

January 14, 2020

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification
220 Winthrop Road, Deep River, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the top of the existing 180-foot tower at 220 Winthrop Road in Deep River, Connecticut (the “Property”). The Property is owned by the Town of Deep River. The tower is owned by SBA Communications (“SBA”). The Siting Council approved Cellco’s use of the tower in 2014 (TS-VER-036-140512). According to a 2018 Siting Council filing by SBA, on behalf of Sprint, a building permit was issued for the Deep River tower on August 24, 1998 (Permit No. 98-5-143), and the tower on Town property was exempt from local zoning requirements. Prior to making this filing, we did reach out to the Town to try to confirm this information and were told they didn’t have the time or the resources to research the issue.

Cellco now intends to modify its facility by replacing all of its existing antennas with six (6) new antennas, remove three (3) existing remote radio heads (“RRHs”), and install six (6) new RRHs. A set of project plans showing the proposed facility modifications and specifications for Cellco’s antennas and RRHs are included in Attachment 1.

Please accept this letter as notification pursuant to R.C.S.A. § 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 Deep River’s First Selectman, Angus L. McDonald, Jr.; Julie Pudem, Deep River’s Zoning Enforcement Officer; and SBA, the owner of the tower.

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

20223932-v1

Robinson+Cole

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January 14, 2020
Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be installed at a centerline height of 178 feet on the 180-foot tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 installation of new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density calculation table for each of Cellco's operating frequencies, for the modified facility is included in Attachment 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower, its foundation and the antenna mounting brackets, with certain modifications, can support Cellco's proposed equipment modifications. (See Structural Analysis Report and Mount Analysis Opinion Letter included in Attachment 3).

A copy of the parcel map and Property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials is included in Attachment 5.

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

Sincerely,



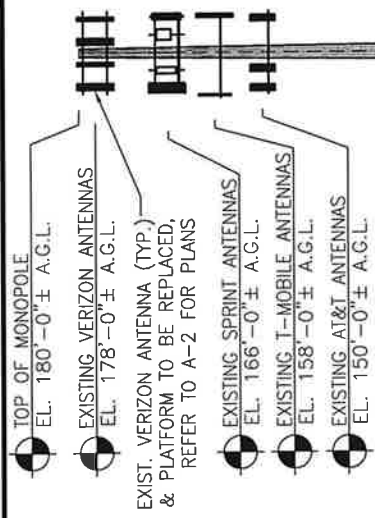
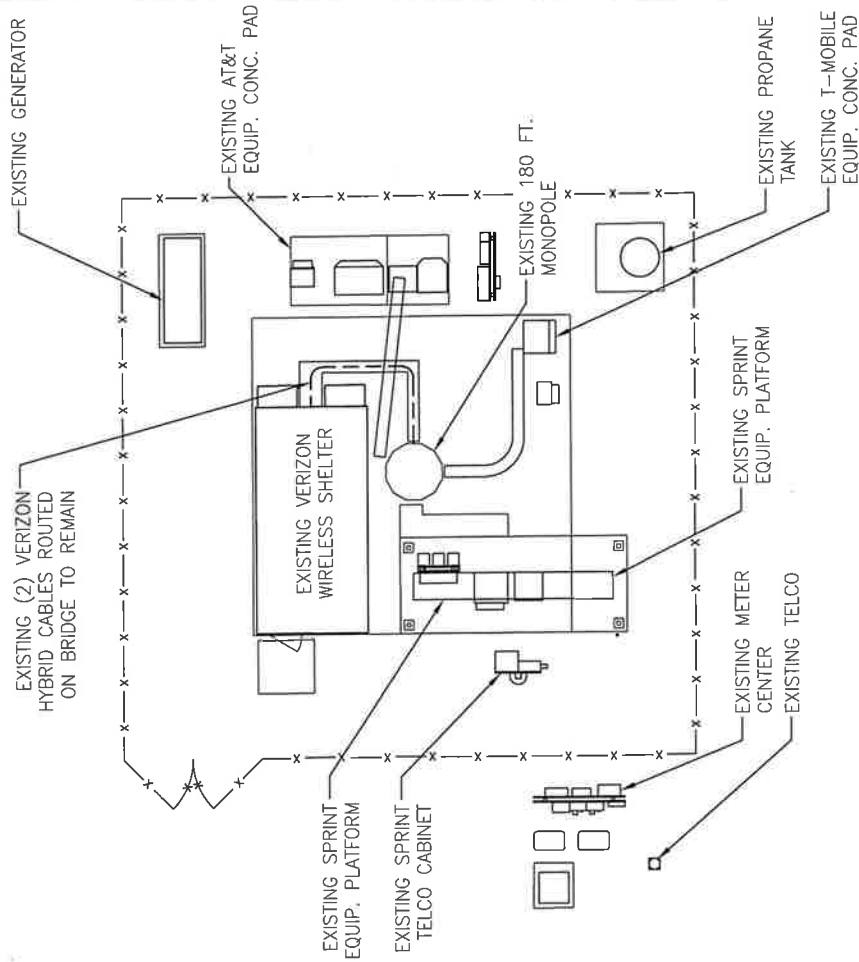
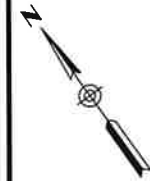
Kenneth C. Baldwin

