10 INDUSTRIAL AVE,
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MAHWAH NJ 07430

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Kyle Richers
10 Industrial Ave., Suite 3
Mahwah, NJ 07430
908-447-4716
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May 26, 2016

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

Notice of Exempt Modification
24 Hospital Ave., Danbury, Connecticut 06810
Latitude- 41.40504
Longitude- -73.445988

Dear Ms. Bachman,

T-Mobile currently maintains 9 existing antennas at the 154' and 127' level of the existing 134' rooftop facility at 24 Hospital Ave. in Danbury, CT. The property is owned by Danbury Hospital. T-Mobile now intends to replace 3 of its existing antennas with 3 new 1900 antennas. These antennas would be installed at the same height level of the existing antennas.

The council assumed jurisdiction of a facility at this site in Docket 79 in September 10, 1987. This approval included the conditions 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 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, as well as the property owner, Danbury Hospital.

The planned modifications to the facility fall squarely within those activities explicity 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 modifications 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 modifications 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 telecommunications facility constitute an exempt modification under R.C.S.A 16-50j-72(b)(2).

Sincerely,

Kyle Richers

Kyle Richers
10 Industrial Ave, Suite 3
Mahwah, New Jersey 07430
908-447-4716
krichers@transcendwireless.com

Attachments

CC: Mayor Mark D. Boughton, City of Danbury
Danbury Hospital

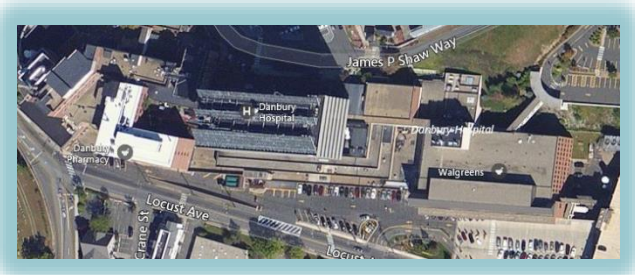
Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

T-Mobile Proposed Facility

Site ID: CT11108A
Danbury Hospital
24 Hospital Avenue, Danbury, Connecticut 06810

May 20, 2016

EBI Project Number:
6216002456

Status:	**The proposed site will be compliant with the installation of the mitigation measures.**	
Recommended Signage		
Sign Count	Sign Type	
1		
1		
3		
2		
Remarks: See attached signage plan. See signage plan for mitigation measures to be installed upon upgrade/installation of the site to comply with FCC and T-Mobile standards.		

Prepared by:

EBI Consulting
environmental | engineering | due diligence

INTRODUCTION

EBI Consulting was directed to analyze the proposed T-Mobile rooftop facility (CT11108A) located at 24 Hospital Avenue in Danbury, Connecticut for the purpose of determining whether the emissions from the proposed T-Mobile Antenna Installation located on this property are within specified federal limits. This report contains a detailed summary of the RF EME analysis for the site.

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 ($\mu W/cm^2$). 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 and 800 MHz Bands is 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively, and the general population exposure limit for the PCS and 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.

MPE CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna rooftop facility located at 24 Hospital Avenue in Danbury, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of in areas in the immediate vicinity of the antennas.

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

1) 2 GSM / UMTS channels (PCS Band – 1950 MHz) were considered for each sector of the proposed installation. The transmit power for these channels is 30 watts per channel.

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. The transmit power for these channels is 30 watts per channel.

3) 4 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. The transmit power for these channels is 60 watts per channel.

4) 4 LTE channels (AWS Band – 19100 MHz) were considered for each sector of the proposed installation. The transmit power for these channels is 60 watts per channel.

5) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. The transmit power for this channel is 30 watts.

6) 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.

7) EBI has performed theoretical worst case modeling using Roofview® to estimate the maximum potential power density from each antenna based on worst-case assumptions for the number of antennas and power.

8) The data for all T-Mobile antennas used in this analysis is shown below in Table 1. Actual antenna gains for each antenna were used per manufacturer's specifications.

9) There are additional carriers located on this facility. These include three unknown carriers. The anticipated emissions values for these carriers are located in Table 2 below

10) Emissions values for additional carriers were taken from the data provided by T-Mobile in the supplied drawings. For each additional carrier, known configuration values were utilized to approximate each systems contribution.

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

Antenna Inventory

Antenna Number	Sector	Antenna Make	Antenna Model	Height (ft) Above Nearest Walking Surface	Frequency Band	Technology	Power Per Channel	ERP (w)	Azimuth	Number of Channels
2	A	Ericsson	AIR21 B2A/B4P	7.7	PCS - 1950 MHz	GSM/UMTS	30	2057	60	2
2	A	Ericsson	AIR21 B2A/B4P	7.7	AWS - 2100 MHz	UMTS	30	2057	60	2
3	A	Ericsson	AIR32 B66Aa/B2a	7.7	AWS - 2100 MHz	LTE	60	4113	60	2
3	A	Ericsson	AIR32 B66Aa/B2a	7.7	AWS - 2100 MHz	LTE	60	4113	60	2
3	A	Ericsson	AIR32 B66Aa/B2a	7.7	PCS - 1900 MHz	LTE	60	4113	60	2
3	A	Ericsson	AIR32 B66Aa/B2a	7.7	PCS - 1900 MHz	LTE	60	4113	60	2
4	A	Commscope	LNX-6515DS-A1M	6.0	700 MHz	LTE	30	716	60	1
1	B	Ericsson	AIR21 B2A/B4P	17.2	PCS - 1950 MHz	GSM/UMTS	30	2057	180	2
1	B	Ericsson	AIR21 B2A/B4P	17.2	AWS - 2100 MHz	UMTS	30	2057	180	2
3	B	Commscope	LNX-6515DS-A1M	15.5	700 MHz	LTE	30	716	180	1
4	B	Ericsson	AIR32 B66Aa/B2a	17.2	AWS - 2100 MHz	LTE	60	4113	180	2
4	B	Ericsson	AIR32 B66Aa/B2a	17.2	AWS - 2100 MHz	LTE	60	4113	180	2
4	B	Ericsson	AIR32 B66Aa/B2a	17.2	PCS - 1900 MHz	LTE	60	4113	180	2
4	B	Ericsson	AIR32 B66Aa/B2a	17.2	PCS - 1900 MHz	LTE	60	4113	180	2
1	C	Ericsson	AIR21 B2A/B4P	7.7	PCS - 1950 MHz	GSM/UMTS	30	2057	300	2
1	C	Ericsson	AIR21 B2A/B4P	7.7	AWS - 2100 MHz	UMTS	30	2057	300	2
2	C	Commscope	LNX-6515DS-A1M	6.0	700 MHz	LTE	30	716	300	1
4	C	Ericsson	AIR32 B66Aa/B2a	7.7	AWS - 2100 MHz	LTE	60	4113	300	2
4	C	Ericsson	AIR32 B66Aa/B2a	7.7	AWS - 2100 MHz	LTE	60	4113	300	2
4	C	Ericsson	AIR32 B66Aa/B2a	7.7	PCS - 1900 MHz	LTE	60	4113	300	2
4	C	Ericsson	AIR32 B66Aa/B2a	7.7	PCS - 1900 MHz	LTE	60	4113	300	2

Table 1: T-Mobile Site Inventory and Power Value

Additional Carriers Located on Site	
Carrier	MPE %
Unknown Carriers (3)	60.70% of the FCC general public limit (12.14% of the FCC occupational limit) at the highest value on walking/working surfaces.

Table 2: Additional Carrier Inventory and Emissions Levels

Summary and Conclusions

All calculations performed for this analysis yielded results that were above the allowable limits for exposure to RF Emissions. Based on predictive modeling, the worst-case emitted power density may exceed the FCC's general public limit within approximately 8 feet of T-Mobile's proposed antennas at the upper roof level. Modeling also indicates that the worst-case emitted power density may exceed the FCC's occupational limit within approximately 1 feet of T-Mobile's proposed antennas at the upper roof level. There are no modeled areas on the rooftop that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas. Installation of mitigation measures will bring the proposed site into compliance.

The anticipated maximum contribution from each sector of the proposed T-Mobile facility is 609% of the allowable FCC established general public limit (121.8% of the FCC occupational limit). This was determined through calculations along a radial from each sector taking full power values into account as well as actual vertical plane antenna gain values per the manufacturers supplied specifications for gain.

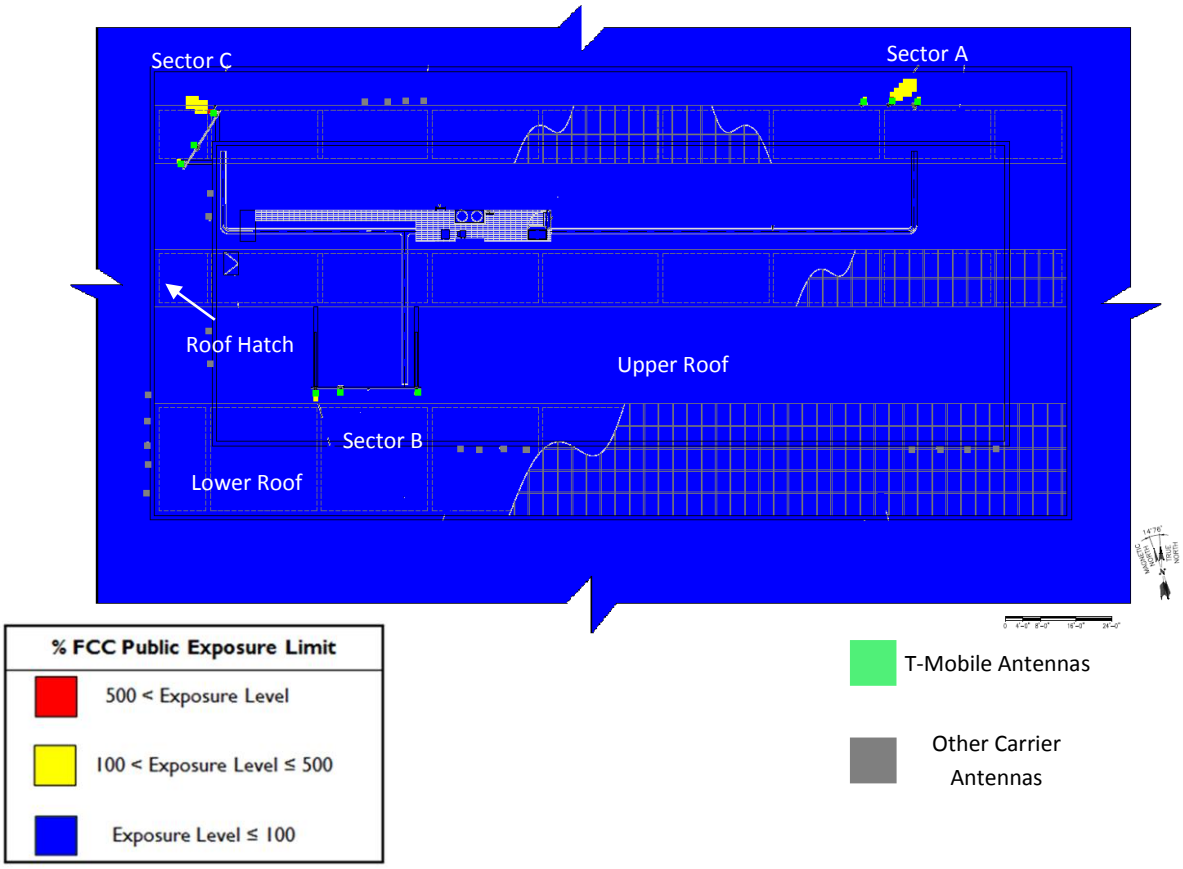
The anticipated maximum composite MPE value for this site assuming all carriers present is 609% of the allowable FCC established general public limit (121.8% of the FCC occupational limit). This is based upon worst case modeling performed on the rooftop taking emissions contributions from all carriers present into account. This value will determine whether the proposed site will be in compliance with regards to electromagnetic emissions.

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards. For this facility, the composite values calculated were above the allowable 100% threshold standard per the federal government.

EBI's modeling indicates that there are areas in front of the T-Mobile antennas at the rooftop level that exceed the FCC standards for general public and occupational exposure. In order to alert any workers potentially accessing the site, a blue Notice sign and a yellow Guidelines sign are recommended at the first points of access to the rooftop. Additionally, yellow Caution signs are recommended 8 feet in front of the T-Mobile antennas at Sectors A and C and 2 feet in front of the T-Mobile antennas at Sector B to alert workers they are entering areas that exceed the FCC's general population and/or occupational MPE levels. Red Warning signs are recommended 1 foot in front of the T-Mobile antennas at Sectors A and C to alert workers they are entering areas that exceed the FCC's occupational MPE levels.Recommended signs are depicted on the Signage Plan – Attachment 2.

REBECCA SINISGALLI
RF-EME TECHNICIAN I
EBI Consulting
21 B Street
Burlington, MA 01803

Attachment 1: Walking/Working Surface Emissions Thresholds



PLAN VIEW

Sector 1	There is an area that extends **8** feet from the antenna face that exceeds the FCC's allowable limit for general public exposure on the walking/working surface. There is an area that extends **1** foot from the antenna face that exceeds the FCC's allowable limit for occupational exposure on the walking/working surface.
Sector 2	There is an area that extends **2** feet from the antenna face that exceeds the FCC's allowable limit for general public exposure on the walking/working surface. There are no areas of occupational exposure on the walking/working surface.
Sector 3	There is an area that extends **8** feet from the antenna face that exceeds the FCC's allowable limit for general public exposure on the walking/working surface. There is an area that extends **1** foot from the antenna face that exceeds the FCC's allowable limit for occupational exposure on the walking/working surface.
Other Carriers	There are no areas that exceed either the FCC's general public or occupational threshold exposure limits in front of the other carrier antennas at this site.

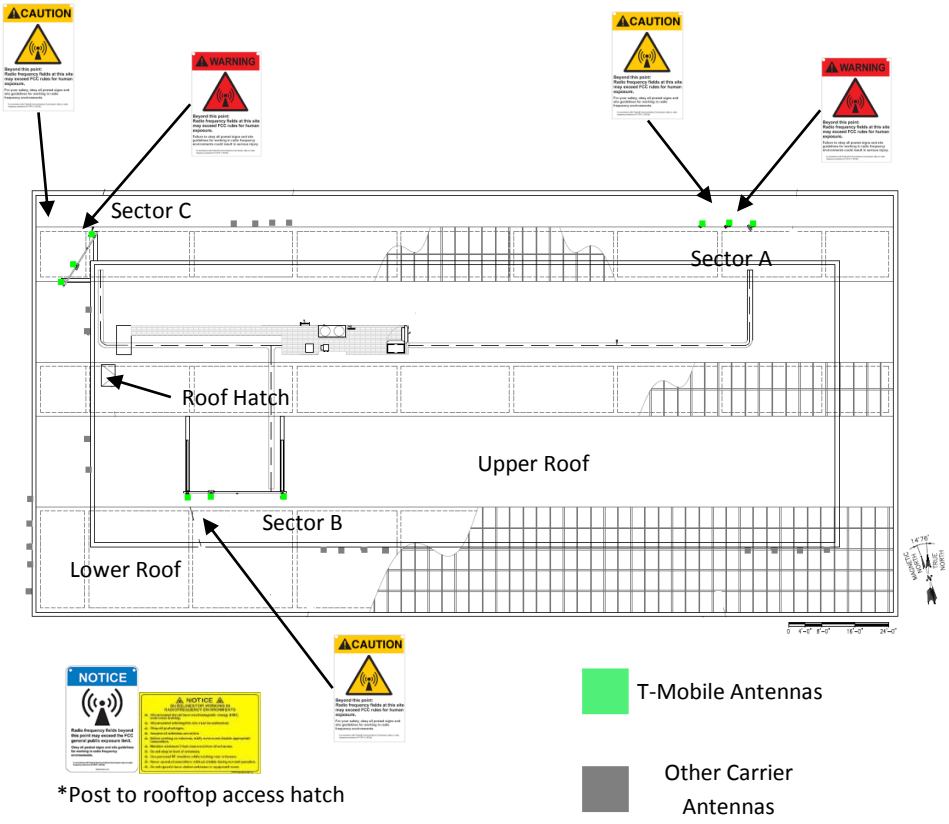
Attachment 2: Plan View – Signage Locations

Status:	**The proposed site will be compliant with the installation of the mitigation measures.**
Recommended Signage for Compliance	
Sign Count	Sign Type
1	
1	
3	
2	

Notes:

The proposed site will be compliant with the installation of the mitigation measures.

*Actual number of access points may vary if no site survey was conducted. Signage locations are based on T-Mobile's guidance. Actual installation is dependent on accessibility of the roof/antennas. Locations deemed inaccessible due to OSHA safety standards (proximity to unprotected roof edge or slope) will be compliant upon installation of signage at closest accessible point.



Sign	Description	Posting Instructions
	**Blue Notice Sign** Used to notify individuals they are entering an area where the power density emitted from transmitting antennas may exceed the FCC's MPE limit for the general public.	Securely post at the first point of access to the site (rooftop access hatch) in a manner conspicuous to all individuals entering thereon. **Denote Site ID Number on Sign in Permanent Marker.**
	**Guidelines** Informational sign used to notify workers that there are active antennas installed and provide guidelines for working in RF environments.	Securely post adjacent to the Blue Notice sign at the first point of access to the site (rootop access hatch) in a manner conspicuous to all individuals entering thereon.
	**Yellow Caution Sign** Used to notify individuals that they are entering an area where the power density emitted from transmit antennas may exceed the FCC's MPE limit for the general public or occupational exposures.	Securely post near areas where the general public or occupational MPE limit could be exceeded (8 feet in front of Sectors A and C and 2 feet in front of Sector B) in a manner conspicuous to all individuals entering thereon. **Denote Site ID Number on Sign in Permanent Marker.**
	**Red Warning Sign** Used to notify individuals that they are entering an area where the power density emitted from transmit antennas exceeds the FCC's MPE limit for general public and occupational exposures.	Securely post near areas where the general public and occupational MPE limits are exceeded (1 foot in front of Sectors A and C) in a manner conspicuous to all individuals entering thereon. **Denote Site ID Number on Sign in Permanent Marker.**

STRUCTURAL ANALYSIS REPORT

For

CT11108A

DANBURY HOSPITAL

24 Hospital Avenue
Danbury, CT 06810

Antennas &Equipment Cabinets on the Roof

Prepared for:

Transcend Wireless

T··Mobile

STATE OF CONNECTICUT
DANIEL HAMM
24178
LICENSED
PROFESSIONAL ENGINEER

5-16-16

Dated: May 16, 2016

Prepared by:

Hudson Design Group LLC

1600 Osgood Street Building 20 North, Suite 3090
North Andover, MA 01845
Phone: (978) 557-5553
www.hudsondesigngroupllc.com

Hudson Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by Transcend Wireless to conduct a structural evaluation of the structure supporting the proposed T-Mobile equipment located in the areas depicted in the latest HDG's construction drawings.

This report represents this office's findings, conclusions and recommendations pertaining to the support of T-Mobile's proposed equipment.

