COHEN and WOLF P.C.
ATTORNEYS AT LAW

JULIE D. KOHLER

PLEASE REPLY TO: Bridgeport
WRITER'S DIRECT DIAL: (203) 337-4157
E-Mail Address: jkohler@cohenandwolf.com

October 9, 2014

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

Re: Notice of Exempt Modification
Connecticut State Police/T-Mobile co-location
Site ID CT11052E
Interstate 84 - 100' w of 50 South St, Map 6-6 Parcel 73 Middlebury

Dear Attorney Bachman:

This office represents T-Mobile Northeast LLC ("T-Mobile") and has been retained to file exempt modification filings with the Connecticut Siting Council on its behalf.

In this case, the Connecticut State Police owns the existing lattice telecommunications tower and related facility at Interstate 84 - 100' w of 50 South St, Map 6-6 Parcel 73 Middlebury, Connecticut (latitude 41. 51352/longitude -73.12426). T-Mobile intends to add three antennas and related equipment at this existing telecommunications facility in Middlebury ("Middlebury Facility"). Please accept this letter as notification, pursuant to R.C.S.A. § 16-50j-73, of construction which 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 the First Selectman Edward B. St. John. The Connecticut State Police is also the property owner.

The existing Middlebury Facility consists of an approximately 160 foot tall lattice structure.[1] T-Mobile plans to add three antennas on double mount arms at a centerline of 125 feet. T-Mobile will also install three RRUs (remote radio units) on a proposed H-frame, install coax cable and reuse existing coax cable. T-Mobile will also replace an equipment cabinet and add an equipment cabinet on a proposed H-frame. All of these modifications will take place within the existing equipment compound. See the plans revised to October 9, 2014 attached hereto as Exhibit B. The existing Facility is structurally capable of supporting T-Mobile's

[1] The online CSC database does not include a Docket or Petition approval for this facility. It does however include several notices of intent, the most recent captioned EM-SPRINT-081-121018 and EM-POCKET-081-081209.

proposed modification, as indicated in the structural analysis dated September 30, 2014 attached hereto as Exhibit C.[2]

The planned modifications to the Middlebury Facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modification will not increase the height of the tower. T-Mobile's replacement antennas will be installed at the 125 foot level of the approximately 160 foot lattice tower. The enclosed tower drawing confirms that the proposed modification will not increase the height of the tower.

2. The installation of the T-Mobile equipment in the existing compound, as reflected on Sheet 2 of Exhibit B, will not require an extension of the site boundaries. T-Mobile's proposed equipment will be located entirely within the existing compound area.

3. The proposed modification to the Facility will not increase the noise levels at the existing facility by six decibels or more.

4. The operation of the proposed antennas will not increase the total radio frequency (RF) power density, measured at the base of the tower, to a level at or above the applicable standard. According to a Radio Frequency Emissions Analysis Report prepared by EBI dated October 3, 2014 T-Mobile's operations would add 6.45% of the FCC Standard. Therefore, the calculated "worst case" power density for the planned combined operation at the site including all of the proposed antennas would be 89.35% of the FCC Standard as calculated for a mixed frequency site as evidenced by the engineering exhibit attached hereto as Exhibit C.

For the foregoing reasons, T-Mobile respectfully submits that the proposed antennas and equipment at the Middlebury Facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Upon acknowledgement by the Council of this proposed exempt modification, T-Mobile shall commence construction approximately sixty days from the date of the Council's notice of acknowledgement.

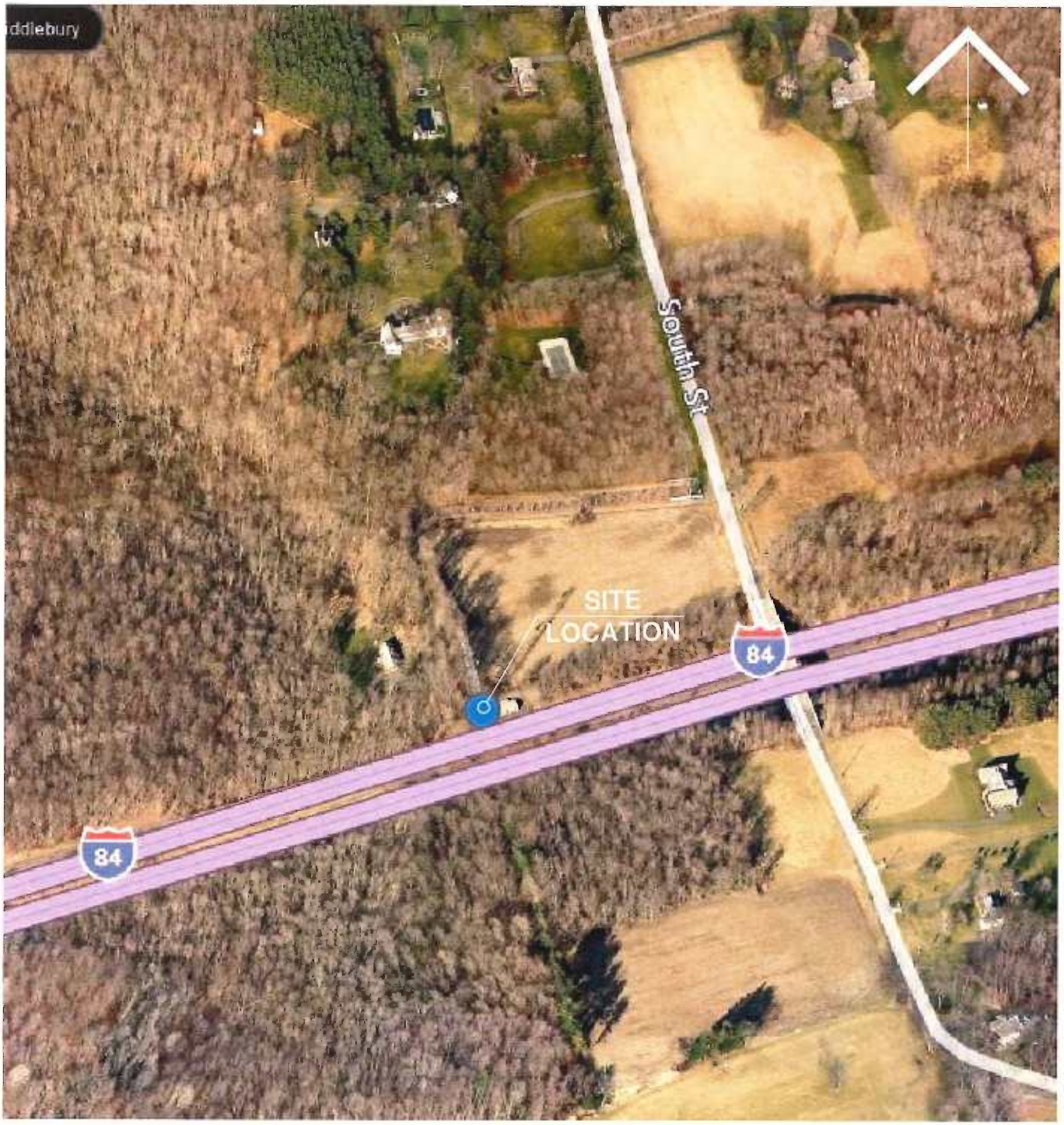
Sincerely,

Julie D. Kohler, Esq.

