Transcend Wireless

10 Industrial Avenue,
Suite 3
Mahwah, NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

June 7, 2018

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

Notice of Exempt Modification
24 Rockdale Road, West Haven, CT
Latitude- 41.2895777
Longitude- -72.9676027

Dear Ms. Bachman,

T-Mobile currently maintains (9) existing antennas at the 135' level of the existing 180' self-support lattice at 24 Rockdale Road in West Haven, Connecticut. The tower and property is owned by Radio Communications Corp. T-Mobile now intends to replace (6) of its existing antennas with (6) new 1900/2100 MHz antennas, relocate 3 antennas, relocate (3) TMAs, remove (3) RRUs and add (6) RRHs. These antennas would be installed at the same 135' level of the tower. Two (2) existing Nortell cabinets at grade are proposed to be removed and all existing cable lines are to remain.

This facility was approved by the Council in Docket No. 56.6 on April 14, 1986. This approval did not include conditions that could feasibly be violated by this modification. This modification complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. 16-50j-72(b)(2). In accordance with R.C.S.A. 16-50j-73, a copy of this letter is being sent to Nancy R. Rossi, Mayor of the City of West Haven, as well as the tower and property owner.

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

1. The proposed modification will not result in an increase in the height of the existing structure

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Elizabeth Jamieson

Elizabeth Jamieson
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
860-605-7808
EJamieson@TranscendWireless.com

cc:
Nancy R. Rossi - as elected official
RCC Communications Corp/Bob Knapp - as tower and property owner
Fred A. Messore - as Planning and Development Commissioner

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4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.

City of West Haven, CT
Property Listing Report

Parcel ID 059-0120-0-0000

Account 00007905

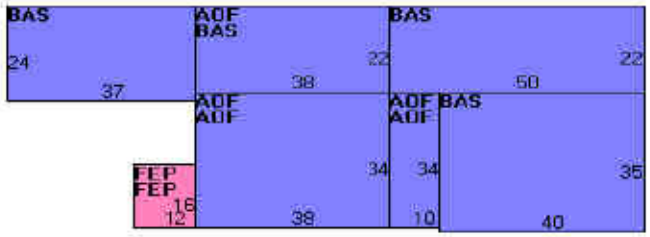
Property Information

Owner	KNAPP ANDREW + LILLIAN R
Co-Owner	& SV
Address	24 ROCKDALE RD
Mailing Address	24 ROCKDALE RD WEST HAVEN CT 06516
Land Use	3320 SVC SHOP MDL-94
Land Class	C

Vision ID	15185
Census Tract	1541
Neighborhood	C400
Zoning Code	R2
Acreage	0.21
Utilities	Public Water,Public Sewer

Photo

Sketch



Primary Construction Details

Actual Year Built	1959
Effective Year Built	1979
Stories	2
Building Style	Light Industrial
Building Use	Ind/Comm
Building Condition	Average +10
Total Rooms	

Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	Flat
Roof Cover	T&G/Rubber

Exterior Walls	Concr/Cinder
Interior Walls	Minim/Masonry
Heating Type	Forced Air-Duc
Heating Fuel	Gas
AC Type	None
Gross Bldg Area	8708
Total Living Area	8324

Report Created On 5/30/2018

City of West Haven, CT
Property Listing Report

Parcel ID 059-0120-0-0000

Account 00007905

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	339600	237720
Outbuildings	377000	263900
Improvements	723200	506240
Extras	6600	4620
Land	88800	62160
Total	812000	568400

Outbuilding and Extra Items

Description	Units
PAVING-ASPHALT	4000 S.F.
AIR COND	4100 S.F.
SITE	2 SITES

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office	2808	2808
First Floor	5516	5516
Porch, Enclosed	384	0
Total Area	8708	

Sales History

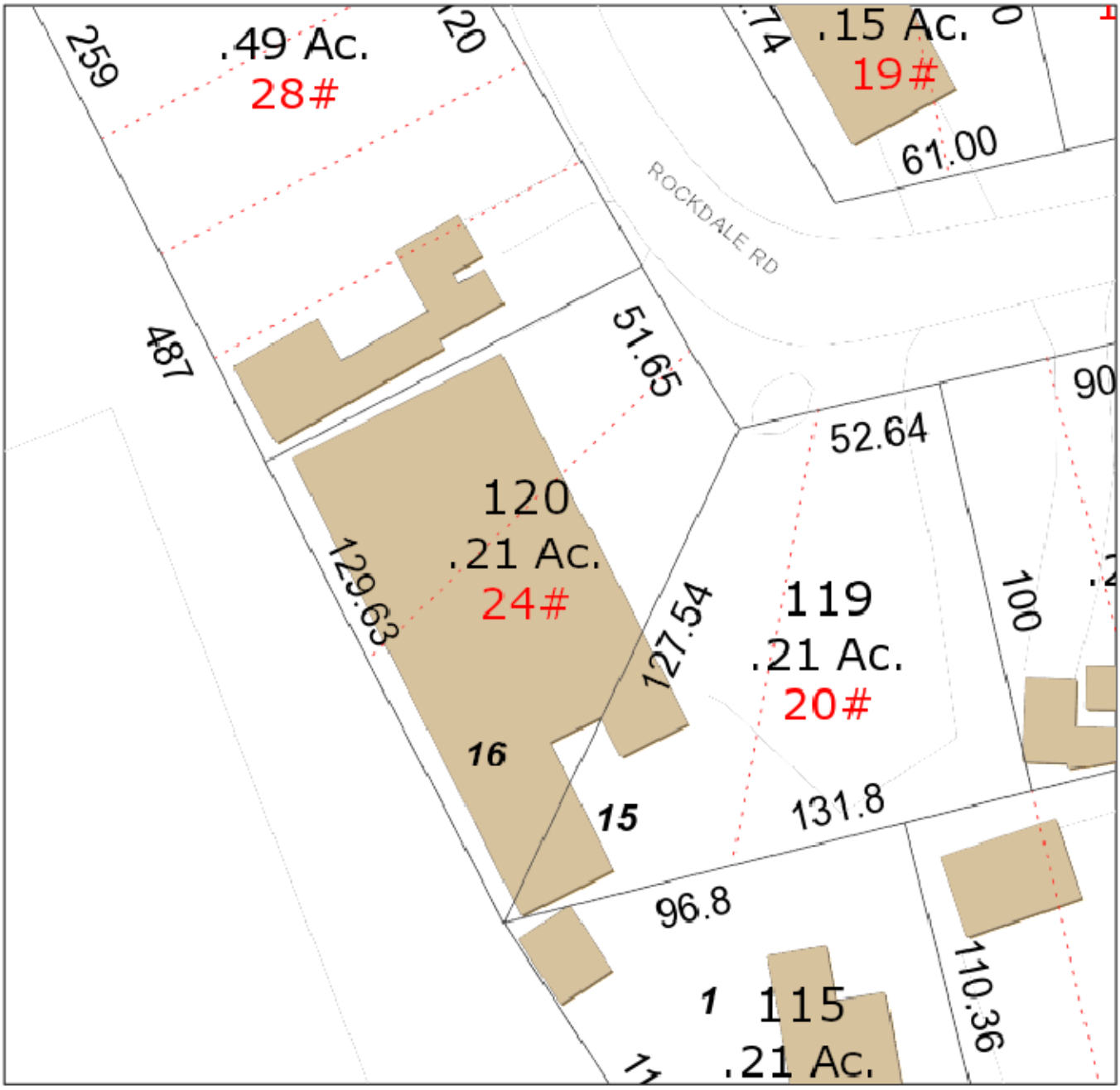
Owner of Record	Book/ Page	Sale Date	Sale Price
KNAPP ANDREW + LILLIAN R	412/ 375		0

Report Created On 5/30/2018

City of West Haven

Geographic Information System (GIS)

Date Printed: 5/30/2018



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The City of West Haven and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 40 feet

0 40 Feet

N W E S

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11193A

Orange/ Rt-1
24 Rockdale Road
West Haven, CT 06516

June 4, 2018

EBI Project Number: 6218004244

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	14.54 %

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

EBI Consulting
environmental | engineering | due diligence

June 4, 2018

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

Emissions Analysis for Site: **CT11193A – Orange/ Rt-1**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **24 Rockdale Road, West Haven, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz Band are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **24 Rockdale Road, West Haven, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

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

4) 4 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (600 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

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

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

9) The antennas used in this modeling are the **Ericsson AIR 3246 B66** & **Ericsson AIR32 B66A/B2A** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **RFS APXVAA24-43-U-A20** for 600 MHz, 700 MHz 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regard to anticipated antenna selection. The actual gain values per the manufacturers specifications are listed in the following Site Inventory and Power Data table. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerline of the proposed antennas is **135 feet** above ground level (AGL).