CONCLUSION SUMMARY:

Building plans by Richardson and Morss Architects dated 1-20-16 were not available and obtained for our reference. A limited visual survey of the structure was completed in or near the areas of the proposed work. The following documents were used as references:

- Construction drawings prepared by Tectonic dated 07/23/14.
- Construction drawings prepared by Atlantis Group dated 09/18/13.
- Structural evaluation letter prepared by Atlantis Group dated 09/19/13.

Based on our evaluation, we have determined that the existing structure **IS CAPABLE** of supporting the proposed loading.

HDG did not perform a condition assessment of the building structure. HDG is under the assumption that the structure has been constructed properly and is in good condition.

APPURTENANCE/EQUIPMENT CONFIGURATION:

(3) AIR32 B66Aa/B2a Antennas (56.6"x12.9"x8.7" – Wt. = 132.2 lbs. /each)

(3) AIR21 B2A/B4P Antennas (56"x12.1"x7.9" - Wt. = 91 lbs. /each

(3) LNX-6515DS-A1M Antennas (96"x12"x7" – Wt. = 51 lbs /each)

(3) RRUS-11 B12 (19.7"x17"x7.2" - Wt. = 51 lbs. /each)

(3) TMA's

Referenced documents are attached.

Hudson Design Group LLC

DESIGN CRITERIA:

1. International Building Code 2003 with 2005 Connecticut Supplement with 2013 Amendments; ASCE 7-05 Minimum Design Loads for Buildings and Other Structures.

   Wind Analysis:

Reference Wind Speed:	100 mph	(includes 3-second gust)
	80 mph	(fastest mile)
Category:	B	

   Roof:

Ground Snow, Pg:	30 psf	(Connecticut Supplement)

2. EIA/TIA -222- F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

City/Town:	Danbury
County:	Fairfield
Wind Load:	85 mph (Basic Wind Speed)

3. Approximate height above grade to the center of the antennas:

   127'-0"+/- (Gamma Sector)
   154'-0"+/- (Alpha & Beta Sectors)

Hudson Design Group LLC

ANTENNA SUPPORT RECOMMENDATIONS:

The new antennas are proposed to be mounted on the existing pipe masts secured to the existing steel frames on the roof.

HDG did not perform a condition assessment of the existing antenna support frames. HDG is under the assumption that the structure has been constructed properly and is in good condition. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified as soon as possible. Further design may be required.

Limitations and assumptions:

1. Reference the latest HDG construction drawings for all the equipment location details.

2. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.

3. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

4. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements and specifications.

5. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified as soon as possible.

6. A condition assessment of the existing structure was not part of the scope of work.

EXISTING ANTENNAS:

Photo 1: Sample photo illustrating the existing T-Mobile antennas.

Photo 2: Sample photo illustrating the existing T-Mobile antennas.

Hudson Design Group LLC

Photo 3: Sample photo illustrating the existing T-Mobile antennas.

Hudson Design Group LLC

Calculations

Site Name:	DANBURY HOSPITAL		
Site No.	CT11108A		
Done by:	AA	Checked by:	MSC
Date:	5/17/2016		

References: Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (TIA/EIA-222-F).

Material Reference Notes:

2.3.1 Wind and Ice Loads

The total design wind load shall include the sum of he horizontal forces applied to the structure in the direction of the wind and the design wind load on guys and discrete appurtenances.

Ice loading, depending on tower height, elevation, and exposure, may be a significant load on the structure in most parts of the United States. If the structure is to be located where ice accumulation is expected, consideration shall be given to an ice load when specifying the requirements for the structure.

2.3.2 Horizontal Force Applied to each Section of the Structure

$$F=q_z*G_H\,[C_F*A_E+\sum(C_A*A_A)]$$ (Not to exceed $2*q_z*G_H*A_G$)

where A_G = Gross area of one tower face (ft^2)

2.3.3 Velocity Pressure (q_z) and Exposure Coefficient (K_Z)

$q_z=.00256*K_Z*V^2$ V=Basic Wind Speed for the Structure Location (mph)

$K_Z=(z/33)^{2/7}$ z=Ht. above avg. ground level to midpoint of section (ft.)

$1.00 \leq K_Z \leq 2.58$ A_E=effective projected area of structural components in one face

2.3.4 Gust Response Factors (G_H)

2.3.4.1 For latticed structures , gust response factor (G_H) shall be calculated from the equation:

$G_H=0.65+0.60/(h/33)^{1/7}$ (h in (ft.)) $1.0 < G_H < 1.25$

2.3.4.2 For Tubular pole structures, the gust response factor (G_H) shall be 1.69

2.3.4.3 One gust response factor shall apply for the entire structure.

2.3.4.4 When Cantilevered tubular or latticed pole structures are mounted on latticed structures, the gust response factor the the pole and the latticed structure shall be based on the height of the latticed structure without the pole. The stresses calculated for the pole structures and their connections to latticed structures shall be multiplied by 1.25 to compensate for the greater gust response for the mounted pole structures.

2.3.5 Structure Force Coefficients (Reference Table 1)

Site Name	DANBURY HOSPITAL
Site No.	CT11108A
Done by:	AA Checked by: MSC
Date:	5/17/2016

Hudson Design Group LLC

=Input Values

V= **85** (mph)
z= **154** (ft)

K_Z= **1.55**

Velocity Pressure: **qz= 28.72 psf** [2.3.3]

Is member analyzing a tube pole structure? If yes, then: Gh= 1.69

If no, then use value below:
Gh= 1.13 [2.3.4.1]

Gh= 1.69

Determine Ca: **[2.3.7]**

2.3.7 The force coefficient (C_A) applied to the projected area (ft^2) [m^2] of a linear appurtenance (A_A) not considered as a structural component shall be determined from Table 3. The force coefficient for cylindrical members may be applied to the additional projected area of radial ice when specified. (Refer to Figure 1.)

TABLE 3
Appurtenance Force Coefficients

Member Type	Aspect Ratio ≤ 7	Aspect Ratio ≥ 25
	C_A	C_A
Flat	1.4	2
Cylindrical	0.8	1.2

Aspect Ratio=Overall length/width ratio in plane normal to wind direction.
(Aspect ratio is not a function of the spacing between support points of a linear appurtenance, nor the section length considered to have a uniformly distributed force.)

Note: Linear interpolation may be used to aspect ratios other than shown

Site Name	DANBURY HOSPITAL		
Site No.	CT11108A		
Done by:	AA	Checked by:	MSC
Date:	5/17/2016		

2.3.8 Regardless of location, linear appurtenances not considered as structural components in accordance with 2.3.6.3 shall be included in the term $\Sigma C_A A_A$.

2.3.9 The horizontal force (F) applied to a section of the structure may be assumed to be uniformly distributed based on the wind pressure at the mid-height of the section.

	Item #1
Member Length (Inches):	56.6
Member Width (Inches):	12.9
Calculated Aspect Ratio:	4.4

From Table 3 Above:

Ca= 1.40

Determine Aa: (sf)

		Item #1
From above:	Aa=	5.07

Calculated Ca*Aa: 7.10

Calculated Sums of Ca*Aa: 7.10 sf

AIR32 B66Aa/B2a Antenna Item 1 calculated force F: 345

ICE WEIGHT CALCULATIONS

Project: CT11108A

Thickness of ice: 0.5

Weight of ice based on total radial SF area: **Antenna**

Depth (in):	8.7		
height (in):	56.6		
Width (in):	12.9		
Total weight of ice on object:		40	pounds ice
Weight of object:	132.2	pounds	
Combined weight of ice and object:		172	pounds

Per foot weight of ice: **Pipe**

pipe weight per foot:	7.58		
pipe length (ft):	14.5		
diameter (in):	3.5		
Per foot weight of ice on object:		2	pounds ice /ft
Total weight of ice on object:		31	pounds
Total weight of pipe:		109.91	pounds
Combined weight of pipe and ice:		141	pounds

* Density of ice used = 56 PCF

Total Weight:	313	pounds

Bentley

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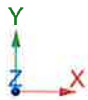

Bentley

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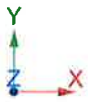

Bentley

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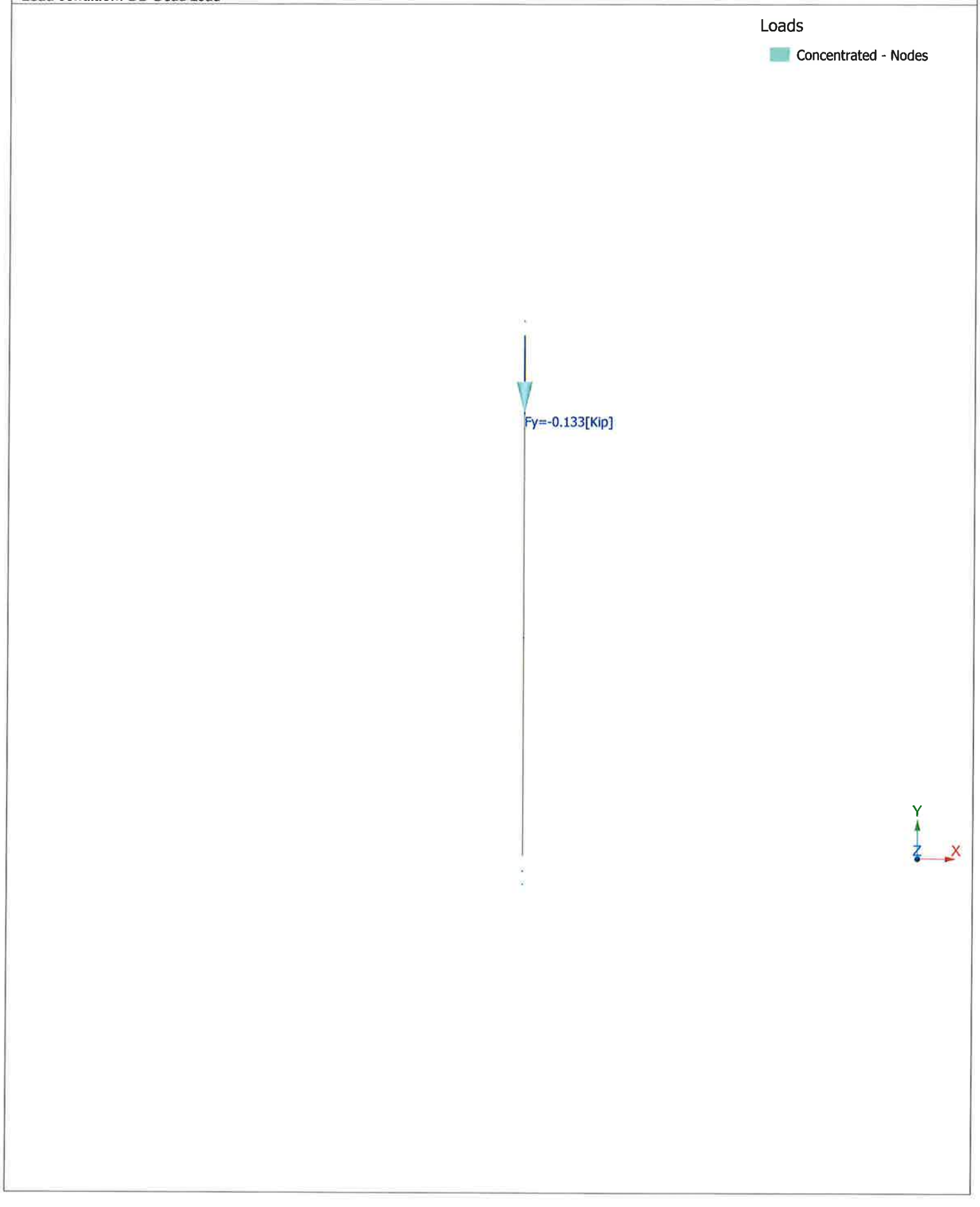
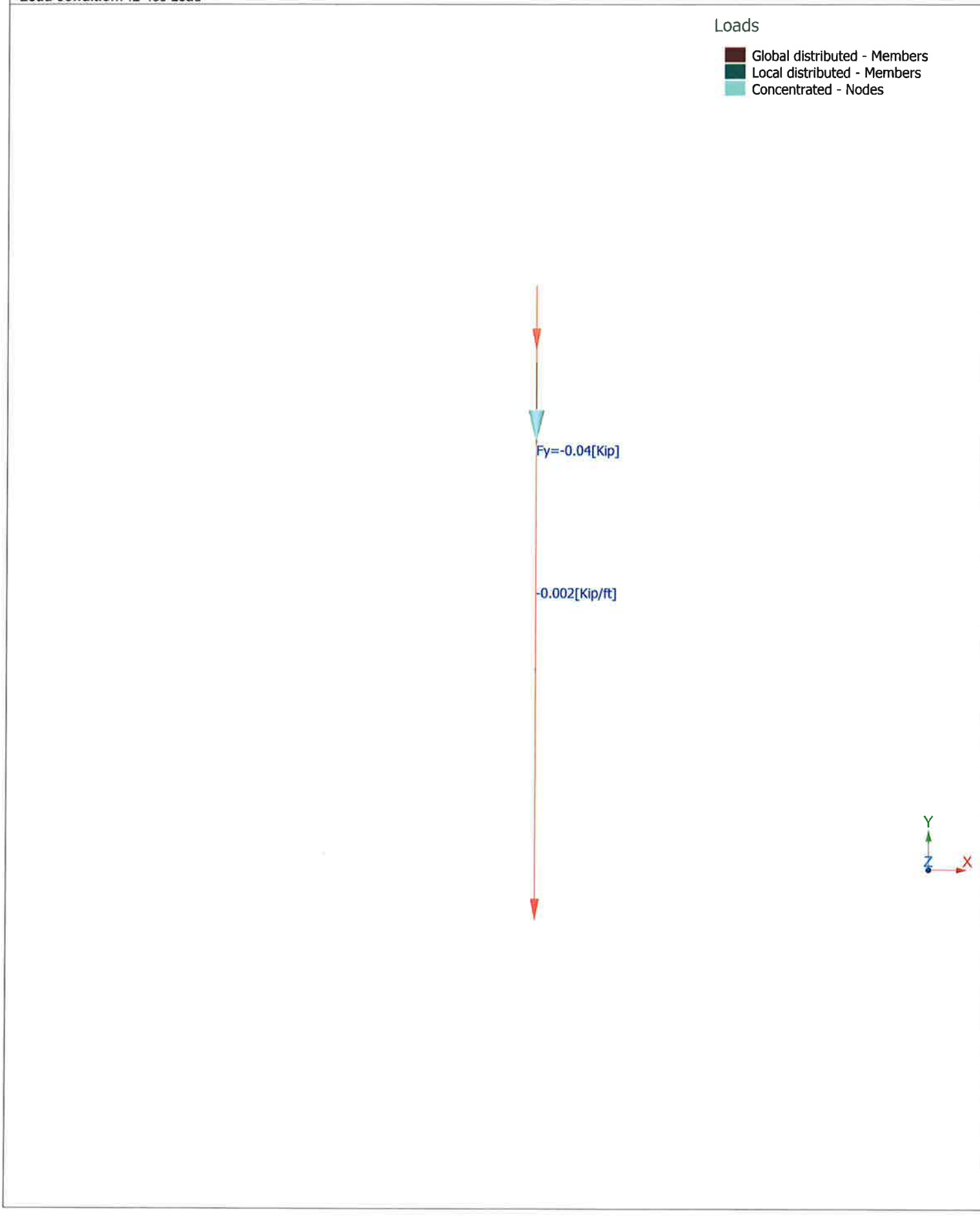
Load condition: DL=Dead Load

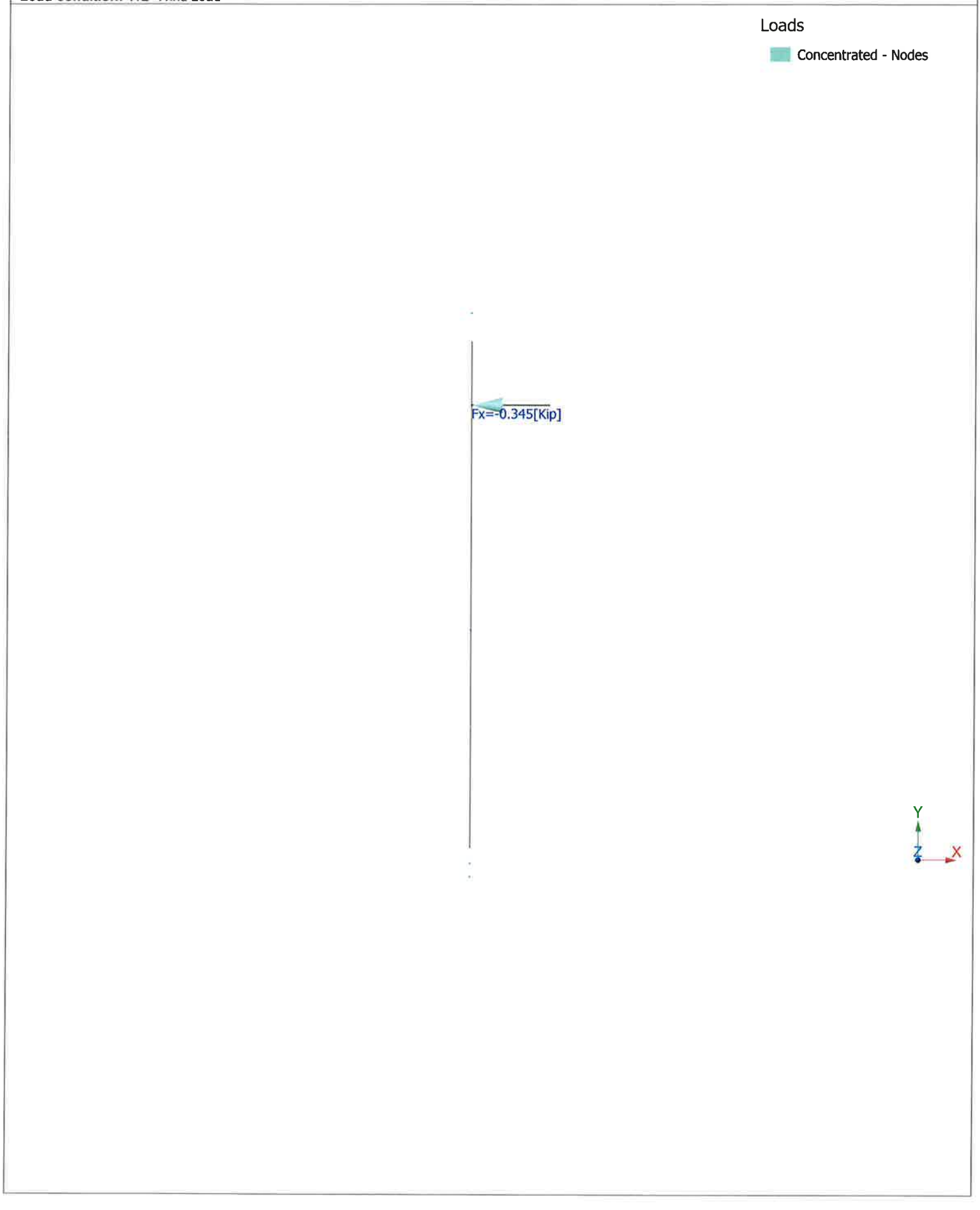


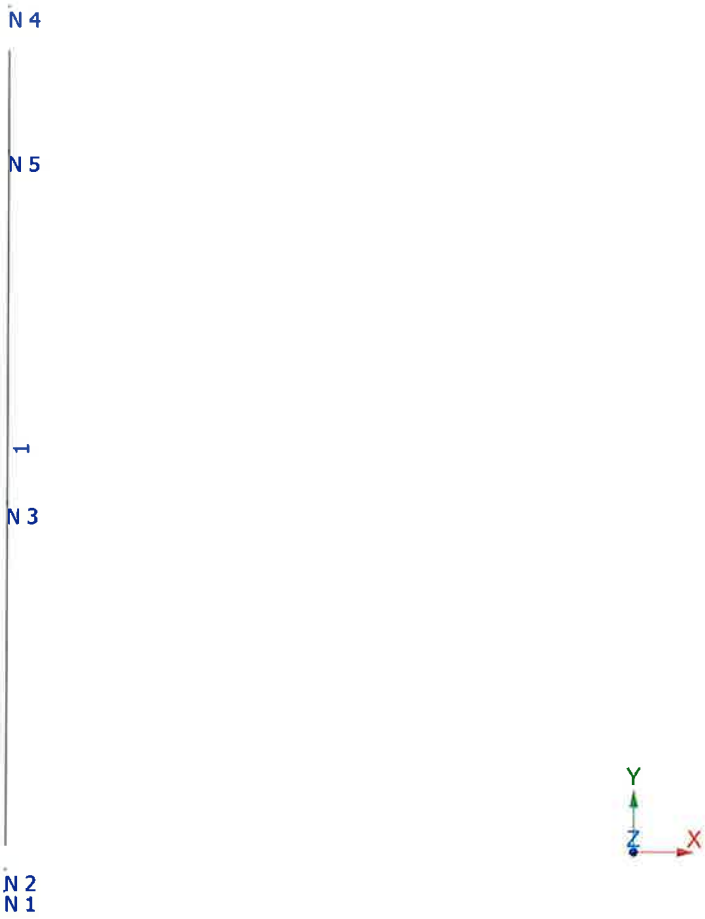
Current Date: 5/16/2016 4:26 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\CT11108A.etz\
Load condition: IL=Ice Load



