

July 2, 2019

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

RE: Request of Sigfox NIP LLC for an Order to Approve the Shared Use of an Existing Tower at 14 Oxford Drive/Booth Hill Road, Shelton, CT 06484

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Sigfox NIP LLC ("Sigfox") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by Sigfox of an existing telecommunication tower at 14 Oxford Drive/Booth Hill Road, Shelton, CT 06484(the "Property"). The existing 200-foot self-support tower is owned by American Tower Corp. ("ATC"), the underlying property is also owned by ATC. Sigfox requests that the Council find that the proposed shared use of the ATC tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being mailed to the City of Shelton and ATC.

Background

The existing ATC facility consists of a 200-foot self-support tower located within an approximate 10,000 square foot compound positioned +/- 220-feet west of the end of Oxford Drive. There are existing carrier antennas located at various elevations throughout the tower (see Sheet C-1 of Exhibit 1 for more information). Equipment associated with these antennas is located at various positions within the tower compound.

Sigfox is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Sigfox and ATC have agreed to the proposed shared use of the 14 Oxford Drive/Booth Hill Road, Shelton, CT 06484 tower pursuant to mutually acceptable terms and conditions. Likewise, Sigfox and ATC have agreed to the proposed installation of equipment cabinets within an existing adjacent utility building located south of the tower within the compound. ATC has authorized Sigfox to apply for all necessary permits and approvals that may be required to share the existing tower. (See the attached Letter of Authorization).

Sigfox proposes to add one (1) omni antenna, one (1) line of coaxial cable; one (1) filter, and one (1) TMA on the existing tower at 135-feet above ground level. They propose to add one (1) equipment cabinet within the adjacent utility building.



- C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such a shared use." Sigfox respectfully submits that the shared use of the tower satisfies these criteria.
- A. <u>Technical Feasibility</u>. The existing ATC tower is structurally capable of supporting Sigfox's proposed improvements. The proposed shared use of this tower is, therefore, technically feasible. A Feasibility Structural Analysis Report ("Structural Report") prepared for this project confirms that this tower can support Sigfox's proposed loading. A copy of the Structural Report has been included in this application.
- B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue order approving the shared use of an existing tower such as the ATC tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to the other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.
- **C.** Environmental Feasibility. The proposed shared use of the ATC tower would have a minimal environmental effect for the following reasons:
 - 1. The proposed installation of one (1) omni antenna, one (1) line of coaxial cable; one (1) filter, and one (1) TMA on the existing tower at 135-feet above ground level, would have no visual impact on the area of the tower. Sigfox's cabinet will be installed within the facility compound. Sigfox's shared use of this tower therefore, does not cause any significant change or alteration in the physical or environmental characteristics of the existing site.
 - 2. Operation of Sigfox's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that Sigfox's proposed facility will operate well within the FCC RF emissions safety standards.
 - 3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the ATC facility other



than periodic maintenance. The proposed shared use of the ATC tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

- **D.** Economic Feasibility. As previously mentioned, Sigfox has entered into an agreement with ATC for the shared use of the existing facility subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible. (Please see included authorization.)
- E. <u>Public Safety Concerns</u>. As discussed above, the tower is structurally capable of supporting Sigfox's full array of one (1) omni antenna, one (1) line of coaxial cable; one (1) filter, and one (1) TMA and all related equipment. Sigfox is not aware of any public safety concerns relative to the proposed sharing of the existing ATC tower.

Conclusion

For the reasons discussed above, the proposed shared use of the existing Crown Castle tower at 14 Oxford Drive/Booth Hill Road, Shelton, CT 06484 satisfies the criteria state in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the prosed shared use.

Sincerely,

Cray Y. Russo, P.E.

Engineer

T-Squared Site Services 2500 Highland Road, Suite 201 Hermitage, PA 16148

724.308.7855

craig.r@t-sqrd.com



Attachments:

Exhibit-1: Compound Plan and Elevation Depicting the Planned Changes

Exhibit-2: Structural Modification Report

Exhibit-3: General Power Density Table report (RF Emissions Analysis Report)

Exhibit-4: Letter of Authorization

Exhibit-5: Proof of Mailing to Local Municipality

Exhibit-6: Proof of Mailing to Tower Owner/Property Owner

Copies to:

Mr. Rick Schultz Planning & Zoning Administrator Shelton City Hall 54 Hill Street – 3rd Floor Shelton, CT 06484

Mr. Jason Hastie Account Project Manager, Vertical Markets/Broadcast Repack American Tower Corporation 10 Presidential Way Woburn, MA 01801



EXHIBIT 1:

Compound Plan and Elevation Depicting the Planned Changes



SITE NUMBER: CT9081

14 OXFORD DRIVE/ BOOTH HILL ROAD SHELTON, CT 06484 **FAIRFIELD COUNTY**



SITE INFORMATION

SCOPE OF WORK:

PROJECT CONSISTS OF INSTALLING THE FOLLOWING:

- (1) PROCOM CXL-900-3LW OMNI ANTENNA
- (1) CAVITY FILTER (1) 1/2" COAX CABLE
- (1) RG6 CABLE
 (1) EQUIPMENT CABINET FOR BASE STATION

SIGFOX SITE NUMBER:

ADDRESS:

911 SITE ADDRESS

14 OXFORD DRIVE/BOOTH HILL ROAD SHELTON, CT 06484

TOWER OWNER:

AMERICAN TOWER CORP.

116 HUNTINGTON AVE. 11TH FLOOR

OWNER SITE NUMBER:

LATITUDE (NAD 83): LONGITUDE (NAD 83):

-73.185500

JURISDICTION: PARCEL OWNER: FAIRFIELD COUNTY

AMERICAN TOWER CORP. 116 HUNTINGTON AVE. 11TH FLOOR

BOSTON, MA 02116

GROUND ELEVATION:

517' AMSL SELF SUPPORT

STRUCTURE TYPE: STRUCTURE HEIGHT:

200' (AGL)

PROJECT TEAM

APPLICANT:

SIGFOX, INC. 545 BOYLSTON STREET, 10TH FLOOR

BOSTON, MA. 02116

PROJECT MANAGEMENT FIRM:

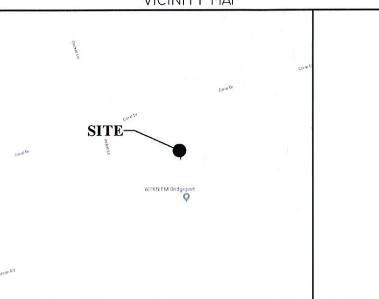
T-SQUARED SITE SERVICES, LLC 2500 HIGHLAND ROAD, SUITE 201

HERMITAGE, PA. 16148

ENGINEERING FIRM:

T-SQUARED SITE SERVICES, LLC 2500 HIGHLAND ROAD, SUITE 201 HERMITAGE, PA. 16148

VICINITY MAP



DRAWING INDEX

TITLE SHEET

T-1

C-1

COMPOUND PLAN & ELEVATION

A-1 ANTENNA PLAN AND DETAILS

ELECTRICAL DETAILS

G-1 GROUNDING DETAILS

> Digitally signed by Gary Clower DN: c=US, st=Pennsylvania, l=Hermitage, o=T-Squared Site Services. cn=Gary Clower, email=gary.c@t-sqrd.com Date: 2019.01.28 14:10:13 -05'00'

DO NOT SCALE DRAWINGS

THESE DRAWINGS ARE FORMATTED TO BE FULL-SIZE AT 11"X17". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES, NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2015 INTERNATIONAL BUILDING CODE
- 2017 NATIONAL ELECTRIC CODE
- 2015 INTERNATIONAL ENERGY CONSERVATION CODE
- 2015 INTERNATIONAL EXISTING BUILDING CODE
- 2015 INTERNATIONAL FIRE CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2015 INTERNATIONAL RESIDENTIAL CODE

APPRO	OVAL BLOCK			
PROPERTY OWNER	DATE	APPROVED	APPROVED AS NOTED	DISAPPROVED REVISE
SITE ACQUISITION	DATE			
CONSTRUCTION MANAGER	DATE			
ZONING	DATE			
RF ENGINEER	DATE			



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REVISIONS			
FINAL CD	1.28.19	KE	В
PRELIMINARY	01.24.19	JW	A
DESCRIPTION	DATE	BY	REV



IT IS A VIOLATION OF LAW FOR ANY PERSON, LINIESS THEY ARE ACTING UNDER THE ENGINEER, TO ALTER THIS DOCUMENT.