Enclosures

Copy to:

Angus L. McDonald, Jr., Deep River First Selectman
Julie Pudem, Deep River Zoning Enforcement Officer
SBA Communications
Tim Parks

ATTACHMENT 1



NOTE: REFER TO STRUCTURAL TOWER ANALYSIS (PASSED BY SBA) AND VERIZON ANTENNA "NEW MOUNT" OPINION LETTER (PASSED), BY PAUL J. FORD UNDER SEPARATE COVER.

GRADE

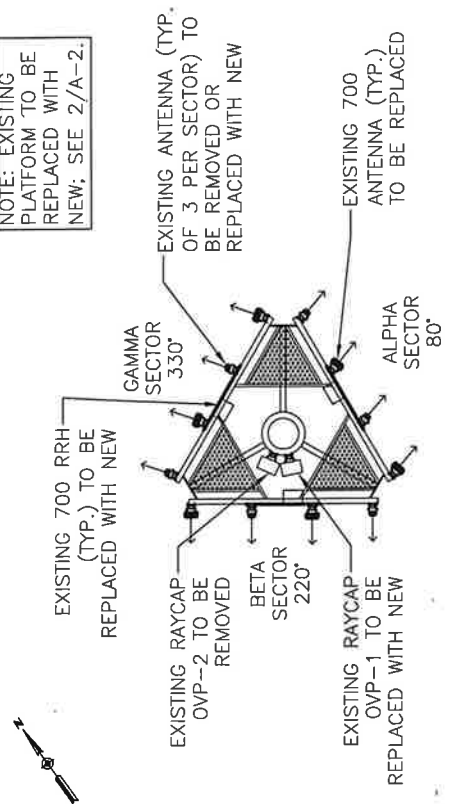
<p>WIRELESS COMMUNICATIONS FACILITY</p> <p>20 ALEXANDER DRIVE WALLINGFORD, CT 06492</p>		<p>On Air Engineering, LLC</p> <p>88 Pondary Pond Road Canaan, CT 06026 203-436-1031 onair@onairinc.net</p>		<p>PROFESSIONAL ENGINEER MARK A. REINWALD NO. 22144 STATE OF CONNECTICUT LICENSED PROFESSIONAL ENGINEER</p>	
<p>PROJECT NAME: A WS-PCS-850 LTE CARRIER ADD CABLE DRAWINGS</p>		<p>SITE NAME: DEEP RIVER WEST CT</p>		<p>SITE ADDRESS: SBA SITE # CT46130 220 WINTHROP RD. DEEP RIVER, CT 06417</p>	
<p>COMPOUND PLAN & ELEVATION</p>		<p>SHEET NUMBER: A-1</p>		<p>DATE: _____</p> <p>DESCRIPTION: _____</p> <p>REVISION: _____</p> <p>BY: _____</p> <p>DATE: _____</p>	

2 ELEVATION
Scale: N.T.S.

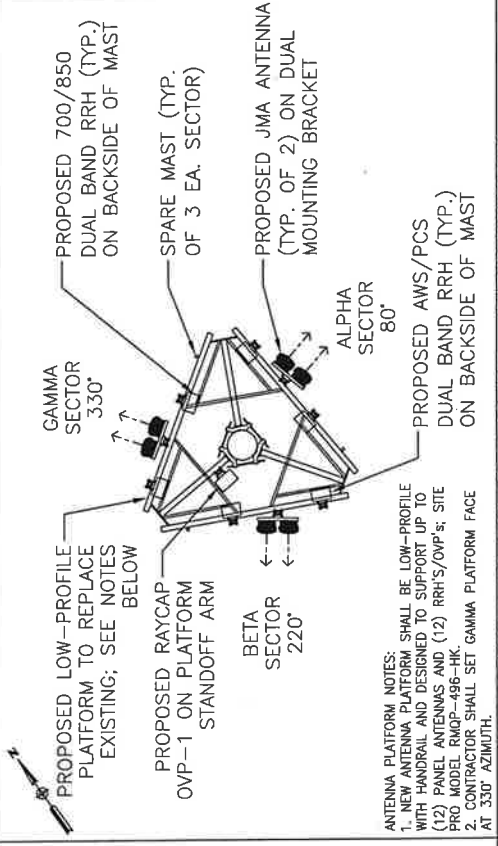
1 COMPOUND PLAN
Scale: 3/32" = 1'-0"

NOTES:
1. COMPOUND PLAN IS BASED EXISTING DRAWINGS ON FILE WITH THE CT PLANNING AND ZONING DEPARTMENT AND A LIMITED DESIGN VISIT ON 10-04-19 FOR A PROPOSED ANTENNA MODIFICATION. A COMPOUND SURVEY WAS NOT PERFORMED.
2. PLANS ARE DIAGRAMMATIC ONLY AND NOT TO BE SCALED.
3. REFER TO STRUCTURAL TOWER ANALYSIS BY OTHERS.

