



Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbsite.com

March 14, 2018

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

Notice of Exempt Modification
285 Chamberlain Hill Road, Higganum, CT
41 30 6.35 N
-72 37 7.3 W
Sprint #: CT33XC545_2.5

RE: Incomplete – EM-Sprint-061-180201 Chamberlain Hill Road

Dear Ms. Bachman:

Per Council's request under Incomplete Notice - EM-Sprint-061-180201 Chamberlain Hill Road, attached, please find an updated Structural Analysis Report.

In accordance with R.C.S.A. § 16.50j-73, a copy of this letter and the Report is being sent to the Town of Haddam's First Selectman, Lizz Milardo, Town Planner, Liz Glidden, as well as to the property owner, Ruth Opuszynski. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

Please let us know if you need anything further.

Sincerely,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbsite.com

Attachments



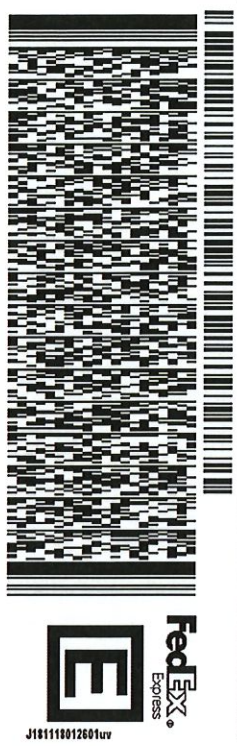
cc: Lizz Milardo, First Selectman Town of Haddam / with attachments
Town of Haddam, 30 Field Park Drive, Haddam, CT 06438
Liz Glidden, Town Planner /with attachments
Town of Haddam, 30 Field Park Drive, Haddam, CT 06438
Ruth Opuszynski/Quale / with attachments
285 Chamberlain Hill Rd., Higganum, CT 06441

ORIGIN ID:BBFA (508) 614-0389
RICK WOODS
SBA NETWORK SERVICES INC
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 14MAR18
ACTWGT: 1.00 LB
CAD: 105843304/NET/3980
BILL SENDER

TO LIZZ MILLARDO, FIRST SELECTMAN
TOWN OF HADDAM
30 FIELD PARK DRIVE

HADDAM CT 06438
(508) 251-0720 X 3804 REF: 10-56-92009-6099
INV. DEPT:
PO



TRK# 7800 5121 4032 THU - 15 MAR 12:00P
0201 PRIORITY OVERNIGHT

EB RSPA 06438
CT-US BDL



552J107F5IDCA5

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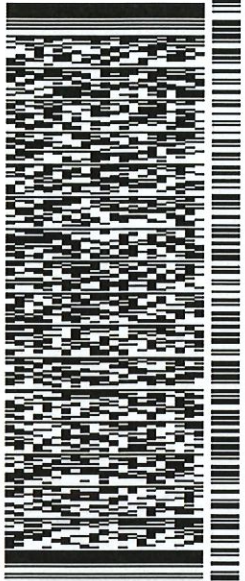
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RICK WOODS
SBA NETWORK SERVICES INC
134 FLANDERS ROAD
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WESTBOROUGH MA 01581
UNITED STATES US

SHIP DATE: 14MAR18
ACTWGT: 1.00 LB
CAD: 105843304N/EI3980
BILL SENDER

TO LIZ GLIDDEN, TOWN PLANNER
TOWN OF HADDAM
OFFICE OF THE TOWN PLANNER
30 FIELD PARK DRIVE
HADDAM CT 06438
(508) 251-0720 X 3804
REF: 10-56-92009-6099
DEPT:
PO:

552J1107F5IDCA5



J181110012001uv

TRK# 7800 5125 0361
THU - 15 MAR 12:00P
PRIORITY OVERNIGHT

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06438
CT-US BDL



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SBA NETWORK SERVICES INC
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH MA 01581
UNITED STATES US

SHIP DATE: 14MAR18
ACTWTG1: 1.00 LB
CAD: 105843304/NET/3980

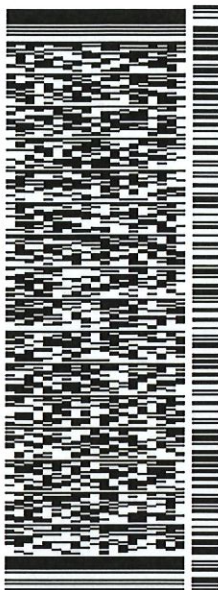
BILL SENDER

TO RUTH OPUSZYNSKI/QUALE

285 CHAMBERLAIN HILL RD.

HIGGANUM CT 06441
(508) 251-0720 X 3804 REF: 10-56-92009-6089
INV: DEPT:
PO:

552J1107F5/DCA5



J181110012001uv

TRK# 7800 5128 3227
0201

THU - 15 MAR 10:30A
PRIORITY OVERNIGHT

EB RSPA

06441
CT-US BDL



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February 16, 2018

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

Kri Pelletier
Property Specialist
SBA Communications
134 Flanders Road, Suite 125
Westborough, MA 01581

RE: **EM-SPRINT-061-180201** - Sprint notice of intent to modify an existing telecommunications facility located at 285 Chamberlain Hill Road, Higganum (Haddam), Connecticut.

Dear Ms. Pelletier:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on February 1, 2018.