SITE INFORMATION

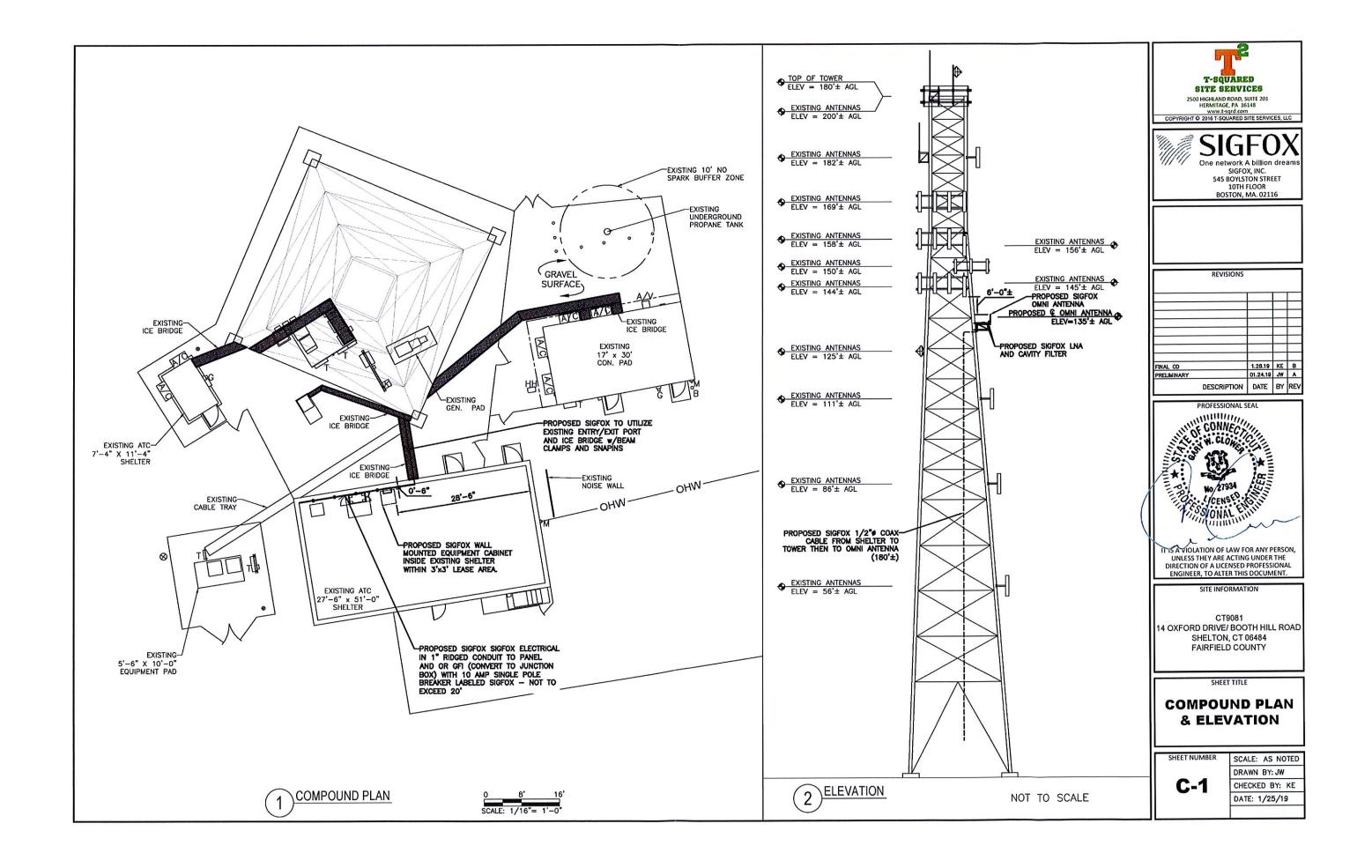
CT9081 14 OXFORD DRIVE/ BOOTH HILL ROAD SHELTON, CT 06484 **FAIRFIELD COUNTY**

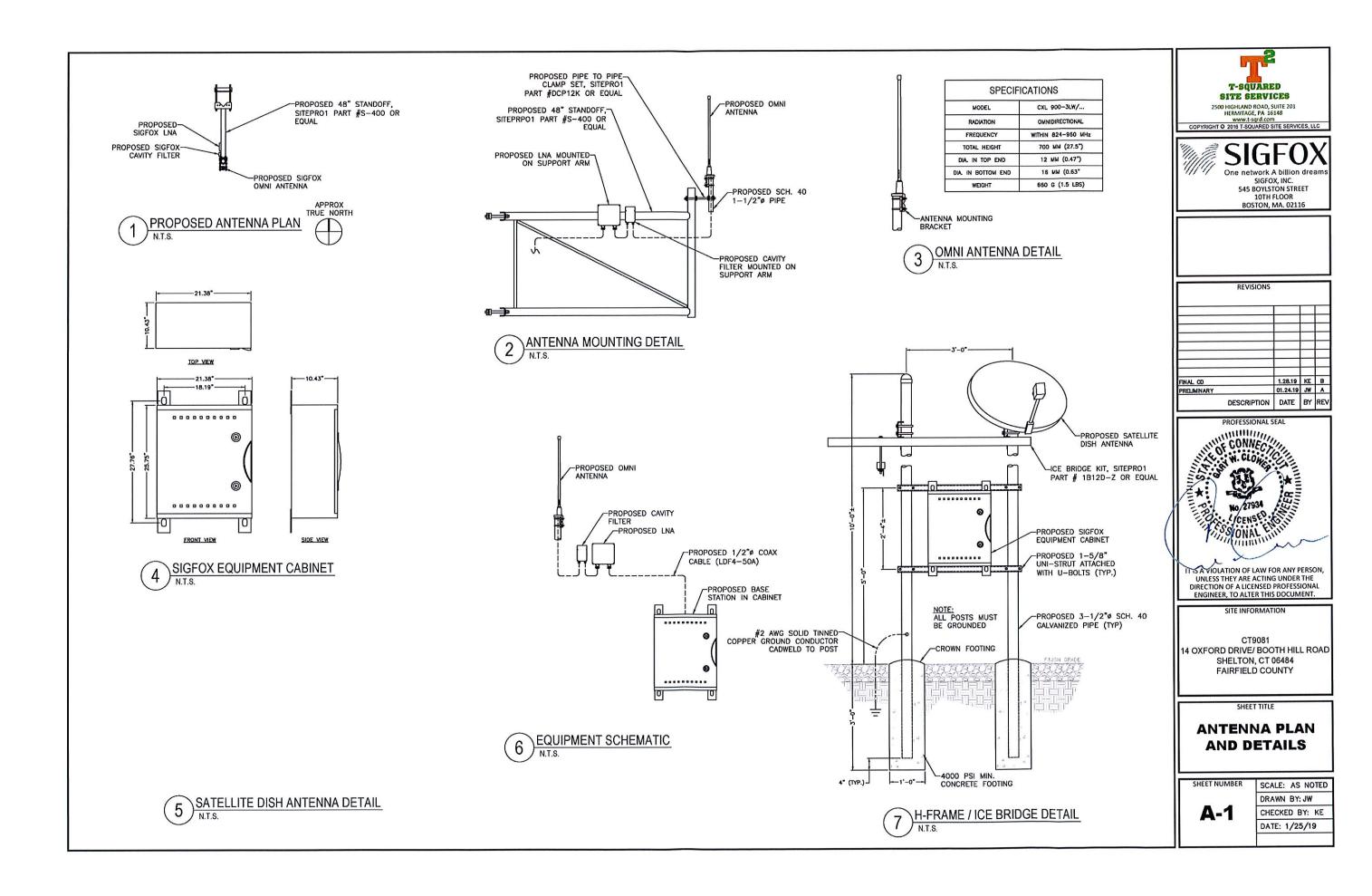
SHEET TITLE

TITLE SHEET

SCALE: AS NOTED

DRAWN BY: JW CHECKED BY: KE DATE: 1/25/19





ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED SPECIFICATION REQUIREMENTS.
- 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.
- ELECTRICAL AND TELCO WIRING AT EXPOSED INDOOR LOCATIONS SHALL BE IN ELECTRICAL METALLIC TUBING OR RIGID NONMETALLIC TUBING (RIGID SCHEDULE 40 PVC OR RIGID SCHEDULE 80 PVC FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) (AS PERMITTED BY CODE).
- ELECTRICAL AND TELCO WIRING AT CONCEALED INDOOR LOCATIONS SHALL BE IN ELECTRICAL METALLIC TUBING, ELECTRICAL NONMETALLIC TUBING, OR RIGID NONMETALLIC TUBING (RIGID SCHEDULE 40 PVC AS PERMITTED BY CODE).
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING, ABOVE GRADE AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS (RGS) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE RIGID NONMETALLIC CONDUIT (RIGID SCHEDULE 40 PVC); DIRECT BURIED IN AREAS OF OCCASIONAL LIGHT TRAFFIC, ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY TRAFFIC
- LIQUID—TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED INDOORS AND OUTDOORS IN AREAS WHERE VIBRATION OCCURS AND FLEXIBILITY IS NEEDED.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE THHN, THWN-2, OR THIN INSULATION.

100A	WAIN BREAKER:	ASE	1 PHAS		WIRE	3	rs	/240 VOL	. NAME: N/A 120	PANEL
CCT	LOAD DESCRIPTION	LOA	LOAD (VA)	POLE	АМР	АМР	POLE	LOAD (VA)	LOAD DESCRIPTION	CCT
2						10	1	1440	SIGFOX BASE UNIT	1
4										3
6										5
8										7
10										9
12										11

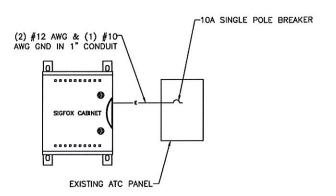
SPARE CAPACITY (A): 9



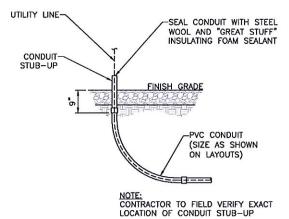
ELECTRICAL NOTES

ISOLATION OF SIGFOX POWER MUST BE MAINTAINED USING A 10 AMP SINGLE POLE BREAKER, LABELED SIGFOX, BETWEEN POWER SOURCE AND SIGFOX EQUIPMENT.

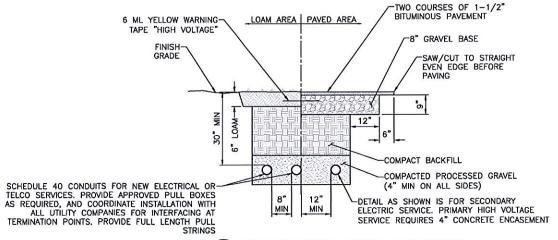
SUPPLY NEW BREAKER IN EXISTING PANELS AND/OR NEW BREAKERS IN DISCONNECT IF NEEDED.



2 ELECTRICAL ONE-LINE DIAGRAM
N.T.S.







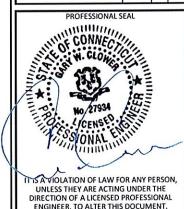
4 UTILITY TRENCH DETAIL (IF NEEDED)



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REVISI	ONS		
FINAL CD	1.28.19	KE	8
PRELIMINARY	01.24.19	JW	A
DESCRIPT	ION DATE	BY	REV



SITE INFORMATION

CT9081 I 4 OXFORD DRIVE/ BOOTH HILL ROAD SHELTON, CT 06484 FAIRFIELD COUNTY

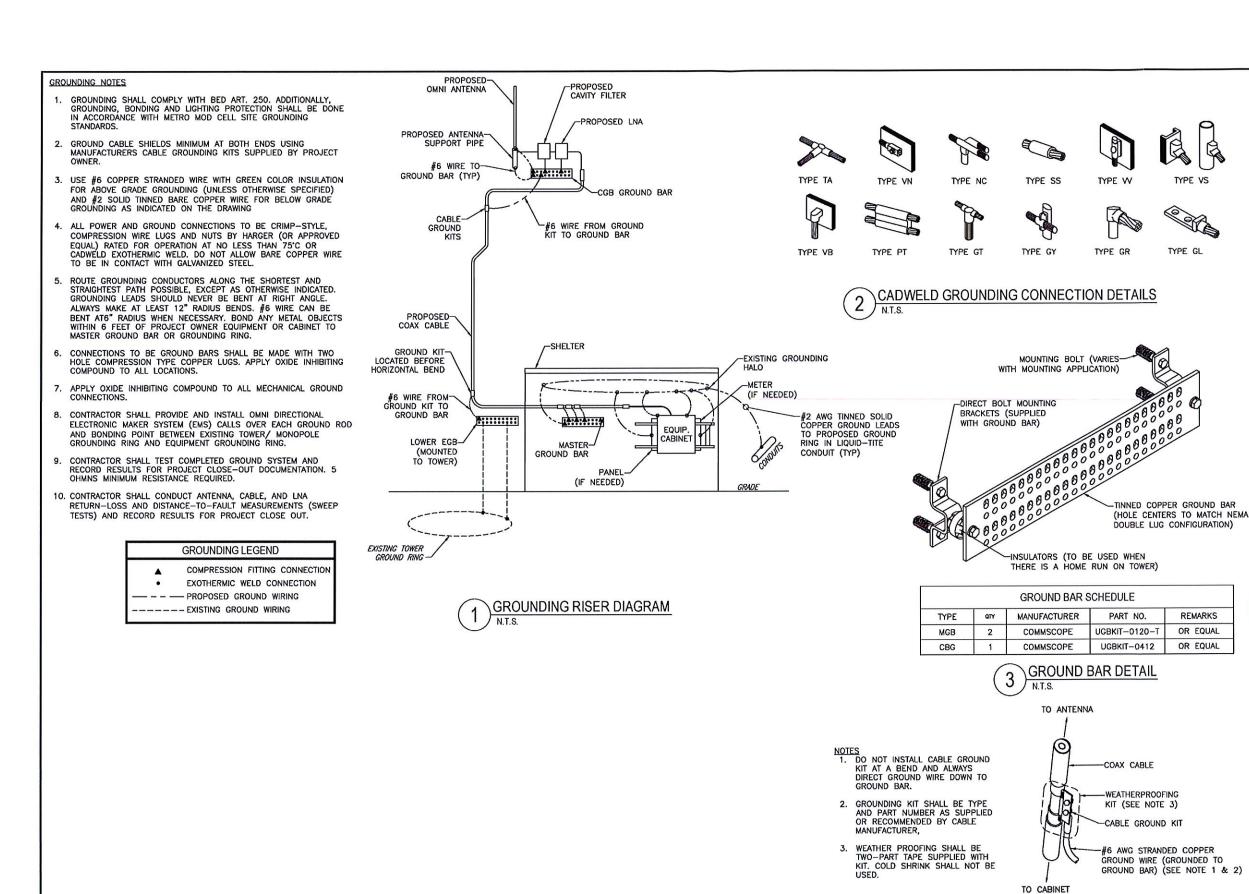
SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-1

SCALE: AS NOTED
DRAWN BY: JW
CHECKED BY: KE
DATE: 1/25/19



NOT USED

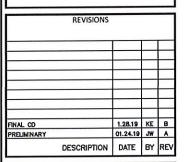
N.T.S.

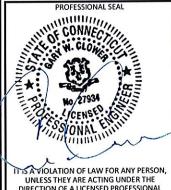
NOT USED

N.T.S.

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SITE SERVICES
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HERMITAGE, PA. 16148
www.t-squacom
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ENGINEER, TO ALTER THIS DOCUMENT.

SITE INFORMATION

CT9081 14 OXFORD DRIVE/BOOTH HILL ROAD SHELTON, CT 06484 FAIRFIELD COUNTY

SHEET TITL

GROUNDING DETAILS

G-1

COAXIAL CABLE GROUNDING

6

SCALE: AS NOTED
DRAWN BY: JW
CHECKED BY: KE
DATE: 12/3/18



EXHIBIT 2:

Structural Modification Report



Structural Analysis Report

Structure

: 200 ft Self Supported Tower

ATC Site Name

: SHELTON-TRUMBULL, CT

ATC Site Number

: 88017

Engineering Number

: OAA744080_C3_02

Proposed Carrier

: Sigfox S.A.

Carrier Site Name

: CT9081_ATC_88017

Carrier Site Number

: CT9081

Site Location

: 14 OXFORD DRIVE-BOOTH HILL RD

SHELTON, CT 06484-3455 41.280200, -73.185500

County

: FAIRFIELD

Date

: January 18, 2019

Max Usage

: 93%

Result

: Pass

Prepared By: Isaac P. Dodson Structural Engineer II Reviewed By:



Authorized by "EOR"
Jan 18 2019 4:44 PM COSigr

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
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Calculations	Attached

Eng. Number OAA744080_C3_02 January 18, 2019 Page 1

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 200 ft self supported tower to reflect the change in loading by Sigfox S.A.

Supporting Documents

Tower Drawings	TEP Job #070851, dated May 30, 2007	
Foundation Drawing	Radio Relay Drawing #MS 10478, dated January 27, 1965	
Geotechnical Report	Radio Relay Drawing #MS 10478, dated January 27, 1965	
Modifications	ATC Project #40480232, dated July 13, 2007	

Analysis

The tower was analyzed using Power Line Systems tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	В
Topographic Category:	1
Crest Height:	0 ft

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

			- Ved Eddipinent			
Elevatio		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD	,	300 0000 000000000000000000000000000000			
	211.0	1	15' Dipole	Service was considered and execu-	(1) 1 5/8" Coax	
200.0	207.0	2	RFS PA6-65AC w/ Radome	Platform w/ Handrails	(2) EW65	
	206.0	1	Andrew DB809K		(1) 1 5/8" Coax	
	191.0	1	20' Omni		(1) 1 5/8" Coax	
	190.0	1	Sinclair SC442D-HF1LDF		(1) 1 5/8" Coax	State Of CT
	189.0	6	Sinclair SC479-HF1LDF	Side Arms	(5) 1 5/8" Coax	oldic of of
182.0		5	TTA	Jue Airis	(4) 1 5/8" Coax	
	186.0	2	Kathrein AP14-850/105		(10) 0.63" LDF4-50A	
		1	5' Dipole		• • • • • • • • • • • • • • • • • • • •	
	178.0	1	TX RX Systems 101-83B-09-0-03	Side Arm	(1) 1 5/8" Coax	
169.0	169.0	12	Decibel DB844H90E-A	Sector Frame	(12) 1 5/8" Coax	Sprint Nextel
		4	DragonWave Horizon Compact			
		1	DragonWave A-ANT-11G-2-C]	(4) 1/2" Coax	
158.0	158.0	1	Andrew PX2F-52	Chand Off	(4) 1/2 Coax	Clearwire
		2	DragonWave A-ANT-11G-3-C	Stand-Off		Clearwire
	156.0	3	NextNet BTS-2500		(6) 5/16" Coax	
156.0	156.0	3	Argus LLPX310R	- 10 - 20 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	(6) 5/16 Coax	
	3	3 RFS A	RFS APXVSPP18-C-A20			
		3	Alcatel-Lucent 1900MHz 4X45 RRH	C	(3) 1 1/4" Hybriflex	Sprint Nextel
150.0	150.0		Alcatel-Lucent 800MHz RRH w/ Notch	Sector Frame	(2) 2" conduit	Sprint Nexter
		3	Filter			
		3	Powerwave 7020.00 Dual Band RET			
		6	Powerwave LGP21401			
1		1	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 (Band 12) (55 lb)		(6) 1 5/8" Coax	
		3	Ericsson RRUS 32		(2) 0.74" 8 AWG 7	
145.0	145.0	3	Ericsson RRUS 32 B2		(2) 0.78" 8 AWG 6	AT&T Mobility
		3	Ericsson RRUS 32 B66	Sector Frame	(1) 0.39" Fiber Trunk	ATATIVIODIIILY
		3	Powerwave 7770.00	1	(1) 0.28" RG-6	
		3	Quintel QS66512-6		(3) 3" conduit	
		3	CCI HPA-65R-BUU-H6	1	10000A0	
		6	Powerwave 7020.00 Dual Band RET	1		
144.0	144.0	2	Raycap DC6-48-60-18-8F			
125.0	125.0	1	RFS PA6-65AC w/ Radome	Side Arm	(1) EW65	State Of CT
						US Dept Of
111.0	111.0	1	Andrew DB616E-BC	Side Arm	(1) 7/8" Coax	Homeland Security
86.0	86.0	1	Kathrein 750 10074	Side Arm	(1) 1 5/8" Coax	Ligado Networks
56.0	56.0	1	GPS	Side Arm	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation¹ (ft) Mount RAD Qty	Antenna	Mount Type	Lines	Carrier
	No loading	considered as to be removed		