NOTE: EXISTING PLATFORM TO BE REPLACED WITH NEW; SEE 2/A-2.



1 ANTENNA PLAN @ 178 FT. - EXISTING
Scale: 1/8" = 1'-0"



ANTENNA PLATFORM NOTES:
1. NEW ANTENNA PLATFORM SHALL BE LOW-PROFILE WITH HANDRAIL AND DESIGNED TO SUPPORT UP TO (12) PANEL ANTENNAS AND (12) RRH'S/OVP'S; SITE PRO MODEL RMOF-496-HK.
2. CONTRACTOR SHALL SET GAMMA PLATFORM FACE AT 330° AZIMUTH.

2 ANTENNA PLAN @ 178 FT. - PROPOSED
Scale: 1/8" = 1'-0"

verizon
WIRELESS COMMUNICATIONS FACILITY
30 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Freedom Road
Cold Spring, NY 10516
201-456-4624
onair@onairline.net



PROJECT NO. 178-0001
DATE: 08/14/18

NO.	DATE	DESCRIPTION
1	08/14/18	ISSUED FOR PERMIT
2	08/14/18	ISSUED FOR PERMIT
3	08/14/18	ISSUED FOR PERMIT
4	08/14/18	ISSUED FOR PERMIT
5	08/14/18	ISSUED FOR PERMIT
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19	08/14/18	ISSUED FOR PERMIT
20	08/14/18	ISSUED FOR PERMIT

NO.	DATE	DESCRIPTION
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20	08/14/18	ISSUED FOR PERMIT

PROJECT NAME:
**AWS-PCS-850 LTE
CARRIER ADD
CABLE DRAWINGS**

SITE NAME:
DEEP RIVER WEST CT

SITE ADDRESS:
**SBA SITE # CT46130
220 WINTHROP RD.
DEEP RIVER, CT 06417**

SHEET TITLE:
ANTENNA PLANS

SHEET NUMBER:
A-2



NO.	DATE	REVISION
1	01/18/18	REVISED
2	01/23/18	REVISED
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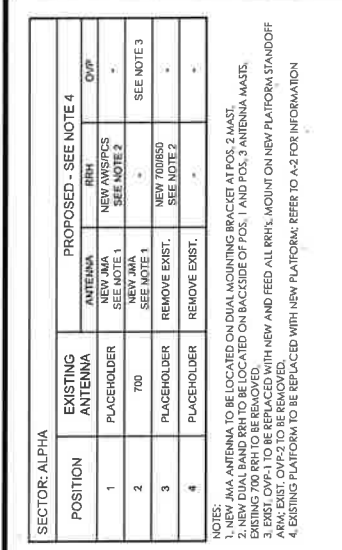
PROJECT NAME:
A WS-PCS-850 LTE
CARRIER ADD
CABLE DRAWINGS

SITE NAME:
DEEP RIVER WEST CT

SITE ADDRESS:
SBA SITE # CT46130
220 WINTHROP RD.
DEEP RIVER, CT 06417

SHEET TITLE:
ANTENNA SECTOR
CONFIGURATIONS

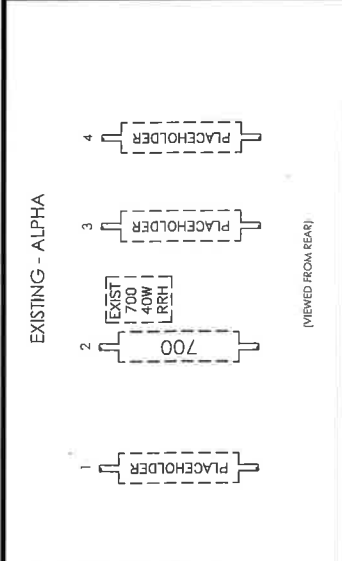
SHEET NUMBER:
A-3



SECTOR: ALPHA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

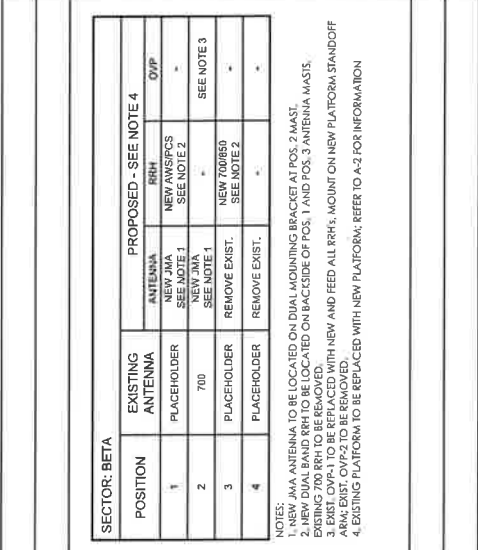
NOTES:
1. NEW JMA ANTENNA TO BE LOCATED ON DUAL MOUNTING BRACKET AT POS. 2 MAST.
2. NEW DUAL BAND RRR TO BE LOCATED ON BACKSIDE OF POS. 1 AND POS. 3 ANTENNA MASTS. EXISTING 700 RRR TO BE REMOVED.
3. EXIST. OVP-1 TO BE REPLACED WITH NEW AND FEED ALL RRRs. MOUNT ON NEW PLATFORM STANDOFF ARM. EXIST. OVP-2 TO BE REMOVED.
4. EXISTING PLATFORM TO BE REPLACED WITH NEW PLATFORM; REFER TO A-2 FOR INFORMATION