Bentley

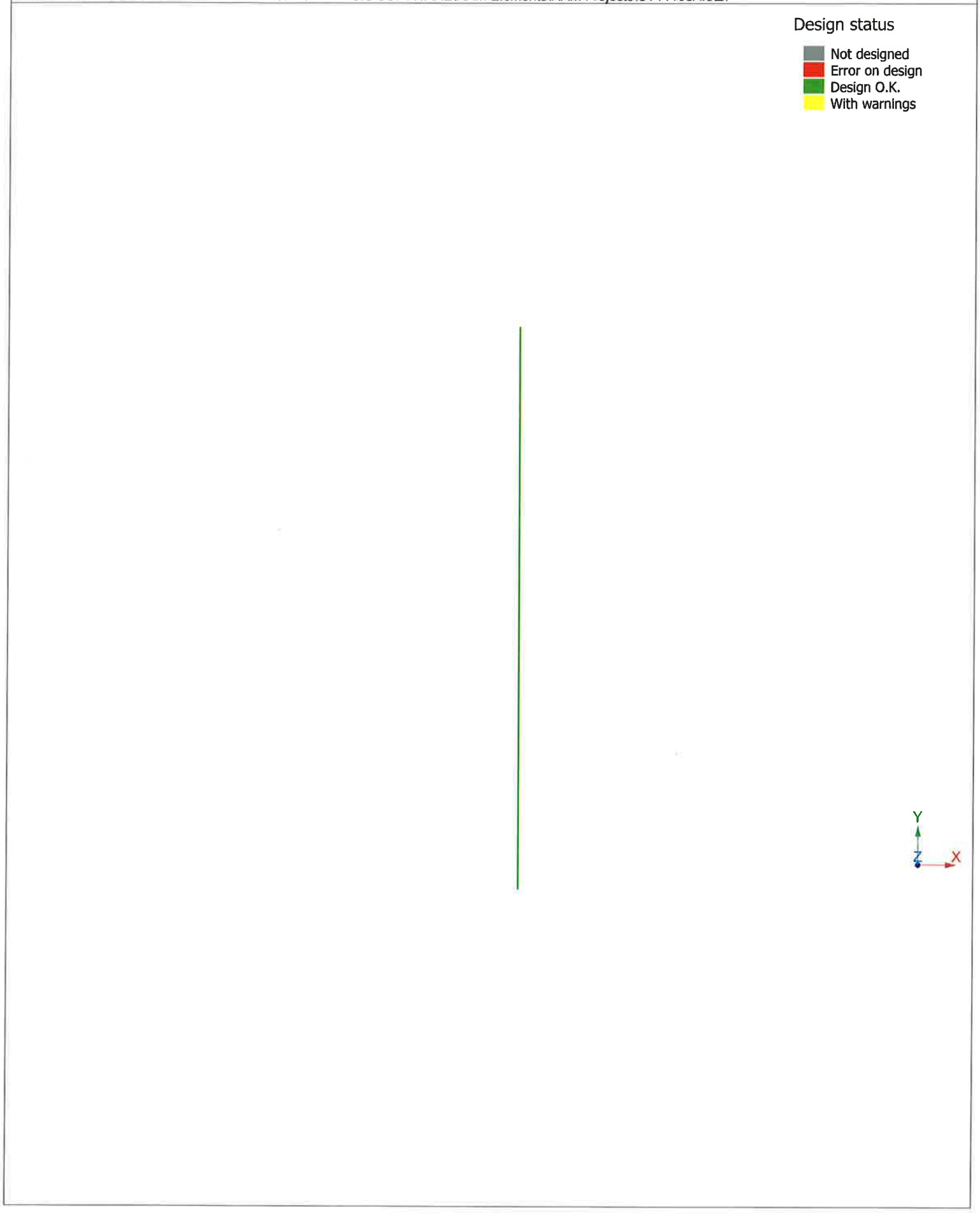
Current Date: 5/16/2016 4:27 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\CT11108A.etz\
Load condition: WL=Wind Load




N 4
N 5
1
N 3
N 2
N 1
Y
Z
X

Bentley

Current Date: 5/16/2016 4:23 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\CT11108A.etz\



Bentley

Current Date: 5/16/2016 4:25 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\CT11108A.etz\

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

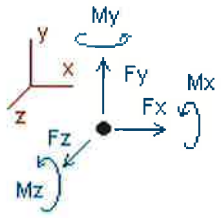
D1=DL
D2=DL+0.7IL
D3=DL+0.75IL+0.75WL
D4=DL+WL
D5=0.6DL+WL
D6=0.6DL+0.7IL+0.7WL

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_RND 3.500X0.216	1	D1 at 43.75%	0.01	OK	Sec. E1
			D2 at 43.75%	0.02	OK	Sec. E1
			D3 at 43.75%	0.33	OK	Eq. H1-1b
			D4 at 43.75%	**0.44**	**OK**	Eq. H1-1b
			D5 at 43.75%	0.44	OK	Eq. H1-1b
			D6 at 43.75%	0.31	OK	Eq. H1-1b

Current Date: 5/16/2016 4:25 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\CT11108A.etz\

Analysis result

Reactions

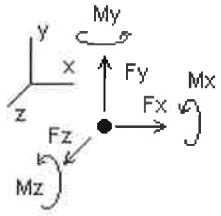


Direction of positive forces and moments

	Forces [Kip]			Moments [Kip*ft]		
Node	**FX**	**FY**	**FZ**	**MX**	**MY**	**MZ**
Condition **D1=DL**						
3	0.00000	0.13300	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	0.13300	0.00000	0.00000	0.00000	0.00000
Condition **D2=DL+0.7IL**						
2	0.00000	0.02112	0.00000	0.00000	0.00000	0.00000
3	0.00000	0.23157	0.00000	0.00000	0.00000	0.00000
SUM	0.00000	0.25269	0.00000	0.00000	0.00000	0.00000
Condition **D3=DL+0.75IL+0.75WL**						
2	-0.24948	0.02263	0.00000	0.00000	0.00000	0.00000
3	0.50823	0.23861	0.00000	0.00000	0.00000	0.00000
SUM	0.25875	0.26124	0.00000	0.00000	0.00000	0.00000
Condition **D4=DL+WL**						
2	-0.33264	0.00000	0.00000	0.00000	0.00000	0.00000
3	0.67764	0.13300	0.00000	0.00000	0.00000	0.00000
SUM	0.34500	0.13300	0.00000	0.00000	0.00000	0.00000
Condition **D5=0.6DL+WL**						
2	-0.33264	0.00000	0.00000	0.00000	0.00000	0.00000
3	0.67764	0.07980	0.00000	0.00000	0.00000	0.00000
SUM	0.34500	0.07980	0.00000	0.00000	0.00000	0.00000
Condition **D6=0.6DL+0.7IL+0.7WL**						
2	-0.23285	0.02112	0.00000	0.00000	0.00000	0.00000
3	0.47435	0.17837	0.00000	0.00000	0.00000	0.00000
SUM	0.24150	0.19949	0.00000	0.00000	0.00000	0.00000

Envelope for nodal reactions

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



Direction of positive forces and moments

Envelope of nodal reactions for :

D1=DL
D2=DL+0.7IL
D3=DL+0.75IL+0.75WL
D4=DL+WL
D5=0.6DL+WL
D6=0.6DL+0.7IL+0.7WL

Node		Forces						Moments					
		Fx [Kip]	**Ic**	**Fy** [Kip]	**Ic**	**Fz** [Kip]	**Ic**	**Mx** [Kip*ft]	**Ic**	**My** [Kip*ft]	**Ic**	**Mz** [Kip*ft]	**Ic**
2	Max	0.000	D1	0.023	D3	0.000	D1	0.00000	D1	0.00000	D1	0.00000	D1
	Min	-0.333	D4	0.000	D1	0.000	D1	0.00000	D1	0.00000	D1	0.00000	D1
3	Max	0.678	D4	0.239	D3	0.000	D1	0.00000	D1	0.00000	D1	0.00000	D1
	Min	0.000	D1	0.080	D5	0.000	D1	0.00000	D1	0.00000	D1	0.00000	D1

Date: 5/16/2016
Site Name: DANBURY HOSPITAL
Site No. CT11108A
Done by: AA **Checked by:** MSC

CHECK CONNECTION CAPACITY (Worse Case)

Reference: AISC Steel Construction Manual 9th Edition (ASD)

Bolt Type = Threaded Rod
Bolt Diameter = 1/2 in.
Steel Grade = A36

Allowable Tensile Load =
F_{Tall} = 3750 lbs.

Allowable Shear Load =
F_{Vall} = 1940 lbs.

WIND FORCES

Reaction **F =** 678 lbs. (See Bentley Analysis Results)

GRAVITY LOADS

Ice and Equipment 134 lbs. (See Bentley Analysis Results)

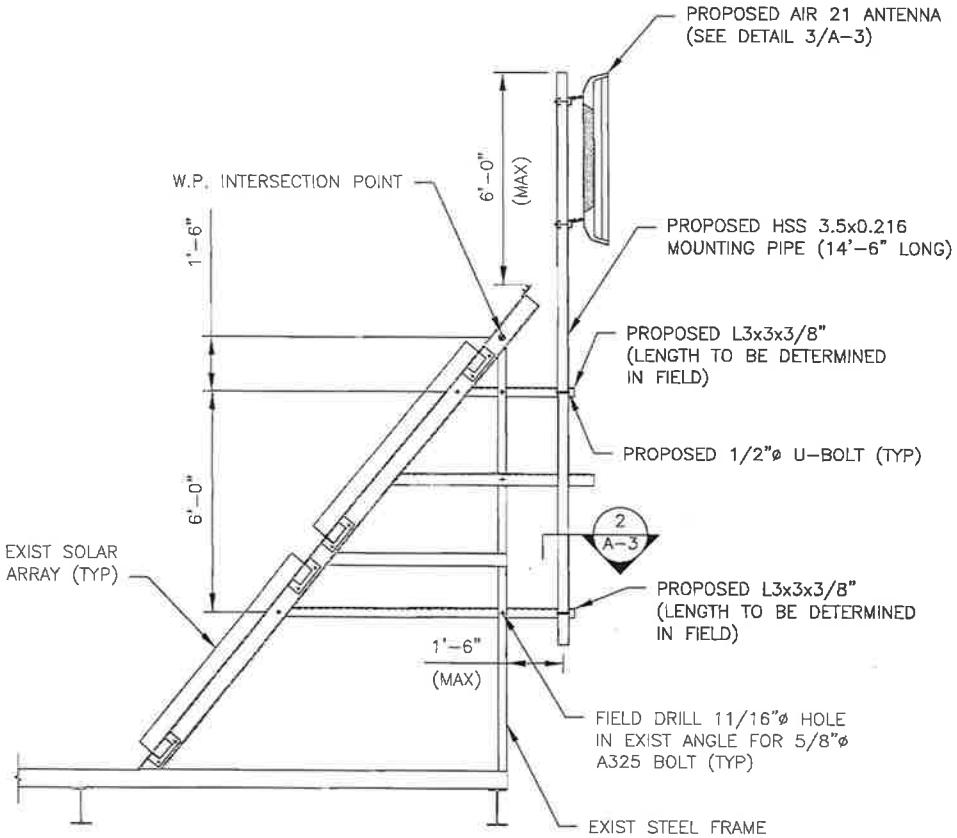
No. of Supports = 1
No. of Bolts / Support = 1

Tension Design Load /Bolts =
f_t= 678.00 lbs. < 3750 lbs. **Therefore, OK !**

Shear Design Load / Bolts=
f_v= 134.00 lbs. < 1940 lbs. **Therefore, OK !**

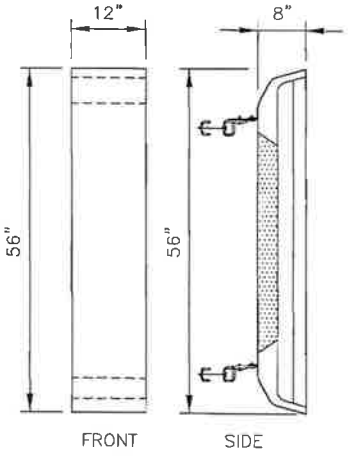
CHECK COMBINED TENSION AND SHEAR

f_t / F_T	+	f_v / F_V	≤	1.0			
0.181	+	0.069	=	0.250	<	1.0	**Therefore, OK !**



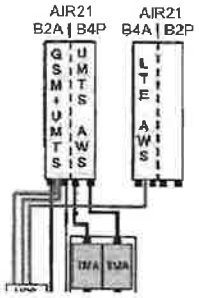
1 / A-3 ANTENNA MOUNTING DETAIL

SCALE: 1/4" = 1'-0"



3 / A-3 DETAIL

SCALE: 1/2" = 1'-0"



Hudson Design Group LLC

Reference Documents

T-Mobile

NORTHEAST LLC.

SITE NAME: **DANBURY HOSPITAL**

SITE NUMBER: **CT11108A**

SITE ADDRESS: **24 HOSPITAL AVENUE**
DANBURY, CT 06810

PROJECT SUMMARY

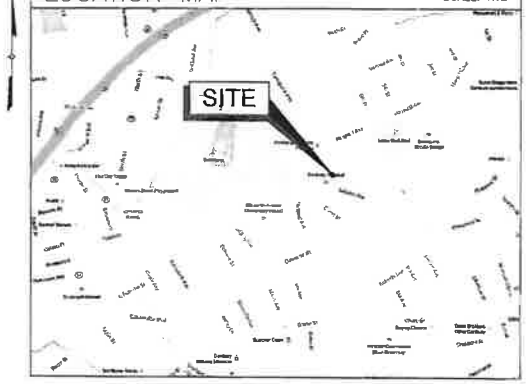
SITE NUMBER:	CT11108A
SITE NAME:	DANBURY HOSPITAL
SITE ADDRESS:	24 HOSPITAL AVENUE DANBURY, CT 06810
COUNTY:	FAIRFIELD
PROPERTY OWNER:	DANBURY HOSPITAL C/O MORRIS GROSS 24 HOSPITAL AVENUE DANBURY, CT 06810
APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN SOUTH BLOOMFIELD, CT 06002 (860) 692-7100
ENGINEER/ SURVEYOR/ STRUCTURAL ENG:	TECTONIC ENGINEERING CONSULTANTS P.C. 1279 ROUTE 300 NEWBURGH, NY 12550
CONTACT: PHONE:	JAMES QUICKSELL (845) 567-6656 EXT. 2835
SITE ACQUISITION:	HPC WIRELESS 22 SHELTER ROCK LANE, BLDG C DANBURY, CT 06810
CONTACT: PHONE:	PAUL SAENZ 914-447-3581
ZONING DISTRICT:	RH-3, HIGH RISE RESIDENTIAL
SECTION, BLOCK, & LOT:	112-001
LATITUDE: (NAD 83)	41.40506° N
LONGITUDE: (NAD 83)	73.44555° W

SITE DIRECTIONS

HEAD NORTHEAST ON GRIFFIN RD SOUTH TOWARD W NEWBERRY RD. TAKE THE SECOND RIGHT ONTO DAY HILL RD. MERGE ONTO I-91S VIA THE RAMP TO HARTFORD. MERGE ONTO I-91S. TAKE EXIT 32A-32B FOR I-84W/TRUMBULL ST TOWARD WATERBURY. TAKE EXIT 32A ON THE LEFT FOR I-84W TOWARD WATERBURY. MERGE ONTO I-84. TAKE EXIT 6 FOR CT-37 TOWARD NEW FAIRFIELD. TURN RIGHT ONTO CT-37 N/NORTH ST. TAKE THE SECOND RIGHT ONTO HAYESTOWN AVE. TURN RIGHT ONTO TAMARACK AVE. CONTINUE ONTO HOSPITAL AVE, DESTINATION WILL BE ON THE LEFT.

LOCATION MAP

SCALE: NTS



SHEET INDEX

SHEET NO	DESCRIPTION	REV NO
T-1	TITLE SHEET	1
A-1	ROOF PLAN	1
A-2	ELEVATION & PHOTO	1
A-3	DETAIL & CONFIG DIAGRAM	1
A-4	NOTES	1
A-5	NOTES	1
A-6	NOTES	1

THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL ITEMS HAVE BEEN ADDRESSED AND EACH OF THE DRAWINGS HAS BEEN REVISED AND ISSUED "FOR CONSTRUCTION".

RELO

CONFIGURATION

2C

REFER TO LATEST T-MOBILE RF DATA SHEET FOR FINAL RF DESIGN & BOM.