Proposed Equipment

Elevation	on¹(ft)	Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD	[Qty]	Antenna	Would Type	Lines	Carrier
	1		Procom CXL 900-3LW			
135.0	135.0	1	5" x 3" x 2" Cavity Filter	Side Arm	(1) 1/2" Coax	SigfoxS.A.
		1	Low Noise Amplifier			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax anywhere on tower.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	62%	Pass
Diagonals	92%	Pass
Truss Diagonals	93%	Pass
Horizontals	86%	Pass
Truss Horizontals	46%	Pass
Anchor Bolts	43%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	183.56	52%
Axial (Kips)	288.12	9%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

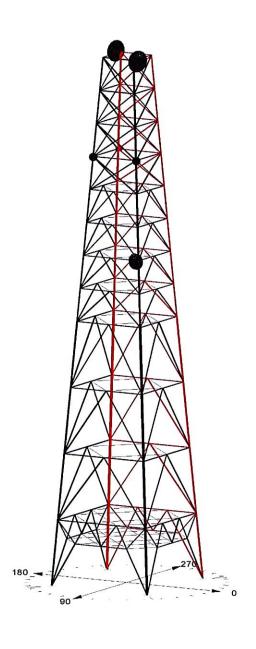
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

American Tower Corp., Project: "2019.01.17 - Sigfox - OAA744080" Tower Version 15.30, 12:06:36 PM Friday, January 18, 2019 Undeformed geometry displayed



fromed base 1992 - Describington.
Frome Breast
From Br

Perfect (Mich appears Andrich 2224-1)
Connection injuries discore but Checked
Connection injuries discore but Checked
Connection injuries described
Confident and in control beautiful
Confident and in control beautiful
Confident injuries and injuries and injuries
Control of Confident Date
Confiden

*** Amilyan Resilie: Footner storms stage is \$3,83% for Amyle "No 76" in lost case "H =55"

Foundation Design Forces for All Load Cases:

Note: loads are factored.

Load Case	Foundation Description		Shear Force (kips)	Bending Homent (ft-k)	Foundation Usage
4.9	- EP	211.39	34.37	1.2.	0.00
4.0	- 6	195. TU	29.34	4.54	0.00
4.0	73.5	109.25	27.24	5.99	0.00
8.0	119	111.15	39.35	6.65	9.00
2 180	1.2	-111.80	30.47	6.75	0.00
X 149	-X	102.28	25.01	2.43	0.00
1 .80	. X 2	-91.54	29.21	4.25	0.00
W 188	2.5	209.19	30	5.42	0.00
A 43	5.P	245.12	4	0.17	0.00
A 42	. 7.	4	.5.34	5.24	0.00
2.45	.301	.63.56	39.85	5.96	0.00
× 45	19	42,09	16.37	5. 4	0.00
3 42	1.7	\$0.69	41.14	5. 14	2.00
x 55	. X	4.97	\$2.79	2 - 2 /	0.00
A - 45	287	42.37	15.30		0.00
W -45		-181.47	19,35	6.25	0.00
8.29	-1	213.55	32.54	1.15	9.00
W 90	- 1	-116.13	30.77	6, 6)	9.00
X 35	183	-109.17	27.41	5 - 95	0.00
4 40	11	90.30	29.44		
9 90 3 -40	1.7	209.85	31.19	5.45	0.00
A -90	- * *	192.18	29.12	4.3	1,00
A -93		-: 52.3:	27.40	6.19	0.50
8 0 104	-1		14,24	1.7	0.00
8 0 754	1.4	97.92	13.55		0.00
9 0 152	787	27,48	2.61	1.14	0.00
W G 100		11.59	2.45	7.61	0.00
N 188 Cre	3.9	10.24	3.3	1.18	0.00
W 180 150	3.4	34,00	1,12	2.66	0.00
W 150 Inc	547	42.24	13.32	1.41	0.00
8 180 ice		100.04	13.74	1.14	0.00
W 45 100	17	122.12	16.71	1.86	0.00
N 45 100	1.8	64.76	9.01	1.11	0.00
w 45 (c)	141	11.31	1.30	2.51	0.00
h 45 ise	133	61.24	2,30	2.11	0,00
N -45 122	2.6	70.72	8,77	3.79	0,00
N -45 Inc	- x	115.14	16,01	7.15	0.00
4 -45 700	5 X ±	60.20	8.10	1.49	11,00
N -45 ice	2.7	16.18	2.34	2.71	0.00
w 45 les	7.4	105.40	14.26	1,33	5.00
W 90 1cc	: x	31.38	2.45	2.65	0.00
h 30 ice	121	27, 19	2.61	2.29	0.00
W 30 150	7.4	97.67	:3.55	1.54	0.00
N -98 100	1.9	35.75	3.19	2,25	0.00
4 -90 109	14	100.61	13.85	1.36	0.00
N -30 ise	181	92.25	. 2. 11	2.95	0.00

N -30 Lee 1A1 92.25 15.33 1.91 0.00 N 30 Lee 11 35.72 5.03 2.51 0.00 Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label			Vart. Force (kips)	Porce	Tran. Moment (ft-k)	Moment (ft-k)		(ft-k)	Casge
4.0		-11.15	-11 -5	-211.14	11.33	-1.10	-5.14	1.33	-1.52	9.00
4.0	GX	-25.5	15.34	-195,70	14.14	-0.45	14.53	4.62	1.45	0.00
× 0	DAY	-36,13	-8.75	103.25	27.34	0.18	-5.34	1.41	1.57	0.00
A 0	2.5	-75.11	4.83	111.15	37.35	-1,30	+6.66	6,65	-: . 19	0.05
* 180	20	25.24	8.59	1111.40	10.17	+0.26	6.11	6,75	1.50	0.00
W 190	C.X.	36.76	-3.29	102,28		0.43	6.33	6.33	-1.59	0.00
w 188	CXY	25, 25	15.14	-191.54	19.55	-5,50	4,83	4,35	-1.47	0.00
* 100	ev	11.11	-15.29	-202.14	11.10	-1.41	5.24	7.17	1.54	0.00
4 45	20	-29,25	-19.18	-265,12	41.36	3.62	-3.77	5,17	5.00	0,00
A 45	OX.	-17.01	-11.17	-41,00	16.54	5,30	-1.25	F. 22	2.24	0.00
4 45	OWY	-25,55	-17,19	183,56	10.15	4.21	-4.26	5.45	-5.00	0.00
A 45		-11.27	-11.87	-46.03	15.27	3.21	-5.24	6.31	-7.25	0.00
2 -45	. 58	-13,33	11.56	-50.69	17.61	-5.57	•3.€0	5,12	-2.24	0.00
N -45	0.6	-22.50		-274,07	35.79	-1,14	-1.19	1.17	-2.40	0.00
p +45	581	-7.14	11.68	-42.37	15.30	-1,15		5,70	2.26	0.50
4 -45	01	-21.69	26.94	181.47	79.25	-1.14	+4.48	6.21	0.00	0.60
a 10	-0.6	-11.62	-17.37	-213.66	31.51	5.15	1.45	5.35	1,52	0.00
a 10	5.8	4,12	-29.18	116,11	10,00	6,00	0.27	6,67	1.15	0.00
W 90	SXI	-1.12	-24.50	109.77	27,23	5,95	-0.4:	5.95	+1.57	0.00
a 90	5.5	41.44	-15,54	-196.30	13.41	1.59	0.12	4,52	-1.15	0.00
a 20	9.6	8175	29.49		10.75	6.75	0.22	5.75	1.90	8.90
a -90		-15 71	27.23	-209,95	11.13	-5.24	0.57	1.11	-1.54	0.00
× -90	Sky	15.29	25.62	-192,18	23,32	-1.78	0.45		1.50	0.65
a -30	CI	-1.31	26.62	102.21	29.90	5.1	0.45	1.22	5.31	0.00
N 0 100	67		8.10	-91.94	11.55	1.02	0.29	111	1.24	0.00
	281	-5.14	2.57	-21.99	2.63	1.11	-2.11	2.22	0.32	0.00
	2.0		2.51	32.59	2.55	25	2.11	2,11	-0.32	0.00
	22		1.00	35.75	1.1	1.20	2.43	2,75	0.32	0.00
% 180 Ice % 180 Ice	0×	1.13	3.01	-34.00	111	1.15	2,40	1.65	-5.31	0.00
a 180 i.e	581	14	8.27	92.14	12,32	0.72	9.61	2.25	-0.31	0.60
N 130 11e	51	11	1.16	198.04	12.74	1.34	0.01	1.74	0.13	0.00
8 45 Ice	00	11.11	11.83	121.12	15.00	0.39	0.4.	5.38	0.00	0.00
A 62	ÇX.	-1.1	2.93	-54.75	1	2.05	0.55	2.11	5.45	0,00
N 45 154	OXI	0.94	0.38		1.30	1.71	1.79	1.14	0.00	0.00
N 45 2ce	0.4	4.14	7.43	\$1.4	7.25	0.35	2.44	1111	0.40	0.00
B -45 (ce	00	2.35	2.82	-70,72	9,11	7.25	0.44	2.29	0.47	0.60
N 45 Jon	0.x	11.79	11.5	115.74	15.03	0.22	0.35	2.50	0.21	0.00
N 40 20e	0.83	5.0.	1,52	40.70	4	0.33	1.65	1.20	2.4	0.00
8 45 104			1.00	.55	1.34	1.96	1.9.	2.74	0.02	0.00
N 90 1ce		-3.62	-11.32	-105.47	14.26			1.33	0.30	0.00
N 99 10e	QX.	1.19	0.90	35.35	2.65	2.24	1.25	2.33	0.30	0.50
W 90 ice	Day	2.57	0.55	27,99	2.63	2.12	1.11	2.32	0.32	0.00
n 20 ice	0.4	2.59	10.40	47,61	13.65	-0.29	1.60	1.14	-5.29	0.00
W -90 Toe	0.8	-7.00	0.89	-35,75	3.19	-1.47	1.20		-0.37	0.00
N NU Ite	OX	1	11.14	.00.6.	13.80	0101	1.75		0.33	0.00
N 30 Ice	OXS	2022	10.43	-92,25		0.05	0.95	0.96	0.31	0.00
W -93 1 A		1.95	0.80	-17,81	1.04	-2,39	41.16	2.55	5.34	0.50

Surmary of Joint Support Reactions For All Load Cases in Direction of Leg.

Load Case					Peridual Shear Perpendicular To Leg (kips)	Herizontal	Horizontal To Leg - Long.	Rorisontal To Lag - Tran.	Long Force	Tran.	Vest . Porce (kips)
× 0	2.0			211,323	12.258	12,192	12,264	0.910	-27.11	-15,72	-211.06
3.0		1.8		197,569	11,248	11,733		-1.551			-135.70
* 0	0.87	181		-110.191	:9.810	13,542	18,313		+26.51		108.25
3 11				-115,249	21.013	35,749			-29.04		113,15
2 100	-			-111.991	21.121	21,122	-21,765		39.51		111.80
w :00	1.	110		-104,324	19.514	19.548			26.20		
0 183	CAY	288		191.414	11,637	11.678			25.05		-191.54
A 100	59			210.111	12,198	12,4%				+15,19	
4 45	te.		1.4	290,801	12,538	12,661	8.413			-24,25	
n 45	7.0	1.6		40.940	16,920	16,421	9,174			-11 17	
A 45	581			-116.511	20,468	40,670				-11.17	
9 45	30	127	17	19,911	16,744	16,747		9,045	-11.27	-11,25	-41,03
4 - 45	7.4		1.00		17,446	18,002	9,757	-15,129	-11.71	11.00	-50,65
4 -45	2.8	1.4		216.665	12,451	12.512	6,251		-27.51	24.75	-274.07
0 -52	CXX	181			15.444	-5.115			-9.64	21.65	-42.35
8 -45		- 33		-: 37, 471	21.190	21 254			+28.65	20.91	181.47
a 90	5.4	1.0		215.618	12,306	12.319		12,323	-15.68	-11.17	-213.66
A 93	18	18		-110.211	21.161	11,219	-0.318	21,203	9.00	-29.15	116.17
h 20	533			-1.0	19.863	11.722		11.683	4.12	-25.50	109.17
6 90	5.5	1.3		146,171	11,299	11,135	-1.615	11,211	15.48	-21 11	-136.30
a - 20	4.5	1.52		-116.232	21.405	27,165	-0.641	-21,451	4.10	19.49	114.17
4 -39	1.8			211.792	12.428	12 151	0.431	-12.453	-15.2.	23.23	229.85