SECTOR: BETA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

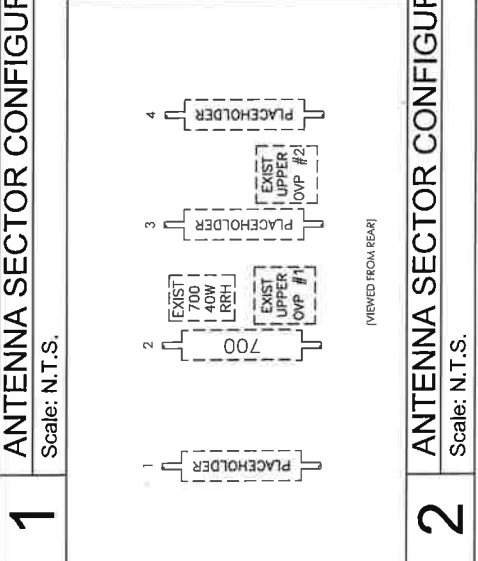
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4. EXISTING PLATFORM TO BE REPLACED WITH NEW PLATFORM; REFER TO A-2 FOR INFORMATION



SECTOR: GAMMA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

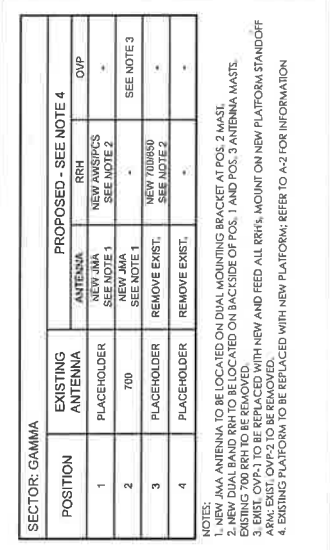
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4. EXISTING PLATFORM TO BE REPLACED WITH NEW PLATFORM; REFER TO A-2 FOR INFORMATION



SECTOR: ALPHA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

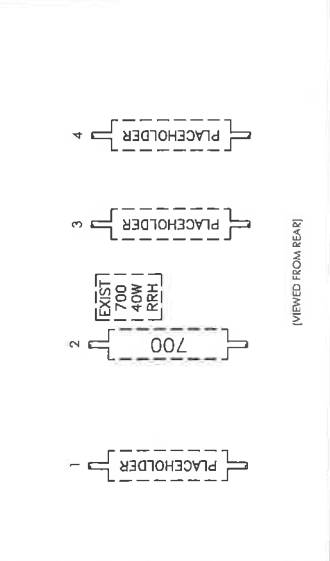
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SECTOR: BETA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

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4. EXISTING PLATFORM TO BE REPLACED WITH NEW PLATFORM; REFER TO A-2 FOR INFORMATION



SECTOR: GAMMA

POSITION	EXISTING ANTENNA	PROPOSED - SEE NOTE 4	
		ANTENNA	RRH
1	PLACEHOLDER	NEW JMA SEE NOTE 1	OVP
2	700	NEW JMA SEE NOTE 1	SEE NOTE 3
3	PLACEHOLDER	REMOVE EXIST.	NEW 700R850 SEE NOTE 2
4	PLACEHOLDER	REMOVE EXIST.	SEE NOTE 2