[2] The structural analysis provides that certain modifications must be made to the tower and foundation to accommodate both T-Mobile and Sprint.

cc: Town of Middlebury, First Selectman Edward B. St. John
Connecticut State Police
Sheldon Freincle, NSS

EXHIBIT A



ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

KEY MAP
N.T.S.

1
LE-1

CONFIGURATION

704G

SUBMITTALS	
LE REV A	08.11.14
LE REV A	10.09.14

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

LEASE EXHIBIT

SITE NUMBER:
CT11052E

SITE NAME:
MIDDLEBURY i84 X16&17_1

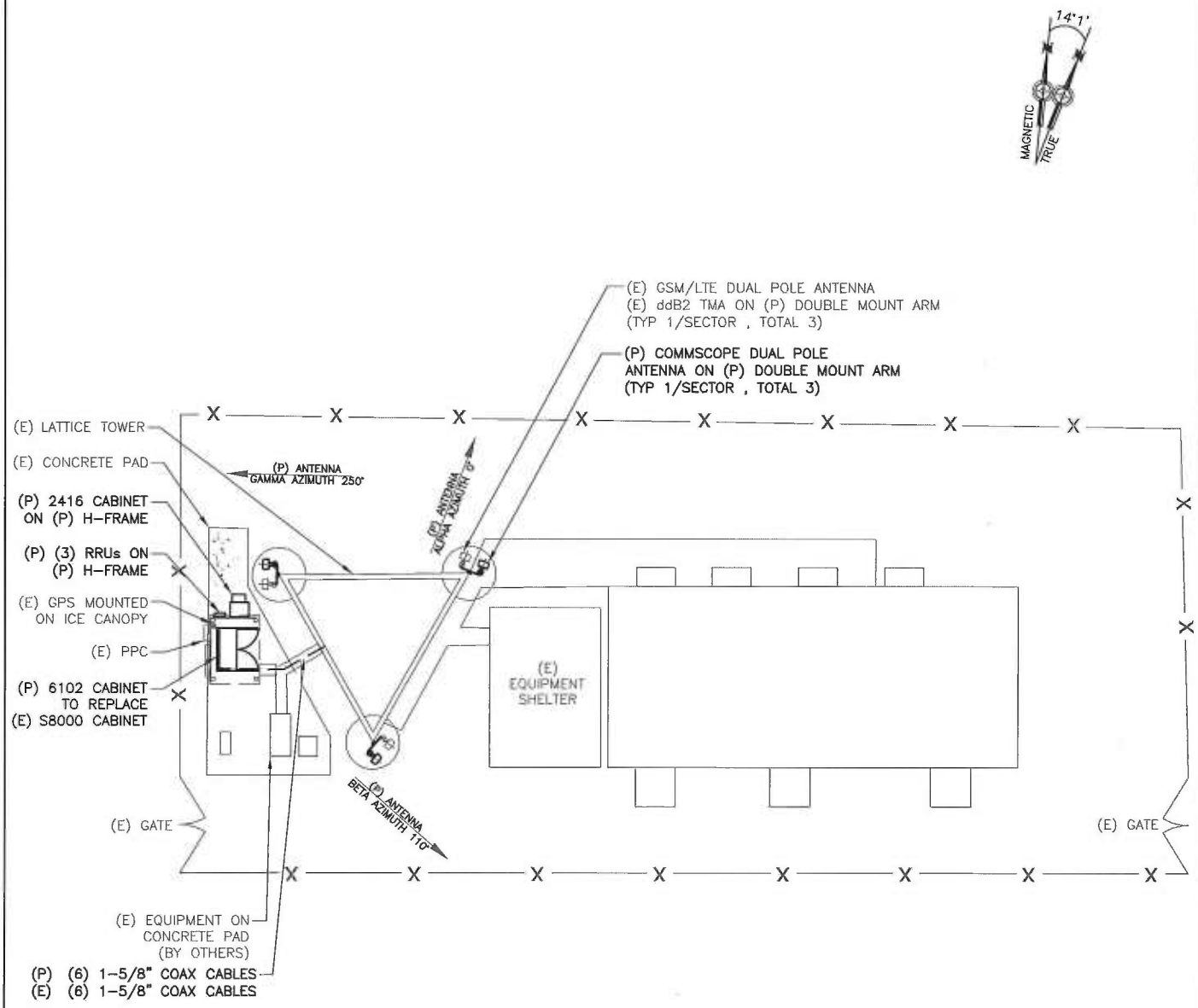
SITE ADDRESS:
100' W OF 50 SOUTH ST,MAP 6-6
PARCEL 73,POLE 23571
MIDDLEBURY, CT 06762

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

FOR

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

DRAWN BY: FG | CHECKED BY: SM



ROOF PLAN
N.T.S.