0 1 2 3

ORIGINAL SIZE IN INCHES

TECTONIC
• PLANNING • SURVEYING
• ENGINEERING • CONSTRUCTION MANAGEMENT
TECTONIC Engineering & Surveying Consultants P.C.
1279 ROUTE 300
NEWBURGH, NY 12550
Phone: (845) 567-6656
Fax: (845) 567-8703

T-Mobile
35 GRIFFIN SOUTH
BLOOMFIELD, CT 06002

APPROVALS

LANDLORD _____
RF _____
CONSTRUCTION _____
OPERATIONS _____
SITE ACQ. _____

PROJECT NUMBER	DESIGNED BY
5645.CT11108A	JQ

REV	DATE	REVISION	DRAWN BY
1	07/11/14	FOR COMMENT	KA
2	07/23/14	FOR CONSTRUCTION	DC

ISSUED BY	DATE
JMQ	7/23/14

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
No. 25406
LICENSED PROFESSIONAL ENGINEER

SITE INFORMATION

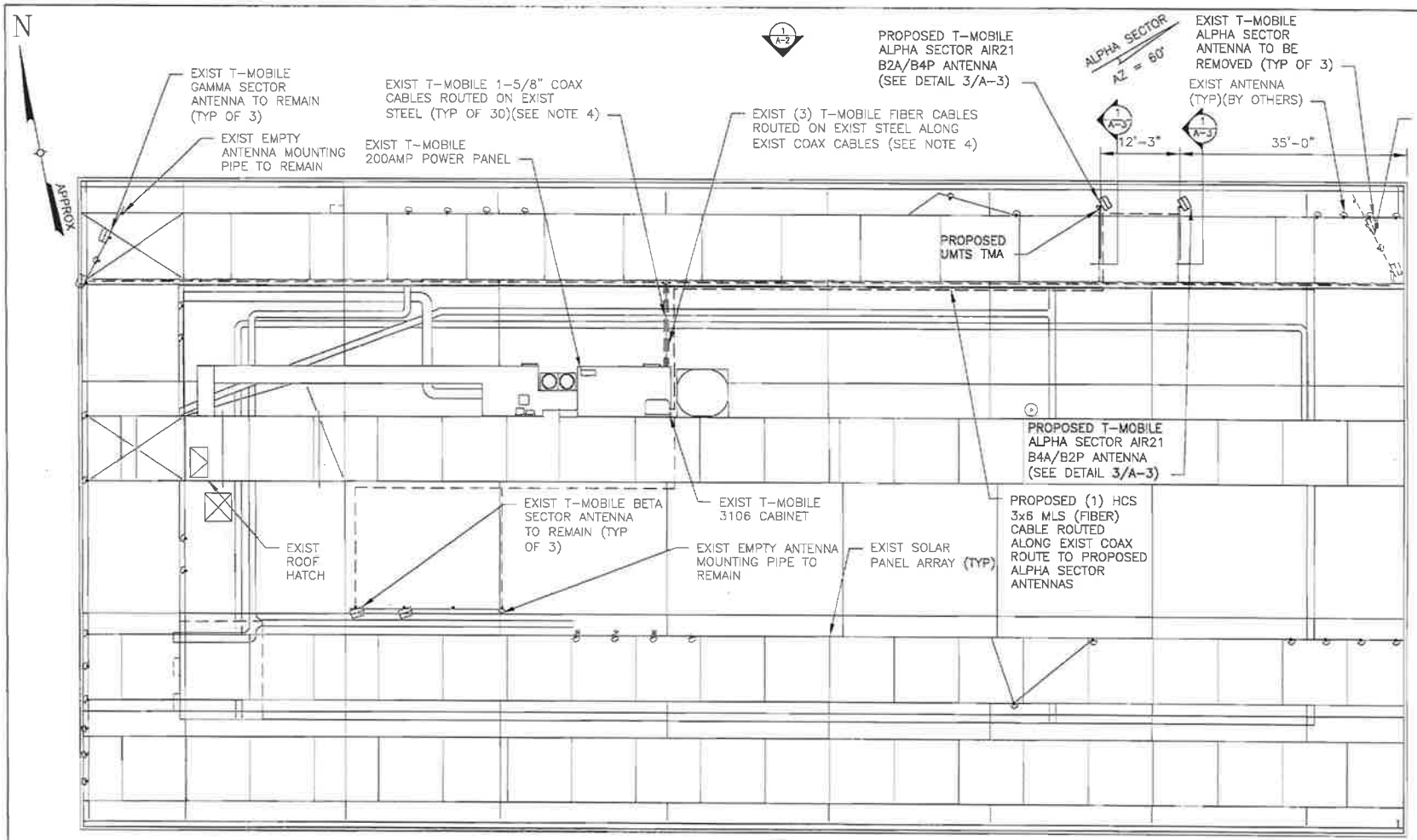
CT11108A
DANBURY HOSPITAL
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



1/A-1 ROOF PLAN

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

HCS LENGTH			
FROM EQUIPMENT CABINET TO ANTENNA			
SECTOR	ALPHA	BETA	GAMMA
LENGTH	150'±	N/A	N/A
SIZE	7/8"		
3x6 MLE			

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY THE ADEQUACY TO ROUTE THE HCS 3x6 MLE (FIBER) CABLE ALONG THE INTERIOR OF THE CABLE RUN PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO MATCH ANTENNA AZIMUTHS AND DOWNTILTS TO EXISTING CONDITION AND NOTIFY RF ENGINEER OF ANY DISCREPANCY.
3. CONTRACTOR TO RE-VERIFY CABLES LENGTHS PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO CUT BACK/REMOVE EXISTING CABLES FROM THE EXISTING ALPHA SECTOR CABLE RUN AS NECESSARY.

RELO

CONFIGURATION

2C

REFER TO LATEST T-MOBILE RF DATA SHEET FOR FINAL RF DESIGN & BOM.

0 1 2 3

ORIGINAL SIZE IN INCHES

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Fax: (845) 567-8703

T-Mobile

35 GRIFFIN SOUTH
BLOOMFIELD, CT 06002

APPROVALS

LANDLORD
RF
CONSTRUCTION
OPERATIONS
SITE ACQ.

PROJECT NUMBER	DESIGNED BY
5546.CT11108A	JQ

REV	DATE	REVISION	DRAWN BY
1	07/11/14	FOR COMMENT	KA
2	07/23/14	FOR CONSTRUCTION	DC

ISSUED BY	DATE
JMQ	7/23/14

STATE OF CONNECTICUT
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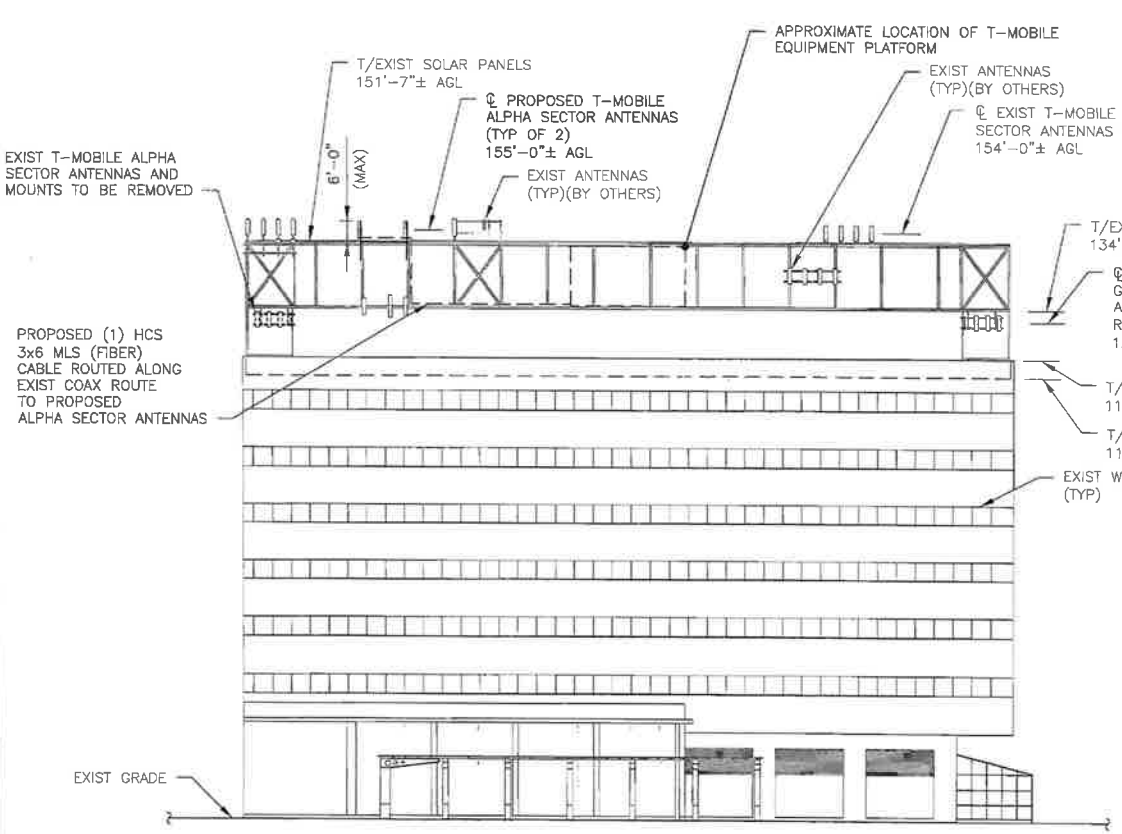
CT11108A
DANBURY HOSPITAL
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE

ROOF PLAN

SHEET NUMBER

A-1



1 / A-2 ELEVATION

SCALE: 1/32" = 1'-0"

ELEVATION NOTE:

ELEVATION OF EXIST BUILDING HAS BEEN ASSIGNED AS EL 134'-7"±. THIS IS APPROXIMATELY 601'-7"± ABOVE GRADE, WHICH WAS ESTIMATED AS EL 467'-0"± FROM THE USGS QUADRANGLE MAP, AND DOES NOT NECESSARILY CORRESPOND TO ACTUAL ELEVATION ABOVE SEA LEVEL. ALL OTHER ELEVATIONS INDICATED WERE DETERMINED ON THIS BASIS.

LOCATION OF PROPOSED ALPHA SECTOR ANTENNAS

2 / A-2 ELEVATION PHOTO

SCALE: NTS

RELO

CONFIGURATION

2C

REFER TO LATEST T-MOBILE RF DATA SHEET FOR FINAL RF DESIGN & BOM.

0 1 2 3

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PROJECT NUMBER	DESIGNED BY
6646.CT11108A	JQ

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ISSUED BY	DATE
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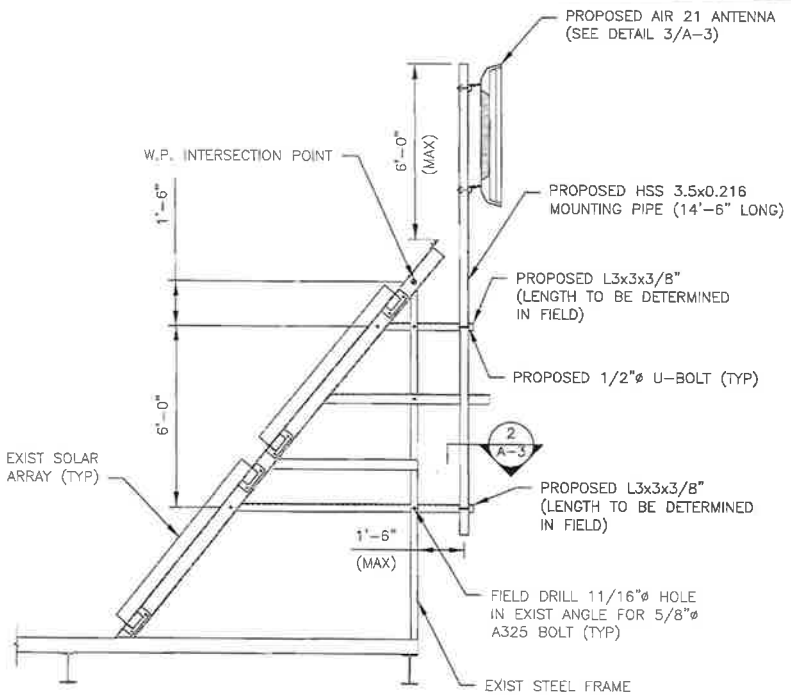
DANBURY HOSPITAL
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE

ELEVATION & PHOTO

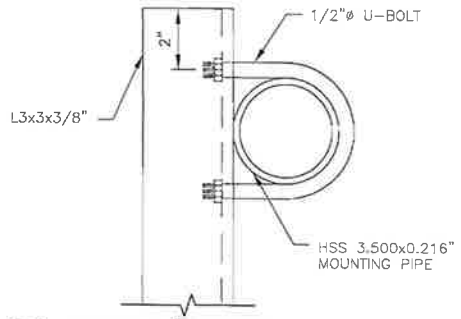
SHEET NUMBER

A-2



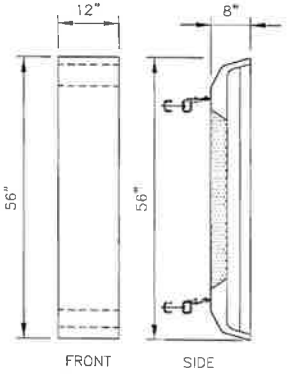
1 A-3 ANTENNA MOUNTING DETAIL

SCALE: 1/4" = 1'-0"



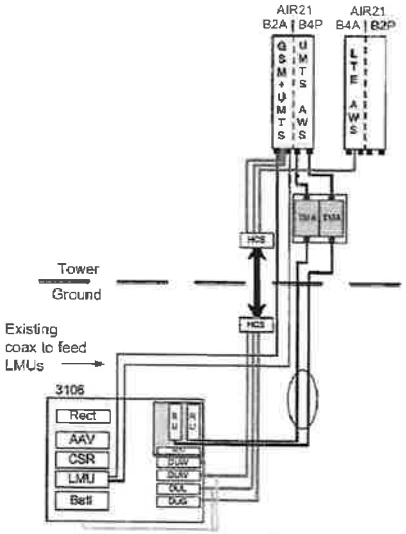
2 A-3 CONNECTION DETAIL

SCALE: 3" = 1'-0"



3 A-3 DETAIL

SCALE: 1/2" = 1'-0"



4 A-3 CONFIG. DIAGRAM

SCALE: NTS

RELO

CONFIGURATION

2C

REFER TO LATEST T-MOBILE RF DATA SHEET FOR FINAL RF DESIGN & BOM.

0 1 2 3

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Phone: (845) 567-4656
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T-Mobile

35 GRIFFIN SOUTH
BLOOMFIELD, CT 06002

APPROVALS

LANDLORD
RF
CONSTRUCTION
OPERATIONS
SITE ACQ.

PROJECT NUMBER	DESIGNED BY
6545.CT11108A	JO

REV	DATE	REVISION	DRAWN BY
0	07/11/14	FOR COMMENT	KA
1	07/23/14	FOR CONSTRUCTION	DC

ISSUED BY	DATE
JMQ	7/23/14

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
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LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION

CT11108A
DANBURY HOSPITAL
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE

DETAIL & CONFIG DIAGRAM

SHEET NUMBER

A-3

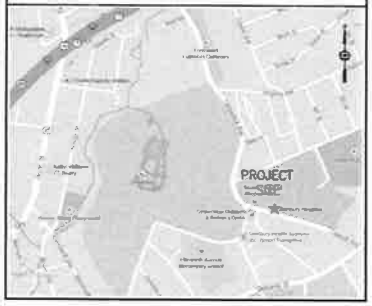
T-MOBILE NORTHEAST LLC

SITE #: CT11108A
SITE NAME: DANBURY HOSPITAL

SITE ADDRESS:
24 HOSPITAL AVENUE
DANBURY, CT 06810

WIRELESS BROADBAND FACILITY
CONSTRUCTION DRAWINGS
(2C CONFIGURATION)

VICINITY MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL BEFORE YOU DIG:
WWW.CBYD.COM
CALL 800 922 4455, OR 811
CALL THREE WORKING DAYS PRIOR TO DIGGING
SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC	– RED	SEWER	– GREEN
GAS/OIL	– YELLOW	SURVEY	– PINK
TEL/CATV	– ORANGE	PROPOSED EXCAVATION	– WHITE
WATER	– BLUE	RECLAIMED WATER	– PURPLE

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 CONSTRUCT 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 T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF 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 ADDENDUM 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 CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. 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.
12. 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 PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE 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 T-MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

CODE COMPLIANCE

CONNECTICUT STATE BUILDING CODE
2005 CONNECTICUT BUILDING CODE WITH 2009 AND 2011 AMENDMENTS
UNIFORM MECHANICAL CODE, UNIFORM PLUMBING CODE, LOCAL BUILDING CODE
CITY/COUNTY ORDDINAMCES
2005 NATIONAL ELECTRICAL CODE

CONSTRUCTION TYPE: N/A
USE GROUP: U

PROJECT SUMMARY

PARCEL:	112/ / 190/ 1	SITE NUMBER:	CT11108A
DEED BOOK/PAGE:	1562/ 99	SITE NAME:	DANBURY HOSPITAL
CURRENT ZONING:	RH-3	SITE ADDRESS:	24 HOSPITAL AVENUE DANBURY, CT 06810
JURISDICTION:	CITY OF DANBURY, CT	LAT./LONG.:	N 41.405064 / W -73.445545
PROPERTY OWNER:	DANBURY MEDICAL PROPERTIES 27 HOSPITAL AVE # 101 DANBURY, CT 06810	PROJECT MANAGER	LISA LIN NORTHEAST SITE SOLUTIONS 54 MAIN STREET STURBRIDGE, MA 01566 (508) 434-5237
APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692-7100	ARCHITECT/ENGINEER:	ATLANTIS GROUP INC. 1340 CENTRE STREET SUITE 212 NEWTON CENTER, MA 02459 (617) 965-0789

PROJECT DESCRIPTION

T-MOBILE PROPOSES TO MODIFY THE EXISTING WIRELESS TELECOMMUNICATIONS FACILITY AS FOLLOWS:

1. (3) NEW LTE QUAD POLE ANTENNA TO REPLACE (E) (3) GSM DUAL POLE ANTENNA
2. (3) NEW GSM/UMTS QUAD POLE ANTENNA TO REPLACE (E) (3) GSM DUAL POLE ANTENNA
3. (1) NEW GSM/UMTS/LTE 3106 CABINET TO REPLACE (1) GSM 512000 CABINET

SHEET INDEX

SHEET	DESCRIPTION	REVISION
T-1	TITLE SHEET	0
N-1	GENERAL AND ELECTRICAL NOTES	0
A-1	SITE PLAN	0
A-2	ELEVATION	0
A-3	EQUIPMENT LAYOUT AND ANTENNA PLAN	0
A-4	EQUIPMENT DETAIL	0
E-1	GROUNDING AND POWER DIAGRAM	0
E-2	COAX/FIBER PLUMBING DIAGRAM	0
E-3	GROUNDING DETAILS	0

T-Mobile
T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

NORTHEAST SITE SOLUTIONS
54 MAIN STREET, UNIT 3
STURBRIDGE, MA 01566
(508) 434-5237

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
09/16/13	ISSUED FOR REVIEW	A

DRAWN BY:	MH
CHECKED BY:	S.M

STATE OF CONNECTICUT
JAMES P. STRONE
No. 26571
REGISTERED PROFESSIONAL ENGINEER

SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

ELECTRICAL NOTES:

WORK INCLUDED

1. INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - A. PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
   - B. PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
   - C. SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
   - D. EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
   - E. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
   - F. MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
3. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
5. GENERAL
   - A. AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
   - B. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
6. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
   - A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALLY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
   - B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
   - C. PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
   - D. MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
   - E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.