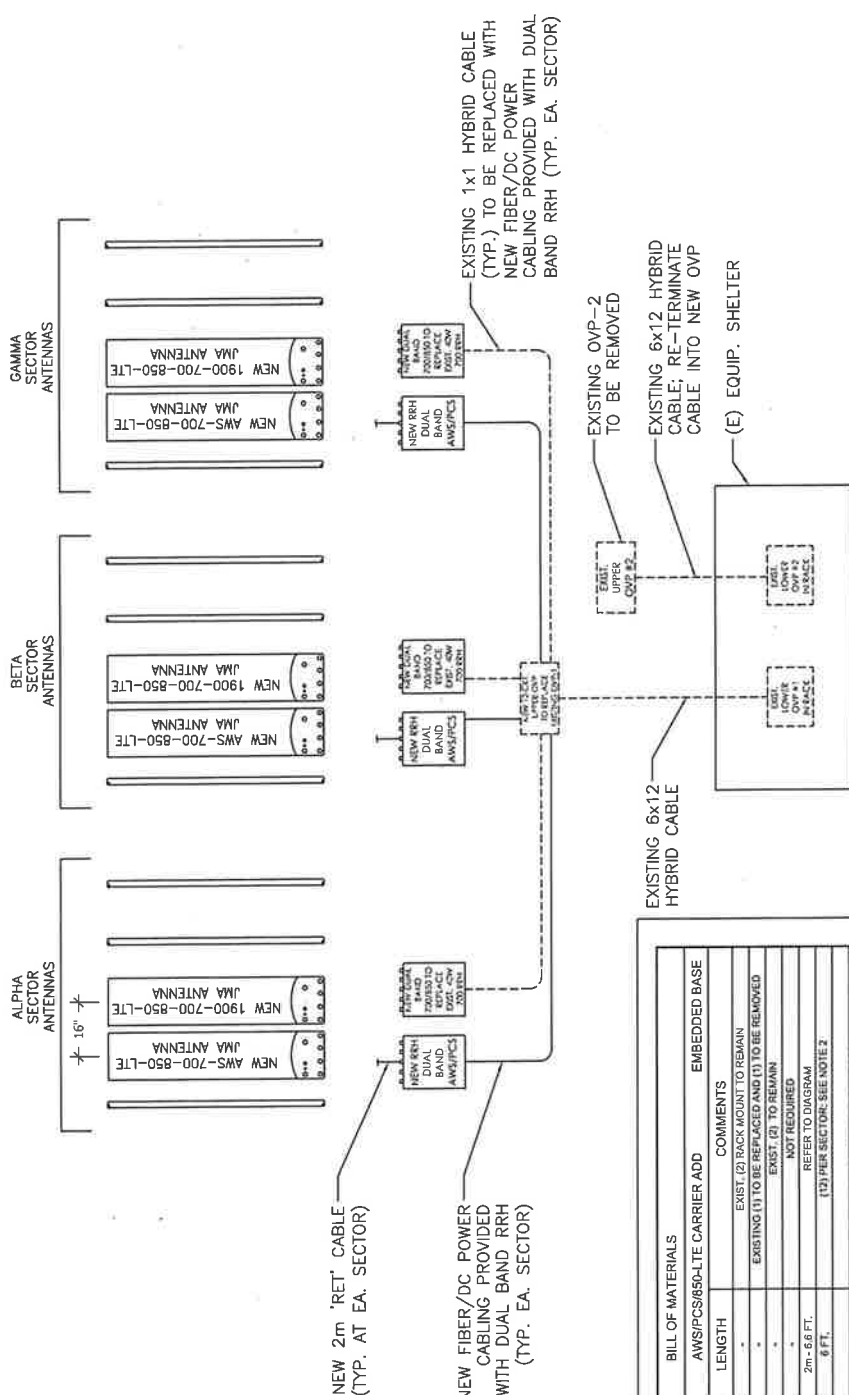
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4. EXISTING PLATFORM TO BE REPLACED WITH NEW PLATFORM; REFER TO A-2 FOR INFORMATION

1 ANTENNA SECTOR CONFIGURATIONS - ALPHA
Scale: N.T.S.

2 ANTENNA SECTOR CONFIGURATIONS - BETA
Scale: N.T.S.

3 ANTENNA SECTOR CONFIGURATIONS - GAMMA
Scale: N.T.S.

NOTE: ALL ANTENNAS VIEWED FROM REAR



GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RF DATA SHEET WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS AND MANUFACTURERS INSTRUCTIONS. EXTERIOR CONTROL CABLES MAY BE TAPED OR TIE-WAPPED TO EXISTING COAXIAL CABLES EVERY 4 FT. MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS IN CERTAIN APPLICATIONS. RET CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY. DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS.
3. COAX AND JUMPERS CABLES NOT SHOWN.
- 4.

BILL OF MATERIALS			
DESCRIPTION	QTY	LENGTH	COMMENTS
LOWER OVP	1	*	EXIST. (2) RACK MOUNT TO REMAIN
6x12 HYBRID CABLE	1	*	EXISTING (1) TO BE REPLACED AND (1) TO BE REMOVED
1x1 HYBRID CABLE	1	*	EXIST. (2) TO REMAIN
RET CONTROL CABLE	3	2m - 6.6 FT.	NOT REQUIRED
1/2" JUMPER CABLE	36	6 FT.	(12) PER SECTOR. SEE NOTE 2.
700 RRH	1	*	EXISTING TO BE REMOVED
DUAL BAND AWS/PCS RRH	3	*	REFER TO RFDS FOR SPECS; 1 PER SECTOR
DUAL BAND 700/850 RRH	3	*	REFER TO RFDS FOR SPECS; 1 PER SECTOR
AWS ANTENNA	3	*	NEW JMA ANTENNA TO REPLACE EXIST. PLACERHOLDER
700 ANTENNA	3	*	NEW JMA ANTENNA TO REPLACE EXIST. 700
850LTE ANTENNA	3	*	SHARED WITH NEW JMA ANTENNA
DUAL MOUNTING BRACKET	3	*	REFER TO RFDS FOR JMA SPECS

NOTES:
 1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS RFDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
 2. EXISTING 700 JUMPERS TO BE REPLACED WITH NEW; PROVIDE TERMINATION CAPS ON ALL UNUSED ANTENNA PORTS.