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

12) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 3246 B66	Make / Model:	Ericsson AIR 3246 B66	Make / Model:	Ericsson AIR 3246 B66
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	135	Height (AGL):	135	Height (AGL):	135
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A1 MPE%	**2.02**	Antenna B1 MPE%	**2.02**	Antenna C1 MPE%	**2.02**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	135	Height (AGL):	135	Height (AGL):	135
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	**1.01**	Antenna B2 MPE%	**1.01**	Antenna C2 MPE%	**1.01**
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20
Gain:	13.15/ 13.55 / 15.65 / 16.35 dBd	Gain:	13.15/ 13.55 / 15.65 / 16.35 dBd	Gain:	13.15/ 13.55 / 15.65 / 16.35 dBd
Height (AGL):	135	Height (AGL):	135	Height (AGL):	135
Frequency Bands	600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands	600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands	600 MHz / 700 MHz / 1900 MHz / 2100 MHz
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	6,858.31	ERP (W):	6,858.31	ERP (W):	6,858.31
Antenna A3 MPE%	**2.22**	Antenna B3 MPE%	**2.22**	Antenna C3 MPE%	**2.22**

Site Summary Tables

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**5.24 %**
Antenna 1	0.16%
Antenna 2	0.16%
Antenna 3	0.16%
Antenna 4	0.16%
Antenna 5	0.16%
Antenna 6	0.16%
Antenna 7	0.16%
Antenna 8	0.16%
Antenna 9	0.16%
Antenna 10	0.16%
Antenna 11	0.16%
Antenna 12	0.16%
Antenna 13	0.45%
Antenna 14	0.55%
Antenna 15	0.55%
Antenna 16	0.55%
Antenna 17	0.54%
Antenna 18	0.93%
Antenna 19	0.24%
Antenna 20	0.06%
TV Ch. 28	1.15%
Verizon Wireless	2.36%
Site Total MPE %:	**14.54 %**

T-Mobile Sector A Total:	5.24 %
T-Mobile Sector B Total:	5.24 %
T-Mobile Sector C Total:	5.24 %
Site Total:	14.54 %

T-Mobile Max Power Values (Per Sector)

T-Mobile _Max Values per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	4	2,334.27	135	20.17	AWS - 2100 MHz	1000	2.02%
T-Mobile PCS - 1900 MHz LTE	2	2,334.27	135	10.09	PCS - 1900 MHz	1000	1.01%
T-Mobile AWS - 2100 MHz UMTS	2	1,101.85	135	4.76	AWS - 2100 MHz	1000	0.48%
T-Mobile PCS - 1900 MHz GSM	2	1,028.30	135	4.44	PCS - 1900 MHz	1000	0.44%
T-Mobile 600 MHz LTE	2	619.61	135	2.68	600 MHz	400	0.67%
T-Mobile 700 MHz LTE	2	679.39	135	2.94	700 MHz	467	0.62%
						Total:	**5.24%**

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	5.24 %
Sector B:	5.24 %
Sector C:	5.24 %
T-Mobile Per Sector Maximum:	5.24 %
Site Total:	14.54 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **14.54%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

STRUCTURAL ANALYSIS REPORT

For

T-Mobile®

Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, NJ 07430

West Haven (CT11193A)
KM No. 140910.05

180' Self-Support Tower
24 Rockdale Road
West Haven, CT 06516
41.291205, -72.967881

Prepared By:

KM CONSULTING ENGINEERS, INC.
262 Upper Ferry Road, Ewing, NJ 08628
Ph: (609) 538-0400 www.kmengr.com

May 25, 2018

Prepared to ANSI/TIA-222-G-4 December 2014
Structural Standards for Antenna Supporting
Structures and Antennas

Transcend Wireless
West Haven (CT11193A)

TABLE OF CONTENTS

Load Case No. 1: Existing self-support tower with existing inventory and proposed T-Mobile installation.

1.0 EXECUTIVE SUMMARY

Structure

Owner/Manager: Radio Communications, Inc.

Location: 24 Rockdale Road
West Haven, CT 06516
41.291205, -72.967881

Manufacturer: Rohn

Equipment

Existing tower inventory plus the proposed installation are detailed in Section 2.0 "Tower Inventory."

Synopsis

Loading Case: The existing self-support tower with the existing inventory and proposed T-Mobile installation.

The tower superstructure meets the current ANSI/TIA-222-G standards and therefore is structurally adequate for the proposed loading. The tower superstructure is rated at 78.4% and the base foundation is rated at 54.9%.

2.0 TOWER INVENTORY

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' Dipole	191	RH 4x45-AWS (Verizon)	144.5
10' Whip	183.5	RH 2x60-700 (Verizon)	144.5
10' Dipole	183	RH 2x60-700 (Verizon)	144.5
10' Whip	182.5	RH 2x60-700 (Verizon)	144.5
6' Yagi	182	HTTA box (Verizon)	144.5
PG1N0F-0090-310	182	HTTA box (Verizon)	144.5
16' Whip	182	Stand-Off T-Frame (Verizon)	143.5
6' Yagi	182	Stand-Off T-Frame (Verizon)	143.5
21' Whip	182	Stand-Off T-Frame (Verizon)	143.5
21' Whip	181.5	Stand-Off T-Frame (T-Mobile)	135
21' Whip	181.5	Stand-Off T-Frame (T-Mobile)	135
20' Dipole	181.5	TMA (T-Mobile)	135
14' Inverted Whip	180 - 166	TMA (T-Mobile)	135
Top Platform	180	TMA (T-Mobile)	135
10' Inverted Whip	180 - 170	Stand-Off T-Frame (T-Mobile)	135
TMA	180	AIR32 B66Aa/B2a (T-Mobile)	135
TMA	180	AIR32 B66Aa/B2a (T-Mobile)	135
(2) Scala Panels	175.5	AIR32 B66Aa/B2a (T-Mobile)	135
Raycap (Verizon)	148.5	AIR 3246 B66 (T-Mobile)	135
BXA-171063-12BF (Verizon)	144.5	AIR 3246 B66 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	AIR 3246 B66 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-171063-8BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-171063-8BF (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	IBR1300	125
RH 2x60-PCS (Verizon)	144.5	Empty Mount	103
RH 2x60-PCS (Verizon)	144.5	2' yagi	102.5
RH 2x60-PCS (Verizon)	144.5	GPS	59.5
RH 4x45-AWS (Verizon)	144.5	(2) GPS	18
RH 4x45-AWS (Verizon)	144.5	(2) GPS	17.67

Proposed T-Mobile installation:

*relocation of (3) AIR32 B66A/B2A panel antennas @ 135' AGL
*(3) AIR 3246 B66 panel antennas @ 135' AGL
*(3) APXVAARR24 43-8-NA20 panel antennas @ 135' AGL
*(3) Radio 4449 B71/B12 @ 135' AGL
*(3) Radio 2217 B2 @ 135' AGL
*(1) 6x12 hybrid cable up to 135' AGL
*removal of (3) LNX6515DS-A1M panel antennas @ 135' AGL
*removal of (3) AIR21 B2A/B4P panel antennas @ 135' AGL
*removal of (3) RRUS11 B12 @ 135' AGL

3.0 COMMENTARY

Our scope of work is to determine if the existing structure is capable of withstanding the additional stresses/forces imposed by the installation of the proposed T-Mobile equipment noted in the tower inventory.

Tower structure information and foundation information was obtained from previous structural analyses by KMCE. The tower has been reinforced as per KMCE drawings in November 1997, July 2002, January 2009, August 2012, and December 2014. The existing tower inventory was determined from a tower climb and mapping completed on February 16, 2015. The proposed loading was obtained from an RFDS dated April 18, 2018 and from correspondence with the client.

The following report will provide analytical calculations and commentary regarding the capacity of the proposed tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating field inspection and tower member data into proprietary software designed specifically for communication tower analysis.

These programs run in conjunction with the guidelines set down in the ANSI/TIA-222-G (Addendum 4) Dec 2014 Standard entitled "Structural Standards for Antenna Supporting Structures and Antennas."

The existing tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (i.e. wind pressure directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for worst case scenarios. In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of antennas in the scenarios stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

Should the client require to be furnished with a full copy of our analysis, we will gladly do so.

Codes and Standards

ACI - *American Concrete Institute - Building Code Requirements for Structural Concrete* (ACI 318-08), 2008

AISC - *American Institute of Steel Construction - Manual of Steel Construction, Allowable Stress Design, 13th edition*, 2005

TIA - Telecommunications Industry Association - *ANSI/TIA-222-G-4 Structural Standards for Antenna Supporting Structures and Antennas*, 2014

CSBC - Connecticut State Building Code 2016

ASCE - *Minimum Design Loads for Buildings and Other Structures* (ASCE/SEI 7-05)

5.0 TOWER ANALYSIS RESULTS

The tower was analyzed for the inventory detailed in Section 2.0 “Tower Inventory”.

The basic wind speed of 97 MPH with no radial ice in accordance with ANSI/TIA-222-G is taken from Appendix N in the 2016 Connecticut State Building Code for the nominal design wind speed for the municipality of West Haven, CT. The basic wind speed of 50 MPH concurrent with ¾” design ice thickness is taken from the ANSI/TIA-222-G listing applicable for New Haven County, CT. Additional criteria include Structure Class II, Exposure Category B, and Topographic Category 1.

> **Loading Case:** Proposed loading includes the relocation of (3) AIR32 B66A/B2A panel antennas, and the addition of (3) AIR 3246 B66 panel antennas, (3) APXVAARR24 43-8-NA20 panel antennas, (3) Radio 4449 B71/B12, (3) Radio 2217 B2, and (1) 6x12 hybrid cable, and the removal of (3) LNX6515DS-A1M panel antennas, (3) AIR21 B2A/B4P panel antennas, and (3) RRUS11 B12.