1
LE-2

CONFIGURATION
704G

SUBMITTALS	
LE REV A	08.11.14
LE REV A	10.09.14

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

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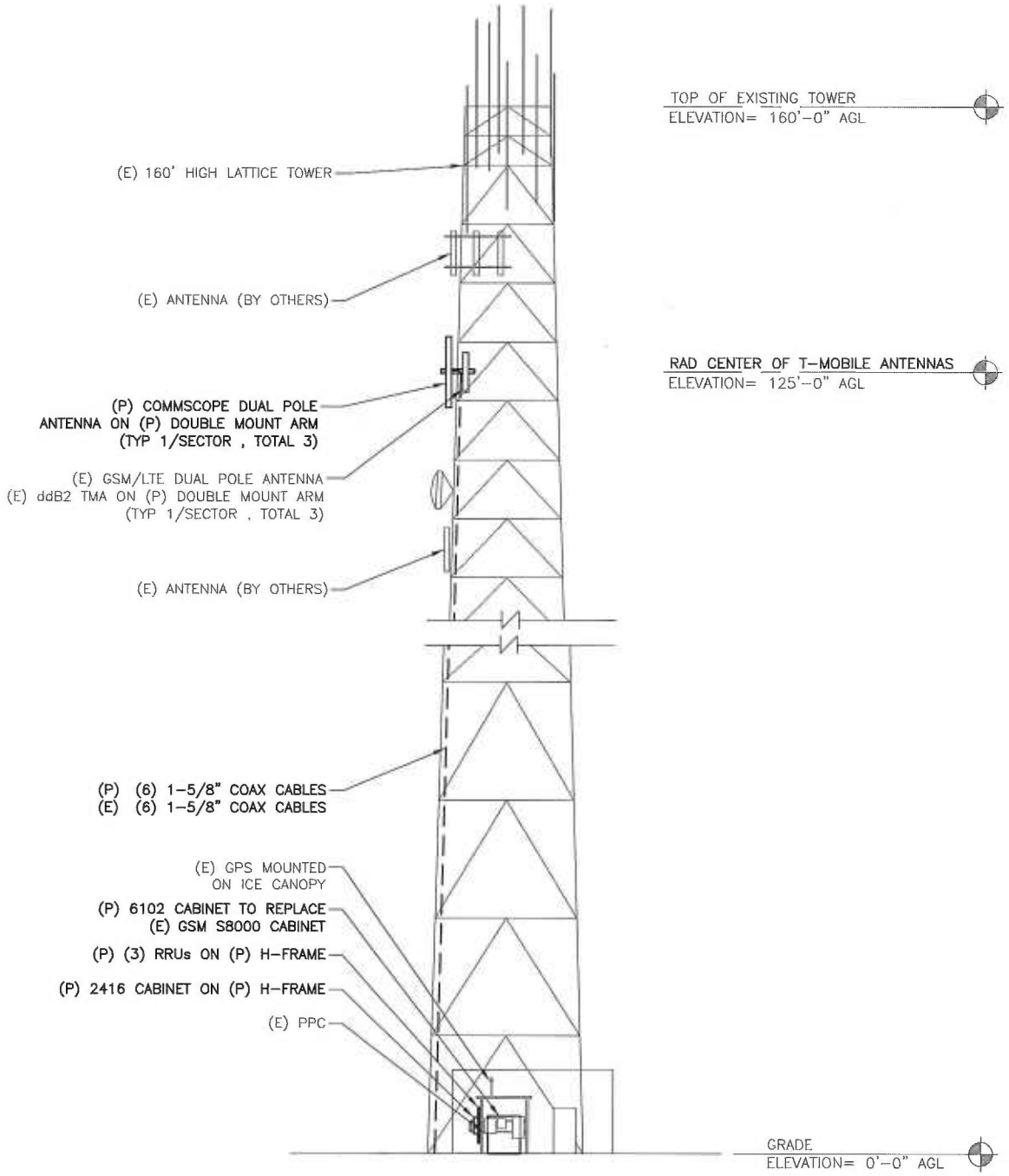

ELEVATION 1
N.T.S. LE-3

CONFIGURATION
704G

SUBMITTALS	
LE REV A	08.11.14
LE REV A	10.09.14

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

LEASE EXHIBIT

SITE NUMBER:
CT11052E

SITE NAME:
MIDDLEBURY i84 X16&17_1

SITE ADDRESS:
100' W OF 50 SOUTH ST,MAP 6-6
PARCEL 73,POLE 23571
MIDDLEBURY, CT 06762

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

FOR

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BLOOMFIELD, CT 06002
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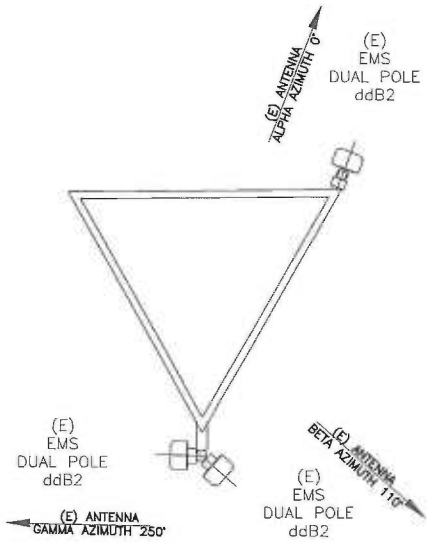
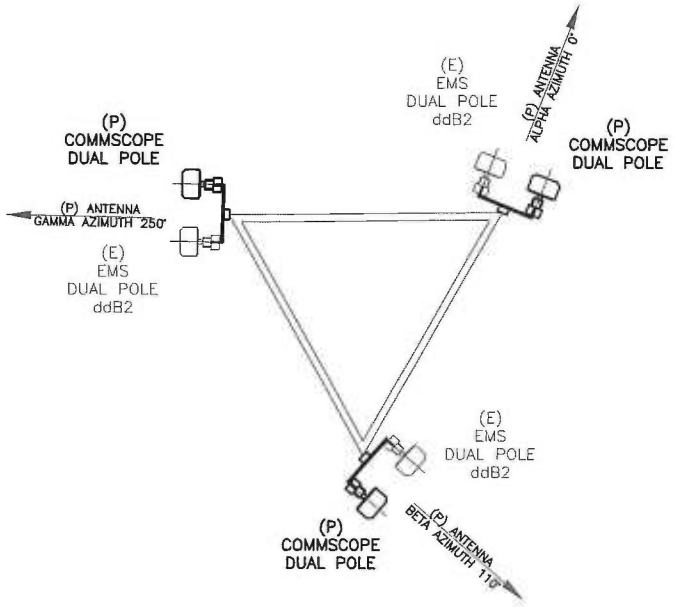


EXISTING



ANTENNA PLAN

N.T.S.