W -30 CK2 LX		11.582	20152	-1.75+	12,486 25,25 25,71 122	1.5
A -93 01 1		19,399	19,450	1.194	-19.406 -8.18 26.60 102	.20
N 4 (re 1- 1)		4.374	1.095	1.885	1.301 -11.20 -4.50 -104	
wild the time to	x 18 99,779	1,953	7.455	3,591	41,686 =18,49 f.5¢ 495	
N O TEA THE N	1 1XY 27.414	2.503	2.586	2.5.5	-0.602 -0.54 2.51 -21	
m O lea fr I	r 19 11.55"	3,080	3,088	3.07*		.50
wildhitem to it	e : 50 16.216	1.447	1.455	-1.411		.24
9 180 200 24 1		3.274	1.279	-3.221		.00
w 190 Ita - CKY 18	y 1x7 91,019	1,7:3	1,357	-1.954	-1.782 10.44 9.77 -92	
9 180 CE/ 27 1	18 100,397	4.100	1,201	-4.052	1,117 11,10 -1,16 -170	
w 45 Gro - Te - Ti	- 1P 121.179	4.525	1.517	3,203	3,229 -11,50 -11,65 -122	. 22
9 45 inc 0x 1		5.398	3.399	2.927	1.728 -7.49 1.43 -64	
a 45 fee first fix		2.502	7.515	1,78	1.775 -0.38 -1.98 -11	
w 45 dea 55 d		3,354	7,359	1,687	2,909 2,84 -7,43 -64	
8 -40 last Dr. 11	1 19 71-157	1.964	3.065	3.32.	-2.165 -8.10 -1.61 -70	
h -45 day 04 4		4.57.	1.552	2.971	-1.4511.09 11.57 -115	
W -45 Inc. CAN 18		1,196	1.119	1.227		.28
N -45 Inn Or I	1 1 17 15,965	2.935	2.94-	2,075	-3.135 -0.90 1.51 -16	
W 20 and 50 50	2 1P 106,235	4,078	1,194	1.253	1.600 -6.613105	
9 90 140 TA 1	8 4 18 75,777	8.117	1	0.29.	3.111 -2.49 -1.91 -31	
w 90 iro dar is		2.593	2.594	+0.655		. 38
W 90 1cm Cr 1	1 - 17 91.527	3,949	3.961	-1.716	3,598 8,59 -17,48 -97	.60
N -90 109 10 10	. ir 35,711	3.449	2.454	0.540	3,412 -1.06 1.69 -39	. 75
9 20 114 IZ		4.170	4	1.060		
W -90 Inc 021 IX		4,311	4.330	-1.459		. 25
W -00 IL2 IF 1		3.232	3.227	-0.594	-3,192 2.39 1.50 -33	.92

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Homent (ft-k)	Longitudinal Morent (ft-k)	Torsional Moment (ft-k)		Transverse Force (kips)	Longitudinal Force (kips)	
x 0 x 180 x 155 x -455 x -400 x -300 x -300 x -150 x -150 x -150 x -150 x -200 x -200	4769,174 -9279,860 17,60,927 -29911,922 920,361 -210,715 9293,594 -1619,183 2962,012	-19040.754 12710.375 -806.315 -805.05. -195.285 -116.445 -2971.264 -2971.264 -25.00.029 -210.043 -2276.047 -230.726 -230.226	-01.147 -1.201 -101.127 -101.127 -101.127 -11.202 -2.017	2538.788 3251.763 2826.383 1990.927	109.897 -109.757 0.059 -0.025	107-730 -108-122 50.039 79-150 8.607 -0.601 23-155 -23-256 17-431 17-279 9.000	185,655 185,655 185,655 185,655 185,655 262,437 262,437 262,437
EIA Section	ns Informat	ion					
Section		Bottom Joint		Top Satton		Af Face Ar	Dead

Label	(ft)		Count			Midth	Area	Adjust	Adjust	Losd
187.5-200.0		127 100	9		11 11	15 00		1 1175	1.1270	1.352
175,0-187,5									1.1800	
162.5-175.6		161,500		1.6	16.65	19.61	221.44	1,2010	1,2080	1.443
150.0-163.5									1.2.50	
137,5-150,0			16			55,13			1.2.80	
125.0-117.5				7.1		22.84				
112.5-125.0			1.5						1.2340	
100.0-112.5						27.40			1,2450	
15.00-160.0						30.94			1.2910	
15.00-16.00				10	71.10	17.98	965.45	3741	1,1350	1,602
2 - 2 - 1 - 3 - 2 - 1 - 1									1 2150	

Group Summary (Compression Portion):_

Group		Graup Cesc.		Angle Site	Steel Strength		Cont-	Dag	Comp. Control Member				Shear Capacity	Capacity	ALX	RLY	KLI	L/z	K1/s	Length C Comp. Member	No.	No. Of Bolts Comp
					(411)	,		•		(x12a)		(kips)	(kips)							(ft)		
41 S	1, 1* x 2* x 1		545	28391.13			Corp			+255,501		406.771	0,000			0.313			64.4	25.124		(3
1 2-	L 1 8 1		CAE	2638.			Core		1 27	215.164	K 45	164.663	0.500							45.424		U
101 23	L 7" X 7" X 0		SAS	1X:X0.86			Comp		1 22	10627	2 45	122.45.	0.000	0.000						25.124	-	0
er 54	1, -* v -* v		< 5.4	5x2x5,75	33.0	\$1.06	Corr	51,06	1: 47	-140,723	N 45	303.530	0.050		0.383	0.313				25.174		0
49.55	1. 60 . 60 . 0		548	CKCX5,88	33.0	55.15	Corp	\$2.10	1. 5-	-121.241	8 45	256.555	0.000		0,100	0.500				12.562		.0
147 50	L 5" x 5" x 6		SAL	6x6x0,63	23.0	41.77	Corp	43.22	1 57	102.238	26.45	235.535	0.000		2.500	2.500	0.500	54.4.		12.562		0
-67 57	1.6" x 6" x		CAR	EXERT, 75	33.0	41.75	Corr	41.09	1 77	-54,355	× 45	205.735	0.000		1.500	5.500				12.568		9
4.1 58			SAR	CYCX0, 75	33.0	12,00	Corp.	12,00	1. 30	-65,65¢	n. 45	208,178	5,000		0.300	0.500	0.500			12.567		- 0
53.53	1. 6" x 6" x	5.75*	544	5x5x0.75	11.0	10.88	Corp	10.40	1. 5-	-65,356	4 45	205.175	5.000		1.111	0.500				13.507		4
149 516	L = x = 1		SAS	68680,75	31.0		Corr	27:	1 107	-11.512	4.45	201.175	1,000		0.500	0.500		64.42		12,561		- 0
1er 511	1. f * y 6 * x		CAL	GYERO, 5	33.0	13.76		18.76	1. 1.19	-28.318	× 45	140.285	0.000		1,810	5.500		61,67		17.557		L.
169 512	1.60 + 60 +		538	Exck5.5	31.0	4.11	Comp	8.11	1. 224	-22,370	34, 45	140.155			0.370	0.510				17,562		
clay St	5/8 L3*x3*x	0.25*	1256	1x 1x 0, 25	13.0	22.10	Cort	11.14	D 2x	-27,932	e -90	23.113			5.515	0.798				19,277	1	- 5
C107 52	BOW LO. CONSTROL		0.40	1x2.5x5.35	31.0	54.15	Corp	84.15	h 3x	-39.470	a - 910	34.927	0.000	0,000		0.4.0				3444		0
51A1 51	8/3 17.5*17*	0.25*	Das.	787,580,25	37.0	40,44	Corr	42.24	0.54		in -40	11,704	0,000		0,700	0.620				10.4)1		. 6
Diag 54	B/A 12.5**3**		655	182.585.25	33.0	85.45	Comm	A5.40	D TX	-33.250	4 -90	12.313	5,000	0.040	5,315					19.451		0
Saur \$5	B/B L1.5 al.5 a		1555	2.5X2.5X5.25	11.0	31.77	Corp	97.75	£: 4×	-16,121	a -90	20.640			2,520	1.000				18.572	É	
E539 56	H. H. 1.7. 5**5.5**		T.45.	1.591.590.05	11.0	11.11	Cort	77.57	D	-16.437	W -90	11.777	0.538		5.555	1.000				17.915		
£100 97	R. R. Lt. 5*x2.5*x	0.25*	23.5	1.542.585.25	13.0	12.11	Cong.	12.25	t: :3x	-: 6, 17:	4 - 40	27.791	0.000			1.000				17,111		0
15 x 1 55	E.S. LT. 1187 . 118			7.582.585.25	33.0	22.22	Corp	10,27	D. 154			21.915	0.000		1,500	1.400				16.714		5
21.00 22	1 1 4 1 4		SAU	12383.25	11.0	41.35		9.00	D 181				0.000		******			42714.51			3	
Jian 510	1. 7* × 1* ×		840	12385,25		24.39		0.00	1 221	5,000		0.000	0.000					400000.00				
tion Sti	1 7.1* x 3.1* x		55%	1.5x1.5x2.25	33.0	25.75	Tens	0.00	D 221	5,000			5,000	0.646				35001.55			. 5	- 0
1101 812	1 1.5° a 1.5° a		242	3.5x3.5x5.25	31.0	15.26	Sens	0.00	E 247			00000	5,000			100.000		32712,97			5	- 0
No. of the Land	B/B L1*a1*a0.		LAG	28330.31	33.0	41.13	Conu	\$5.43	H 10	-37,215	4 -10	41.092	1.000		1.951	0.350				12.030	. 6	
	WE 62.5"x1.5"x1.			1,5x2,5x0,31	31.0	11.11	Corp.	51.51	H 7×	-15.762	a -90	15, 419		0.000		1.000				17,279	1.5	0
with a	8/8 1/201742.504		DAL	342.585.25	11.0	69.15	Comp.	69.18	H SP	-14,739	N -90	20.301	0.000	0.000	11555	:-000				15.467	6	0
Scrip 6	B/B k3*a1.5*a		DAL	142,580,25	33.0	\$1.19	Curr	53.19	N 79	3,107	m -90	25.299				1 808				13,708	. 5	. 0
8-1-2 5	B B Li.5"42.5"4		DAK	2.582.587.25			Come		N 25	-12.25	a -30	12.753	0.000			1.000				14.5.		9
B. 112 6	B/h L1.5*x7.5*x			2.542.540.25	11.0	12.95	Corp	52.96	H :20	-00.005	n 180	20.741	5.000		1.000	1.800				11.917	. 6	2
Barta 7	6.3 13 x2.5°x		0.54	382.580.25			Corr		H 137	-17,140	m -90	33.421				1.000				11.567		0
0-1-1 4	B/8 13"a2.5"a		DAL	3x2.5x5.25	31.0	25.9.	Curs	5:.5:	B . 2.7	-28.902	W -30	25.4.7	2.000				1,000			10.115		0
Music 9	B/S 13*11.5*4		CAL	132,130,25	33.0	15.11	Corp	75.88	8 .72	16,020	3. 90	22.223	01000	0.000	2.500					20.0.4		
Burta 19	8/8 12 12 17 1		10.1	3X2.5X3.25	11.0	27.97	Corp	27.97	H : 75	+12.575	4 -30	44.315	0.000		1.111	0.500				16.851		
Worls 11	L 4" x 1" x 2.		SAU	18380.33	11.0	24. 25	Core	34.95	H Ziv	-0.062	A -90	25.843	0.000		0.800	0.500				.5.67.	1	0
h:115 11	L (* a)* a 0.		SAJ	13:32.32	33.0	15.15	Corp	15.26	N 437	4,595	a 90	10.044				0.500				-3.11-	2	0
20.0	B/S 12.5*82*8	0.25*	LAL	4.58287.25		41,50			10 1X	2.425		V130	5.000			0.910				11.451	2	- 0
10.2	E B L			2.5x2.5x2.25	31.0	52.33	Corp	93.03	10 JX	25.954		26.994	0.000		2.512	0.210						0
.0 3	5/3 L:*Al*a		135	4X3X2.25			Curs		10 50	28.104	a 90	19.111	0.000		1.9%	5.970				10.44-	-	0
-N -	E B Lt. 5"A2. 5"A			182.187.25	31.0	45.00	7454	0.00	111 41	2.000		0.071	0.220					11311.95				Ü,
gun L	Durons Bracion F		DOM:	X				9.40	ER SKI	1.550	4.45	0.324		0,400			1.030	2.63	2.5	21.875		. 0