The tower superstructure meets the current ANSI/TIA-222-G standards and therefore can handle the proposed loading. The tower superstructure is rated at 78.4% and the base foundation is rated at 54.9%.

Table 1. Foundation Capacity

Loading	Actual (kip)	Allowable (kip)	Rating
Uplift force	210.9	384	54.9%

6.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower superstructure has sufficient capacity to support the proposed T-Mobile installation and therefore meets the current ANSI/TIA-222-G design standards.

Please do not hesitate to contact our office with any questions or concerns regarding this report.

Sincerely,
KM CONSULTING ENGINEERS, INC

Domenic Aversa, PE
Project Manager

Reviewed and Approved by:

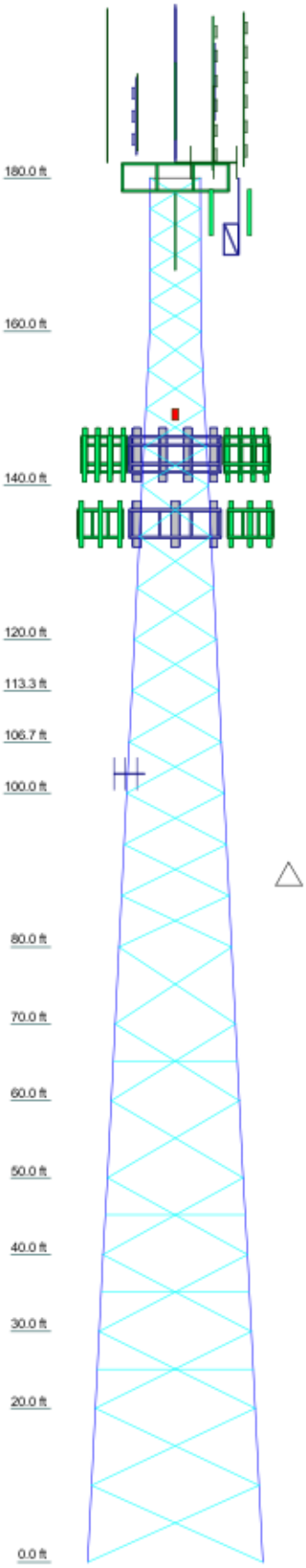
5/25/18

Michael L. Bohlinger, PE
Principal
CT License #20405

7.0 APPENDIX

LOADING CASE

Section		T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs		F	ROHN 5 X-STR (GR) w/ 5/8" Cable				E		D		C		B	A	ROHN 2 STD (GR)
Leg Grade		A572-50													
Diagonals		4x4x1/4 w/ sch 40	I		L3 1/2x3 1/2x1/4				L3x3x1/4			H	G	L1 3/4x1 3/4x1/8	L1 1/2x1 1/2x1/8
Diagonal Grade		A572-50													
Top Girts		N.A.												L3x3x1/4	
Sec. Horizontals		N.A.	L3 1/2x3 1/2x1/4			N.A.	J		N.A.						
Face Width (ft)	22.8	20.775	19.7625	18.75	17.7375	16.725	15.7125	14.7	12.675	12	11.325	10.65	8.625	6.6	6.5
# Panels @ (ft)		8 @ 10							9 @ 6.666667					4 @ 5	5 @ 4
Weight (lb)	28620.1	9553.7	2216.3	2159.1	1906.1	1569.2	1760.1	1378.2	2666.0	712.7	547.6	537.1	1626.6	880.1	666.2



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' Dipole	191	RH 4x45-AWS (Verizon)	144.5
10' Whip	183.5	RH 2x60-700 (Verizon)	144.5
10' Dipole	183	RH 2x60-700 (Verizon)	144.5
10' Whip	182.5	RH 2x60-700 (Verizon)	144.5
6' Yagi	182	HTTA box (Verizon)	144.5
PG 1N0F-0090-310	182	HTTA box (Verizon)	144.5
16' Whip	182	Stand-Off T-Frame (Verizon)	143.5
6' Yagi	182	Stand-Off T-Frame (Verizon)	143.5
21' Whip	182	Stand-Off T-Frame (Verizon)	143.5
21' Whip	181.5	Stand-Off T-Frame (T-Mobile)	135
21' Whip	181.5	Stand-Off T-Frame (T-Mobile)	135
20' Dipole	181.5	TMA (T-Mobile)	135
14' Inverted Whip	180 - 166	TMA (T-Mobile)	135
Top Platform	180	TMA (T-Mobile)	135
10' Inverted Whip	180 - 170	Stand-Off T-Frame (T-Mobile)	135
TMA	180	AIR 32 B66Aa/B2a (T-Mobile)	135
TMA	180	AIR 32 B66Aa/B2a (T-Mobile)	135
(2) Scala Panels	175.5	AIR 32 B66Aa/B2a (T-Mobile)	135
Raycap (Verizon)	148.5	AIR 3246 B66 (T-Mobile)	135
BXA-171063-12BF (Verizon)	144.5	AIR 3246 B66 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	AIR 3246 B66 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-80063-6BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-171063-8BF (Verizon)	144.5	APXVAARR24 43-U-NA20 (T-Mobile)	135
BXA-171063-8BF (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 4449 B71 B12 (T-Mobile)	135
(2) JAHH-45B-R3B (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	Radio 2217 B2 (T-Mobile)	135
BSAMNT-SBS-2-2 (Verizon)	144.5	IBR 1300	125
RH 2x60-PCS (Verizon)	144.5	Empty Mount	103
RH 2x60-PCS (Verizon)	144.5	2' yagi	102.5
RH 2x60-PCS (Verizon)	144.5	GPS	59.5
RH 4x45-AWS (Verizon)	144.5	(2) GPS	18
RH 4x45-AWS (Verizon)	144.5	(2) GPS	17.67

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD (GR) w/ 5/8" Cable	F	ROHN 6 EH (GR) w/ 5/8" Cable (GR)
B	ROHN 2.5 X-STR (GR) w/ 5/8" Cable	G	L2x2x1/8 w/1.5" sch 40 pipe
C	ROHN 3 X-STR (GR) w/ 5/8" Cable	H	L2 1/2x2 1/2x3/16
D	ROHN 4 X-STR (GR) w/ 5/8" Cable	I	L3.5x3.5x1/4 w/ 2x1/4 plate
E	ROHN 5 STD (GR) w/ 5/8" Cable	J	L3 1/2x3 1/2x1/4

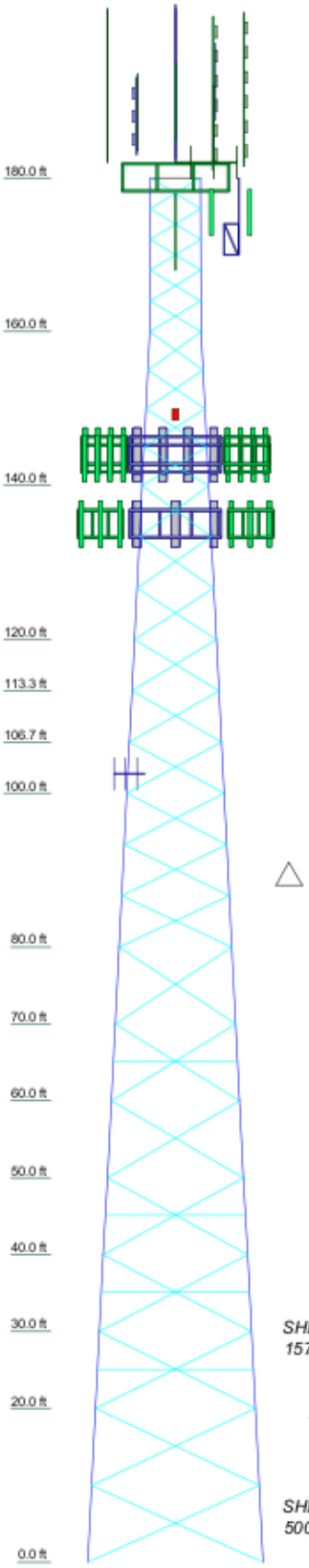
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

KM Consulting Engineers, Inc.
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:
Consulting Engineers

Job: West Haven LC1			
Project: 180 ft. Self Support Tower			
Client: Transcend Wireless	Drawn by: DA	App'd:	
Code: TIA-222-G	Date: 05/25/18	Scale: NTS	
Path: K:\Transcend Wireless\West Haven\Engineering\West Haven LC1.eri		Dwg No. E-1	

Section		T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs		F	ROHN 5 X-STR (GR) w/ 5/8" Cable				E		D		C		B	A	ROHN 2 STD (GR)
Leg Grade		A572-50													
Diagonals		4x4x1/4 w/ sch 40	I		L3 1/2x3 1/2x1/4				L3x3x1/4			H	G	L1 3/4x1 3/4x1/8	L1 1/2x1 1/2x1/8
Diagonal Grade		A572-50													
Top Girts		N.A.													L3x3x1/4
Sec. Horizontals	22.8	N.A.	L3 1/2x3 1/2x1/4			N.A.	J		N.A.						
Face Width (ft)		20.775	19.7625	18.75	17.7375	16.725	15.7125	14.7	12.675	12	11.325	10.65	8.625	6.6	6.5
# Panels @ (ft)		8 @ 10							9 @ 6.666667					4 @ 5	5 @ 4
Weight (lb)	28620.1	9553.7	2216.3	2159.1	1906.1	1569.2	1160.1	1319.2	2666.0	752.7	547.6	537.1	1626.6	880.1	666.2