1 / LE-4

PROPOSED

CONFIGURATION

704G

SUBMITTALS	
LE REV A	08.11.14
LE REV A	10.09.14

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

LEASE EXHIBIT

SITE NUMBER:
CT11052E

SITE NAME:
MIDDLEBURY i84 X16&17_1

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100' W OF 50 SOUTH ST,MAP 6-6
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NORTHEAST SITE SOLUTIONS
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FOR

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

DRAWN BY: FG | CHECKED BY: SM

EXHIBIT B

DETAILED STRUCTURAL ANALYSIS AND REINFORCEMENT OF AN EXISTING 160' SELF SUPPORT LATTICE TOWER AND ITS FOUNDATION FOR PROPOSED ANTENNA ARRANGEMENT

Site ID:	**(T-Mobile)**	**CT11052E**
	(Sprint)	**CT03XC028**
Site Name:	**(T-Mobile)**	**Middlebury / I-84 / X16&17_1**
	(Sprint)	**Connecticut State Police Site #20**
Address:	**I-84 and South Street**	
	Middlebury, CT	

prepared for

T-Mobile

Northeast Site Solutions
54 Main Street
Sturbridge, MA 01566

Sprint

Transcend Wireless
10 International Avenue
Suite 3
Mahwah, NJ 07430

prepared by

URS

URS CORPORATION
500 ENTERPRISE DRIVE, SUITE 3B
ROCKY HILL, CT 06067
TEL. 860-529-8882

36928699.00000
TWS-017 (Rev. 2)

September 30, 2014

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis and reinforcement of the existing 160' self-supporting lattice tower located west of the intersection of I-84 and South Street in Middlebury, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code, the TIA/EIA-222-F standard, and the Connecticut State Police Requirements for a wind velocity of 90 mph (fastest mile) and 90 mph (fastest mile) concurrent with ½" ice. Twist (rotation) and sway (deflection) were determined in accordance with Connecticut State Police Requirements for a wind velocity of 90 mph (fastest mile) concurrent with ½" ice. The antenna loading considered in the analysis consists of all existing, future, and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction of this report.

The proposed T-Mobile and Sprint antenna modifications are listed below:

PROPOSED ANTENNA	CARRIER	ANTENNA CENTER ELEVATION
Remove: **(3) Existing Antenna Mounts**	**T-Mobile (existing)**	**@ 125'**
(6) CDMA Units	**Sprint (existing)**	**@ 97'**
Install: **(3) LNX-6515DS-VTM Panel Antennas** **(3) Smart Bias-T Units** **(6) 1 5/8" Coaxial Cables** **(3) 2-Panel Antenna Mounts**	**T-Mobile (proposed)**	**@ 125'**
(3) RFS APXV9TM14-ALU-I20 Panel Antennas **(3) TD-RRH-8x20-25 RRH Units** **(1) Junction Box** **(27) 8' Jumper Cables** **(3) 8' Commscope AISG Cables** **(1) ALU Fiber Optic Cable**	**Sprint (proposed)**	**@ 97'**

The results of an initial analysis indicated that the tower structure and foundation requires modification in order to support the proposed loading conditions. The required modifications are shown in SK-1 thru SK-3 in Section 6 of this report. **Once these modifications are performed the tower and its foundation are considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

The tower deflection (sway) is 0.5468 degrees, and the tower rotation (twist) is 0.1233 degrees with a wind velocity of 90 mph concurrent with 0.5" ice. **The tower deflection and rotation are within the Connecticut State Police specification of 0.75 degrees for combined deflection (sway) and rotation (twist).**

1. EXECUTIVE SUMMARY *(continued)*

This analysis is based on:

1) The tower structure's theoretical capacity not including any assessment of the condition of the tower.

2) Tower geometry, member sizes and foundation taken from Tower and Foundation reports prepared by Stainless, Inc. project number 358807 dated December 14, 1993.

3) Soil information taken from geotechnical report prepared by Dr. Clarence Welti, P.E., P.C., dated December 17, 2012.

4) Previous structural analysis and reinforcement performed by URS Corporation for AT&T, project number CTK-013 / 36917383, signed and sealed December 18, 2012.

5) Antenna inventory as specified in section 2 and 6 of this report taken from inventory provided by CSP, dated February 8, 2014.

6) Sprint antennas taken from "Flat Files" received April 22, 2014 and preliminary construction drawings dated May 8, 2014.

7) Previous structural analysis performed by URS Corporation, on behalf of Sprint, project number TWS-014 / 36928699, signed and sealed May 16, 2014.

8) T-Mobile antennas taken from RFDS, dated July 16, 2014.

9) Coax cable orientation as specified in section 6 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The Connecticut State Police provided the tower inventory for this site. The user of this report shall field verify the antenna and mount configuration used, as well as the physical condition of the tower members and connections. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation AES

Richard A. Sambor, P.E.
Senior Structural Engineer

RAS/mcd
cc: IA, CF/Book – URS

2. INTRODUCTION

The subject tower is located west of the intersection of I-84 and South Street in Middlebury, Connecticut. The structure is a self-supporting three-legged 160' steel tapered lattice tower manufactured by Stainless Incorporated.

The inventory is summarized in the table below::

Antenna Type	*Carrier*	*Mount*	*Centerline Elevation*	*Cable*
4' Lightning Rod	(existing)	Pipe mount above	177'	---
16' Lightning Rod Mounting Pipe	(existing)	None	168'	---
Tower Light	(existing)	None	160'-6"	---
(3) 6' Microwave Dishes w/radomes	CSP 52 to 54 (future)	Leg Mounts	160'	---
(1) Celwave PD-83 antenna	CSP – 1 (existing)	(3) 4' Stand-off	160'	(1) 7/8" coax cable
(1) DB-228	FBI – 3 (existing)			(1) 7/8" coax cable
(2) OGT9-806 antennas (1) Decibel DB810K-Y	CSP 8 to 10 (existing)			(3) 1-5/8" coax cable
(6) SC479-HF1LDF (2) Tower Top Amplifier	CSP 40 to 47 (existing)			(6) 1-5/8" coax cable (2) 1/2" coax cables
(5) Filter/Diplexers	(existing)	(3) 4' Stand-offs (listed above)	155'	---
(1) Decibel DB304-A	ATF – 2 (existing)	*Shared with Above*	153'	(1) 7/8" coax cable
(2) OGT9-806 antennas (1) DB810K	CSP 11 to 13 (existing)	4' Stand-off	143'	(3) 1-5/8" coax cable
(3) Powerwave 7770 (3) Powerwave 7020 RET (6) TMAs (6) Diplexers	AT&T (existing)	(3) T-Frames	138'	(12) 1 1/4" coax cable (relocated, see SK-2)
(4) SBNH-1D6565C (2 A, 1 B & 1 C) (2) KMW AM-X-CD-16-65-00T (1 B & 1 C) (9) TMAs (6) Diplexers (1) Surge Suppressor	AT&T (existing)	*Shared with Above*	138'	(1) 3" Flex Conduit with 3 Fiber & 6 DC Cables
(1) SC479-HF1LDF (inverted)	CSP – 39 (existing)	Leg Mount	130'	(1) 1-5/8" coax cable
(3) LNX-6515DS-VTM Panel Antennas (3) Smart Bias-T Units	**T-Mobile (Proposed)**	**(3) 2-Panel Antenna Mounts**	**125'**	**(6) 1 5/8" Coaxial Cables**