1 BILL OF MATERIALS

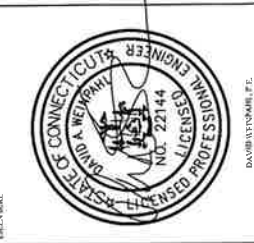
Scale: N.T.S.

2 RF PLUMBING DIAGRAM

Scale: N.T.S.

verizon
 WIRELESS COMMUNICATIONS FACILITY
 70 ALEXANDER DRIVE
 WALLINGFORD, CT 06492

On Air Engineering, LLC
 88 Foundry Pond Road
 Cold Spring, NY 10516
 516-461-1111
 onair@onairllc.net



DATE: 10/20/16
 PROJECT: DEEP RIVER WEST CARRIER ADD

NO.	DATE	DESCRIPTION
1	10/20/16	ISSUED FOR PERMIT
2	10/20/16	ISSUED FOR PERMIT

PROJECT NAME:
**AWS-PCS-850 LTE
 CARRIER ADD
 CABLE DRAWINGS**

SITE NAME:
DEEP RIVER WEST CT

SITE ADDRESS:
**SBA SITE # CT46130
 220 WINTHROP RD.
 DEEP RIVER, CT 06417**

SHEET TITLE:
**RF PLUMBING
 DIAGRAM & B.O.M.**

SHEET NUMBER:
A-4

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 6 ft 60° Fast Roll Off antenna with independent tilt on 700 & 850 MHz:

2 ports 698-798, 824-894 MHz and 4 ports 1695-2180 MHz

- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external diplexers
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs



NWAV

Fast Roll-Off antennas increase data throughput without compromising coverage

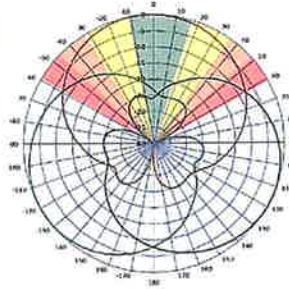
The horizontal beam produced by Fast Roll-Off (FRO) technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors.

Non-FRO antenna

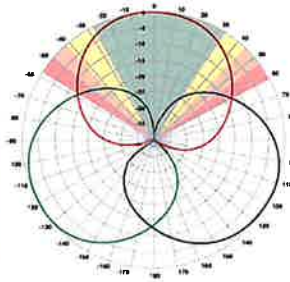
Large traditional antenna pattern overlap creates harmful interference.

JMA FRO antenna

JMA's FRO antenna pattern minimizes overlap, thereby minimizing interference.



LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333-400%	9-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2-3.3	160%	4-6
Poor	<10	<2	0%	1-3