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD (GR) w/ 5/8" Cable	F	ROHN 6 EH (GR) w/ 5/8" Cable (GR)
B	ROHN 2.5 X-STR (GR) w/ 5/8" Cable	G	L2x2x1/8 w/1.5" sch 40 pipe
C	ROHN 3 X-STR (GR) w/ 5/8" Cable	H	L2 1/2x2 1/2x3/16
D	ROHN 4 X-STR (GR) w/ 5/8" Cable	I	L3.5x3.5x1/4 w/ 2x1/4 plate
E	ROHN 5 STD (GR) w/ 5/8" Cable	J	L3 1/2x3 1/2x1/4

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Grouted pipe f'c is 8 ksi
9. Tower legs have 5/8" diameter stainless steel cable(40K tension) in grouted leg.
10. TOWER RATING: 78.4%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 255237 lb
SHEAR: 30884 lb

UPLIFT: -210851 lb
SHEAR: 25774 lb

AXIAL
120522 lb

SHEAR
15750 lb

MOMENT
1567295 lb-ft

TORQUE 7628 lb-ft
50 mph WIND - 0.7500 in ICE

AXIAL
47210 lb

SHEAR
50012 lb

MOMENT
4729029 lb-ft

TORQUE 4676 lb-ft
REACTIONS - 97 mph WIND

KM Consulting Engineers, Inc.
262 Upper Ferry Road
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Consulting Engineers

Job: **West Haven LC1**			
Project: ***180 ft. Self Support Tower***			
Client: Transcend Wireless	Drawn by: DA	App'd:	
Code: TIA-222-G	Date: 05/25/18	Scale: NTS	
Path: K:\Transcend Wireless\West Haven\Engineering\West Haven LC1.eri		Dwg No. E-1	

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

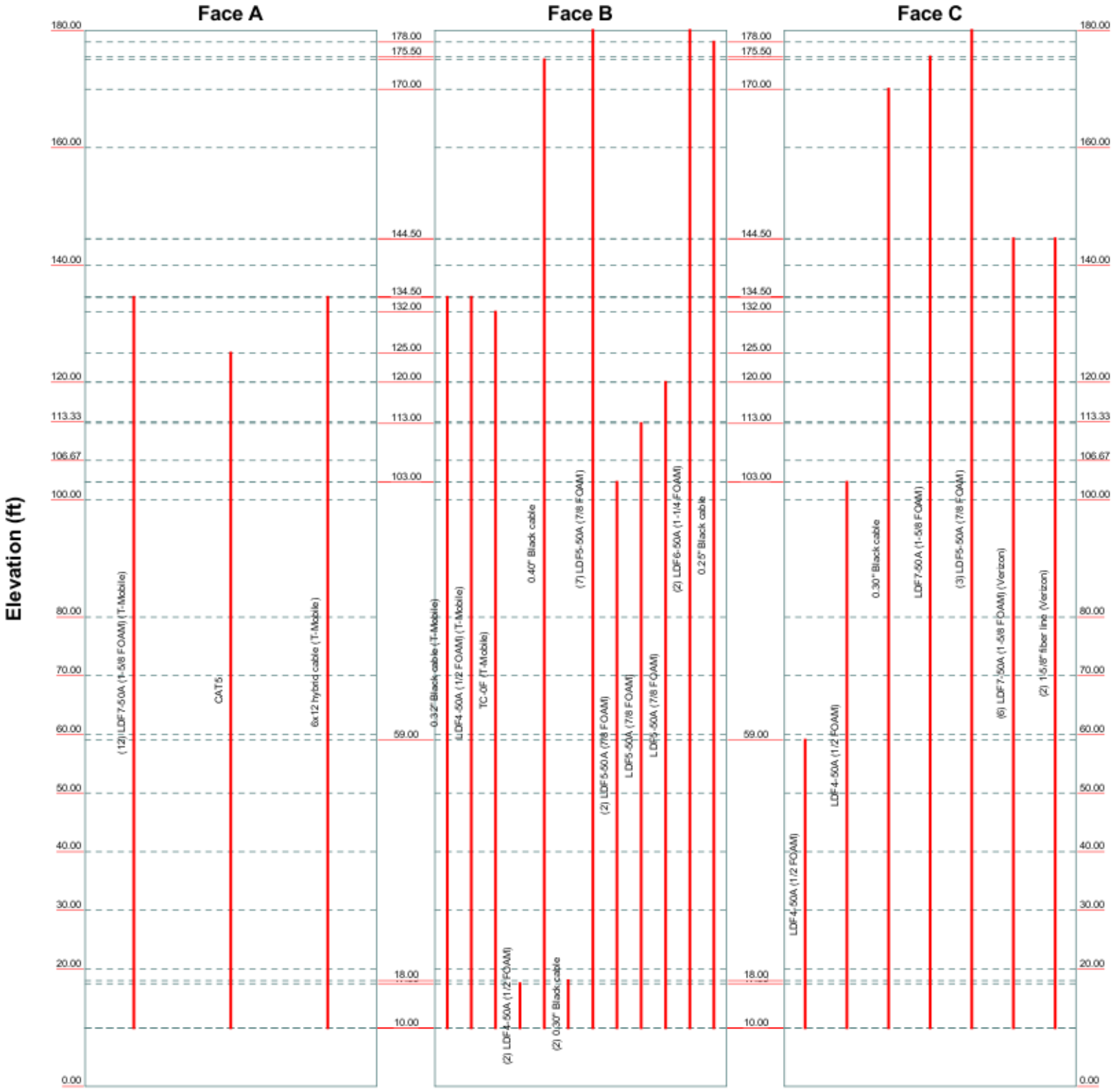
Elizabeth Jamieson

Elizabeth Jamieson
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
860-605-7808
EJamieson@TranscendWireless.com

cc:
Nancy R. Rossi - as elected official
RCC Communications Corp/Bob Knapp - as tower and property owner
Fred A. Messore - as Planning and Development Commissioner

Feed Line Distribution Chart
0' - 180'

Round | Flat | App In Face | App Out Face | Truss Leg



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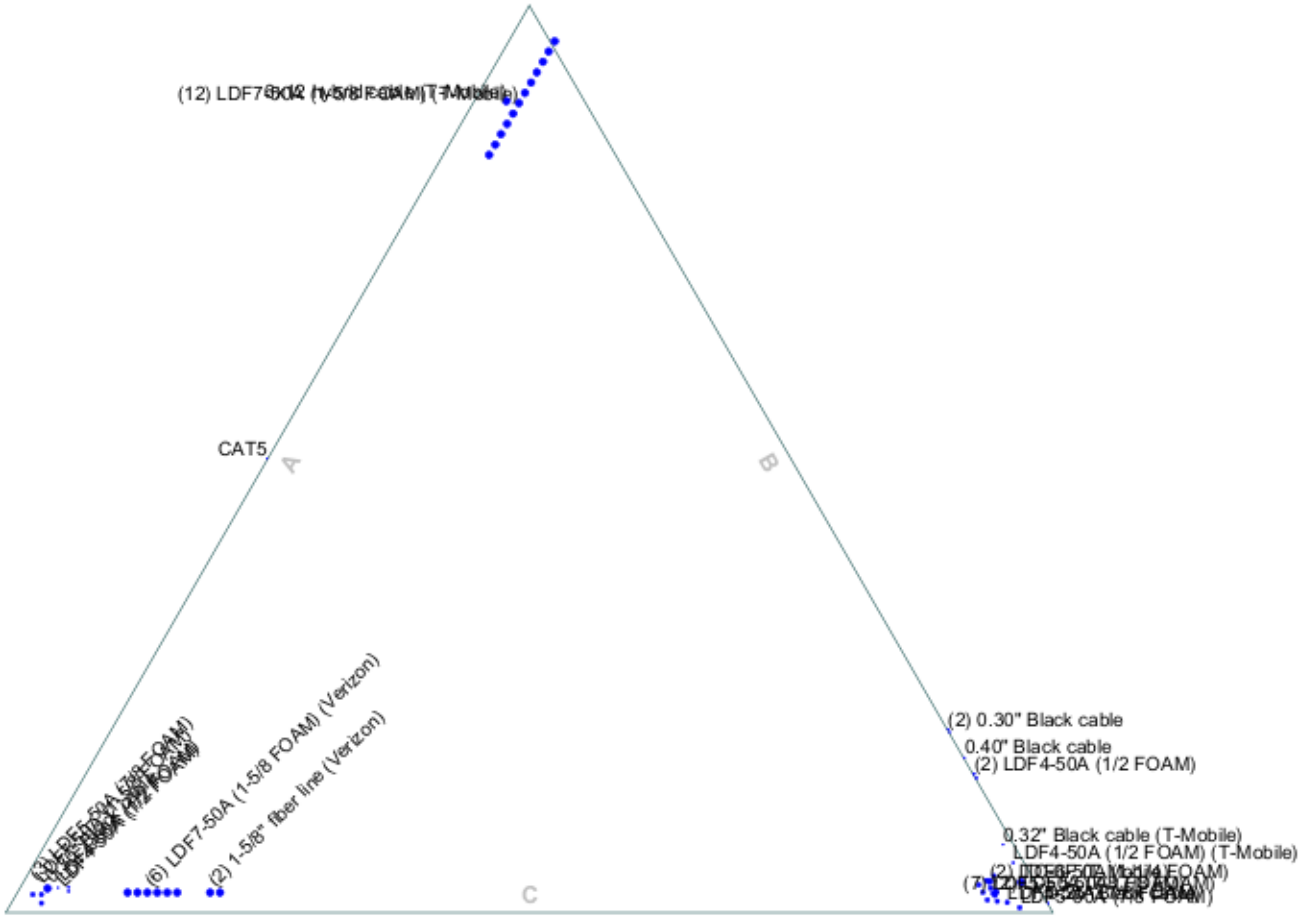
Path:	K:\Transcend Wireless\West Haven\Engineering\West Haven LC1.en		Dwg No. E-7