Antenna Type	*Carrier*	*Mount*	*Centerline Elevation*	*Cable*
(3) EMS RR90-17-02-DP antennas (3) TMA Units	T-Mobile (existing)	**Relocated to (3) 2-Panel Antenna Mounts**	125'	(6) 1 5/8" coax cable
(1) Celwave PD1142	DOT – 4 (existing)	3' Stand-off	122'	(1) 7/8" coax cable
(1) 20' Omni	EMS – 14 (reserved)	Leg Mount	115'	---
(2) 6' Dishes w/ Ice Canopy	CSP – 6 & 7 (existing)	(2) Dish Mounts	110'	(2) WEP65 coax cable
(3) RFS APXV9TM14-ALU-I20 Panel Antennas (3) TD-RRH-8x20-25 RRH Units (1) Junction Box	**Sprint (Proposed)**	*See Below Mounts*	**97'**	**(27) 8' Jumper Cables (3) 8' Commscope AISG Cables (1) ALU Fiber Optic Cable**
(3) RFS APXVSPP-C-20 Antennas (3) Andrew RRH 800 MHz 2x40W (3) Panasonic RRH 1900 MHz 2x40W	Sprint (existing)	Existing Pipe Mounts	97'	(6) 1 1/4" coax cable (3) Hybriflex cable
(1) PD10054	CSP – 5 (existing)	Leg Mount	85'	(1) 7/8" coax cable
GPS-TMG-HR-26NCM	Sprint (existing)	2' Stand-off	55'	(1) 1/2" coax cable

This structural analysis of the communications tower was performed by URS Corporation, AES for T-Mobile and Sprint. The purpose of this analysis was to investigate the structural integrity of the reinforced tower with its existing and proposed antenna loads. The analysis was conducted to evaluate twist (rotation), sway (deflection), and stress on the tower.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with the 2005 Connecticut State Building Code, TIA/EIA-222-F—Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, the Connecticut State Police Requirements, and the American Institute of Steel Construction (AISC) Manual of Steel Construction—Allowable Stress Design (ASD).

The analysis was conducted using TNX Tower 6.1.3.1. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 90 mph (fastest mile) Wind Load (without ice) + Tower Dead Load
Load Condition 2 = 90 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

The stresses on the modified tower structure were evaluated to compare with the allowable stress in accordance with AISC. The results of an initial analysis indicated the tower structure and foundation needed reinforcement. Once the modifications had been made to the tower, the modified tower structure is BELOW allowable stresses under the proposed loading.

The tower deflection (sway) is 0.5468 degrees, and the tower rotation (twist) is 0.1233 degrees with a wind velocity of 90 mph concurrent with 0.5" ice. **The tower deflection and rotation are within the Connecticut State Police specification of 0.75 degrees for combined deflection (sway) and rotation (twist).**

Tower Base Reactions:

Description	Current
Axial Load (Kips)	70
Pier Compression (kips)	373
Pier Uplift (kips)	315
Overall Overturning (kip-ft)	6961
Overall Shear (kips)	73
Shear per Leg (kips)	41

Controlling Tower Component Stress vs. Capacity Summary:

Component / (Section No.)	Critical Component Size	Controlling Elevation	Stress (% capacity)	Pass/Fail
Tower Leg (T8)	HSS 6.875x0.4	37.5' – 50.0	90.1	Pass
Diagonal (T3)	2L2 1/2x2x1/4	100' – 125'	98.1	Pass
Horizontal (T3)	L3x2 1/2x1/4	100' – 125'	94.7	Pass
Top Girt (T4)	L3x3x1/4	75' – 100'	76.3	Pass
Redundant Horizontal Bracing (T9)	L2x2x5/16	25' – 37.5'	43.6	Pass
Redundant Diagonal Bracing (T9)	L2x2x5/16	25' – 37.5'	83.9	Pass
Inner Bracing (T7)	L2 1/2x2 1/2x3/16	0'-25'	10.7	Pass
Tower Anchor Bolts	(1) A325N 3/4" Bolts	58.333'	90.1	Pass
Foundation Anchor Bolts	Tension & Shear	-----	98.0	Pass

Foundation Summary:

Component	Required / Allowable	Computed	% Capacity	Pass/Fail
Overturning Moment Factor of Safety	2.0 min	2.05	97.6	Pass
Foundation Bearing Pressure	4.5 ksf max	2.1083	44.9	Pass

Tower Twist & Sway at Top:

Description	Current	Total Allowable
Tower Sway (degrees)	0.5468	---
Tower Twist (degrees)	0.1233	
Total Deflection (degrees)	0.6701	0.75

5. CONCLUSIONS

The results of an initial analysis indicated that the tower structure and foundation requires modification in order to support the proposed loading conditions. The required modifications are shown in SK-1 thru SK-3 in Section 6 of this report. **Once these modifications are performed the tower and its foundation are considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

The tower deflection (sway) is 0.5468 degrees, and the tower rotation (twist) is 0.1233 degrees with a wind velocity of 90 mph concurrent with 0.5" ice. **The tower deflection and rotation are within the Connecticut State Police specification of 0.75 degrees for combined deflection (sway) and rotation (twist).**

Limitations/Assumptions:

This report is based on the following:

1) Tower inventory as listed in this report.
2) Tower is properly installed and maintained.
3) All members are as specified in the original design documents and are in good condition.
4) All required members are in place.
5) All bolts are in place and are properly tightened.
6) Tower is in plumb condition.
7) All member protective coatings are in good condition.
8) All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9) Foundations were properly constructed to support original design loads as specified in the original design documents.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

A. Adding antennas
B. Removing/replacing antennas
C. Adding coaxial cables

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance:

After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1; it is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

6. DRAWINGS AND DATA

REINFORCEMENT DRAWINGS SK-1 THRU SK-3

STRUCTURAL NOTES

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. NO MEMBER SHALL BE LEFT DISCONNECTED FOR THE NEXT WORKING DAY. THE CONTRACTOR SHALL BE AWARE OF WEATHER AND WIND CONDITIONS AND NOT PERFORM MEMBER MODIFICATION IN A WIND.