According to Section 16-50j-71 of the Regulations of Connecticut State Agencies, "...any modification, as defined in Section 16-50j-2a of the Regulations of Connecticut State Agencies, to an existing tower site, except as specified in Sections 16-50j-72 and 16-50j-88 of the Regulations of Connecticut State Agencies, may have a substantial adverse environmental effect."

Staff has reviewed this exempt modification request for completeness and has identified a deficiency of the Structural Analysis (SA) Report dated October 31, 2017. The SA Report is missing a list of the proposed antennas, mounts and transmission lines. Also the site plan, dated January 26, 2018, sheet numbers A-2 and S-1 identify additional reinforcement hardware which may also be included on the missing list of the proposed antennas, mounts and transmission lines. Provide an Updated Structural Analysis Report that accounts for the missing list and/or data referenced in the site plans which requires installing additional mount hardware.

Therefore, the exempt modification request is incomplete at this time. The Council recommends that SBA provide an Updated Structural Analysis Report including the additional mount hardware on or before March 16, 2018. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to March 16, 2018.

This notice of incompleteness shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,

Melanie Bachman
Executive Director

MAB/FC

c: The Honorable Lizz Milardo, First Selectman, Town of Haddam
Liz West Glidden, Town Planner, Town of Haddam
Ruth Opuszynski/Quale

S:\EMS_TSV_BYTOWN\Haddam_Higganum\285 Chamberlain Hill Rd\SPRINT\em-sprint-061-180201\Site Plan\Site Plan.dwg



CONNECTICUT SITING COUNCIL

Affirmative Action / Equal Opportunity Employer



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 185 ft. SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT04169-A-2

Customer Site Name: Higganum

Carrier Name:

Carrier Site ID / Name: CT33XC545 / Higganum

Site Location: 285 Chamberlain Hill Road

Higganum, Connecticut

Middlesex County

Latitude: 41.501764

Longitude: -72.618694

Analysis Result:

Max Structural Usage: 57.1% [Pass]

Max Foundation Usage: 38.6% [Pass]

Additional Usage Caused by Mount Modification: +4.30%

Report Prepared By: Walter Velez



Introduction

The purpose of this report is to summarize the analysis results on the 185 ft. SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Original structural design report prepared by Summit Manufacturing, LLC & Paul J. Ford and Company. Dated 11-29-1999. SUMMIT Job No 5350. Job No 29299-805. Previous structural report prepared by FDH Engineering, Inc. Dated 04-11-2014. Project No 1463AY1400.
Foundation Drawing	Original foundation design prepared by Summit Manufacturing, LLC & Paul J. Ford and Company. Dated 11-29-1999. SUMMIT Job No 5350. Job No 29299-805.
Geotechnical Report	Geotechnical report prepared by Criscuolo Shepard Associates, P.C. Dated 06-21-1999. File No 99137.
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis: (Based on IBC 2012)	Ultimate Design Wind Speed $V_{ult} = 127.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	Nominal Design Wind Speed $V_{asd} = 98.0$ mph (3-Sec. Gust)
Operational Wind Speed:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Standard/Codes:	60 mph + 0" Radial ice
Exposure Category:	ANSI/TIA-222-G, 2012 IBC & 2016 Connecticut State Building Code
Structure Class:	B
Topographic Category:	II
Crest Height:	1
Seismic Parameters:	0 ft.
	$S_s = 0.179, S_1 = 0.062$

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

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	185.0	3	RFS APXVSP18-C-A20 - Panel	Low Profile Platform	(4) 1-1/4" Hybrid	Sprint Nextel
2		3	RFS APXVTM14-C-I20 - Panel			
3		4	RFS ACU-A20-N RET			
4		3	ALU TD-RRH8x20-25			
5		3	ALU 1900 MHz RRH			
6		3	ALU 800 MHz RRH			
7		3	ALU 800 MHz Filter			
8	177.5	6	Ericsson RRU11	Collar Mount (Andrew MTC 3335)	(12) 1 5/8"; [(2) 1/2" DC Power & (1) 3/8" Fiber; Inside (1) 3" Innerduct]	AT&T
9		1	Raycap DC6-48-60-18-8F			
10	175.0	6	Powerwave 7770 - Panel	Low Profile Platform		
11		3	KMW AM-X-CD-16-65-00T-RET - Panel			
12		6	Powerwave LGP13519			
13		12	Powerwave LGP21401			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
14	185.0	3	RFS APXVSP18-C-A20 - Panel	Low Profile Platform w/ Handrail Kit (SitePro1 HRK14) & Reinforcement Kit (SitePro1 PRK 1245L)	(4) 1-1/4" Hybrid	Sprint Nextel
15		3	RFS APXVTM14-C-I20 - Panel			
16		4	RFS ACU-A20-N RET			
17		3	ALU TD-RRH8x20-25			
18		3	ALU 1900 MHz RRH			
19		3	ALU 800 MHz RRH			
20		3	ALU 800 MHz Filter			

All transmission lines are considered running inside of the pole shafts. Please see the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	57.1%	32.5%	56.1%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	5025.0	39.0	41.0
Analysis Reactions	2953.5	23.2	49.7
Factored Reactions*	6783.8	52.7	55.4

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required. Some geotechnical soil parameters were obtained from the original foundation calculations included with the referenced tower and foundation design drawings.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2508 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA-222-G standards, the 2012 IBC and the 2016 Connecticut State Building Code under the design basic wind speed specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.