Feed Line Plan

Round Flat App In Face App Out Face



KM Consulting Engineers, Inc. 262 Upper Ferry Road Ewing, NJ 08628 Phone: (609) 538-0400 FAX:	Job: West Haven LC1		
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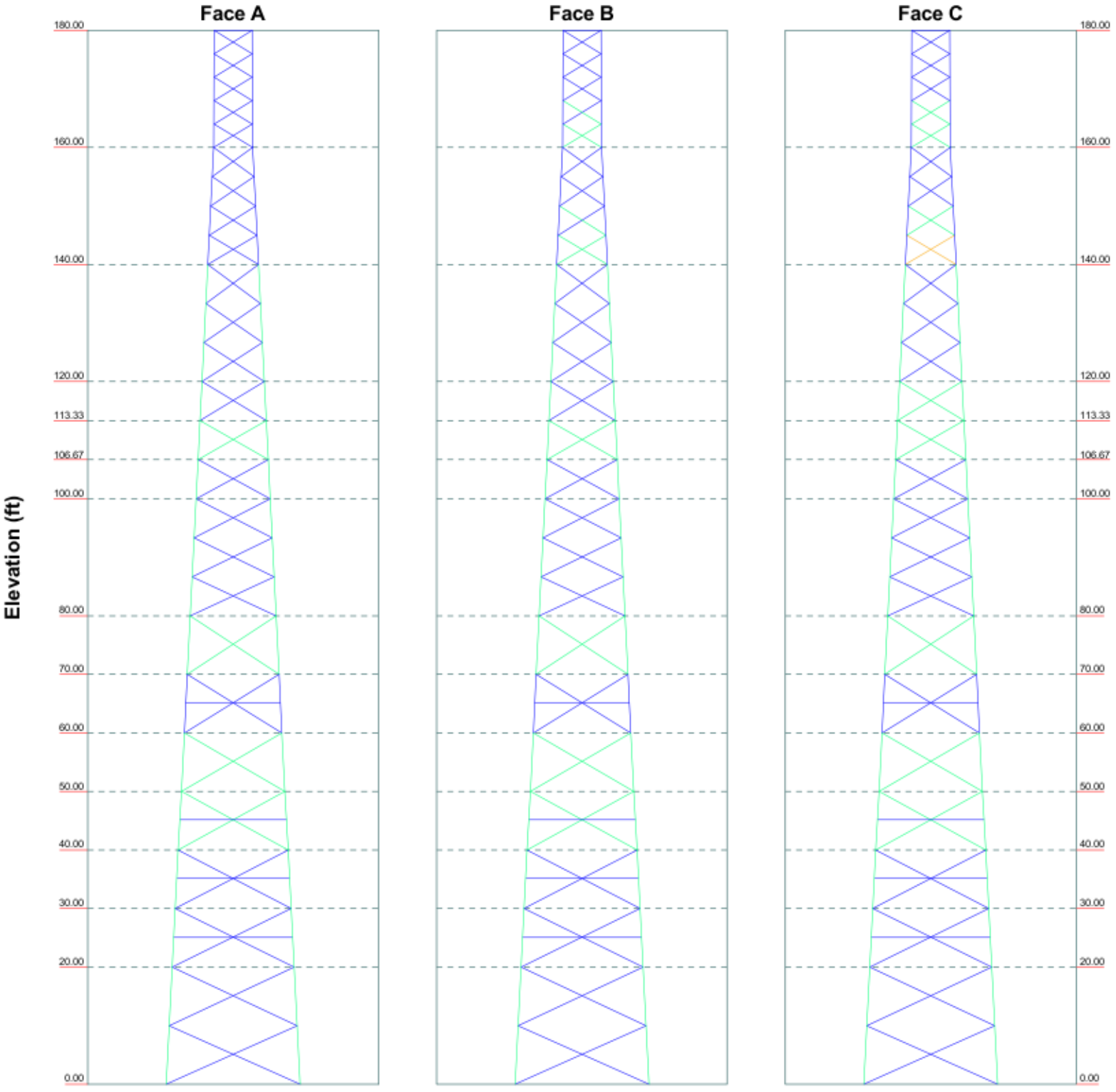
	Code: TIA-222-G	Date: 05/25/18	Scale: NTS
	Path: K:\Transcend Wireless\West Haven\Engineering\West Haven LC1.en		Dwg No. E-7

Stress Distribution Chart
0' - 180'

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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Client: Transcend Wireless	Drawn by: DA	App'd:	
Code: TIA-222-G	Date: 05/25/18	Scale: NTS	
Path: K:\Transcend Wireless\West Haven\Engineering\West Haven LC1.eri		Dwg No. E-8	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	180 - 160	Leg	ROHN 2 STD (GR)	2	-16522.70	47357.40	34.9	Pass
		Diagonal	L1 1/2x1 1/2x1/8	7	-2564.04	4237.09	60.5	Pass
		Top Girt	L3x3x1/4	4	-351.74	20560.00	1.7	Pass
T2	160 - 140	Leg	ROHN 2.5 STD (GR) w/ 5/8" Cable	38	-32716.00	85040.70	38.5	Pass
		Diagonal	L1 3/4x1 3/4x1/8	40	-3278.34	4183.54	78.4	Pass
T3	140 - 120	Leg	ROHN 2.5 X-STR (GR) w/ 5/8" Cable	65	-58491.90	89416.30	65.4	Pass
		Diagonal	L2x2x1/8 w/1.5" sch 40 pipe	67	-5237.53	10828.00	48.4	Pass
T4	120 - 113.333	Leg	ROHN 3 X-STR (GR) w/ 5/8" Cable	86	-67745.90	124199.00	54.5	Pass
		Diagonal	L2 1/2x2 1/2x3/16	88	-5401.31	10126.70	53.3	Pass
T5	113.333 - 106.667	Leg	ROHN 3 X-STR (GR) w/ 5/8" Cable	95	-77440.20	124199.00	62.4	Pass
		Diagonal	L2 1/2x2 1/2x3/16	97	-5643.13	9436.58	59.8	Pass
T6	106.667 - 100	Leg	ROHN 3 X-STR (GR) w/ 5/8" Cable	104	-86990.30	124199.00	70.0	Pass
		Diagonal	L3x3x1/4	106	-5990.23	18704.30	32.0 37.7 (b)	Pass
T7	100 - 80	Leg	ROHN 4 X-STR (GR) w/ 5/8" Cable	113	-117866.00	225464.00	52.3	Pass
		Diagonal	L3x3x1/4	115	-6801.95	15584.40	43.6	Pass
T8	80 - 70	Leg	ROHN 5 STD (GR) w/ 5/8" Cable	134	-130752.00	253652.00	51.5	Pass
		Diagonal	L3x3x1/4	136	-7909.99	12316.40	64.2	Pass
T9	70 - 60	Leg	ROHN 5 STD (GR) w/ 5/8" Cable	143	-146699.00	335317.00	43.7	Pass
		Diagonal	L3 1/2x3 1/2x1/4	145	-8456.12	17388.70	48.6	Pass
		Secondary Horizontal	L3 1/2x3 1/2x1/4	151	-2544.16	16359.70	15.6	Pass
T10	60 - 50	Leg	ROHN 5 X-STR (GR) w/ 5/8" Cable	155	-163244.00	262883.00	62.1	Pass
		Diagonal	L3 1/2x3 1/2x1/4	157	-8638.60	16180.50	53.4	Pass
T11	50 - 40	Leg	ROHN 5 X-STR (GR) w/ 5/8" Cable	164	-179176.00	347755.00	51.5	Pass
		Diagonal	L3 1/2x3 1/2x1/4	167	-9367.14	15078.40	62.1	Pass
		Secondary Horizontal	L3 1/2x3 1/2x1/4	173	-3107.38	13774.00	22.6	Pass
T12	40 - 30	Leg	ROHN 5 X-STR (GR) w/ 5/8" Cable	176	-195969.00	347854.00	56.3	Pass
		Diagonal	L3.5x3.5x1/4 w/ 2x1/4 plate	179	-9610.82	34444.50	27.9 38.7 (b)	Pass
		Secondary Horizontal	L3 1/2x3 1/2x1/4	184	-3398.62	12705.40	26.7	Pass
T13	30 - 20	Leg	ROHN 5 X-STR (GR) w/ 5/8" Cable	188	-212329.00	347943.00	61.0	Pass
		Diagonal	L3.5x3.5x1/4 w/ 2x1/4 plate	191	-10059.30	31753.50	31.7 40.5 (b)	Pass
		Secondary Horizontal	L3 1/2x3 1/2x1/4	196	-3682.36	11756.50	31.3	Pass
T14	20 - 0	Leg	ROHN 6 EH (GR) w/ 5/8" Cable (GR)	200	-246934.00	397313.00	62.2	Pass
		Diagonal	4x4x1/4 w/ sch 40	204	-10585.00	77127.90	13.7 21.3 (b)	Pass
						Summary		
						Leg (T6)	70.0	Pass
						Diagonal (T2)	78.4	Pass
						Secondary Horizontal (T13)	31.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Top Girt (T1)	1.7	Pass
						Bolt Checks	42.8	Pass
						RATING =	**78.4**	**Pass**