STRUCTURAL STEEL MATERIAL:

STRUCTURAL PLATES	ASTM A372
STEEL BEAMS, CHANNELS & ANGLES	ASTM A36
BOLTS	ASTM A325

MODIFICATIONS SHOWN ARE FOR EACH FACE OR LEG UNLESS NOTED OTHERWISE.

UNLESS OTHERWISE NOTED, ALL STEEL WILL BE GALVANIZED IN ACCORDANCE WITH ASTM 123 AFTER FABRICATION. TOUCH UP ALL DAMAGED GALVANIZED STEEL WITH APPROVED COLD ZINC, "GALVANOX", "DRY GALV", "ZINC-IT", OR APPROVED EQUIVALENT, IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH-UP DAMAGED NON GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

EXISTING DIMENSIONS OF STRUCTURE SHOWN ON THESE DOCUMENTS ARE NOT GUARANTEED. CONTRACTOR SHALL TAKE FIELD DIMENSIONS AS NECESSARY TO ASSURE PROPER FIT OF ALL FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENT ARE SUBMITTED FOR REVIEW, DIMENSIONS ARE PROVIDED FOR THE ENGINEER'S REFERENCE ONLY.

ALL WELDING SHALL BE DONE BY A CERTIFIED WELDER IN ACCORDANCE WITH AWS STANDARDS, USING E70XX ELECTRODES UNLESS OTHERWISE NOTED. WHERE WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZES PER "PREQUALIFIED WELDED JOINTS" TABLES IN AISC "MANUAL OF STEEL CONSTRUCTION", NINTH EDITION.

IF WELDING GALVANIZED MATERIALS, USE PRECAUTIONS & PROCEDURES PER AWS D1.1.

MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.

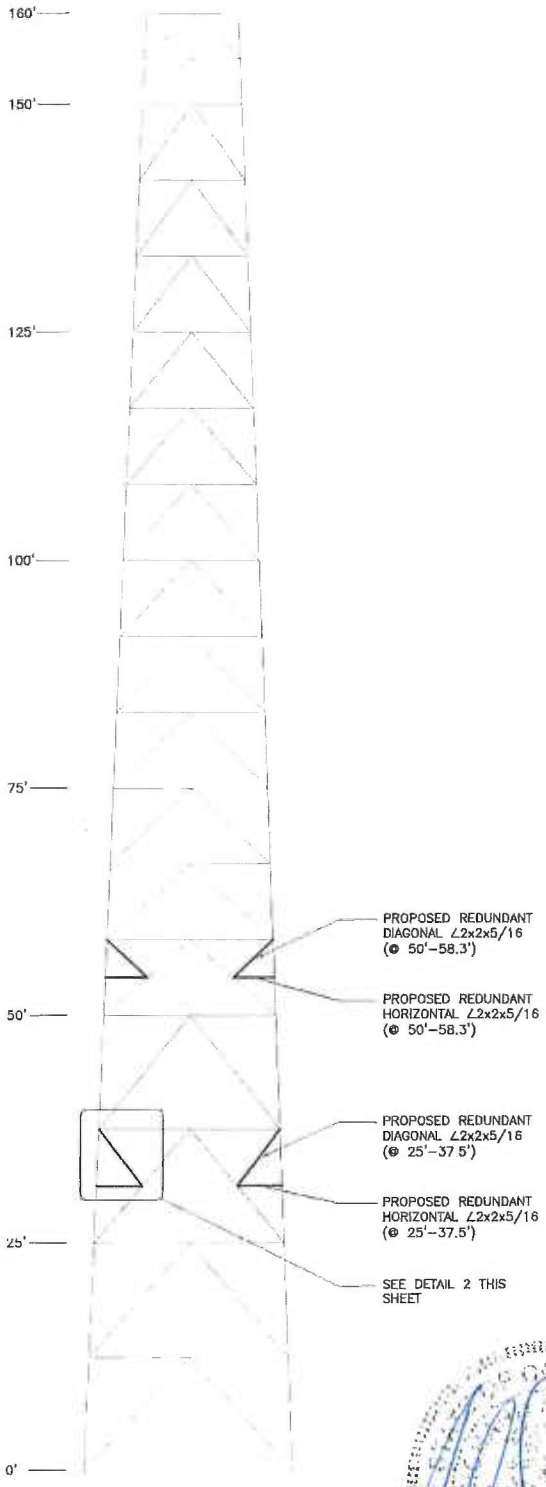
CONNECTIONS / FIELD ASSEMBLY:
BOLTED CONNECTIONS SHALL BE TIGHTENED TO SNUG TIGHT AS DEFINED BY AISC. SPECIFICALLY THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"

COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.

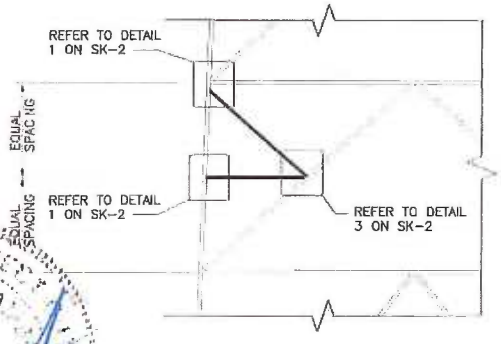
INSPECTIONS:
SPECIAL INSPECTIONS ARE REQUIRED PER CODE.

BUILDING PERMIT APPLICANT SHALL SUPPLY THE SERVICES OF A SPECIAL INSPECTOR AND TESTING AGENTS AS REQUIRED. CONTRACTOR SHALL COORDINATE INSPECTIONS OF FABRICATOR'S AND ERECTOR'S WORK AND MATERIALS TO MEET THE REQUIREMENTS OF THE STATEMENT OF SPECIAL INSPECTIONS FOR THIS PROJECT.

COPIES OF TESTING AND INSPECTION REPORTS WILL BE PROVIDED TO THE OWNER, BUILDING OFFICIAL, ENGINEER OF RECORD AND CONTRACTOR.