GUARANTEE

1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING

1. REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
2. CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION

1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES WHERE SUCH WORK IS NECESSARY. HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS

1. AS-BUILT DRAWINGS:
   - A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
   - A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT T-MOBILE AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
   - B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING

1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL

1. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS

1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
2. WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON.
   SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING

1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS

1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
   - A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
   - B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
   - C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
   - D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
   - E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
   - F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
   - G. MINIMUM SIZE CONDUIT TO BE ¾" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   - H. FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
   - I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
   - J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
   - K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

   - L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
   - M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
   - N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
   - O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
   - P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
5. CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8

8. VOLTAGE DROP IS NOT TO EXCEED 3%.
9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND APPROVED EQUAL.

WIRING DEVICES

1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES

1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
4. DISCONNECT SWITCHES TO BE MANUFACTURED BY:
   - A. GENERAL ELECTRIC COMPANY
   - B. SQUARE-D
5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
   - A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
   - B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

INTENT

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS COVERING THE WORK.

CONTRACTS AND WARRANTIES

1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
2. EXTERIOR
   - A. VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
   - B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   - C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR
   - A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
   - B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   - C. REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:

1. REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.

PRODUCTS AND SUBSTITUTIONS

1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE

1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

ADMINISTRATION

1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPCS SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.

INSURANCE AND BONDS

1. CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGE'S TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

ARCHITECTURAL SYMBOLS

STORAGE
38

3 ⟶

DETAIL REFERENCE KEY

REFER TO
DRAWING DETAIL NUMBER
EXISTING N.I.C.
RE: 2/A-3
4 / A-3
SHEET NUMBER OF DETAIL

ABBREVIATIONS

ADJ	ADJUSTABLE
AGL	ABOVE GROUND LINE
&	AND
APPROX	APPROXIMATE
@	AT
BTS	BASE TRANSMISSION STATION
CAB	CABINET
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
DIA OR ⌀	DIAMETER
DWG	DRAWING
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EGB	EQUIPMENT GROUND BAR
(E)	EXISTING
EXT	EXTERIOR
FF	FINISHED FLOOR
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
LG	LONG
MAX	MAXIMUM
MECH	MECHANICAL
MW	MICROWAVE DISH
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
(P)	PROPOSED
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TYP	TYPICAL
VIF	VERIFY IN FIELD
UON	UNLESS OTHERWISE NOTED
WWF	WELDED WIRE FABRIC
W/	WITH

T · · Mobile·

T-MOBILE NORTHEAST, LLC
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NORTHEAST SITE SOLUTIONS
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STURBRIDGE, MA 01566
(508) 434-5237

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/18/12	ISSUED FOR REVIEW	A

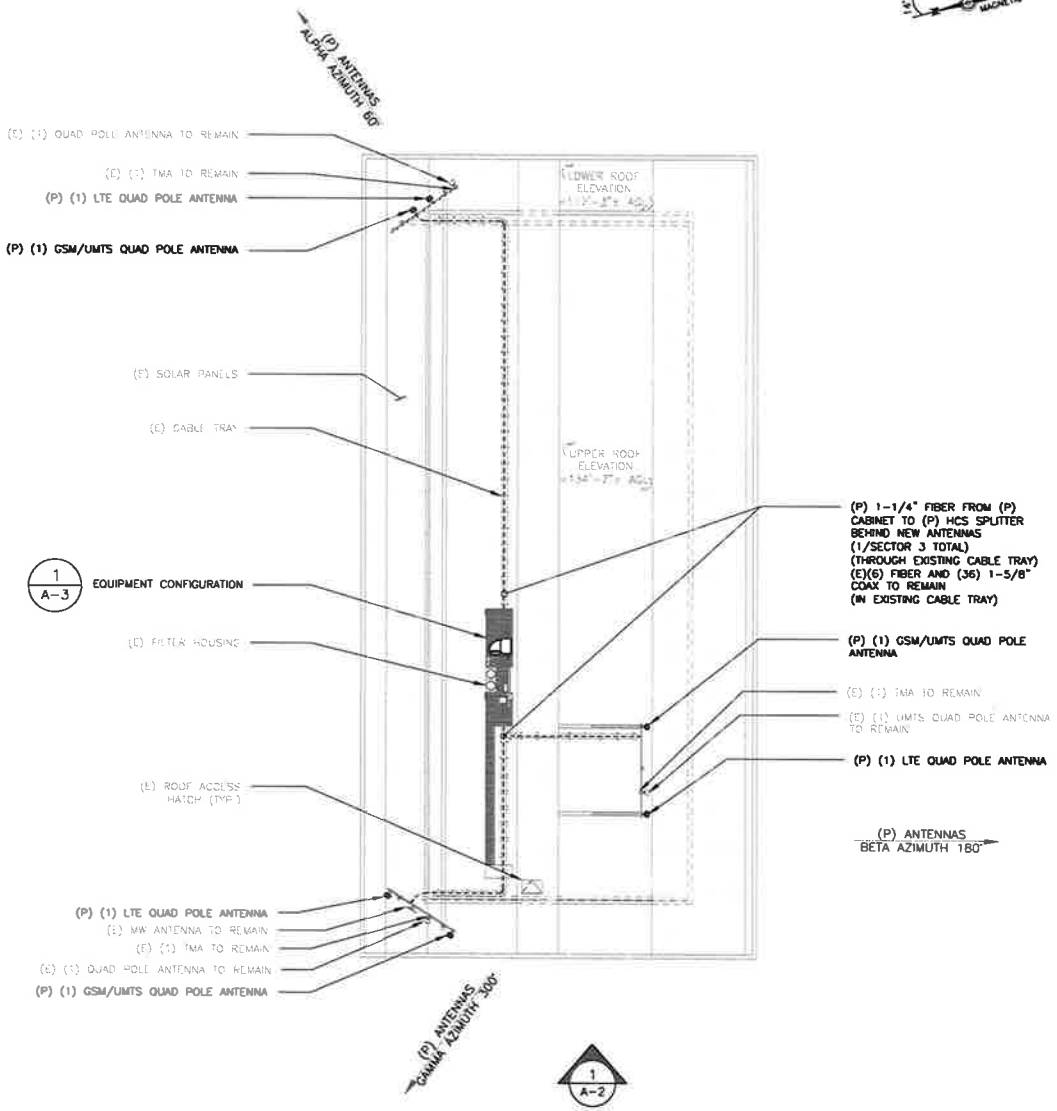
DRAWN BY: MH
CHECKED BY: SM

SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE
GENERAL AND ELECTRICAL NOTES

SHEET NUMBER
N-1

KEY PLAN
SCALE: N.T.S.



1 SITE PLAN SCALE: 1/2" = 1'-0" (11x17)
1" = 1'-0" (24x36)

GENERAL SITE NOTES:

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
6. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT CALL BEFORE YOU DIG THREE WORKING DAYS PRIOR TO COMMENCING WORK.
7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

	SITE PROPERTY LINE
	STREET OR ROAD
	CHAIN LINK FENCE
	OPAQUE WOODEN FENCE
	BOARD ON BOARD FENCE
	DECIDUOUS TREES/SHRUBS
	EVERGREEN TREES/SHRUBS
	TREE LINE
	UTILITY POLE
(E)	EXISTING
(N)	NEW
(P)	PROPOSED
(F)	FUTURE
	PROP. LTE ANTENNA
	PROP. UMTS/GSM ANTENNA
	EX. GSM ANTENNA
	EX. UMTS ANTENNA

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SUBMITTALS

DATE	DESCRIPTION	REVISION
09/16/13	ISSUED FOR REVIEW	A

DEPT.	DATE	INIT'S	REVISIONS
RFC			
RF ENG.			
ZONING			
OPS.			
CONSTR.			
SITE ACQ.			

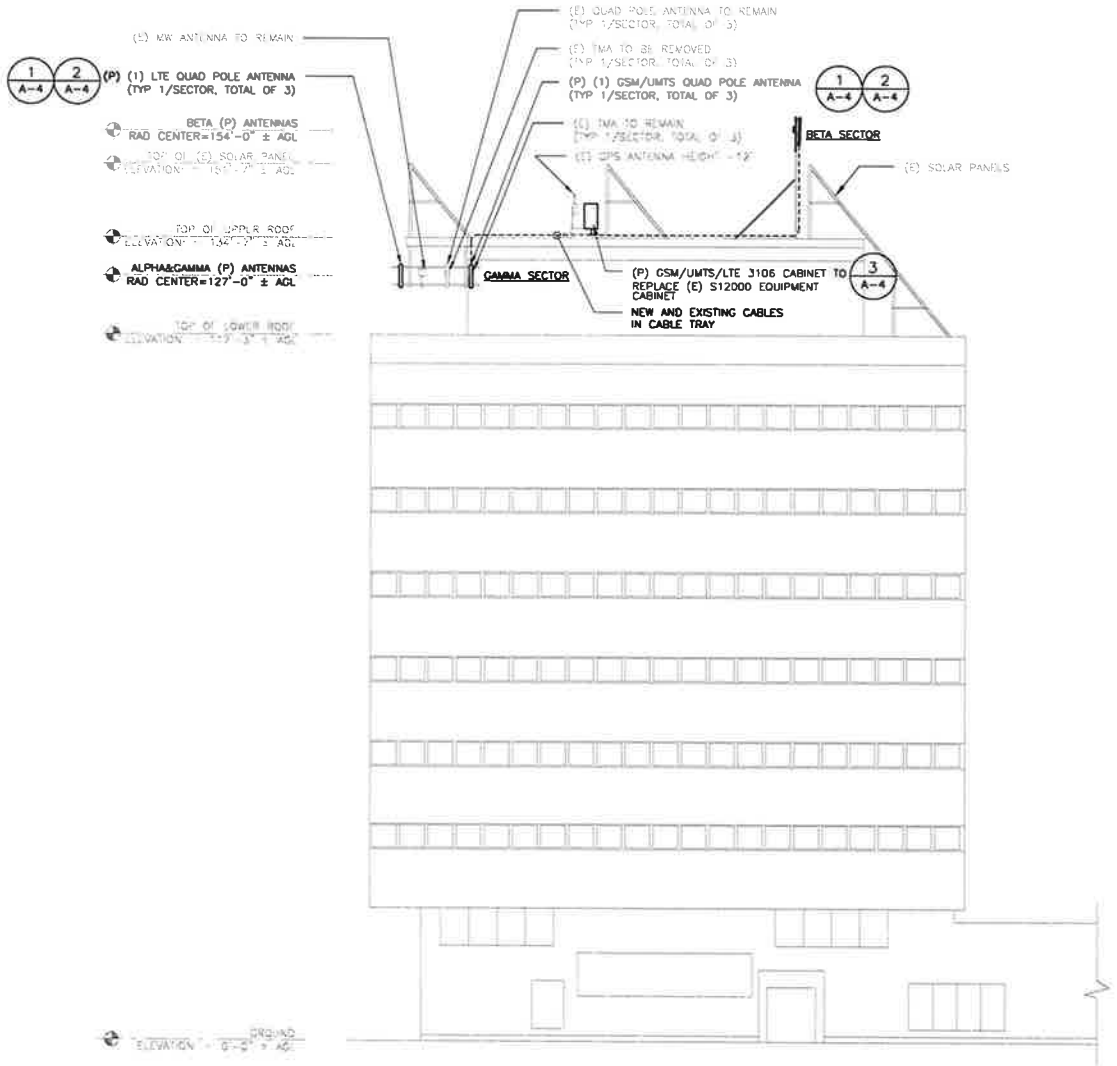
DRAWN BY: MH
CHECKED BY: SM

STATE OF CONNECTICUT
JAMES P. STROKE
No. 8057
REGISTERED PROFESSIONAL ENGINEER

SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1



1 ELEVATION SCALE: 1" = 20'-0" (11x17) 1" = 10'-0" (24x36)

T-Mobile

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SUBMITTALS		
DATE	DESCRIPTION	REVISION
08/16/13	ISSUED FOR REVIEW	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF DESIGN			
ZONING			
OPS			
CONSTR.			
SITE ACQ.			

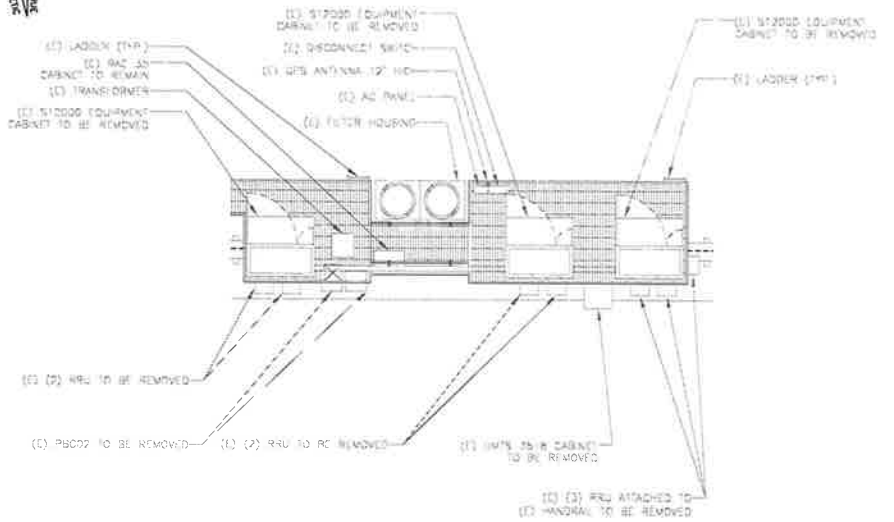
DRAWN BY: MH
CHECKED BY: SM

STATE OF CONNECTICUT JAMES P. STRONE No. 26571 REGISTERED PROFESSIONAL ENGINEER

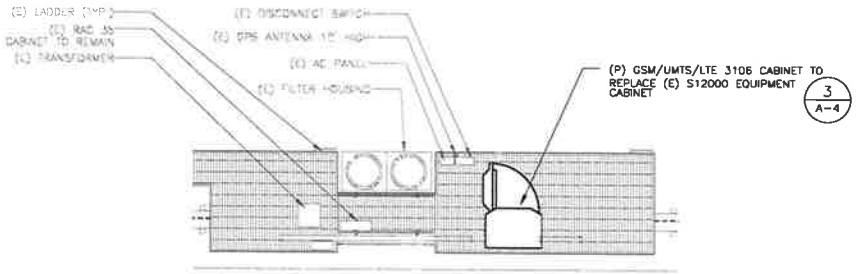
SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE
ELEVATION AND ANTENNA PLAN

SHEET NUMBER
A-2



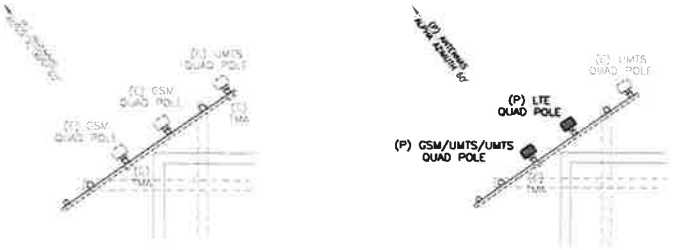
EXISTING



FINAL

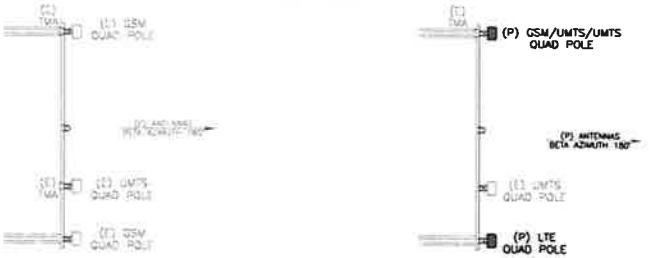
1 EQUIPMENT LAYOUT SCALE: 1/8" = 1'-0" (11x17) 1/4" = 1'-0" (24x36)

SECTOR ALPHA



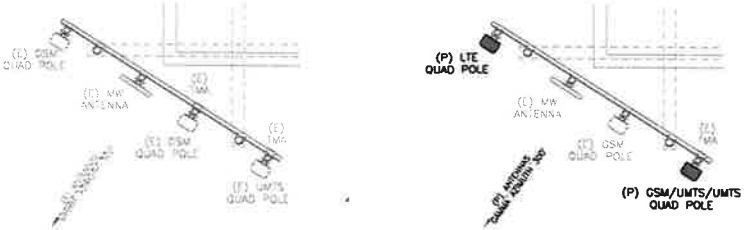
EXISTING PROPOSED

SECTOR BETA



EXISTING PROPOSED

SECTOR GAMMA



EXISTING PROPOSED

2 ANTENNA PLAN SCALE: N.T.S.

T-Mobile

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SUBMITTALS

DATE	DESCRIPTION	REVISION
09/16/13	ISSUED FOR REVIEW	A

DSGN.	DATE	APP'D	REVISIONS
ANT.			
RF MW			
ZONING			
GPS			
CONSTR.			
SITE AC			

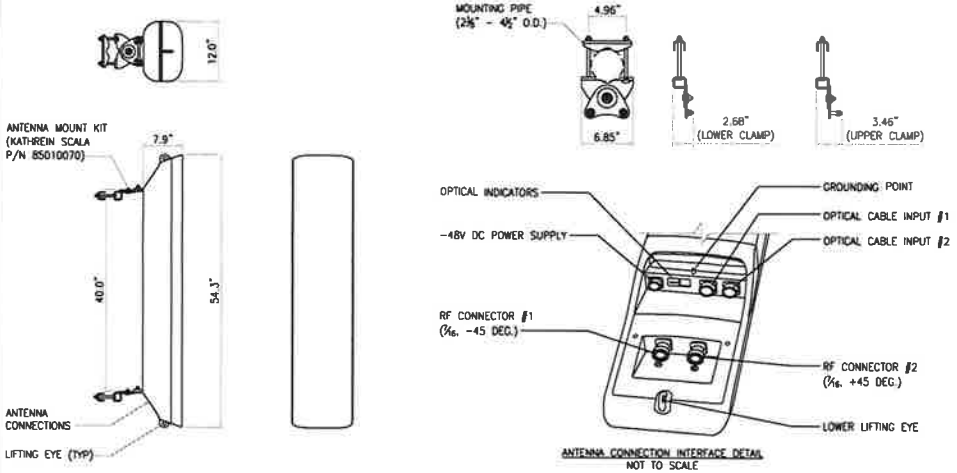
DRAWN BY: MEH
CHECKED BY: SJM

STATE OF CONNECTICUT JAMES P. STRONE No. 18557 PROFESSIONAL ENGINEER

SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

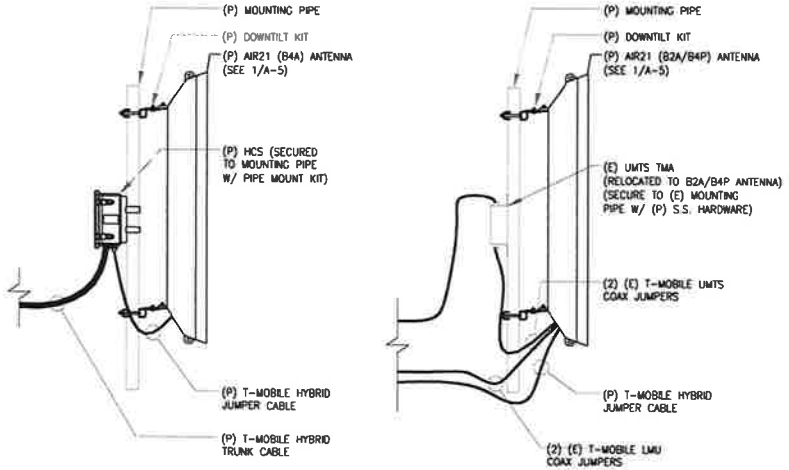
SHEET TITLE
EQUIPMENT LAYOUT AND ANTENNA PLAN

SHEET NUMBER
A-3



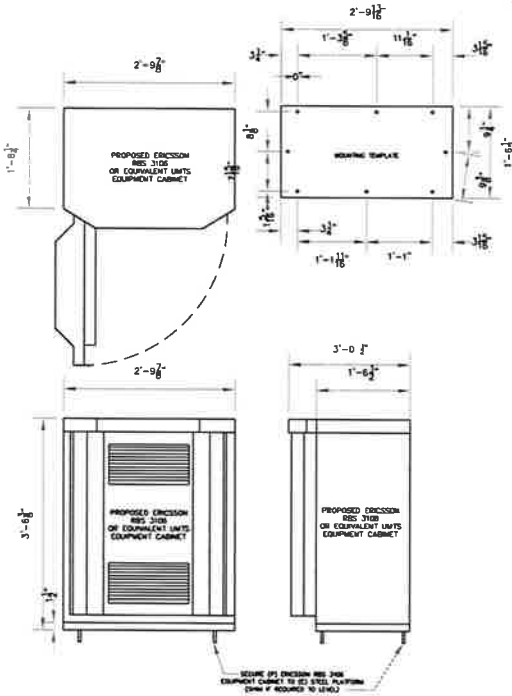
AIR21 "ANTENNA INTEGRATED RADIO"
(PCS & AWS VERSIONS)
WEIGHT: 80LBS (36KG)

1 ANTENNA DETAIL
SCALE: N.T.S.



2 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.