T-Mobile

WEST HAVEN

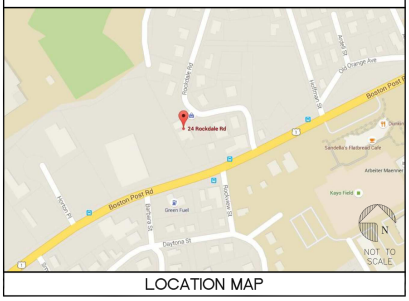
24 ROCKDALE ROAD
WEST HAVEN, CT 06516
SITE ID: CT11193A

PROJECT DESCRIPTION

T-MOBILE IS PROPOSING TO REMOVE (1) EXISTING AIR21 B2A/B4P ANTENNA AT POSITION 3 AT EACH SECTOR AND RELOCATE (1) EXISTING AIR 32 B2A/B66A ANTENNA FROM POSITION 2 TO POSITION 3 AT EACH SECTOR AND REPLACE (1) EXISTING LNX-6515DS-A1M ANTENNA WITH PROPOSED AIR 3246 B66 ANTENNA AT POSITION 1 FOR EACH SECTOR. (1) RRUS 11 B12 FROM EACH SECTOR TO BE REMOVED AND (1) TWIN STYLE 1B AWS TMA TO BE RELOCATED FROM POSITION 3 TO POSITION 2 ANTENNA FOR EACH SECTOR AND INSTALL (1) RADIO 2217 B2 AND (1) RADIO 4449 B12/B71 TO POSITION 2 ANTENNA AT EACH SECTOR.

A TOTAL OF (3) ANTENNAS TO BE RELOCATED, (6) ANTENNAS SWAPPED OUT, (3) TMA'S RELOCATED, (3) RRU'S REMOVED AND (6) RRH'S INSTALLED.

(2) EXISTING T-MOBILE NORTEL CABINETS AT GRADE ARE PROPOSED TO BE REMOVED. ALL EXISTING T-MOBILE CABLE LINES TO REMAIN.



LOCATION MAP

DRAWING INDEX

SHEET	SHEET TITLE
T-1	TITLE SHEET
S-1	SITE PLAN
S-2	TOWER ELEVATION
A-1	ANTENNA PLAN AND DETAILS
G-1	GROUNDING DETAILS
GN-1	GENERAL NOTES

SITE INFORMATION

PROPERTY OWNER:	RADIO COMMUNICATIONS SERVICES 24 ROCKDALE ROAD WEST HAVEN, CT 06516	LATITUDE:	41° 17' 26.52" N
APPLICANT:	T-MOBILE NORTHEAST LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002	LONGITUDE:	72° 58' 3.3954" W
		POWER COMPANY:	TBD
ARCHITECT/ ENGINEER:	KM CONSULTING ENGINEERS 262 UPPER FERRY ROAD EWING, NJ 08628	T-MOBILE CONTACT:	(860) 648-1116
SITE ADDRESS:	24 ROCKDALE ROAD WEST HAVEN, CT 06516	EXISTING/PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
COUNTY:	NEW HAVEN		
GROUND ELEVATION:	152'		

APPROVALS

LANDLORD:

CHAIRPERSON:

BOARD SECRETARY:

BOARD ENGINEER:

AERIAL MAP

LAST PLOTTED: Thursday, 31-May-2018, 09:22
K:\Transcend Wireless\West Haven (CT)

CLIENT:

Transcend Wireless

10 INDUSTRIAL AVE.
MAHWAH, NJ 07430
TEL: (201) 684-0055
FAX: (201) 684-0066

KM Consulting Engineers, Inc.
Wireless Engineering and Project Management
262 UPPER FERRY RD.
EWING, NEW JERSEY, 08628
PHONE: (609) 538-0400
E-MAIL: info@kmengr.com
WEB PAGE: http://www.kmengr.com
CERTIFICATION OF AUTHORIZATION: 24GA27089600

MICHAEL L. BOHLINGER, PE
CONNECTICUT PROFESSIONAL ENGINEER
LICENSE # 20405

REVISIONS

NO.	DATE:	DRN.:	DESCRIPTION:
2	5/25/18	DCA	PER CLIENT COMMENTS
1	5/16/18	DCA	PER CLIENT COMMENTS

PROJECT PARTICIPANTS

SITE ACQUISITION:
SIGN OFF INITL. _____ DATE: _____

RF ENGINEER.:
SIGN OFF INITL. _____ DATE: _____

CONSTR. SUPV.:
SIGN OFF INITL. _____ DATE: _____

A & E: KM CONSULTING ENGR.'S INC.

P.C.:	CHK'D.:	DRN.:	DATE:
	MLB	DA	5/8/18

PROJECT NAME:
WEST HAVEN

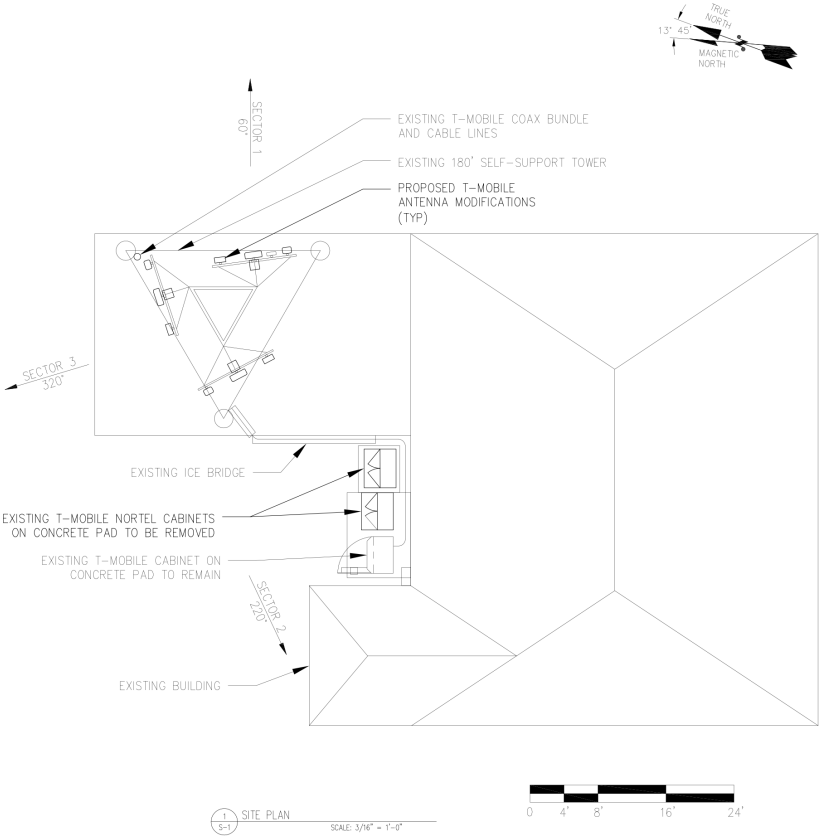
SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
TITLE SHEET

SITE ID #:	DRAWING #:	REV. #:
CT11193A	T-1	2

PROJECT #: 140910.05

FILE NAME: West Haven (CT11193A) CDs.dwg



1 S-1 SITE PLAN

SCALE: 3/16" = 1'-0"

NOTE:

GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY KM CONSULTING ENGINEERS, INC. DATED MAY 25TH, 2018 AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION.

GENERAL NOTES:

LIGHTING: EXISTING FACILITY WILL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.

GRADE: EXISTING GRADE WILL BE MAINTAINED FOR PROPOSED CONSTRUCTION.

SIGNAGE: EXTERIOR SIGNS ARE NOT PROPOSED EXCEPT AS REQUIRED BY THE FCC.

STORM WATER CONTROL: THE PROPOSED FACILITY WILL RESULT IN AN INSIGNIFICANT INCREASE IN STORM WATER RUNOFF. CONSEQUENTLY, NO WATER QUALITY CONTROL DEVICES ARE PROPOSED.

UTILITIES: SANITARY SEWER SERVICES AND POTABLE WATER ARE NOT APPLICABLE PER THE USE. IF APPLICABLE, SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.

DRIVEWAY: A DRIVEWAY PERMIT IS NOT REQUIRED FOR THIS PROJECT. THE PROJECT WILL NOT REQUIRE RIGHT OF WAY OR PROPERTY TO BE DEDICATED FOR PUBLIC USE.