1 / SK-1 TOWER ELEVATION
SCALE: 1" = 20'-0"

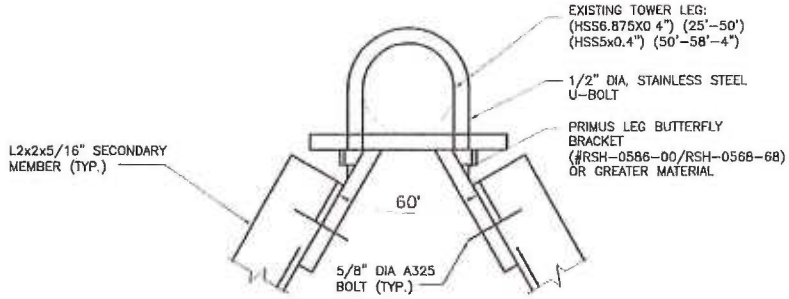


2 / SK-1 PARTIAL TOWER ELEVATION
SCALE: 1/8" = 1'-0"

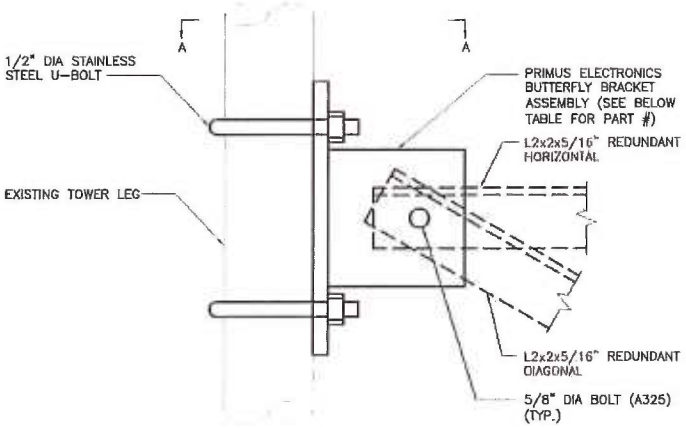
OW NO: 36928699	URS CORPORATION AES	T-Mobile / Sprint	SITE ADDRESS: CT1078 CONNECTICUT STATE POLICE SITE #20 Intersection of I-84W & South St MIDDLEBURY, CT
Designed by: -	500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT 1-(860)-529-8882		
Drawn by: PD			
Checked by: MCD			
Approved by: RAS			

REV.	DATE:	DESCRIPTION

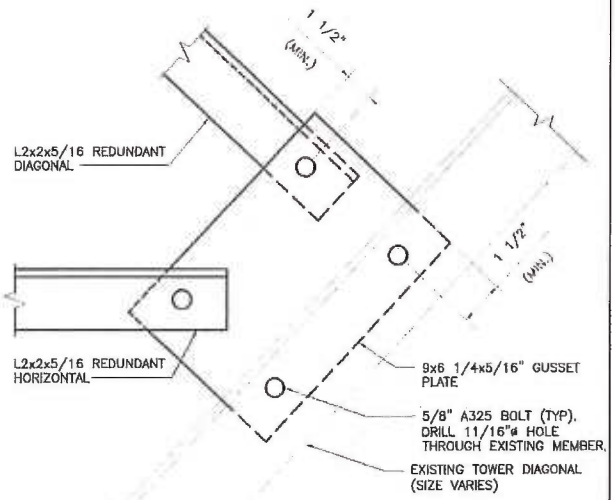
Scale: AS NOTED | Date: 09/30/14
Job No. TWS014R2 | File No.
Dwg. No. SK-1
Dwg. 1 of 3



2 SK-2 SECTION A
SCALE: N.T.S.



1 SK-2 LEG CONNECTION
SCALE: N.T.S.



3 SK-2 DIAGONAL CONNECTION
SCALE: N.T.S.

NOTES:
1. ABOVE DETAIL 1 IS INDICATING PROPOSED CONNECTION FOR HORIZONTAL OR DIAGONAL MEMBER AS SHOWN ON SK-1
2. BUTTERFLY BRACKET INSTALLATION FOR DIAGONAL MEMBER CONNECTION SHALL BE AS CLOSE TO ADJOINING EXISTING HORIZONTAL MEMBER AS POSSIBLE.

ELEVATION	LEG BUTTERFLY BRACKET #
25'-37.5'	RSH-0586-00
50'-58.3'	RSH-0568-68

NOTE: LEG BUTTERFLY BRACKET ASSEMBLY INFORMATION FROM PRIMUS ELECTRONICS CORPORATION. CONTRACTOR SHALL USE PRODUCTS SIMILAR TO OR EXCEEDING IN QUALITY FOR CONSTRUCTION.

OW NO: 36928699
Designed by:
Drawn by: PD
Checked by: MCD
Approved by: RAS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

T-Mobile
Sprint

SITE ADDRESS:
CT1078
CONNECTICUT
STATE POLICE SITE #20
Intersection of I-84W & South St
MIDDLEBURY, CT

REV.	DATE:	DESCRIPTION

Scale: AS NOTED | Date: 09/30/14
Job No. TWS014R2 | File No.

Dwg. No. SK-2
Dwg. 2 of 3

SOIL
1. SOIL BEARING CAPACITY OF 4,500 PSF USED FOR FOUNDATION DESIGN. GENERAL CONTRACTOR RESPONSIBLE FOR VERIFYING BEARING CAPACITIES.
2. ALL SURFACES MUST BE FREE OF STANDING WATER PRIOR TO PLACING.
3. COMPACTED GRAVEL FILL PER CONNECTICUT DOT STANDARD SPEC. SECTION M.02.01 AND ASTM D1557.
4. CONTACT THE ENGINEER IF GROUND WATER IS IN ENCOUNTERED AND DEWATERING IS REQUIRED.

CONCRETE
1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. CONCRETE SHALL BE AIR ENTRAINED TO (4% TO 6%) AND SLUMP OF 3" TO 5"
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