Group Label		Angle Type		Steel Strength (ksi)		Cont- rol	Use	Tension Control Member	Tension Force (kips)	Control	Section	Connect. Shear Capacity	Tension Connect. Bearing Capacity (kips)	Rupture Capacity	Tons. Kenber	Of Bolts Tens		Hole Diameter (in)
Ley Si	L 3" x 5" x 1,125"	586	18181.13	63.0	65.32	Comm	24.20	1. 144	130,559	à 45	426.580	0.000	0.000	0.100	25,124	0	0.000	
14 9 52	1 1 4 1 4 1	CAE	exex.				20.22		114.254	9 45		0.000			25.124	0	0.000	
-67 83	L 5" . 8" . 0.875"	5.55	8x8x5.88	11.0	56.11	Corr	27.51	L 3x7	109.066	e 45		0.550	0,000	5.555	25.124	0	0.000	
200 24	L #* A #* A 0.75*	SAL	FX4X0.75				23.60	1, 487	40.200	a 45	119.757	0.000	0,000		25.124		2.000	
201 55	L 5" A 5" A 0.875"	CAS	5355.77				23.13			4 45	288.261		0.000	0.000	12.562	13	0.000	
L+1 55	L 6" A 6" A 0.875"		55550.50				15.45	L txr	51.344	3 45	269.700	0.550		2.225	12.552	0	4.555	
-0 + 5?	1 6" 4 6" 4 0,75"	286	£3,5x0,75				15.91	L 781	15.975	n 45	250.668	0.000			12.567		0.000	
La / 58	L 6" A 6" A 0.75"	CAL	6x4x1.75	33.0	12.11	Care	10.69	L SXY	21.622	a 45	250.688		0,000		.1.552	(3	0.000	
271 57	L 6" x 5" x 0.75"	SAZ	6X557,75				5.00	1 988		2 15		0,500	0.000		12.152		0	
144 510	L 9" x 9" x 0. "5"	SAL	58582.75	33.0	21.71	Corp	2.0.	1 1041	2.51.	3 45			0.001		12.562	0	0.0	
144 511	L 5" x 6" x 0.5"	SAG	64540.5	33.0	11.75	Cons	0.00	4			170.371	0.000			11.562	C	0.000	
141 512	L 5" x 5" x 0.5"	SAL	68587.5	31.0	1	Const	9.09	4 141			130.775	2,500	0.000		12.552		0.2	
Stay S.	3/3 Li*x**************	CAE	38383.25				34.63	0.0	15. 45	34 20		2,000		2.5.5	49.277		0.4	
D1 44 54	8/5 Ll.: "x3" x0. J125"	CAS	22.583.31				22.15	0.37		8 98	28,221				31.444		0.011	
1107 53	B/b 47.5"40"40.75"	CAS	182.585.25				34.4.	1 57	25.217	% · 90	13.11.	2,000			20.413		9:00-	
51.42 54	B/B LJ.5"A3"AD.25"	CAS	1X2.5X3.25				22.74	D 76		is 30		1,000			42.452		0.222	
2101 55	B/B \$1,1"42,5"80.25"	SAS	1.182.180.25			Corr		D 92		N 20	70.535			*****	15.5 2		0.00-	
Clay 55	B/B L1.5 A2.5 A0.25	SAS	2.542.5X1.25				32.97		40.010	W -30	70.515	2,000			13,932		0.700	
21.41.57	B B L1.5"A1.5"AU.25"	TAT	1.532.580.25				21.54	D 131	15.296	W 90	70.606		0.000		17.313		0,000	
C141 58	B B 14.5" 82.5" 40.25"	TAS	3.5X1.5X0.25				22.93	D 150		% 20	70.635				14.719	10	9	
Cian 59	t 3" x 4" x 9.25"	SAU	48380.25	33.0	41.25	7-97-3	415	D 180		W 190					13.173	11	0.000	
CL-1 5.0	L 1" A 4" A 0.25"	SAU	4x:32.25				34.38	0 258		a 70	\$4				21. 7.3		0.000	
Clar Sin	F 1.1. x 1.2. x 0.25.	SAG	3.547.581.25	31.0	41.75	5423	25.15	0 2.1		% 90	50.191	0.000		****	20.300	10	2	
0144 5.2	1 7.5" a 7.5" x 3.25"	CAL	3.5X3.5X0.25				35.20	D 240	7.459		50.173			0,000	15.946		0.000	
HOTEL :	B/S L)*x1*x0.3125*	DAS	3×3×0.30				15.89	H 18		N -90					12.660		0.000	
Boats 2	B/6 L1.5"x2.5"A0.3125"	LAL	1.5%. 58	33.0	31.31	Corp	.5.40	8 17		a 90		0.000			11.229		4.000	
Boris 3	B 5 LI*A2.5*20.25*				62.12		.5.8	81 5X		M 30		0.000	0.000		.5.450		4.10.	
M1515 4	B D D - x2.5 x2.25	DAL					17.88	H 10		3 90					13. 196	- 5		
Hortz 5	B. B. LT. S**C. S**AD. 25*	DAY	2.582.545.25				17.52	H 3c	17.341	is .90				1000	12.92"		0.000	
mille 6	B B L2.5*x2.5*x0.25*	CAS	1.5X2.0X0.25		54.35		25.25	H		3 90					11.24		9	
Motta :	5 3 6 X. 5 XF. 25	DAD	3X2.580.25				:3.85	H .38		90		0.280			11.00		0.11.	
Bryts 8	6.5 5.1**2.5**6.05*	0.45	180,580,05	33.0	51.51	Comp	2.42	H 1.49	1.594	a 0	79.111	0.000	0.000		15.586	10	0.000	

the Paytings Service Pressey for Each Load Care

Summary of Maximum Unages by Load Case:

Load Case	Maximum Usage 1		
* 0	1:,6:	LO 15	Ana's
4 194			Am #1 to
A 65	67.3.	10 32	Augie
W - 43	72.42		ALIE
a 31			Angle
A -32			Augie
W D 224	23.37	12 62	Alreit
N 180 114	49.55	LD \$1	A112-7
N 45 352			Anger
4 45 250	25	4.0 3X	Ang. z
W 20 100	24.51	15 37	Allian
W 00 ice	22.65	LD 3X	ADT-0

*** Weight of attitue liter: Weight of Angle: Section FLA: Weight of Equipment:

.131.

··· End of Report

Gta #	88017	Share della	Г	Engineer:	I. Dodson	ח	Windspeed	No ke	97 mph	tce	50 mph	ř.			Taper:	-0.14085		Taper Change:	13.3		
	Shelton/Trumbull,	CT	L	Date:	01/18/19		Carrie	sprint No	atel		Drop			,	PW @ Base:	41.50	· ·	FW @ Top:	13.3	and the same of th	
						1	Lan	T we	Y Rot.	1 2 Rot.	Sub-Brace					Sore	dsheet Versio	n Last Updated:	11/12/201	4	
loint	Symmetry	X Coord.	Y Coord	2 Coord.	X Disp.	Y Disp.	Z Disp	X Rot	Rest.	Rest.	(Y or Blank)	# Mart	Drop (ft)	Height (ft)	Type		Z-Elev. (ft)	FW (ft)	# Sub-Brace		
Label	Code	(/1)	(%)	(/1)	Rest.	Rest.	Rest.	Faed	Fixed	Fixed	(I or biblish)	2 161	8.333	25	2	1	0	41.5	3	No. of the last of	
0	XY-Symmetry	20.75	20.75		Fhed	Fixed		Free	Free	Free				25	A	2	25	37.97875	2	NOTES	
1	XY-Symmetry	18.989375	18.989375		Free	free	Free	Free	Free	Free				25	A	3	50	34.4575	2	Types:	
2	XY-Symmetry	17.22875	17.22875		Free	Free	Free	Free	Free	Free				25	A	4	75	30.93625	2	1: Built up Ho	
3	XY-Symmetry	15.468125	15.468125		Free	free	Free	Free	Free	Free				12.5	A	5	100	27.415	1	2: Built up Ho	
4	XY-Symmetry	13.7075	13.7075		Free	Free	Free	Free	Free	Frue				12.5	A	6	112.5	25.654375	1	A: Typical A b	
5	XY-Symmetry	12.8271875	12.8271875	112.5		Free	Free		Free	Free				12.5		7	125	23.89375	1	X: Typical X b	race
6	XY-Symmetry	11.946875	11.946875		free	Free	Free	Free		Free				12.5		8	137.5	22 133125	1		
7	XY-Symmetry	11.0665625	11.0665625	137.5		Free	Free	Free	Free	Free				12.5	×	9	150	20.3725	1	Drop: Use only to	or types 1 &
8	XY-Symmetry	10.18625	10.18625		Free	Free	Free	Free		Free				12.5	×	10	162.5	18.611875	1		
9	XY-Symmetry	9.3059375	9.3059375	162.5		Free	Free	Free	Free	Free		3.00		12.5	×	11	175	16.85125	1	# Sections: 12	
10	XY-Symmetry	8.425625	8.425625		Free	Free	Free	Free	Free					12.5	×	12	187.5	15 090625	1		
11	XY-Symmetry	7.5453125	7.5453125	187.5		Free	Free	Free	Free	free						13	200	13.33			
12	XY Symmetry	6.665	6.665	200	Free	Free	Free	Free	Free	free						-					
A1	XY-Symmetry	18.989375	6.329791667		Free	Free	Free	Free	Free	Free											
A2	XY-Symmetry	6.329791667	18 989375		Free	Free	Free	Free	Free	Free											
A3	Y-Symmetry	17.22875	0	50	Free	Free	Free	Free	Free	Free											
A4	X-Symmetry	0	17.22875	50	Free	Free	Free	Free	Free	Free											
AS	Y-Symmetry	15.468125	0	75	Free	Free	Free	Free	Free	Free											
A6	X-Symmetry	0	15.468125	75	Free	Free	Free	Free	Free	Free											
A7	Y-Symmetry	13.7075	0		Free	Free	Free	Free	Free	Free											
AS	X-Symmetry	0	13.7075		Free	Free	Free	Free	Free	Free											
A9	Y-Symmetry	12.8271875	0	112.5		Free	Free	Free	Free	Free											
A10	X-Symmetry	0	12.8271875	112.5	Free	Free	Free	Free	Free	free											
All	Y-Symmetry	11.946875	0		Free	Free	free	Free	Free	Free											
A12	X-Symmetry	0	11.946875		Free	Free	Free	Free	Free	Free											
A13	Y-Symmetry	11.0665625	0	137.5	Free	Free	Free	Free	Free	Free											
A14	X-Symmetry	0	11.0665625	137.5		Free	Free	Free	Free	Free											
A15	Y-Symmetry	10.18625	0	150	Free	Free	Free	Free	Free	Free											
A16	X-Symmetry	0	10.18625	150	Free	Free	Free	Free	Free	Free											
н	XY-Symmetry	19.57622653	11.13633551	16.667	Free	Free	Free	Free	Free	Free											
H2	XY-Symmetry	11.13633551	19.57622653	16.667	Free	Free	Free	Free	Free	Free											
н3	Y-Symmetry	19.57622653	0	16.667	Free	Free	Free	Free	Free	Free											
H4	X-Symmetry	0	19.57622653	16.667	Free	Free	Free	Free	Free	Free											

Legs

Site No.:	88017	
Engineer:	I. Dodson	
Date:	01/18/2019	
Carrier:	Sprint Nextel	

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter or Length (in)	Thickness ⁽²⁾	F _Y
1 2 3 4 5 6 7 8 9 10 11 12	0.000-25.00 25.00-50.00 50.00-75.00 75.00-100.0 100.0-112.5 112.5-125.0 125.0-137.5 137.5-150.0 150.0-162.5 162.5-175.0 175.0-187.5 187.5-200.0		8 8 8 6 6 6 6 6	1.125 1 0.875 0.75 0.875 0.875 0.75 0.75 0.75 0.5 0.5	33 33 33 33 33 33 33 33 33 33 33

Notes:
[1] Type of Leg Shape: R = Round or P = Bent Plate or S = Schifflerized Angle. L = Even Leg
[2] For Solid Round Leg Shapes Thickness Equals Zero.

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88017	_
Engineer:	I. Dodson	
Date:	01/18/2019	
Carrier:	Sprint Nextel	

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2]	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-25.00	2L		3	3	0.25	33	
2	25.00-50.00	2L		2.5	3	0.3125	33	
3	50.00-75.00	2L		2.5	3	0.25	33	
4	75.00-100.0	2L		2.5	3	0.25	33	
5	100.0-112.5	2L		2.5	2.5	0.25	33	
6	112.5-125.0	2L		2.5	2.5	0.25	33	
7	125.0-137.5	2L		2.5	2.5	0.25	33	
8	137.5-150.0	2L		2.5	2.5	0.25	33	
9	150.0-162.5	L		3	4	0.25	33	Y
10	162.5-175.0	L		3	4	0.25	33	Y
11	175.0-187.5	L		3.5	3.5	0.25	33	Y
12	187.5-200.0	L		3.5	3.5	0.25	33	Y

Notes:
[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.
[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Horizontals

88017 Site No.: I. Dodson 01/18/2019 Engineer Date: Sprint Nextel Carrier

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2]	Web Length ^[3]	Flange Length ^[3] (in)	Thickness (in)	F _y	
1 2 3 4 5 6 7 8 9 10 11 12	0.000-25.00 25.00-50.00 50.00-75.00 75.00-100.0 100.0-112.5 112.5-125.0 125.0-137.5 137.5-150.0 150.0-162.5 162.5-175.0 187.5-200.0	2L 2L 2L 2L 2L 2L 2L 2L L		3 3.5 3 2.5 2.5 3 3 3 4 4	3 2.5 2.5 2.5 2.5 2.5 2.5 2.5 3 3	0.3125 0.3125 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.	33 33 33 33 33 33 33 33 33 33 33	

Notes:

[1] Type of Horizontal Shape: R = Round, L = Single-Angle, 2L = Double-Angle, C = Channel, W = W Shape
[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88017	
Engineer:	I. Dodson	
Date:	01/18/2019	
Carrier:	Sprint Nextel	

When inputting thickness values, include all decimal places.
Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ⁽²⁾	Web Length ^[3] (in)	Flange Length ⁽³⁾ (in)	Thickness (in)	F _v (ksi)
1 2 3	0.000-25.00 0.000-25.00 0.000-25.00	2L 2L 2L		2.5 2.5 3	2 2.5 3	0.25 0.25 0.25	33 33 33

Notes:
[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88017	
Engineer:	I. Dodson	
Date:	01/18/2019	
Carrier:	Sprint Nextel	

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2]	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-25.00	2L		2.5	2.5	0.25	33	Y

Notes:

[1] Type of Horizontal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Description	From	To	Quantity	Shape	Width or	Perimeter	Unit	Part of Face	Include in
Description	7,0,11				Diameter		Weight	Solidity Ratio	Wind Load
	(4)	(4)			(in)	(in)	(1b/ft)	(Yes/No)	(Yes/No)
1 Ladder	0	200	1	Flat	2	8.0	6	Yes	Yes
2 OTHER	10	200	1	Round	0.63	2.0	0.15	Yes	Yes
3 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
4 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
5 STATE OF CT	10	200	2	Round	2.01	6.3	0.57	Yes	Yes
6 STATE OF CT	10	182	1	Flat	4.8375	25.8	4.1	Yes	Yes
7 STATE OF CT	10	182	1	Flat	2.30625	12.3	0.75	Yes	Yes
8 STATE OF CT	10	182	1	Flat	3.72	19.8	3.28 9.45	Yes	Yes
9 SPRINT NEXTEL	10	169	1	Flat	14.55	47.0 5.8	0.6	No	No
10 CLEARWIRE	10	158	1	Round Round	2.52 1.86	4.1	0.3	No	No
11 CLEARWIRE	10	158	3	Round	1.54	4.8	1	Yes	Yes
12 SPRINT NEXTEL	10	155 155	1	Round	1.7	5.3	1.78	No	No
13 SPRINT NEXTEL	10 10	150	i	Round	2.38	14.3	7.3	Yes	Yes
14 CLEARWIRE 15 AT&T MOBILITY	10	145	6	Round	1.98	6.2	0.82	Yes	Yes
16 AT&T MOBILITY	10	145	2	Round	0.78	2.5	0.59	Yes	Yes
17 AT&T MOBILITY	10	145	1	Round	1.11	3.8	0.98	No	No
18 AT&T MOBILITY	10	145	2	Round	3.5	11.0	7.58	Yes	Yes
19 AT&T MOBILITY	10	145	1	Round	0.28	0.9	0.03	No	No
20 AT&T MOBILITY	10	145	1	Round	0.39	1.2	0.17	Yes	Yes
21 STATE OF CT	10	127	2	Round	2.01	6.3	0.57	Yes	Yes
22 US DEPT OF HS	10	101	1	Round	1.09	4.4	0.33	Yes	Yes
23 LIGADO	10	82	1	Round	1.98	7.9	0.82	Yes	Yes
24 SPRINT NEXTEL	10	56	1	Round	0.63	2.0	0.15	Yes	Yes
25 SIGFOX	10	135	1	Round	0.63	2.0	0.15	Yes	Yes
35 Waveguide	10	176	1	Flat	2	8.0	6	Yes	Yes
36 Waveguide	10	165	1	Flat	2	8.0	6	Yes	Yes
37 Waveguide	10	155	1	Flat	2	8.0	6	Yes	Yes
38 Waveguide	10	143	1	Flat	2	8.0	6	Yes	Yes