STRUCTURAL NOTES:
1. SPECIFICATIONS / CODES:
   - CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
   - STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 9th EDITION.
   - WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-92 "STRUCTURAL WELDING" CODE-STEEL.
   - REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE."
2. MATERIALS:
   - CONCRETE: fc' - 3000psi. (MIN. U.N.O.)
   - REINFORCING STEEL: ASTM A615, GRADE 60.
   - WIRE MESH: ASTM A185.
   - STRUCTURAL STEEL: ASTM A36.
   - ELECTRODES FOR WELDING: E 70xx.
   - GALVANIZING: ASTM A153 (BOLTS) OR ASTM A123 (SHAPES, PLATES).
   - EXPANSION BOLTS: HILTI KWIK BOLT II, STAINLESS STEEL, 3/4"ø x 3 3/4" EMBEDMENT OR AN APPROVED EQUAL.
3. GEOTECHNICAL:
   - CONCRETE SLAB DESIGN IS BASED ON 2000psf SOIL BEARING CAPACITY. IF OTHER CONDITIONS EXIST, FOUNDATION SHALL BE REDESIGNED. CONTRACTOR SHALL HAVE SOIL BEARING CAPACITY VERIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES.
   - ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY.



3 ERICSSON RBS 3106 OR UMTS EQUIVALENT CABINET
SCALE: N.T.S

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SUBMITTALS

DATE	DESCRIPTION	REVISION
09/16/13	ISSUED FOR REVIEW	0

DEPT	DATE	INITS	REVISIONS
RFT			
RF MW			
ZONING			
GPS			
CONSTR.			
SITE ACQ.			

DRAWN BY: MH
CHECKED BY: S.M

SITE NAME
CT11108A
SITE NAME
DANBURY HOSPITAL
SITE ADDRESS
24 HOSPITAL AVENUE
DANBURY, CT 06810

SHEET TITLE
EQUIPMENT
DETAILS

SHEET NUMBER
A-4

September 19, 2013

Re: Structural Evaluation Letter

T-Mobile Site ID:	CT11108A
T-Mobile Site Name:	DANBURY HOSPITAL
Site Address:	24 HOSPITAL AVENUE, DANBURY, CT 06810

Atlantis Group Inc. (Atlantis Group) evaluated the structural capacity of the existing wireless telecommunication installation on the building at the above referenced address for the additions and alterations proposed by T-Mobile. Please refer to the lease exhibit prepared by Atlantis Group, dated 9/16/2013 for details of the proposed changes at the site. The evaluation is based on Structural Analysis Report prepared by Bay State Design, Inc. dated 12/23/2008 and field photographs.

Proposed Changes:

Equipment Cabinets: T-Mobile equipment cabinets are located on a steel platform on the rooftop, supported by the building structural system. T-Mobile is proposing the following:

Existing Equipment Cabinets	Final Equipment Cabinets
*(3) S12000 Cabinet – 1257lbs each *(1) UMTS 3518 Cabinet – 75lbs *(1) PBC02 – 262lbs *(7) RRU – 60lbs each (1) Transformer - 250lbs (1) RAC 35 – 120lbs	(1) GSM/UMTS/LTE 3106 Cabinet – 1875lbs (1) Trasformer- 250lbs (1) RAC 35 – 120lbs
Total Weight- 4898lbs	Total Weight- 2245lbs

***To be removed in Final.**

Antennas and accessories: T-Mobile is proposing the following changes to the antennas, which are attached to sector mounts located on the rooftop:

Existing Configuration of T-MOBILE Appurtenances:

Sector	Rad Center (ft)	Antenna & TMA		Mount
Alpha	127	GSM QUAD POLE UMTS QUAD POLE TMA	(2) APX16PV-16PVL-E (1) APX16PV-16PVL-E (1) dd B2 (1) dd B4	(1) Sector Mount
Beta	154	GSM QUAD POLE UMTS QUAD POLE TMA	(2) APX16PV-16PVL-E (1) APX16DWV-16DWVS-A20 (1) dd B2 (1) dd B4	(1) Sector Mount
Gamma	127	GSM QUAD POLE UMTS QUAD POLE TMA ANTENNA	(2) APX16PV-16PVL-E (1) APX16DWV-16DWVS-A20 (1) dd B2 (1) dd B4 (1) MW Antenna	(1) Sector Mount

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Newton Massachusetts, 02459
Phone: 617-965-0789
Fax: 617-965-0103

Proposed and Final Configuration of T-MOBILE Appurtenances:

Sector	Rad Center (ft)	Antenna & TMA		Mount
Alpha	127	GSM/UMTS/UMTS QUAD POLE LTE QUAD POLE UMTS QUAD POLE TMA	(1) AIR21 B2A/B4P (1) AIR21 B4A/B2P (1) APX16PV-16PVL-E (1) dd B4	(1) Sector Mount
Beta	154	GSM/UMTS/UMTS QUAD POLE LTE QUAD POLE UMTS QUAD POLE TMA	(1) AIR21 B2A/B4P (1) AIR21 B4A/B2P (1) APX16DWV-16DWVS-A20 (1) dd B4	(1) Sector Mount
Gamma	127	GSM/UMTS/UMTS QUAD POLE LTE QUAD POLE GSM QUAD POLE TMA Antenna	(1) AIR21 B2A/B4P (1) AIR21 B4A/B2P (1) APX16PV-16PVL-E (1) dd B4 (1) MW Antenna	(1) Sector Mount

Evaluation Conditions: The analysis is based on the information provided to Atlantis Group and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength. It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Atlantis Group will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance. Contractor should inspect the condition of the existing structure, mounts and connections and notify Atlantis Group for any discrepancies and deficiencies before proceeding with the construction.

It is assumed that all prior additions and alterations by T-Mobile has been properly designed and structural components, Including building structural members, have been qualified for the changed conditions. Atlantis Group does not assume any liability which may arise due to invalidity of this assumption.

The evaluation results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Atlantis Group to generate an additional structural evaluation.

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Newton Massachusetts, 02459
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Fax: 617-965-0103

CT11108A
Structural Letter

CONCLUSION:

Cabinet & Platform: The proposed final cabinet weights (2245lbs) are less than the existing cabinet weights (4898lbs). The proposed load on the structure is below the code required design live load for elevated platforms of 60psf, thus the structure is considered to have **adequate** structural capacity without further evaluation per 2005 Connecticut Building Code, 2005 Connecticut Supplement and 2009 Amendment.

Antenna Sector Mounts: New antennas (4.66 ft^2 front wind area) are smaller than existing antennas (4.78 ft^2 front wind area). As the sector mounts were previously qualified for the existing configuration and higher wind loads, the evaluation condition and the design still apply and the sector mounts are considered **adequate**. It is assumed that sector mounts were designed properly and building qualified during the original design and all prior modifications.

Therefore, the additions and alterations proposed by T-Mobile **can be implemented as intended** with the conditions outlined in this letter.

Should you need any clarifications or have any questions about this letter, please contact me at (617) 965-0789.

Sincerely,
Atlantis Group
09-19-2013

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

1340 Centre Street Suite 203
Newton Massachusetts, 02459
Phone: 617-965-0789
Fax: 617-965-0103

SITE NUMBER: CT11108A

24 HOSPITAL AVENUE (DANBURY HOSPITAL)
DANBURY, CT 06810
FAIRFIELD COUNTY

SITE NAME: DANBURY HOSPITAL

RF DESIGN GUIDELINE: 792DB

T-MOBILE TECHNICIAN SITE SAFETY NOTES	
LOCATION	SPECIAL RESTRICTIONS
SECTOR A: ANTENNA/TMA/RRH	ACCESS NOT PERMITTED
SECTOR B: ANTENNA/TMA/RRH	ACCESS NOT PERMITTED
SECTOR C: ANTENNA/TMA/RRH	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED CAUTION: OSHA-APPROVED PORTABLE 8' STEP-LADDER REQUIRED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

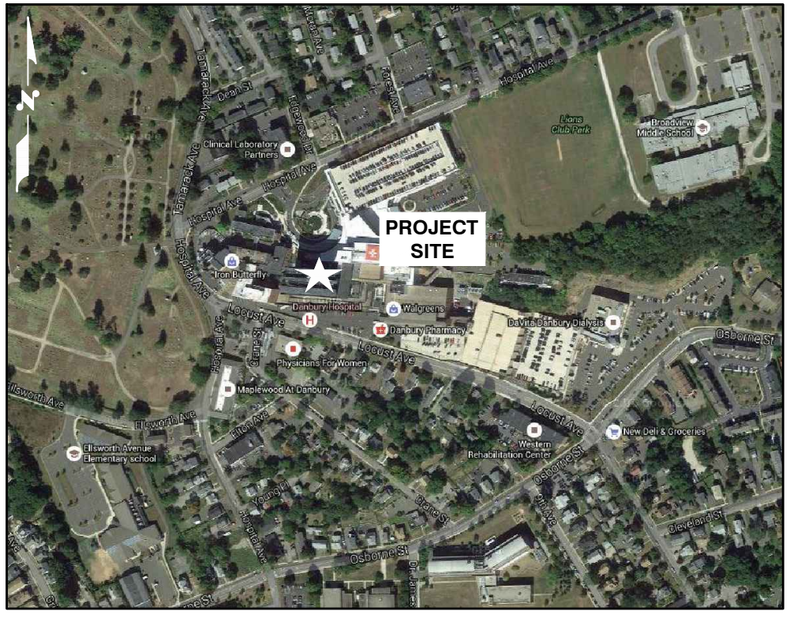
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE NORTHEAST, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SPECIAL STRUCTURAL NOTES

TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE-BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.

STRUCTURAL DESIGNS AND DETAILS FOR ANTENNA MOUNTS COMPLETED BY HUDSON DESIGN ON BEHALF OF T-MOBILE ARE INCLUSIVE OF THE ENTIRE ANTENNA SUPPORT STRUCTURE (GLOBAL STRUCTURAL STABILITY ANALYSIS BY OTHERS), EXISTING TOWER PLATFORM, EXISTING ANTENNA MOUNTS AND ALL OTHER ASPECTS OF THE STRUCTURE THAT WILL SUPPORT THE T-MOBILE MODERNIZATION EQUIPMENT DEPLOYMENT AS DEPICTED HEREIN.

HUDSON DESIGN ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES



PROJECT SUMMARY

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE EQUIPMENT INSTALLATION
ZONING JURISDICTION: (CITY OF DANBURY)	BASED ON INFORMATION PROVIDED BY T-MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW).
SITE ADDRESS:	24 HOSPITAL AVENUE (DANBURY HOSPITAL) DANBURY, CT 06810
LATITUDE:	41° 24' 18.23" N
LONGITUDE:	73° 26' 43.94" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

APPROVALS

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

DRIVING DIRECTIONS:

HEAD NORTHEAST ON GRIFFIN RD S AND TURN RIGHT ONTO DAY HILL RD. USE THE RAMP TO MERGE ONTO I-91 S. TAKE EXIT 32A-32B FOR I-84 W TOWARD WATERBURY. MERGE ONTO I-84 W. TAKE EXIT 6 FOR CT-37 TOWARD NEW FAIRFIELD. TURN RIGHT ONTO CT-37 N. TURN RIGHT ONTO HAYESTOWN AVE THEN RIGHT ONTO TAMARACK AVE. CONTINUE ONTO HOSPITAL AVE. DESTINATION WILL BE ON THE RIGHT.

ARRIVE AT 24 HOSPITAL AVENUE DANBURY, CT 06810.

CALL BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455 OR CALL 811
UNDERGROUND SERVICE ALERT

DRAWING INDEX

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DANBURY, CT 06810
FAIRFIELD COUNTY

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – TRANSCEND WIRELESS
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T-MOBILE

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

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

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

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

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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

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

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

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

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."

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

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

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

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
    BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT, + 2009 & 2013 CT AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

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

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

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

    EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ABBREVIATIONS

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

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STATE OF CONNECTICUT
DEREK J. CREASER
No. 28556
LICENSED PROFESSIONAL ENGINEER

CHECKED BY:	DR
APPROVED BY:	DPH

SUBMITTALS

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SITE ADDRESS:
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(DANBURY HOSPITAL)
DANBURY, CT 06810
FAIRFIELD COUNTY

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

STRUCTURAL NOTES:
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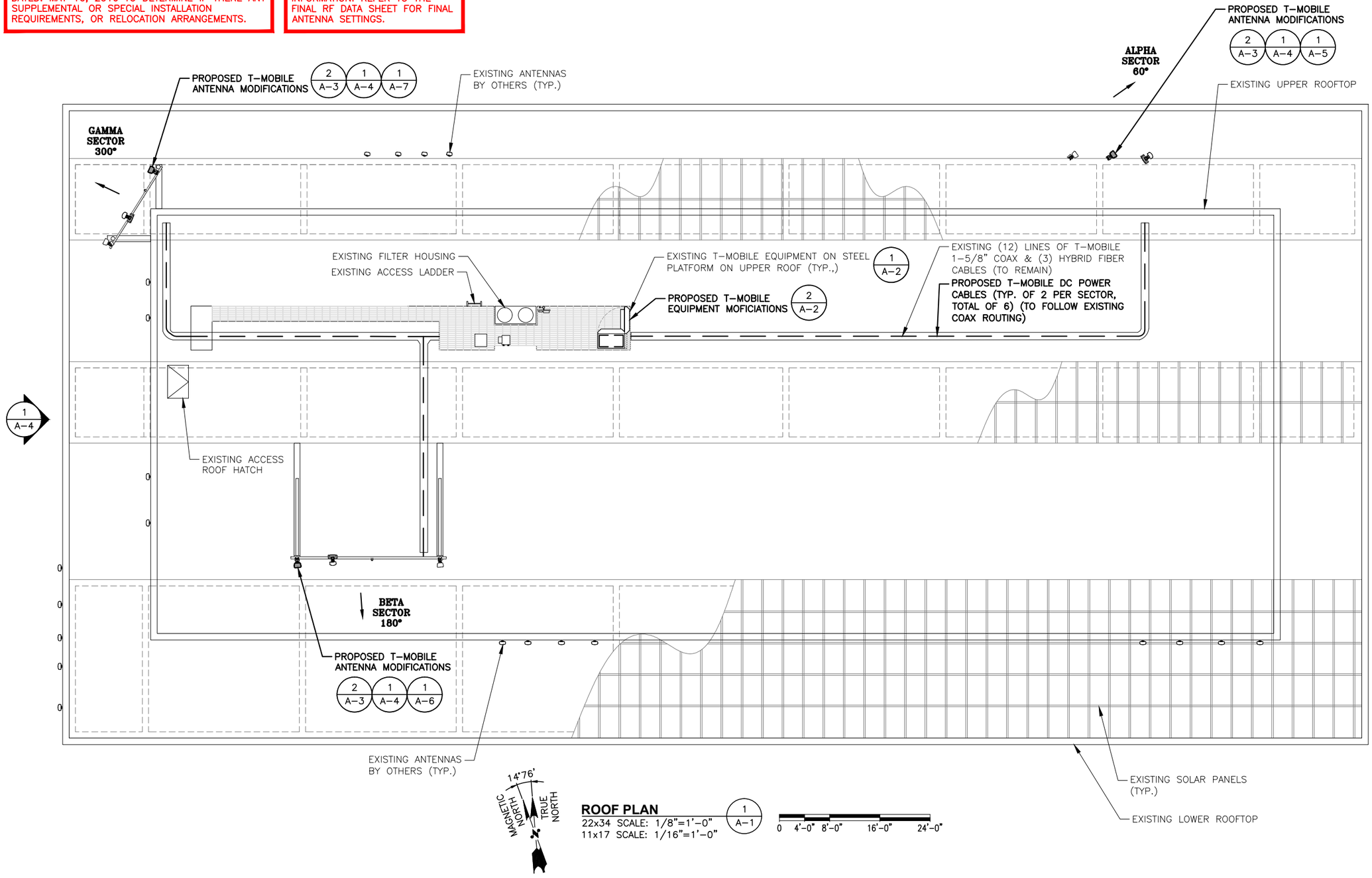