MISC: NO NOISE, SMOKE, DUST, VAPORS OR ODOR WILL RESULT FROM THIS PROJECT.

CLIENT:

Transcend Wireless

10 INDUSTRIAL AVE.
MAHWAH, NJ 07430
TEL: (201) 684-0055
FAX: (201) 684-0066

KM Consulting Engineers, Inc.
Wireless Engineering and Project Management
2NZ UPPER PERRY RD.
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WEB PAGE: http://www.kmengr.com
CERTIFICATION OF AUTHORIZATION: 24GA27989600

MICHAEL L. BOHLINGER, PE
CONNECTICUT PROFESSIONAL ENGINEER
LICENSE # 20405

REVISIONS

NO.	DATE:	DRN.:	DESCRIPTION:
2	5/25/18	DCA	PER CLIENT COMMENTS
1	5/16/18	DCA	PER CLIENT COMMENTS

PROJECT PARTICIPANTS

SITE ACQUISITION: _____
SIGN OFF INITL. _____ DATE: _____

RF ENGINEER.: _____
SIGN OFF INITL. _____ DATE: _____

CONSTR. SUPV.: _____
SIGN OFF INITL. _____ DATE: _____

A & E: KM CONSULTING ENGR.'S INC.

P.C.:	CHKD.:	DRN.:	DATE:
	MLB	DA	5/8/18

PROJECT NAME:
WEST HAVEN

SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
SITE PLAN

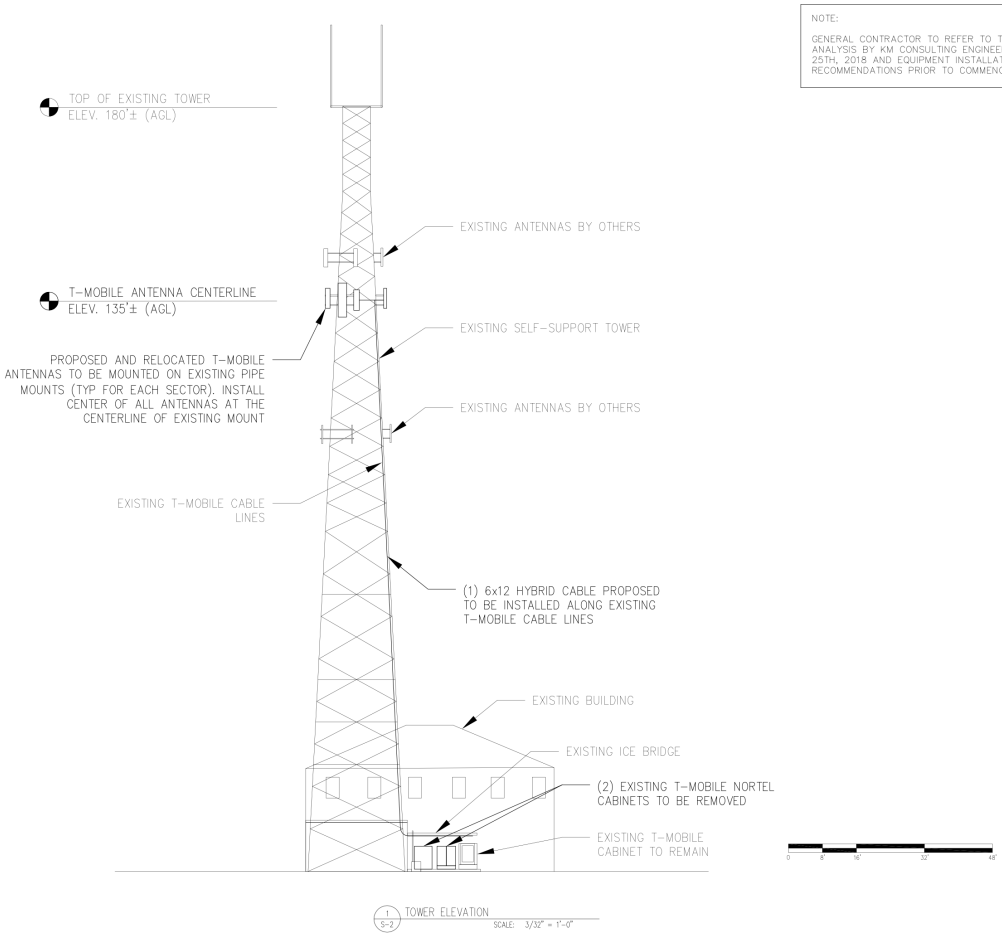
SITE ID #:	DRAWING #:	REV. #:
CT11193A	S-1	2
PROJECT #: 140910.05		

FILE NAME: West Haven (CT11193A) CDs.dwg

LAST PLOTTED: Thursday, 31-May-2018, 09:22
K:\Transcend Wireless\West Haven\CAD

NOTE:

GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY KM CONSULTING ENGINEERS, INC. DATED MAY 25TH, 2018 AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION.



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

LAST PLOTTED: Thursday, 31-May-2018, 09:22
K:\Transcend Wireless\West Haven (CT)\

CLIENT:
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10 INDUSTRIAL AVE. MAHWAH, NJ 07430
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RF ENGINEER.: _____
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CONSTR. SUPV.: _____
SIGN OFF INITL. _____ DATE: _____
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P.C.:	CHKD.:	DRN.:	DATE:
	MLB	DA	5/8/18

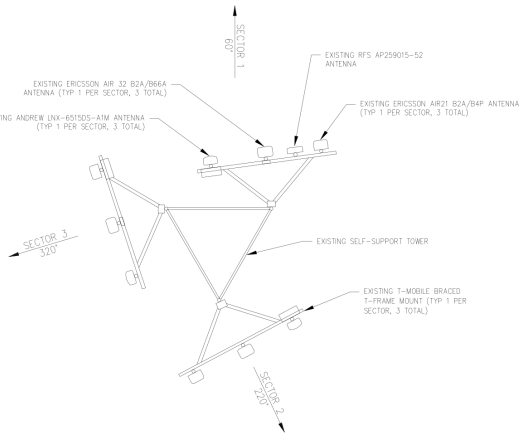
PROJECT NAME:
WEST HAVEN

SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
TOWER ELEVATION

SITE ID #:	DRAWING #:	REV. #:
CT11193A	S-2	2
PROJECT #: 140910.05		

FILE NAME: West Haven (CT11193A) CDs.dwg



1 A-1 EXISTING ANTENNA PLAN
SCALE: N.T.S.

NOTE:

GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS BY KM CONSULTING ENGINEERS, INC. DATED MAY 25TH, 2018 AND EQUIPMENT INSTALLATION RECOMMENDATIONS PRIOR TO COMMENCING CONSTRUCTION.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MANUFACTURER	MODEL	TMA/RRH	SIZE (HxWxD)
1	1	ANDREW	LNX-6515DS-A1M	RRUS 11 B12	107"x15.4"x11.6"
	2	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"
	3	ERICSSON	AIR21 B2A/B4P	TWIN STYLE 1B AWS TMA	55"x12"x7.9"
2	1	ANDREW	LNX-6515DS-A1M	RRUS 11 B12	107"x15.4"x11.6"
	2	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"
	3	ERICSSON	AIR21 B2A/B4P	TWIN STYLE 1B AWS TMA	55"x12"x7.9"
3	1	ANDREW	LNX-6515DS-A1M	RRUS 11 B12	107"x15.4"x11.6"
	2	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"
	3	ERICSSON	AIR21 B2A/B4P	TWIN STYLE 1B AWS TMA	55"x12"x7.9"

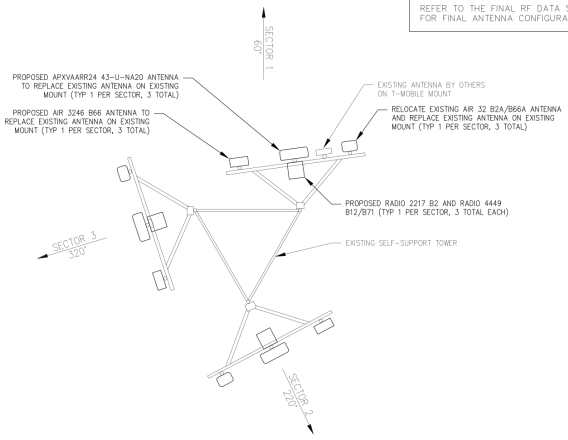
PROPOSED ANTENNA SCHEDULE

SECTOR	POSITION	MANUFACTURER	MODEL	TMA/RRH	SIZE (HxWxD)
1	1	ERICSSON	AIR 3246 B66		58.1"x15.75"x9.4"
	2	RFS	APXVAARR24 43-U-NA20	RADIO 2217 B2 RADIO 4449 B12/B71 TWIN STYLE 1B AWS TMA	95.9"x24"x8.7"
	3	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"
2	1	ERICSSON	AIR 3246 B66		58.1"x15.75"x9.4"
	2	RFS	APXVAARR24 43-U-NA20	RADIO 2217 B2 RADIO 4449 B12/B71 TWIN STYLE 1B AWS TMA	95.9"x24"x8.7"
	3	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"
3	1	ERICSSON	AIR 3246 B66		58.1"x15.75"x9.4"
	2	RFS	APXVAARR24 43-U-NA20	RADIO 2217 B2 RADIO 4449 B12/B71 TWIN STYLE 1B AWS TMA	95.9"x24"x8.7"
	3	ERICSSON	AIR 32 B2A/B66A		56.6"x12.9"x8.7"