Coax (p. 2 of 2)

Site No.: 88017
Engineer: L Dodson
Date: 01/18/19
Carrier: Sprint Nextel

	f					K.		Kı							
Description	From	To	Quantity	Face #	Coax Widtl	RECORD STREET	% Exposed	Spacing	Shape	Block Width	Block Depth	Perimeter	Unit	In Face Zone	In W
	(ft)	(ft)		(1-4, A D)	(in)	(Block / Flat / Ind)		(in)	(Round/Flat)	(# coax)	(# coax)	(in)	Weight (Ib/ft)	(Yes/No)	"
Ladder	0	200	1	A	2.00	Flat	100	New York	Flat	1	1	8.0	6	Yes	
OTHER	10	200	1	В	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	
STATE OF CT	10	200	1	В	1.98	Ind	100		Round	1	1	6.2	0.82	Yes	_
STATE OF CT	10	200	1	В	1.98	Ind	100		Round	1	1	6.2	0.82	Yes	
STATE OF CT	10	200	2	В	2.01	Ind	100		Round	2	1	6.3	0.57	Yes	
STATE OF CT	10	182	5	В	1.98	Block	50	1	Flat	3		25.8	4.1	Yes	
STATE OF CT	10	182	5	8	0.63	Block	50	1	Flat	3	2	12.3	0.75	Yes	-
STATE OF CT	10	182	4	В	1.98	Block	50	1	Flat	2	2	19.8	3.28	Yes	-
SPRINT NEXTEL	10	169	15	3	1.55	Block	50	1	Flat		2	47.0	9.45	Yes	-
CLEARWIRE	10	158	4	2	0.63	Ind	0		Round	1	4	5.8	0.6	No	
CLEARWIRE	10	158	6	2	0.31	Ind	0		Round	- 1	6	4.1	0.3	No	in Si
SPRINT NEXTEL	10	155	3	3	1.54	Ind	100		Round	3	1	4.8	1	Yes	
SPRINT NEXTEL	10	155	11	3	1.70	Ind	0		Round	1	1	5.3	1.78 3.65	No Yes	
CLEARWIRE	10	150	2	2	2.38	Ind	100		Round	2	1	7.5	0.82	Yes	
AT&T MOBILITY	10	145	6	С	1.98	Ind	100		Round	- 6	1	6.2		Yes	
AT&T MOBILITY	10	145	2	C	0.78	Ind	100		Round	2	1	2.5	0.59	No	
AT&T MOBILITY	10	145	2	C	0.74 3.50	Ind Ind	100		Round	1 2	2	11.0	7.58	Yes	
AT&T MOBILITY	10	145	2	c	-		0		Round	1	1	0.9	0.03	No	-
AT&T MOBILITY	10	145	1	C	0.28	Ind	100		Round	i	i	1.2	0.17	Yes	
AT&T MOBILITY	10	145	2	В	0.39 2.01	Ind Ind	100		Round	2	1	6.3	0.57	Yes	-
STATE OF CT	10	101	1	4	1.09	Ind	100		Round	1	1	3.4	0.33	Yes	
US DEPT OF HS	10	82	1	2	1.98	Ind	100		Round	1	1	6.2	0.82	Yes	
SPRINT NEXTEL	10	56	1	3	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	
SIGFOX	10	135	i	1	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	
SIGFOX														No	
														No	
														No	
														No No	
														No No No	
														No No No No	
														No No No No	
														No No No No No	
Waveguide	10	176	1		2.00	Flat	100		Flat	1	1	8.0	6	No No No No No No	
Waveguide Waveguide	10 10	176 165	1	A 2	2.00	Flat Flat	100		Flat Flat	1 1	1	8.0 8.0	6 6	No No No No No No No	
Waveguide Waveguide Waveguide											1	8.0 8.0	6 6	No No No No No No No No Yes Yes	
Waveguide	10	165	1	2	2.00	Flat	100		Flat	1	1	8.0	6	No No No No No No No No Yes	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No No No No No No No No Yes Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No No No No No No No No Yes Yes Yes No No No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No No No No No No No No No Yes Yes Yes Yes No No No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No Yes Yes No	
Waveguide Waveguide	10 10	165 155	1 1	2	2.00	Flat Flat	100 100		Flat Flat	1	1	8.0 8.0	6 6	No N	

Dishes



Dish	Dish Elevation	Dish Dia	Dish Angle	Dish Type	Joint	Equipment
Number	(11)	(17)	(deg)		Orientation	Stans
1	200	1	68	A	XY	1000
2	200		240	R	,	
3	158	1	343 5664	н	XY	
4	158	,	126 5024	5	XY	
5	158	1	212.6351	H		
6	158	1	212.6351	н	×	
7	127	6	162		,	
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Eoupment Label	Attach Label	Equipment Property Set	EA Artenna Overtation Angle Adegi
FAD 1 @ 2007	1207	8 ft RAD Dish	63
F RAD 2 @ 2007	12P	B ft RAD Dish	240
THP 3 @ 158	9XY	2 ft HP Dish	343.5664
1 STD 4 (P 158	933	2 ft STD Dish	176 6024
T HP 5 @ 158"	SP .	3 N HP DICH	212.6351
THP 6 @ 158	9X	6 h RAD Dish	182
MD 7 @ 127	,	ER RAD DUS	162

88017 E Occision 01/18/19 Sprint Nextel

Site No.: Engineer: Date: Carrier:

Neirat Orientation

Task: Determine Point Loads Tower Height:	200	Tr:
Gh:	0.85	
Wind Speed:	97	mph, Vasd
ice Wind Speed:	50	1
Ice Density:	56	
Tower Type:	5	7

Ke Thick 0.5 i
Topographic Category (1-4) 1
Exposure Category (8 0) 8
Structure Class (1-3), 2
Height of Crest (H) if Topo Cat. >1 0 (
Load Factor; Wind 1
Load Factor; Ceal 1 2

Site No.:	88017
ngineer.	1. Dodson
Date:	01/18/2019
Carrier	Sprint Nextel

T	Carrier I		Quantity # of		Manufacturer	Model	Height	Width (in)	Depth (in)	Weight (lbs/ea)	Flat/Round (F/R)	Reduction	C ₁ A ₂	Weight (k)	
-		200	Azimuths 1 1	AULI TANK			(in) 0.001	0.001	0.001	0.001	F	1.000		North Edition	
- 1		200	1 1			Platform w/ HR	0.001	0.001	0.001	0.001		1.000	80.00	9.00	
-		200	4 4			Mounting Frames					SINESS	1.000	20.00	0.20	
1		187.5	1 1			Access Platform	0.001	0.001	0.001	0 001	CONTRACTOR OF THE PARTY.	1 000	45.00	5.00	
-		175	1 1				0.001	0.001	0.001	0.001	,	1.000			
-		175	1 1			Catwalk	0.001	0.001	0.001	0.001	,	1000	70.00	8.00	
-		112.5	1 1			Catwalk						1.000	70.00	8.00	
1		100	1 1			- Rest Platform	0.001	0.001	0.001	0.001	NAME OF TAXABLE PARTY.	1.000	15.00	0.50	
1		100 75	1 1			Rest Platform	0.001	0.001	0.001	0.001	F	1.000			
1		75	1 1			Catwalk		0.001	0.001	0.001	SHARE	1.000	70.00	8.00	
ı		50	; ;			Rest Platform	0.001	8001	0.001	0.001	OXIGNOR	1.000	15.00	0.50	
П	STATE OF CT	200	1 1		Generic	20' Omni	240	3	3	55		1.000	0.00	0.00	
ı	STATE OF CT OTHER	213 212	1 1		Generic		0.001	0.001	0.001	0.001	CHANGE	1.000			
ı	OTHER	212	i i			5. Kali						1.000	7.29	0.02	
ı	OTHER OTHER	210	1 1		Generic	5' Yagi	0.001	0.001	0.001	0.001	MAKE STATE	1.000	7.29	0.02	
ı	STATE OF CT	210	i i		Telewave		0.001	0.001	0.001	0.001		1.000		STATE STATE	
ı	STATE OF CT	210	1 1		Sinclair	ANT90006-9 \$C4420-HF11DF(DXX-130-G9-NUFP)	251.5	5	5	79		1.000	0.98	0.01	
ı	STATE OF CT	200	1 1		ancian							0.001	0.00	0.00	
ı	STATE OF CT	190	1 1		Sinclair	SC479 HF1LDF	172.5	3.5	3.5	34	R	1.000	6.10	0.15	
ı	STATE OF CT	182	2 2		Sinclair	Side Arm SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			
ı	STATE OF CT	182	1 1			Flat Sector Frames		4500	3.5	34	R	1.000	17.90	0.40	
ı	STATE OF CT	187	1 1		Sinclair	SC479-HF1LDF	1725	3.5		DECEMBER 1	DANSER!	0.001	0.00	0.00	
1	STATE OF CT	185	1 1		Generic	TIA	12	12	•	10	r	1.000			
ı	STATE OF CT	182 185	1 1		Kathrein Scala	AP14-850/105	101.5	10		26.8		1.000	0.00	0.00	
1	STATE OF CT	182	i i									0.001	0.00	0.00	
ı	STATE OF CT	182	2 2		Generic	TTA	12	12		10	AND DESCRIPTION OF THE PERSON	0.001	0.00	0.00	
ı	STATE OF CT STATE OF CT	182	2 2		Generic	TTA	12	12	6	10	F	1.000			1
ı	STATE OF CT	182	1 1				No. of Contract of			0.001	R	1.000	0.00	0.00	
ı	STATE OF CT	190	1 1		Generic	S' Dipole	0.001	0.001	0.001	0.001	delication)	1.000	1.75	0.02	
ı	STATE OF CT	180	i i		Sinclair	SC479-HFILDF	172.5	1.5	3.5	34	R	1 000	0.00	0.00	
ı	STATE OF CT	182 177	1 1		TX RX Systems	101 833 09 0 03	120	1.6	3.6	45	R	1.000	0.00	0.00	
ı	STATEOFCI	182	i i				Manage of the last					0.001	0.00	0.00	
ı	STATE OF CT	175	2 2		Sinclair	SC479-HFILDF	172.5	15	3.5	34	R	0.001	0.00	0.00	
ı	STATE OF CT SPRINT NEXTEL	182	1 1 1		Decibel	D8844H90E-A	48	6	8.5	10	F	0.861			
ı	SPRINT NEXTEL	169	1 1			Flat Sector Frames	4.7	9.3	9.3	10.6		0.750	17.90	0.40	
ı	CLEARWIRE CORPORATION CLEARWIRE CORPORATION	158 158	4 3		DragonWave	Horizon Compact Flat Sector Frames	SCHOOL	NAME OF TAXABLE PARTY.	HARMAN	STATISTICS.		0.750	17.90	0.40	
ı	CLEARWIRE CORPORATION	156	3 3		NextNet	BTS-2500	19.3	11.3	5.1	35	F	0.763	0.00	0.00	
ı	CLEARWIRE CORPORATION CLEARWIRE CORPORATION	156	1 1		Arns	ILPK310R	42	11.8	45	28.5	F	0.726	and the same		
ı	CLEARWIRE CORPORATION	156	1 1									0.001	0.00	0.00	
ı	SPRINT NEXTEL SPRINT NEXTEL	155	1 1	Proposed	Alcatel Lucent	RRH2x50 08 Flat Sector Frames	15.7	13	9.8	52.9	DESCRIPTION OF THE PERSON OF T	0.750	17.90	0.40	
ı	SPRINT NEXTEL	155	1 1		- Alcatel-Lucent	1900 MHz 4X45 RRH	25.1	11.1	10.7	60	F	0.945	SASSIST.	SKYLESSKY SOM	
ı	SPRINT NEXTEL	155	1 1		Alcatel Lucent	800 MHz RRH w/ Notch Filter	19.7	13	15.2	61.8		0.001	0.00	0.00	1
1	SPRINT NEXTEL SPRINT NEXTEL	155 155	1 1		Acatertucent							0.001	0.00	0.00	
ı	SPRINT NEXTEL	155	3 3	Proposed	Nokia	2.5G MAA - AAHC(64T64R)	25.6	19.7	9.6	103.6	oriostalis landica	0.784	0.00	0.00	
ı	SPRINT NEXTEL SIGFOX S.A.	155	1 1	Proposed	Procom	CXI 900-3LW	27.6	0.6	0.6	1.5	R	1.000	TAXABLE DAY	CONTRACTOR OF THE PARTY OF THE	0
ı	SIGFOX S.A.	135	i i			Side Arm					HARMA	1.000	6.30	0.15	
١	SPRINT NEXTEL	155	3 3	Proposed	Commscope	NNVV-658-R4	72	19.6	7.5	77.4	anavenii.	0.734	0.00	0.00	
1	SPRINT NEXTEL CLEARWIRE CORPORATION	155 150	i i		Generic	18" x 12" Junction Box	18	12	8	15	F	1.000			
1	CLEARWIRE CORPORATION AT&T MOBILITY	150	1 1		Powerwave Aligon	7020.00 Dual Band RET	49	8.3	2.4	2.2		0.001	0.00	0.00	
1	AT&T MOBILITY AT&T MOBILITY	144	9 3			Round Sector Frames						0.750	14.40	0.30	
1	AT&T MOBILITY	144	6 3		Powerwave Aligon	(GP21401	14.4	9.2	2.6	14.1	and the same	0.665	0.00	0.00	
1	AT&T MOBERTY AT&T MOBERTY	144	1 1		Raycap	DC6-48-60-18-8F ("Squid")	24	11	11	31.8	R	0.938			
1	ATET MOBERTY	144	1 1									0.001	0.00	0.00	
1	AT&T MOBRITY AT&T MOBRITY	144	1 1		Ericsson	RRUS 11 (Band 12) (55 lb)	17.8	17	7.1	55	SUSCIONALIS	0.747	0.00	0.00	
ı	AT&T MOBRITY	144	, ,		Ericsson	RRUS 32 (50.8 lbs)	26.7	12.1	6.7	50.8		0.823		MARRIAN	
١	AT&T MOBILITY	144	1 1		Ericsson	RAUS 32 B2	27.2	12.1	,	53	,	0.001	0.00	0.00	
١	AT&T MOBILITY AT&T MOBILITY	144	1 1									0.001	0.00	0.00	
1	ATET MOBILITY	144	1 1		Ericsson	RRUS 32 866	27.2	12.1	7	53	acesterate	0.837	0.00	0.00	
1	AT&T MOBILITY AT&T MOBILITY	144	1 1		Powerwave Aligon	7770.00	55	11	5	35	•	0.766			
1	AT&T MOBRITY	144	1 1									0.001	0.00	0.00	
١	AT&T MOBILITY AT&T MOBILITY	14	1 1		Quintel	Q566512-6	72	12	9.6	111		0.001	0.00	0.00	
1	AT&T MOBILITY	144	i i		ca	HPA 65R BUU-H6	72	14.8	9	51	F	0.834			9
	AT&T MOBILITY	144	!!		Andrew	D0616E-8C	231	3.5	3.5	51		1.000	0.00	0.00	
ľ	US DEPT OF HOMELAND SECURITY US DEPT OF HOMELAND SECURITY	111	1 1		Andrew		A) TEN					0.001	0.00	0.00	
1	UGADO NETWORKS LLC	86	1 1		Kathrein Scala	750 10074	104.3	2	2	17.6		1.000	630	0.15	
١	UGADO NETWORKS LLC SPRINT NEXTEL	82 56	1 1	Proposed	Generic	Side Arm GPS	12	9	6	10		1000			
١	SPRINT NEXTEL	56	i i			Stand-Off			PERMIT		MARKE	1 000	250	0.08	
	SIGFOXSA	135	1 1	Proposed	Generic	5" x 3" x 2" Cavity Filter	5.3	3.2	1.9	1.5	etronius (i	0.001	0.00	0.00	
	AZXOĐE	135													