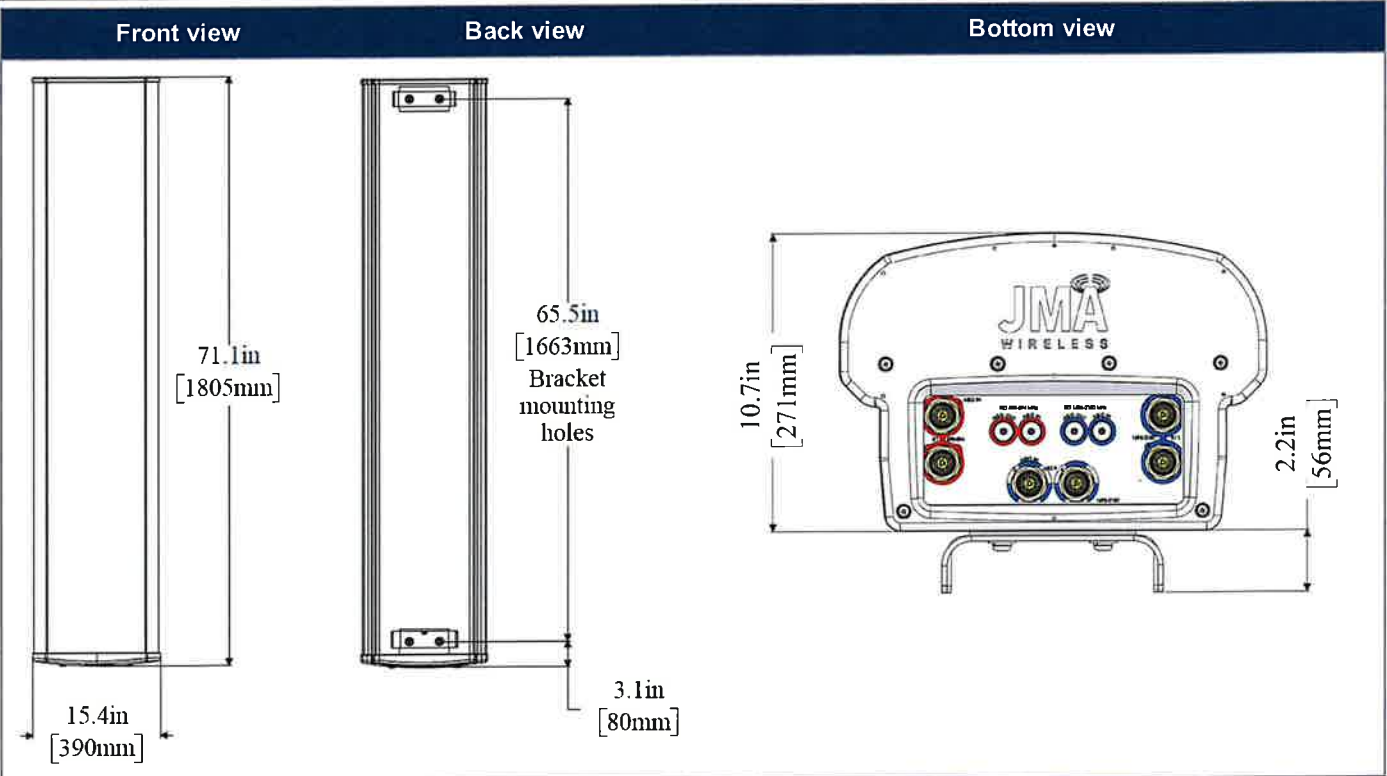


The LTE radio automatically selects the best throughput based on measured SINR.

Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
	698-798	824-894	1695-1880	1850-1990	1920-2180
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	14.4	14.0	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees	60.5	53.0	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>24	>24.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>15.0	>14.2	>18	>18	>15
Sector power ratio, percent	<3.5	<3.0	<3.7	<3.8	<3.6
Vertical beamwidth (VBW), degrees ¹	13.1	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB ¹	≤-15.0	≤-16.5	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB ¹	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

¹ Typical value over frequency and tilt

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 273).
Shipping dimensions length/width/height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	60 (27.0)
Shipping weight, lb (kg)	90 (41.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/down tilt	-2° to 14°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	154 (685), 73 (325), 158 (703)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	2.6



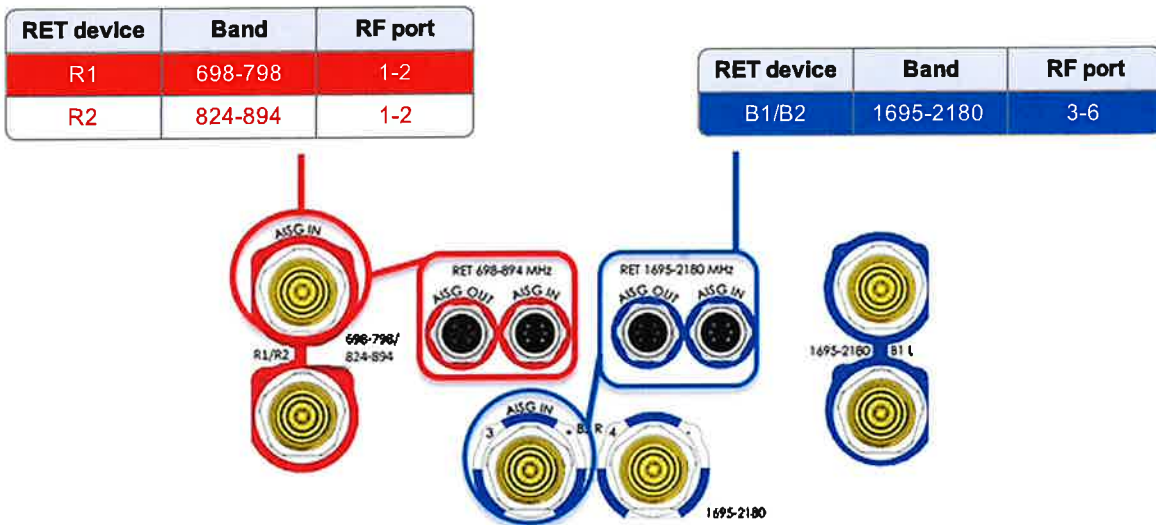
Ordering information	
Antenna model	Description
MX06FRO660-03	6F X-Pol HEX FRO 60° independent tilt 700/850 RET, 4.3-10 & SBT
Optional accessories	
<u>AISG cables</u>	M/F cables for AISG connections
<u>PCU-1000 RET controller</u>	Stand-alone controller for RET control and configurations

Remote electrical tilt (RET 1000) information

RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total no. of internal RETs (low bands)	2
Total no. of internal RETs (high bands)	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below:



Array topology

3 sets of radiating arrays

R1/R2: 698-894 MHz
 B1: 1695-2180 MHz
 B2: 1695-2180 MHz

Band	RF port
1695-2180	3-4
698-894	1-2
1695-2180	5-6



SAMSUNG

Dual-Band Radio Unit 700/850MHz (B13/B5) RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
B13: DL(746-756MHz)/UL(777-787MHz)
B5: DL(869-894MHz)/UL(824-849MHz)
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 207mm (29.9L)
Weight: 31.9kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