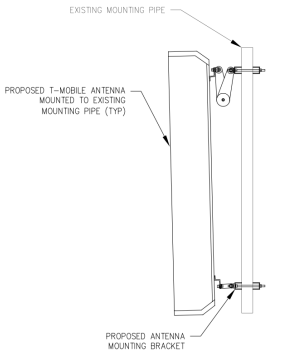
3 A-1 ANTENNA SPECIFICATION TABLE
SCALE:

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA CONFIGURATION



2 A-1 PROPOSED ANTENNA PLAN
SCALE: N.T.S.



3 A-1 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.

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	MLB	DA	5/8/18

PROJECT NAME:
WEST HAVEN

SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
ANTENNA PLAN & DETAILS

SITE ID #:	DRAWING #:	REV. #:
CT11193A	A-1	2
PROJECT #: 140910.05		

FILE NAME: West Haven (CT11193A) CDs.dwg

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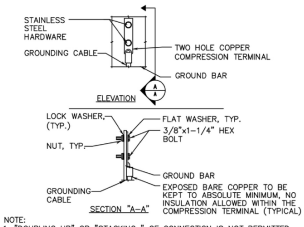
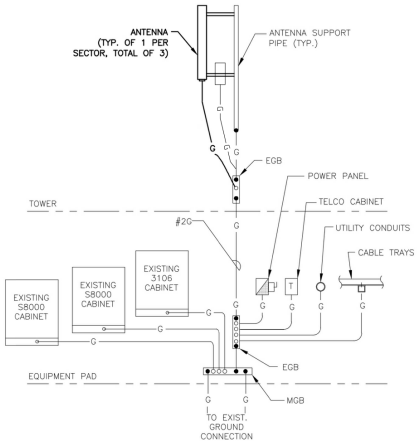


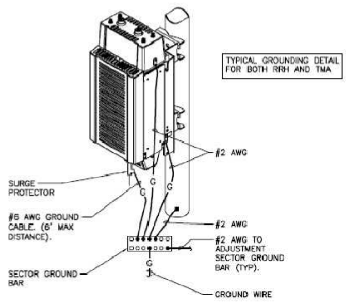
NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

1 G-1 GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



2 G-1 GROUNDING RISER DIAGRAM
SCALE: N.T.S.

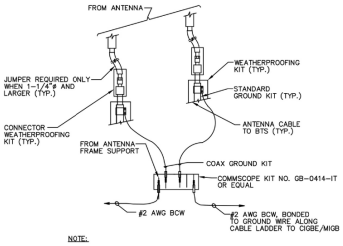
EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



3 G-1 RRU GROUNDING DETAIL
SCALE: N.T.S.

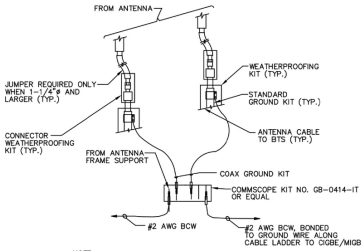
ELECTRICAL AND GROUNDING NOTES

1. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUNDS); GROUNDING ELECTRODE OR BUILDING STEEL; NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
2. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
3. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
4. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
5. BOND ANTENNA EGB'S AND MGB TO WATER MAIN
6. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
7. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
8. VERIFY PROPOSED SERVICE UPGRADE WITH LOCATION UTILITY COMPANY PRIOR TO CONSTRUCTION.



NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

4 G-1 GROUND WIRE TO GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

5 G-1 ANTENNA CABLE GROUNDING
SCALE: N.T.S.

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PROJECT PARTICIPANTS

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A & E: KM CONSULTING ENGR.'S INC.

P.C.:	CHKD.:	DRN.:	DATE:
	MLB	DA	5/8/18

PROJECT NAME:
WEST HAVEN

SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
GROUNDING DETAILS

SITE ID #:	DRAWING #:	REV. #:
CT11193A	G-1	2
PROJECT #: 140910.05		

FILE NAME: West Haven (CT11193A) CDs.dwg

LAST PLOTTED: Thursday, 31-May-2018, 09:23
K:\Transcend Wireless\West Haven (CT)\CDs\

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUNDING ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATIONS, RADIO, LIGHTNING PROTECTION, AND AC POWER GEC'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS, 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RUNG, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTING OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

GENERAL NOTES

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

   CONTRACTOR – TRANSCEND WIRELESS
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T-MOBILE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY THE CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSED AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTORS SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISED IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLES OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE 3 (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR WITH ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATIONS. ANY CONSTRUCTIN WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF THE CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: 2016 CONNECTICUT STATE BUILDING CODE.
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTNING CODE: REFER TO ELECTRICAL DRAWINGS

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

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

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION, ASD, 9TH EDITION

    ANSI/TIA-222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES

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

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1	5/16/18	DCA	PER CLIENT COMMENTS

PROJECT PARTICIPANTS

SITE ACQUISITION: _____
SIGN OFF INITL. _____ DATE: _____
RF ENGINEER.: _____
SIGN OFF INITL. _____ DATE: _____
CONSTR. SUPV.: _____
SIGN OFF INITL. _____ DATE: _____
A & E: KM CONSULTING ENGR.'S INC.

P.C.:	CHKD.:	DRN.:	DATE:
	MLB	DA	5/8/18

PROJECT NAME:
WEST HAVEN

SITE ADDRESS:
24 ROCKDALE ROAD
WEST HAVEN, CT 06516

DRAWING TITLE:
GENERAL NOTES

SITE ID #:	DRAWING #:	REV. #:
CT11193A	GN-1	2
PROJECT #: 140910.05		

FILE NAME: West Haven (CT11193A) CDs.dwg

LAST PLOTTED: Thursday, 31-May-2018, 09:23
K:\Transcend Wireless\West Haven (CT)\

UPS Internet Shipping: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

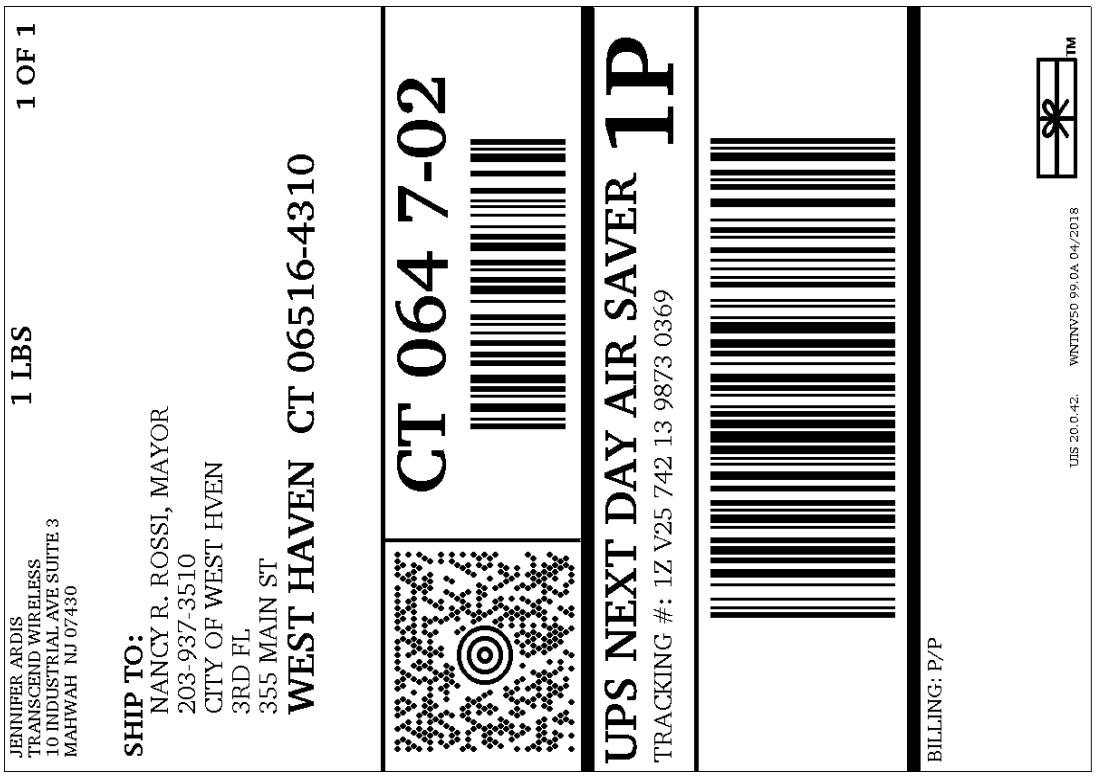
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the 'Find Locations' Quick link at ups.com.
   Schedule a same day or future day Pickup to have a UPS driver pickup all of your Internet Shipping packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
THE UPS STORE
115 FRANKLIN TPKE
MAHWAH ,NJ 07430

UPS Access Point™
THE UPS STORE
120 E MAIN ST
RAMSEY ,NJ 07446

UPS Access Point™
POSTNET 74
74 LAFAYETTE AVE
SUFFERN ,NY 10901

FOLD HERE



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