No.	Elevation	C.A.	C ₄ A _c (ker)	Force (lb)	Force (Ice)	Weight (Ib)	Weight (ke)	60 Azi Mult.	Force	F (Ice) mean	Height Rag	Sum of Forces (No 60 Azi. 180 Azi.
1	(ft) 200	0.00	0 01	0.000	0.054	0	0	1.00	0.00	0.03	0.0000010	000000000000000000000000000000000000000
,	200	80.00	108.00	2683.490 0.000	601.601 0.054	10800	14040	1.00	0.00	0.03	0.0000020	2683.480129
- 1	200	80.00	108.00	26R3.4B0	601.601	960	1248	1.00	1475.91 0.00	330.88	1.5050000 1.5050010	
3	187.5 187.5	0.00 45.00	0.01 60.75	0.000 1481.879	0.053 332.218	6000	0 7800	1.00	B15.03	182.72	1.5053333	1481.878864
-4	175	0.00	0.01	0.000	0.052 506.696	9600	0 12480	1.00	1243.08	0.03 278.68	1.5053343 1.5057143	2260.150239
5	175 112.5	70.00	94.50	2260 150 0.000	0.046	0	0	1.00	0.00	0.03	1 5057153	
6	112.5	70.00	94.50	1992-108	446.605	9600	12480	1.00	0.00	0.02	1.5088889 1.5088899	1992.10797
	100	15.00	20.25	412.754	92.534	600	780	1.00	227.01	50.89	1 5100000	412.7538053
,	75 75	0.00 70.00	94.50	0.000 1774.194	0 041 397.751	9600	0 12480	1.00	975.81	218.76	1.5100010	1774.193912
8	50	0.00	0.01	0.000	0.037	0	0	1.00	0.00 186.23	0.02 41.75	15133343	338.5965398
9	50 200	6.00	20.25 8.03	338.597 201.261	75.909 44.749	600 66	780 270	1.00	110.69	24.61	1.5200010	
7090	213	0.00	0.00	0.000	0.000	1 0	0	1.00	0.00	0.00	1.5046948	201.2610438
10	212 212	7.29	9.84	0.000 248.637	0.055 55.741	24	31	1.00	136.75	30.66	1 5047170	248.637238
11	210	0.00	0.01	0.000 247.965	0.055 55.590	0 24	0	1.00	0.00 136.38	0.03 30.57	1 5047180	247.9647865
12	210 210	0.00	9.84	0.000	0.055	0	o	1.00	0.00	0.03	1.5047190	281.2988733
13	210 205	0.98	1.32	33.334 353.997	7.473 70.824	13 95	17	1.00	18.33 194.70	4.11 38.95	1.5047619	781.2988733
	200	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1 505 0000	353.9966458
14	190 182	12.60	6.51 17.01	166 310 411 412	35.715 92.233	41 360	203 468	1.00	91.47 226.28	50.73	1.5054945	577.7220298
15	189	5.03	6.51	156.060	35.661	41	203	1.00	91.33 321.46	19.61 72.07	1 505 495 5 1 505 494 5	1328.247563
16	182 187	17.90 5.03	6.51	584.466 165.556	131.030 35.553	480 41	624 203	1.00	91.06	19.55	1.5054955	
950000	182	0.00	0.00	0 000 39 366	0.000 8.951	1 12	40	1.00	0.00 21.65	4.92	1.5054945	1493.80353
17	185 182	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5054945	1533 16907
18	185	21.22	23.13	695.993	126 025	64	253	1.00	382.80	0.00	1.5054955 1.5054945	2229.161751
19	182 182	2.40	0 00 3 29	0.000 78.364	17.818	24	54	1.00	43.10	9.80	1 505 4955	2107.525888
	182	2.40	3.29	0.000 78.117	0.000	1 24	2 54	1.00	42.96	9.77	1.5054945	2307.525888
20	180 182	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5054945	2385.643013
21	180 180	1.75	2.36	0.000 56.960	0.030	0	23	1.00	0.00 31.33	7.02	1 5054955	56.95038001
22	180	5.03	6.51	163.761	35.168	41	202	1.00	90.07	19.34	1.5055566	163.7611247
23	182 177	3.60	0.00 4.64	0.000 116.614	0.000 24.951	1 54	174	1.00	64.14	13.72	1.5054955	
0.000	182	0.00	0.00	0.000	0.000	1	2	1.00	0.00 178.69	0.00 38.37	1.5054945 1.5054955	280.3755633
24	175 182	0.00	0.00	324.297 0.000	69.771	82	251	1.00	0.00	0.00	1.5054945	605.2720928
25	169	32.80	37.42	1048.538	198.664	144 1440	253 1872	1.00	576.70 531.09	109.27	1.5054955 1.5059172	2014,159901
26	169 158	1.26	54.37 1.70	965.622 39.598	216.480 8.832	51	71	1.00	21.78	4.86	1.5059182	
	158	40.28	54.37	947.231	212.357	1440 126	1872	1.00	520.98 57.21	116.80 12.69	1.5063291	986.8285523
27	156 156	0.00	0.00	104 022 0 000	0.000	1	2	1.00	0.00	0.00	1.5064103	104.0219096
28	156	7.48	9.32	233.647 0.000	48.375	103	206	1.00	0.00	0.00	1.5064113	337.6691067
29	156 155	3.84	5.13	119.636	26.551	190	268	1.00	65.80	14.60	1.5064113	
30	155 155	40.28 5.92	54.37 6.96	942 057 184 612	211.197 36.050	1440 216	1872 319	1.00	518.13 101.54	116.16	1.5064516 1.5064526	1061.693097
30	155	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064516 1.5064526	1246.304829
31	155 155	6.05	0.00	188.824	35.116 0.000	222	326	1.00	0.00	0.00	1.5064516	1435 12843
32	155	7.91	10.08	246.705	52.185	373	532	1.00	135.69	28.70	1.5064526 1.5064516	
33	155	0.00	0.00	0.000	0.000	2	10	1.00	0.00	0.00	1.5064526	
	135	6.30	8.51	188 877	42.344 133.442	180 279	234 563	1.00	103.88 370.94	23.29 73.39	1.5074074	
34	155 155	21.63	0.00	674.440 0.000	0.000	1	2	1.00	0.00	0.00	1.5064516	
35	150	1.80	2.40	55.614 0.000	12.321	18	61	1.00	0.00	6.78 0.00	1.5064526 1.5065667	55 61402928
36	150 144	1.63	2.57	49 830	13.025	24	35	1.00	27.41	7.16	1.5065677	
37	144 144	10 80 3.52	14.58 4.87	247.361 107.593	55.455 24.716	360 102	468 144	1.00	136.05 59.18	30.50 13.59	1 5069444 1 5069454	
50000	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00 55.43	0.00	1.5069444	
38	144	0.00	0.00	0.000	19.018 0.000	114	194	1.00	0.00	0.00	1.5069444	505.5601884
39	144	4.52	5.90	138.070	29.915	198	287	1.00	75.94	16.45	1.5069454	643.6304246
40	144	5.32	6.97	0.000 162.396	35.339	183	276	1.00	89.32	19.44	1 5069454	
	144	0.00	0.00	0.000	0.000 36.609	1 191	287	1.00	92.59	20.13	1.5069444 1.5069454	
41	144	0.00	0.00	168.344 0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	974.36999
42	144	5.51	7.22	168 344 0.000	36.609 0.000	191	287	1.00	92.59	0.00	1.5069454 1.5069444	
43	144 144	10.12	12 01	309.173	60.895	126	254	1.00	170.05	33.49	1.5069454	
	144	0.00	0.00	0.000 547.248	0.000	1 400	648	1.00	300.99	0.00 56.70	1.5069444 1.5069454	
*	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1999.135119
45	144 144	0.00	0.00	590.287 0.000	113.817	184 1	409	1.00	324.66	0.00	1.5069454 1.5069444	
46	111	6.74	8.70	191.006	40.959	61	267	1.00	105.05	22.53	1.5069454 1.5099010	
47	101 86	0.00 1.74	2.63	0.000 45.816	0.000 11.522	21	80	1.00	0.00 25.20	6.34	1.5099020	
	82	6.30	8 51	163.801	36.722	180	234	1.00	90.09 11.54	20.20	1.5121951	
48	56 56	0.90 2.50	1.26 3.38	20.984 58.290	4.894 13.068	12 90	33 117	1.00	32.06	7.19	1.5178571	
49	135	0.14	0.26	4.237	1 281	2	6 2	1.00	2.33	0.70	1.5178581	
50	135 135	0.00	0.00	0.000 4.997	0.000 1.452	1 2	7	1.00	2.75	0.80	1.5074084	
-	135	0.00	0 00	0.000	0.000	1	2	1.00	0.00	0.00	1.5074074	9.23403641
3												

Foundation

Design Loads (Factored)

Compression/Leg:	288.12
Uplift/Leg:	183.56
Shear/Leg	41.36

Face Wi	dth @ Top o	f Pier (d ₁):	3.50	ft
Face Width	@ Bottom o	f Pier (d ₂):	7.00	ft
	Total Length	of Pier (I):	7.00	ft
Height of Pede	stal Above G	round (h):	0.50	ft
	Width o	f Pad (W):	16.00	ft
	Length	of Pad (L):	16.00	ft
	Thickness	of Pad (t):	2.50	ft
٧	Vater Table D	epth (w):	99.00	ft
Un	it Weight of	Concrete:	150.0	рс
Unit Weight of Soi	I (Above Wat	ter Table):	120.0	рс
Unit Weight of Soi	I (Below Wat	ter Table):	57.6	рс
Frict	ion Angle of	Uplift (A):	30	
Ultimate Compres	ssive Bearing	Pressure:	16000	ps
	Ultimate Ski	n Friction:	500	ps
Volume Pier (Total):	200.08	ft ³		
Volume Pad (Total):	640.00	ft ³		
Volume Soil (Total):	2346.93	ft ³		
Volume Pier (Buoyant):	0.00	ft ³		
Volume Pad (Buoyant):	0.00	ft ³		
Volume Soil (Buoyant):	0.00	ft ³		
Weight Pier:	30.01	k		
Weight Pad:	96.00	k		
Weight Soil:	281.63	k		
Uplift Skin Friction:	60.00	k		

Uplift Check

φs Uplift Resistance (k)	Ratio	Result	
350.73	0.52	OK	

Axial Check

φs Axial Resistance (k)	Ratio	Result	
3072.00	0.09	OK	٦

Anchor Bolt Check

Bolt Diameter (in)	2.25
# of Bolts	4
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	С

Usage Ratio	Result	
0.43	ОК	

Site No.:	88017
Engineer:	I. Dodson
Date:	01/18/19
Carrier:	Sprint Nextel

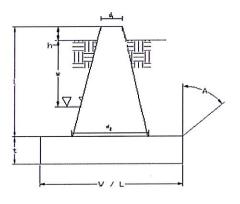




EXHIBIT 3:

General Power Density Table report (RF Emissions Analysis Report)

T-SQUARED SITE SERVICES



RF EMISSIONS COMPLIANCE REPORT

T-Squared Site Services on behalf of Sigfox S.A.