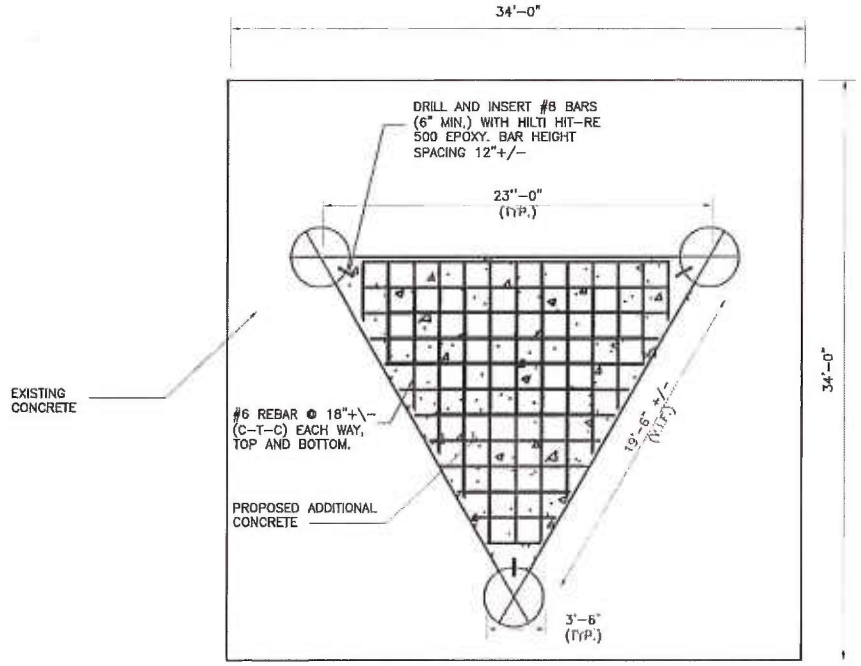
   CONCRETE CAST AGAINST EARTH.....3 IN.

   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER..... ....2 IN.
   #5 AND SMALLER & WWF .....1 1/2 IN.

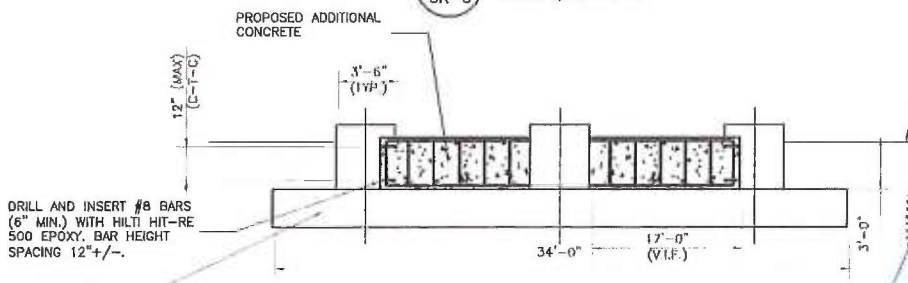
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL.....3/4 IN.
   BEAMS AND COLUMNS ... . 1 1/2 IN

5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING
7. COLD WEATHER CONCRETE PLACING SHALL BE IN ACCORDANCE WITH ACI-306.
8. NO FOOTING SHALL BE PLACED ON FROZEN GROUND. UNCURED CONCRETE SHALL BE PROTECTED AGAINST FROST
9. APPLY NON-SLIP BROOM FINISH IMMEDIATELY AFTER TROWEL FINISHING.

FOUNDATION NOTES
1. A PRESUMPTIVE SOIL BEARING CAPACITY OF 4500 PSF WAS USED FOR THE FOUNDATION DESIGN. THE GENERAL CONTRACTOR IS TO CONFIRM THE EXISTING SOIL BEARING PRESSURE.
2. ALL FOOTINGS SHALL BEAR ON EXISTING UNDISTURBED ORGANIC FREE SOIL. ALL UNSUITABLE SOIL SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AND REPLACED WITH COMPACTED GRAVEL PLACED IN 8" LAYERS AND COMPACTED TO 95% OF MODIFIED OPTIMUM DENSITY.
3. NO REBAR SHALL BE CUT DURING INSTALLATION OF CONCRETE WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE



1 SK-3 PLAN
SCALE: 3/32 = 1'-0"



2 SK-3 ELEVATION
SCALE: 3/32" = 1'-0"

STATE OF CONNECTICUT
RICHARD A. SALOMON
16770
LICENSED PROFESSIONAL ENGINEER

JOW NO: 36928699	URS CORPORATION AES 500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT 1-(860)-529-8882	T-Mobile Sprint	SITE ADDRESS: CT1078 CONNECTICUT STATE POLICE SITE #20 Intersection of I-84W & South St MIDDLEBURY, CT	Dwg. No. SK-3
Designed by:				REV. / DATE: / DESCRIPTION
Drawn by: PD				Scale: AS NOTED / Date: 09/30/14
Checked by: MCD				Job No. TWS014R2 / File No. / Dwg. 3 of 3
Approved by: RAS				

EXHIBIT C

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

T-Mobile Existing Facility

Site ID: CT11052E

Middlebury I-84 / X16-17
100' w of 50 South St, Map 6-6 Parcel 73, Pole 23571
Middlebury, CT 06762

October 3, 2014

EBI Project Number: 62145320

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	89.35 %

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

EBI Consulting
environmental | engineering | due diligence

October 3, 2014

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

Emissions Analysis for Site: **CT11052E – Middlebury I-84 / X16-17**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **100' w of 50 South St, Map 6-6 Parcel 73, Pole 23571, Middlebury, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 700 MHz Band is 467 $\mu W/cm^2$, 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.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **100' w of 50 South St, Map 6-6 Parcel 73, Pole 23571, Middlebury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

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

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

8) The antenna mounting height centerline of the proposed antennas is **125 feet** above ground level (AGL).

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

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

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Andrew RR90_17_02DP	Make / Model:	Andrew RR90_17_02DP	Make / Model:	Andrew RR90_17_02DP
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	125	Height (AGL):	125	Height (AGL):	125
Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)	Frequency Bands	1900 MHz(PCS)
Channel Count	6	Channel Count	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	3,505.81	ERP (W):	3,505.81	ERP (W):	3,505.81
Antenna A1 MPE%	1.68	Antenna B1 MPE%	1.68	Antenna C1 MPE%	1.68
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	125	Height (AGL):	125	Height (AGL):	125
Frequency Bands	700 Mhz	Frequency Bands	700 Mhz	Frequency Bands	700 Mhz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	445.37	ERP (W):	445.37	ERP (W):	445.37
Antenna A2 MPE%	0.47	Antenna B2 MPE%	0.47	Antenna C2 MPE%	0.47

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**6.45**
AT&T	2.10 %
MetroPCS	8.40 %
Sprint	8.85 %
Unidentified by DPS	62.34 %
DOT	1.21 %
Site Total MPE %:	**89.35 %**

T-Mobile Sector 1 Total:	2.15 %
T-Mobile Sector 2 Total:	2.15 %
T-Mobile Sector 3 Total:	2.15 %
Site Total:	89.35 %

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Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	2.15 %
Sector 2:	2.15 %
Sector 3 :	2.15 %
T-Mobile Total:	6.45 %
Site Total:	89.35 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **89.35%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
RF Engineering Director

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21 B Street
Burlington, MA 01803`