Max Values (Sector C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	127	11.46	AWS - 2100 MHz	1000	1.15%
T-Mobile PCS - 1900 MHz LTE	2	2,334.27	127	11.46	PCS - 1900 MHz	1000	1.15%
T-Mobile AWS - 2100 MHz UMTS	2	1,167.14	127	5.73	AWS - 2100 MHz	1000	0.57%
T-Mobile PCS - 1950 MHz UMTS	2	1,167.14	127	5.73	PCS - 1950 MHz	1000	0.57%
T-Mobile PCS - 1950 MHz GSM	2	1,167.14	127	5.73	PCS - 1950 MHz	1000	0.57%
T-Mobile 700 MHz LTE	1	865.21	127	2.12	700 MHz	467	0.45%
						Total:	**4.47%**

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 A:	2.99 %
Sector B:	2.99 %
Sector C:	4.47 %
T-Mobile Per Sector Maximum:	4.47 %
Site Total:	11.31 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.31%** 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.