ATC Site Name: Shelton-Trumbull
Sigfox S.A. Site Name: CT9081_ATC_88017
Sigfox S.A. Site #: CT9081
14 OXFORD DRIVE/ BOOTH HILL ROAD
SHELTON, CT
2/11/2019

Report Status:

Sigfox S.A. Is Compliant



Prepared By:

Sitesafe, LLC

8618 Westwood Center Drive, Suite 315 Vienna, VA 22182

Voice 703-276-1100 Fax 703-276-1169

Engineering Statement in Re: Electromagnetic Energy Analysis T-Squared Site Services SHELTON, CT

My signature on the cover of this document indicates:

That I, Michael A McGuire, am currently and actively licensed to provide (in this state/jurisdiction as indicated within the professional electrical engineering seal on the cover of this document) professional electrical engineering services, as an employee of Hurricane Hill Development Company, PLLC, a duly authorized/registered engineering firm (in this state, as applicable) on behalf of SiteSafe, LLC; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by T-Squared Site Services (See attached Site Summary and Carrier documents), and that Sigfox S.A.'s installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "Shelton-Trumbull" ("the site"); and

That Sigfox S.A. proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by Sigfox S.A. and shown on the worksheet, and that worst-case 100% duty cycle have been assumed; and

That in addition to the emitters specified in the worksheet, there are additional collocated point-to-point microwave facilities on this structure and, the antennas used are highly directional oriented at angles at or just below the horizontal and, that the energy present at ground level is typically so low as to be considered insignificant and have not been included in this analysis; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio-frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio-frequency radiation must utilize the standards set by the FCC, which is the Federal Agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," defined as situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and (2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of Sigfox S.A.'s operating frequency as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed Sigfox S.A. operation is no more than 0.001% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 2.52% of the maximum in any accessible area up to two meters above the ground per OET-65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET-65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier and frequency range indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding Radio Frequency Safety.

In summary, it is stated here that the proposed operation at the site would not result in exposure of the Public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307 and that Sigfox S.A.'s proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals, and approved contractor personnel trained in radio-frequency safety; and that the instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower, or in the immediate proximity of the antennas.

T-Squared Site Services Shelton-Trumbull Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.34 %
AT&T Mobility, LLC	0.33 %
AT&T Mobility, LLC	0.254 %
AT&T Mobility, LLC	0.356 %
AT&T Mobility, LLC	0.424 %
Ligado Networks	0.019 %
Sigfox S.A. (Proposed)	0.001 %
Sprint	0.164 %
Sprint	0.164 %
Sprint	0.061 %
Sprint	0.062 %
Sprint	0.095 %
Sprint (Decommissioned)	0 %
State of Connecticut	0.07 %
State of Connecticut	0.022 %
State of Connecticut	0.007 %
State of Connecticut	0.089 %
US Department of Homeland S	0.062 %
Composite Site MPE:	2.52 %

Frequency:

MHz

Maximum Permissible Exposure (MPE):

1000 μW/cm^2 3.40255 μW/cm^2

Maximum power density at ground level: Highest percentage of Maximum Permissible Exposure:

					On Axis		Are	ea
Height (deg	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE		
CCI Antennas	HPA-65R-BUU-H6	145	0	2831	2.713212	0.271321	3.368889	0.336889
CCI Antennas	HPA-65R-BUU-H6	145	120	2831	2.737939	0.273794	3.368888	0.336889
CCI Antennas	HPA-65R-BUU-H6	145	240	2831	2.713212	0.271321	3.368887	0.336889

2100 MHz

Maximum Permissible Exposure (MPE):

1000 μW/cm²

μW/cm^2 % 3.30495

Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

	Quintel QS66512-6 Quintel QS66512-6				On A	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Quintel	QS66512-6	145	0	4788	1.874687	0.187469	3.215151	0.321515
Quintel	QS66512-6	145	120	4788	1.874687	0.187469	3.215151	0.321515
Quintel	QS66512-6	145	240	4788	1.900707	0.190071	3.215151	0.321515

1900 1000

MHz μW/cm^2

2.53917 μW/cm²

Frequency:
Maximum Permissible Exposure (MPE):
Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

Antenna Make					On A	Axis	Area		
	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (µW/cm^2)	Percent of MPE	
Quintel	QS66512-6	145	0	4170	1.361293	0.136129	2.38829	0.238829	
Quintel	QS66512-6	145	120	4170	1.36164	0.136164	2.38829	0.238829	
Quintel	QS66512-6	145	240	4170	1.361293	0.136129	2.38829	0.238829	

737

Maximum Permissible Exposure (MPE):

MHz 491.33 μW/cm²

1.74726 μW/cm²

Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

					On A	Axis	Are	a
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Quintel	QS66512-6	145	0	2239	1.212824	0.246844	1.732303	0.352572
Quintel	QS66512-6	145	120	2239	1.212825	0.246844	1.732303	0.352572
Quintel	OS66512-6	145	240	2239	1.211916	0.246659	1.732303	0.352572

850 MHz

Frequency: Maximum Permissible Exposure (MPE):

566.67 μW/cm²

2.40382 µW/cm^2

Maximum power density at ground level: Highest percentage of Maximum Permissible Exposure:

					On A	xis	Area	
Antenna Make	111911	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE		
Powerwave	7770 00	145	0	1094	0.496121	0.087551	0.774999	0.136765
CCI Antennas	HPA-65R-BUU-H6	145	0	2350	1.093691	0.193004	1.694139	0.298966
Powerwave	7770 00	145	120	1094	0.496754	0.087662	0.774999	0.136765
CCI Antennas	HPA-65R-BUU-H6	145	120	2350	1.09723	0.193629	1.694139	0.298966
Powerwave	7770 00	145	240	1094	0.496121	0.087551	0.774999	0.136765
CCI Antennas	HPA-65R-BUU-H6	145	240	2350	1.098264	0.193811	1.694139	0.298966

Ligado Networks Shelton-Trumbull Carrier Summary

				,	On A	Axis	Ar	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Kathrein-Scala	750_10074	86	0	100	0.190252	0.019025	0.190252	0.019025

Sigfox S.A. (Proposed) Shelton-Trumbull **Carrier Summary**

Frequency:

905.2

Maximum Permissible Exposure (MPE):

MHz μW/cm^2 603.47

0.00306 μW/cm²

Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

					On A	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Procom	CXL 900-3LW	135	0	1.22	0.003064	0.000508	0.003064	0.000508

Area On Axis Max Power Density (μW/cm^2) Max Power Percent of MPE Percent of Density (µW/cm^2) **ERP** Height Orientation Antenna Make Model (feet) (degrees true) (Watts) 0.151831 0 3804 0.818674 0.081867 1.518306 APXVSPP18-C-A20 150 **RFS** 0.818674 0.081867 1.518306 0.151831 3804 APXVSPP18-C-A20 150 120 **RFS** 1.518306 0.151831 RFS APXVSPP18-C-A20 150 240 3804 0.818674 0.081867

					On /	Axis	Ar	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
RFS	APXVSPP18-C-A20	150	0	3804	0.818674	0.081867	1.518306	0.151831
RFS	APXVSPP18-C-A20	150	120	3804	0.818674	0.081867	1.518306	0.151831
RES	APXVSPP18-C-A20	150	240	3804	0.818674	0.081867	1.518306	0.151831

MHz

Frequency:
Maximum Permissible Exposure (MPE):

869 579.33 μW/cm^2

0.35514 μW/cm^2

Maximum power density at ground level: Highest percentage of Maximum Permissible Exposure:

					On A	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
RFS	APXVSPP18-C-A20	150	0	1084	0.343791	0.059343	0.353184	0.060964
RFS	APXVSPP18-C-A20	150	120	1084	0.344919	0.059537	0.353184	0.060964
DES	APXVSPP18-C-A20	150	240	1084	0.343791	0.059343	0.353184	0.060964

					On /	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
RFS	APXVSPP18-C-A20	150	0	1084	0.343791	0.059824	0.353184	0.061459
RFS	APXVSPP18-C-A20	150	120	1084	0.344919	0.060021	0.353184	0.061459
DEG	APYVSPP18-C-A20	150	240	1084	0.343791	0.059824	0.353184	0.061459

 Frequency:
 2500
 MHz

 Maximum Permissible Exposure (MPE):
 1000
 μW/cm²2

 Maximum power density at ground level:
 0.95082
 μW/cm²2

 Highest percentage of Maximum Permissible Exposure:
 0.09508
 %

Antenna Make Model Height (feet) Orientation (degrees true) ERP (Wa ARGUS LLPX310R 156 0 1542 ARGUS LLPX310R 156 120 1542		On A	Axis	Area				
Antenna Make	Model			ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
ARGUS	LLPX310R	156	0	1542	0.48895	0.048895	0.894322	0.089432
ARGUS	LLPX310R	156	120	1542	0.48895	0.048895	0.894322	0.089432
ARGUS	LLPX310R	156	240	1542	0.492703	0.04927	0.894322	0.089432

Sprint (Decommissioned) Shelton-Trumbull Carrier Summary

					On A	lxis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true) El	RP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
ANDREW	DB844H90E-XY	169	0	0	0	0	0	0
ANDREW	DB844H90E-XY	169	120	0	0	0	0	0
ANDREW	DB844H90E-XY	169	240	0	0	0	0	0

Frequency: Maximum Permissible Exposure (MPE):

450

300

0.21135

μW/cm^2 μW/cm^2

Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

					On A	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Generic	Omni	186	0	100	0.21135	0.07045	0.21135	0.07045

Frequency:

770

Maximum Permissible Exposure (MPE):

513.33 μW/cm² 0.1108 μW/cm²

Maximum power density at ground level: Highest percentage of Maximum Permissible Exposure:

					On /	Axis	Are	ea
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
SINCLAIR	SC442-HF1LDF	190	0	100	0.084559	0.016472	0.084559	0.016472
SINCL AIR	SC479-HE1LDE	189	0	100	0.028996	0.005649	0.028996	0.005649

Frequency:

850

Maximum Permissible Exposure (MPE):

566.67

μW/cm^2 μW/cm^2

Maximum power density at ground level: Highest percentage of Maximum Permissible Exposure: 0.03769

0.00665 %

				8.5	On A	Axis	Are	ea
Antenna Make Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE	
ANDREW	DB809	206	0	100	0.037689	0.006651	0.037689	0.006651

150

MHz

Maximum Permissible Exposure (MPE):

200 0.17738

μW/cm² μW/cm^2 %

Maximum power density at ground level:
Highest percentage of Maximum Permissible Exposure:

				-	On A	Axis	Are	a
Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE
Generic	Omni	211	0	100	0.097649	0.048824	0.097649	0.048824
Generic	Omni	191	0	100	0.098139	0.04907	0.098139	0.04907

US Department of Homeland S Shelton-Trumbull Carrier Summary

Frequency:160MHzMaximum Permissible Exposure (MPE):200μW/cm²2Maximum power density at ground level:0.12481μW/cm²2Highest percentage of Maximum Permissible Exposure:0.06241%

					On A	Axis	Are	ea
Antenna Make Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	Max Power Density (μW/cm^2)	Percent of MPE	Max Power Density (μW/cm^2)	Percent of MPE	
ANDREW	DB616E-BC	111	0	100	0.124815	0.062407	0.124815	0.062407



EXHIBIT 4:

Letter of Authorization

T-SQUARED SITE SERVICES



LETTER OF AUTHORIZATION

SITE NO: See Site List Below

SITE NAME: See Site List Below

ADDRESS: See Site List Below

I, Margaret Robinson, Senior Counsel, US Tower Division on behalf of American Tower*, owner of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize SIGFOX NIP LLC dba SIGFOX S.A., its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit SIGFOX NIP LLC dba SIGFOX S.A to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

Sites Authorized (continued on the next page):

CT9000	ATC 302469
CT9001	ATC 88018
CT9081	ATC 88017
CT9122	ATC 88008
CT9123	ATC 88011
CT9184	ATC 88010



Asset Number	Site Name	Site Address	Site City	Site State	Site Zip
302469	Bridgeport CT 2	1069 Connecticut Avenue	Bridgeport	Connecticut	06607-1226
88018	STAMFORD (KATOONA)	168 Catoona Lane	Stamford	Connecticut	06902-4573
88017	SHELTON- TRUMBULL	14 OXFORD DRIVE/BOOTH HILL RD	SHELTON	Connecticut	06484-3455
88008	BETHANY CT	93 Old Amity Road	Bethany	Connecticut	06524-3400
88011	EAST KILLINGLY NORTH	1375 North Road	Killingly	Connecticut	06241-1404
88010	DURHAM CT	373 CHAMBERLAIN HILL RD	Higganum	Connecticut	06441-4062

Signature:

Margaret Robinson, Senior Counsel US Tower Division

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 18th day of June, 2019.

MELISSA ARM METZLER
Notary Public
Commonwealth of Messachusetts
My Commission Expires March 14, 2025

Notary Public My Commission Expires: March 14, 2028

 American Tower as used herein is defined as American Tower Corporations and any of its affiliates or subsidiaries.



EXHIBIT 5:

Proof of Mailing to Local Municipality

T-SQUARED SITE SERVICES



After printing this label:

- 1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
- 2. Fold the printed page along the horizontal line.
- 3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Shipment Receipt

Address Information

Ship to: Ship from:

Mr. Rick Schultz T-Squared Site Services, LLC

Shelton City Hall

54 Hill Street 2500 Highland Rd

3rd Floor Suite 201

SHELTON, CT Hermitage, PA

06484 16148 US US

203-924-1555 1510 7243087855

Shipment Information:

Tracking no.: 775621920579

Ship date: 07/02/2019

Estimated shipping charges: 19.70 USD

Package Information

Pricing option: FedEx One Rate Service type: FedEx Express Saver Package type: FedEx Large Box

Number of packages: 1

Total weight:

Declared Value: 0.00 USD

Special Services:

Pickup/Drop-off: Drop off package at FedEx location

Billing Information:

Bill transportation to: My Account - 350-350

Your reference:

P.O. no.: Invoice no.: Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.

The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.



EXHIBIT 6:

Proof of Mailing to Tower Owner/Property Owner

T-squared site services



After printing this label:

- 1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
- 2. Fold the printed page along the horizontal line.
- 3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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Shipment Receipt

Address Information

Ship to: Ship from:

Mr. Jason Hastie T-Squared Site Services, LLC

American Tower Corp.

10 Presidential Way 2500 Highland Rd

Suite 201

WOBURN, MA Hermitage, PA

01801 16148 US US

781-926-7485 7243087855

Shipment Information:

Tracking no.: 775621996459

Ship date: 07/02/2019

Estimated shipping charges: 19.70 USD

Package Information

Pricing option: FedEx One Rate Service type: FedEx Express Saver Package type: FedEx Large Box

Number of packages: 1

Total weight:

Declared Value: 0.00 USD

Special Services:

Pickup/Drop-off: Drop off package at FedEx location

Billing Information:

Bill transportation to: My Account - 350-350

Your reference:

P.O. no.: Invoice no.: Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.

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FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.