ROOF PLAN

1 A-1

22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

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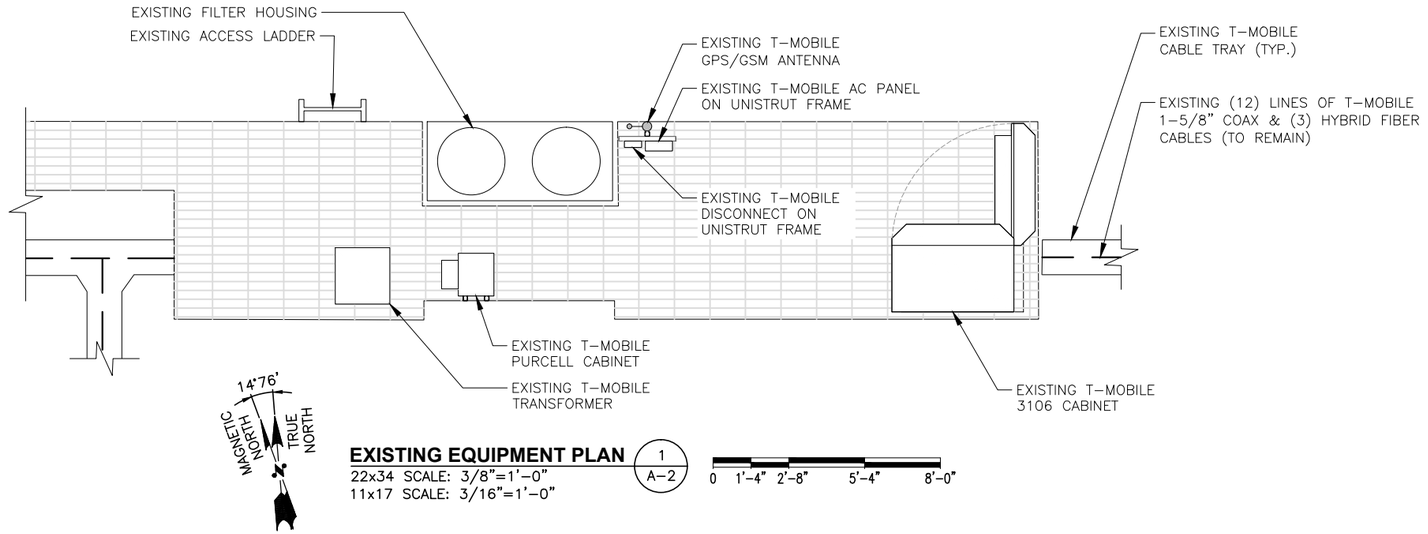

EXISTING EQUIPMENT PLAN (1 / A-2)
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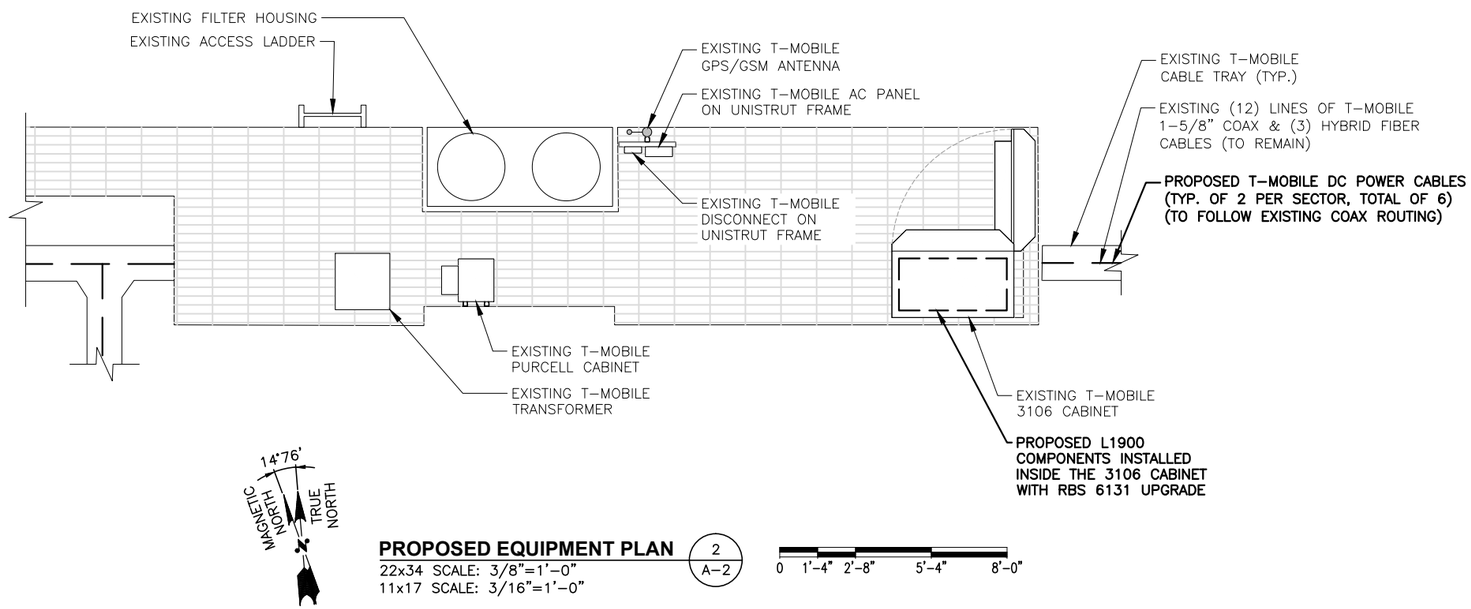
11x17 SCALE: 3/16"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"



PROPOSED EQUIPMENT PLAN (2 / A-2)
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SHEET TITLE
EQUIPMENT PLANS

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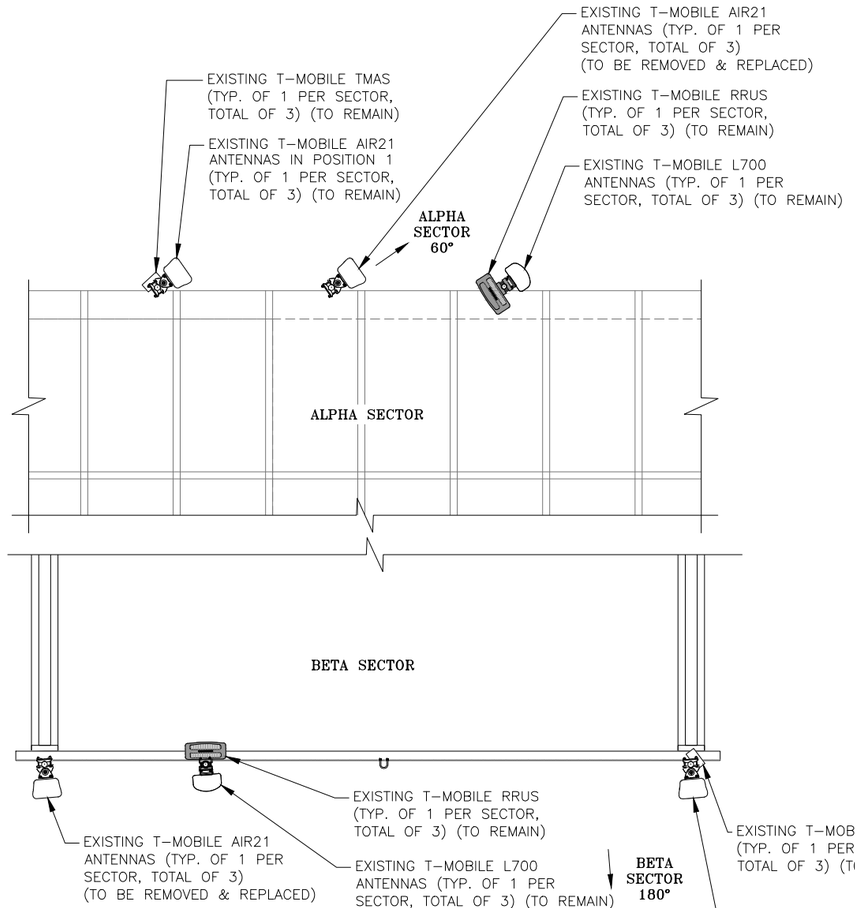
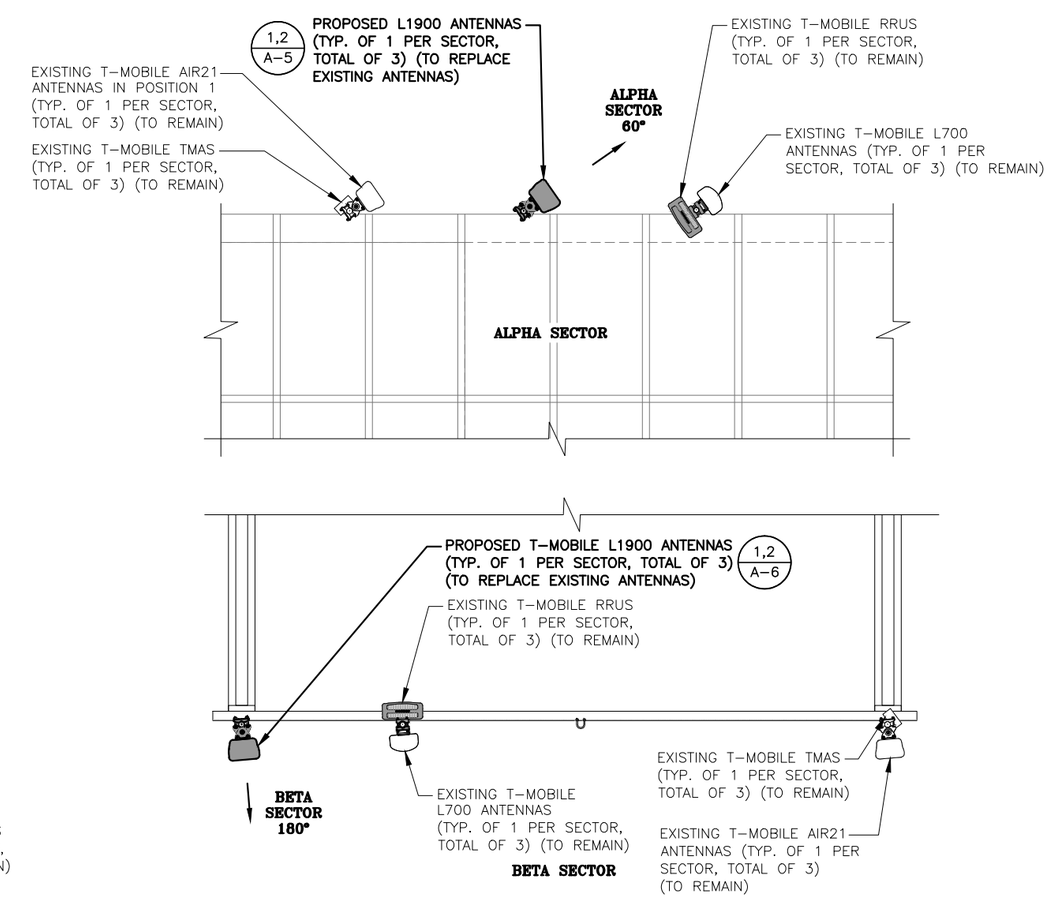
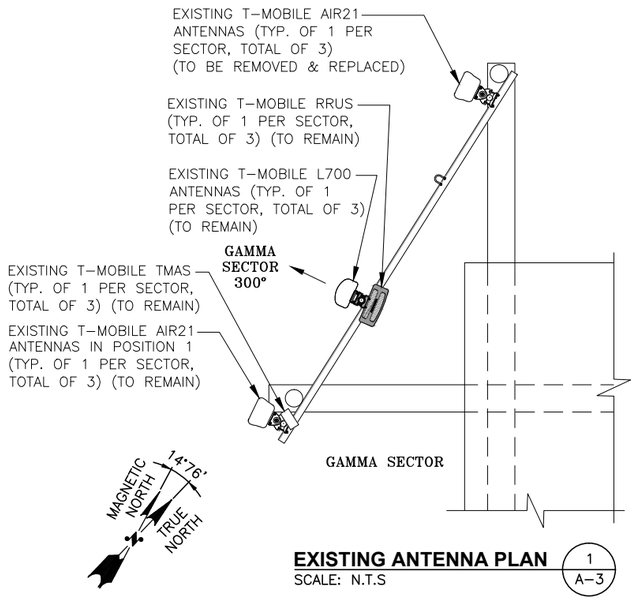
A-2



EXISTING ANTENNA PLAN (1 / A–3)
SCALE: N.T.S





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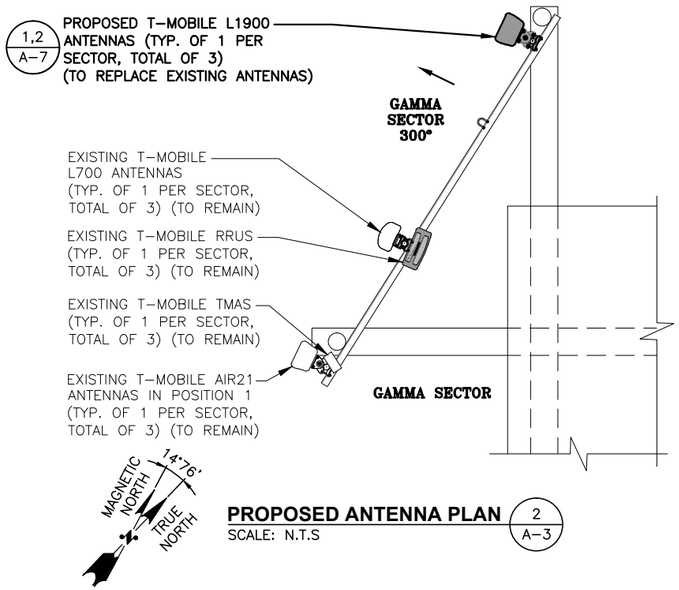

PROPOSED ANTENNA PLAN (2 / A–3)
SCALE: N.T.S

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SHEET NUMBER
A-3

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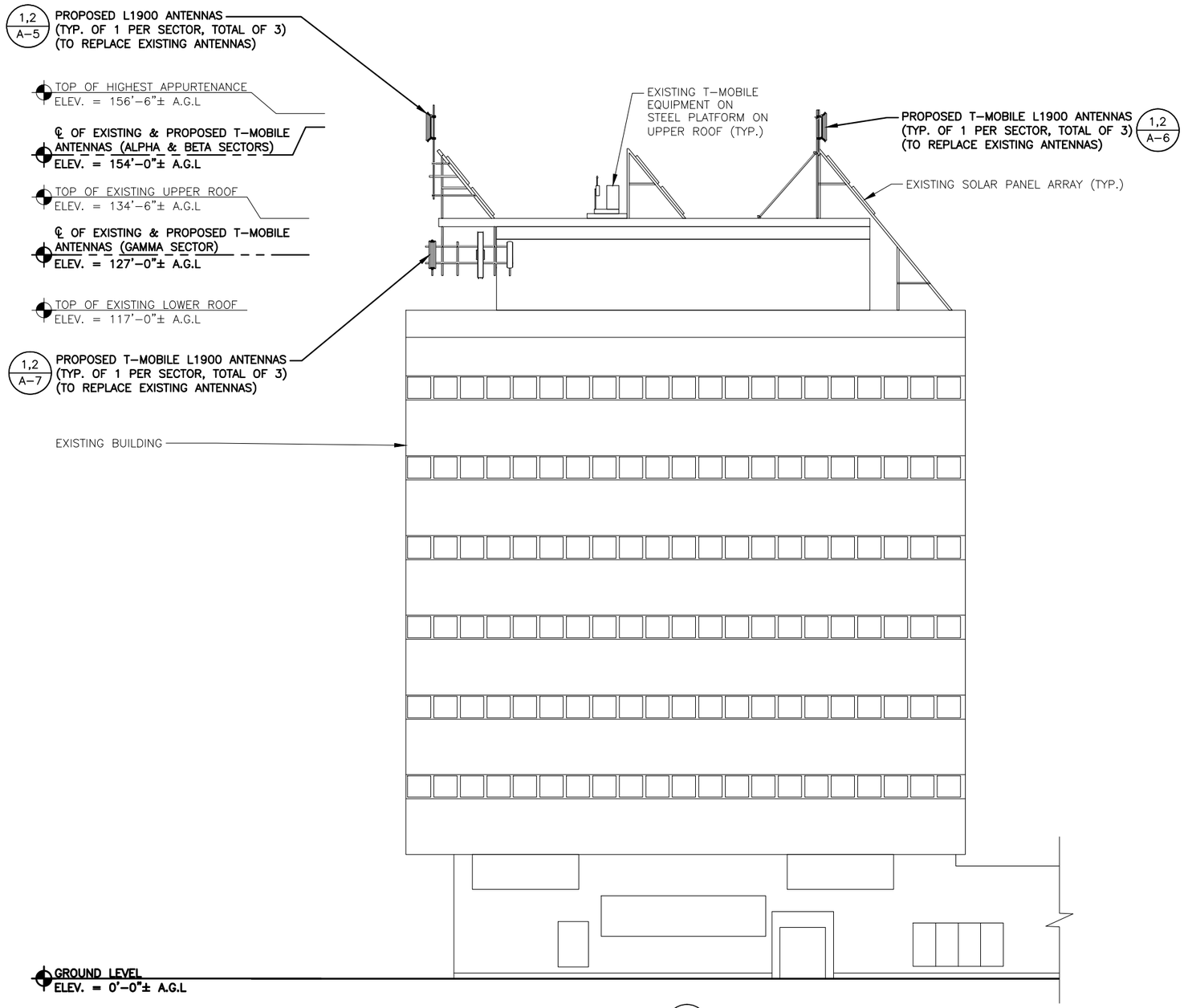

WEST ELEVATION (1 / A–4)
22x34 SCALE: 3/32"=1'–0"
11x17 SCALE: 3/64"=1'–0"

0 5'–4" 10'–8" 21'–4" 32'–0"

T-MOBILE NORTHEAST LLC
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STATE OF CONNECTICUT
DEREK J. CREASER
NO. 28581
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: DR

APPROVED BY: DPH

SUBMITTALS

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DANBURY HOSPITAL
SITE ADDRESS:
24 HOSPITAL AVENUE
(DANBURY HOSPITAL)
DANBURY, CT 06810
FAIRFIELD COUNTY

SHEET TITLE
ELEVATION

SHEET NUMBER
A-4

STRUCTURAL NOTES:
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NOTE:

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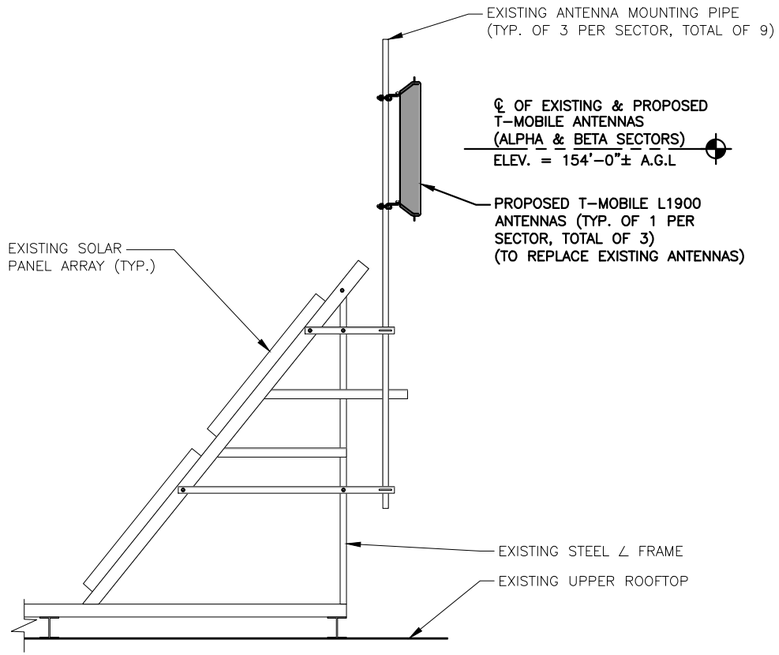
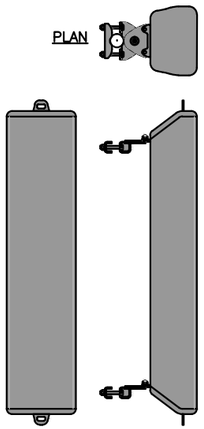


PROPOSED L1900 ANTENNA MOUNT (ALPHA SECTOR) 1/A–5

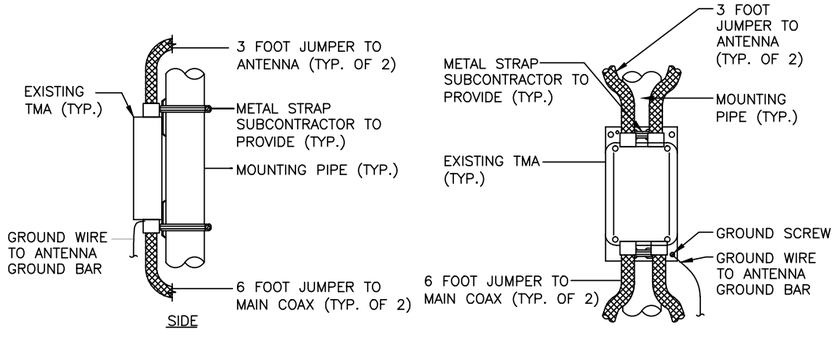
22x34 SCALE: 3/8"=1'–0"
11x17 SCALE: 3/16"=1'–0"

0 1'–4" 2'–8" 5'–4" 8'–0"

L1900 ANTENNA DIMENSIONS	
MODEL #	AIR 32 B66Aa/B2a
MANUF.	ERICSSON
WIDTH	12.9"
DEPTH	8.7"
HEIGHT	56.6"
WEIGHT	132.2 LBS



L1900 ANTENNA DETAIL 2/A–5
SCALE: N.T.S



TMA MOUNTING DETAIL 3/A–5
SCALE: N.T.S

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ALPHA SECTOR

SHEET NUMBER
A-5

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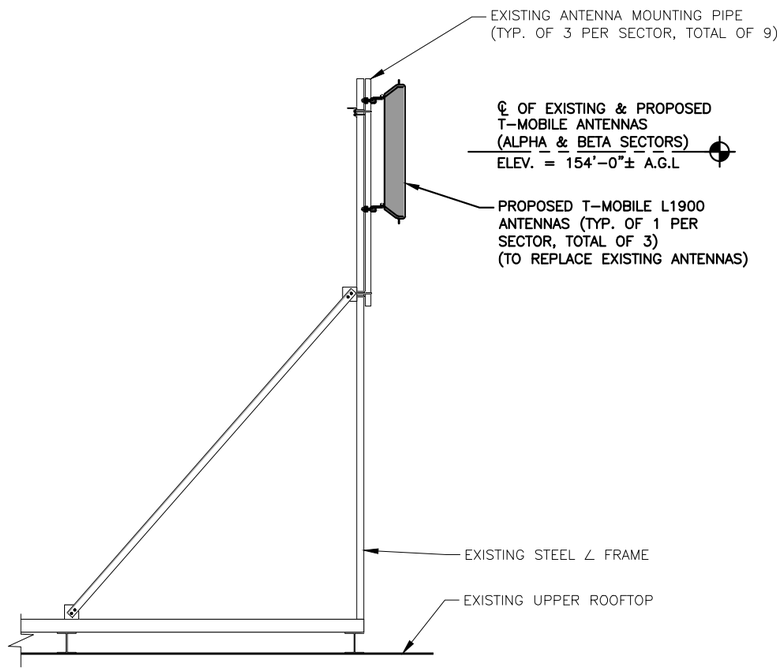
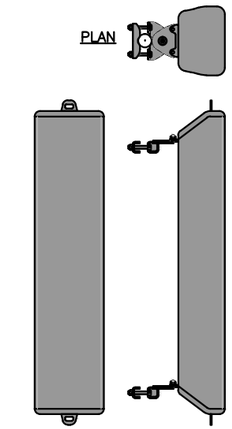


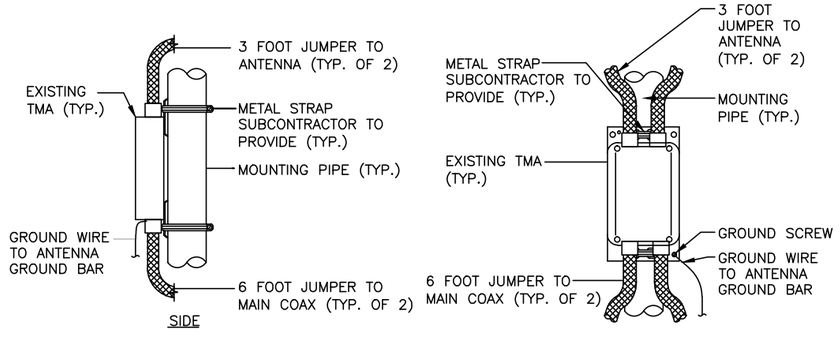
PROPOSED L1900 ANTENNA MOUNT (BETA SECTOR) (1 / A-6)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

L1900 ANTENNA DIMENSIONS	
MODEL #	AIR 32 B66Aa/B2a
MANUF.	ERICSSON
WIDTH	12.9"
DEPTH	8.7"
HEIGHT	56.6"
WEIGHT	132.2 LBS



L1900 ANTENNA DETAIL (2 / A-6)
SCALE: N.T.S



TMA MOUNTING DETAIL (3 / A-6)
SCALE: N.T.S

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BETA SECTOR

SHEET NUMBER
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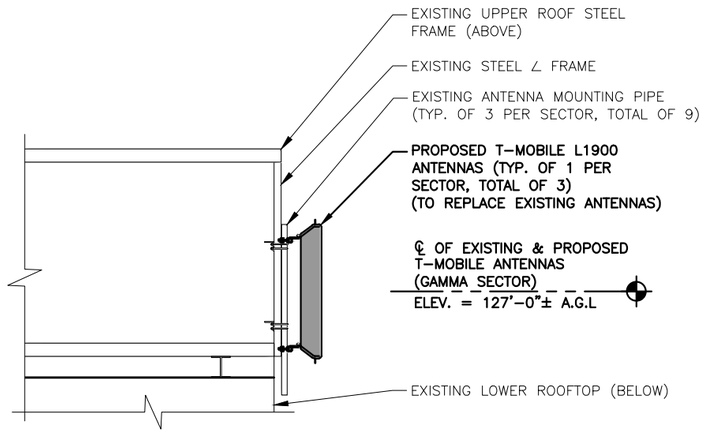
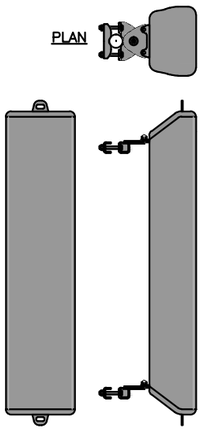


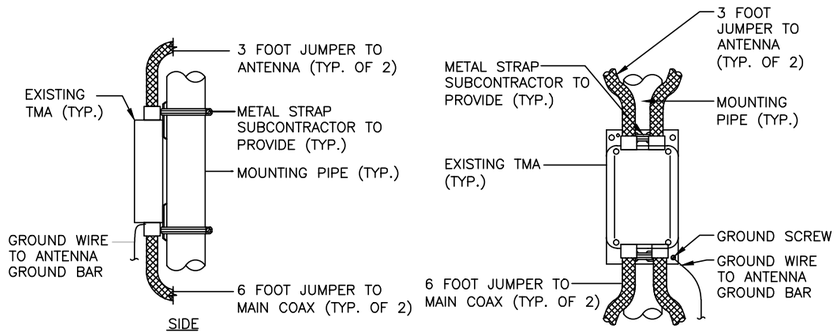
PROPOSED L1900 ANTENNA MOUNT (GAMMA SECTOR) (1 / A-7)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

L1900 ANTENNA DIMENSIONS	
MODEL #	**AIR 32 B66Aa/B2a**
MANUF.	ERICSSON
WIDTH	12.9"
DEPTH	8.7"
HEIGHT	56.6"
WEIGHT	132.2 LBS



L1900 ANTENNA DETAIL (2 / A-7)
SCALE: N.T.S



TMA MOUNTING DETAIL (3 / A-7)
SCALE: N.T.S

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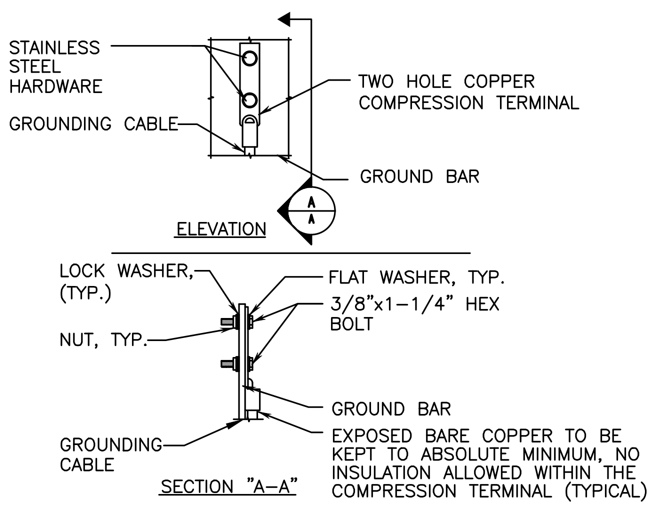
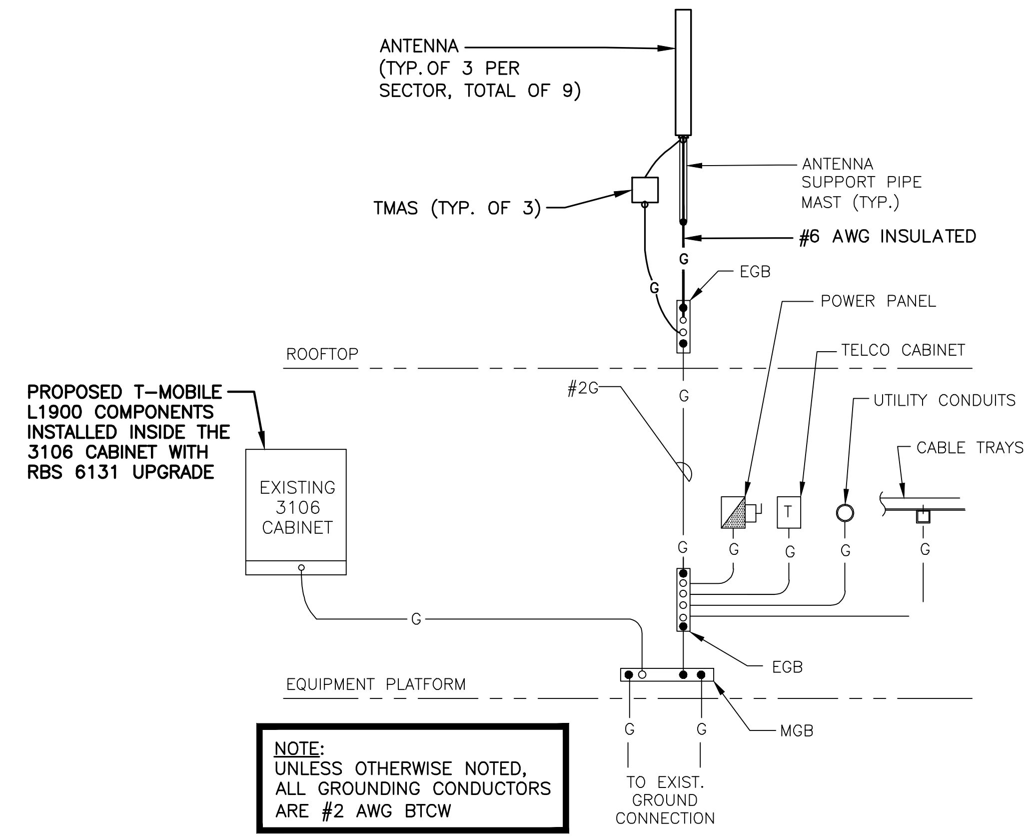
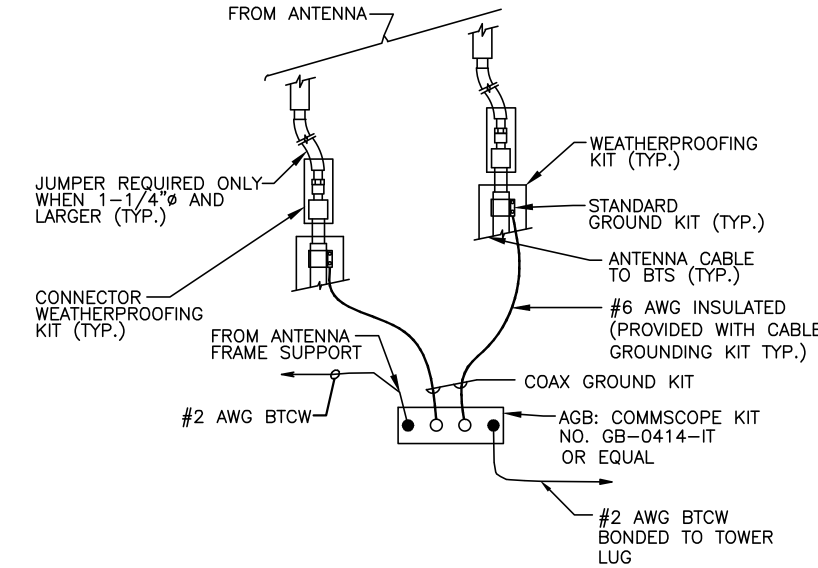


NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER AGB/EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL (1 / E-1)
SCALE: N.T.S

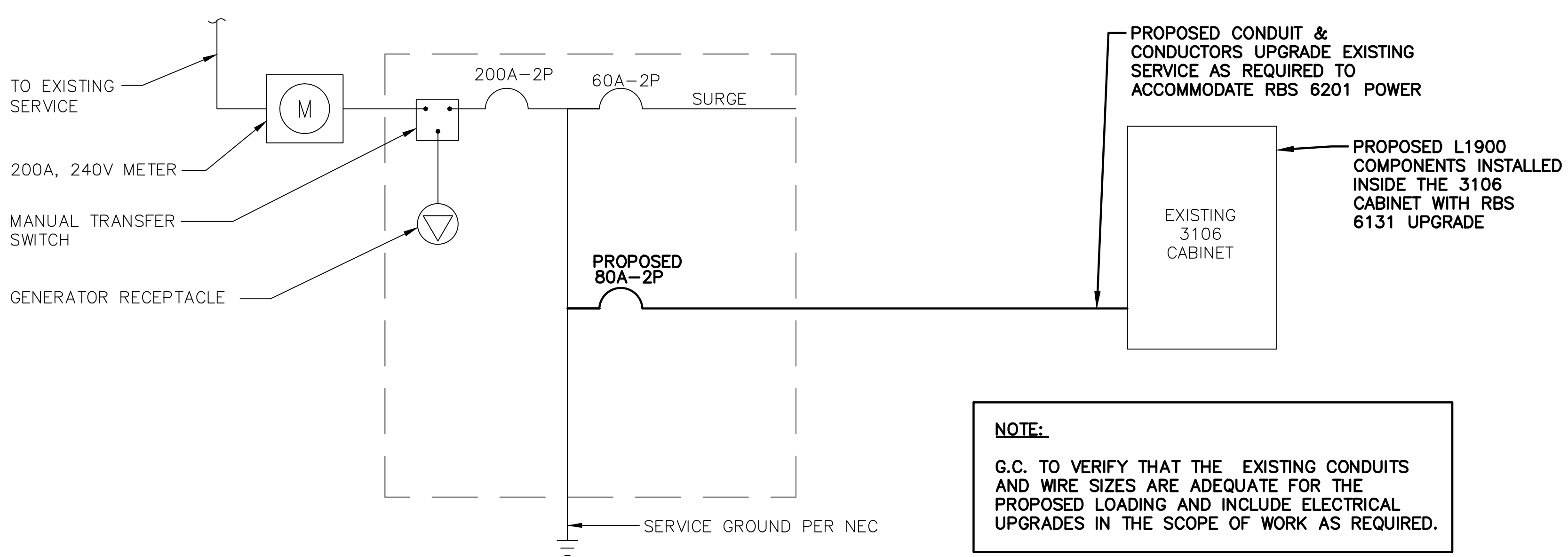


GROUNDING RISER DIAGRAM (2 / E-1)
SCALE: N.T.S



NOTE:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB.

TOWER TOP CABLE GROUNDING DETAIL (3 / E-1)
SCALE: N.T.S



ONE LINE POWER DIAGRAM (4 / E-1)
SCALE: N.T.S

ELECTRICAL LEGEND

Symbol	Description
A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
GRC	GALVANIZED RIGID CONDUIT
BTCW	BARE TINNED (SOLID) COPPER WIRE (#2 AWG, UNLESS NOTES OTHERWISE)
G	GROUND
(ground symbol)	GROUND
MGB	MASTER GROUND BAR — ○ MECHANICAL CONNECTION; ● CADWELD CONNECTION
AGB/EGB	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR
—G—	GROUND COPPER WIRE, SIZE AS NOTED
(line)	EXPOSED WIRING
(heavy line)	INSULATED GROUNDING CONDUCTOR(#6 AWG STRANDED, UNLESS NOTED OTHERWISE)
⊙	5/8"x8' COPPER CLAD STAINLESS STEEL GROUND ROD
-○—●-	● EXOTHERMIC (CAD WELD) OR ○ MECHANICAL (COMPRESSION TYPE) CONNECTION
PPC	POWER PROTECTION CABINET
⊗	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL

ELECTRICAL & GROUNDING NOTES:

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. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL 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 PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. 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.
14. 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.
15. 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 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

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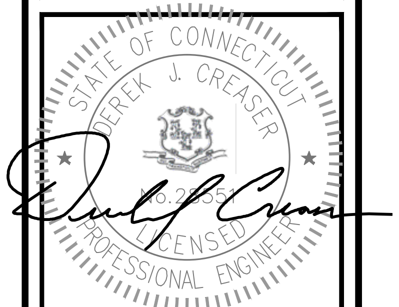

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SHEET TITLE
GROUNDING DIAGRAM

SHEET NUMBER
E-1