SAMSUNG

Dual-Band Radio Unit

AWS/PCS (B66/B2)

RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Key Technical Specifications

Duplex Type: FDD

Operating Frequencies:

B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)

B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)

Instantaneous Bandwidth:

70MHz(B66) + 60MHz(B2)

RF Chain: 4T4R/2T4R/2T2R

Output Power: Total 320W

DU-RU Interface: CPRI (10Gbps)

Dimensions: 380 x 380 x 255mm (36.8L)

Weight: 38.3kg

Input Power: -48V DC

Operating Temp.: -40 - 55°(w/o solar load)

Cooling: Natural convection

ATTACHMENT 2

Site Name: Deep River Tower Height: 180'		General	Power	Density				
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*AT&T-UMTS	1	565	150	880	0.0098	0.5867	0.17%	
*AT&T-UMTS	1	875	150	1900	0.0152	1.0000	0.15%	
*AT&T-LTE	1	249	150	734	0.0043	0.4893	0.09%	
*AT&T-LTE	2	3664	150	1900	0.1271	1.0000	1.27%	
*Sprint	1	433	167	850	0.0060	0.5667	0.11%	
*Sprint	2	433	167	850	0.0120	0.5667	0.21%	
*Sprint	5	536	167	1900	0.0372	1.0000	0.37%	
*Sprint	2	1340	167	1900	0.0372	1.0000	0.37%	
*Sprint	8	640	167	2500	0.0710	1.0000	0.71%	
*VoiceStream	4	275	160	1930	0.0167	1.0000	0.17%	
VZW PCS	4	5713	178	0.0648	1970	1.0000	6.48%	
VZW Cellular	4	1250	178	0.0142	869	0.5866	2.42%	
VZW AWS	4	6121.52	178	0.0695	2145	1.0000	6.95%	
VZW 700	4	2437	178	0.0277	746	0.4973	5.56%	
* Source: Siting Council								25.0%

ATTACHMENT 3



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 180 ft. Valmont Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT46130-A
Customer Site Name: Deep River-winthrop Rd
Carrier Name: Verizon (App#: 100842, V4)
Carrier Site ID / Name: 262760 / Deep River West CT
Site Location: 220 Winthrop Rd
Deep River, Connecticut
Middlesex County
Latitude: 41.365872
Longitude: -72.474849

Analysis Result:

Max Structural Usage: 86.5% [Pass]
Max Foundation Usage: 77.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: +0.3%

Report Prepared By : Delu Zhou

Introduction

The purpose of this report is to summarize the analysis results on the 180 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Original structural design report & permit drawings prepared by Valmont. Dated 10-27-2000. Order No 17593-98. CT750 Deep River Site. Project No F082. Previous structural report prepared by FDH Engineering, Inc. Dated 11-04-2013. Project No 13SFRX1400.
Foundation Drawing	Original foundation drawings prepared by Valmont Industries, Inc. Dated 08-11-1998. Project No 2633. Order No 17593-98. Drawing No 2633-F.
Geotechnical Report	Geotechnical report prepared by TECTONIC Engineering Consultants, P.C. Dated 07-13-1998. Work Order No 1170.C750.
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	123.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2018 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_s = 0.21$, $S_1 = 0.054$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	178.0	3	JMA Wireless MX06FRO660-03- Panel	Platform w/ Handrails	(2) 1 5/8" Hybrid	Verizon
-		3	Amphenol BXA-70063-6CF-2- Panel			
-		6	Amphenol BXA-171063-12CF-EDIN-2 Panel			
-		3	Commscope CBC1923Q-43 Diplexer			
-		3	Alcatel Lucent RRH2X40-07-U			
-		3	Samsung B2/B66A RRH BR049			
-		1	Rfs Celwave DB-B1-6C-8AB-0Z COVP			
5	166.0	3	RFS APXVTM14-C-I20 - Panel	Platform w/Handrails + Sitepro PRK-1245L + handrail kit + Sitepro PRK-SFS-H-L]	(4) 1-1/4" Hybrid	Sprint Nextel
6		3	Commscope NNVV-65B-R4 - Panel			
7		3	ALU 1900 Mhz			
8		6	ALU 800 Mhz			
9		3	ALU TD-RRH8x20-25			
10	158.0	6	EMS RR90-17-02DP - Panel	(3) T-Arms	(6) 1 5/8"	T-Mobile
11		6	Airtech PCS 1900 G3 TMAs			
12	150.0	2	Cci HPA-65R-BUU-H6- Panel	Low Profile Platform w/ Handrail kit HRK-12	(12) 1 1/4"; [(1) 10 mm & (2) 19.7 mm inside (1) 3" Innerduct]	AT&T
13		1	Commscope SBNHH-1D65A- Panel			
14		3	Ericsson RRUS-32- RRU			
15		2	KMW AM-X-CD-16-65-00T-RET Panel			
16		3	Powerwave 7770 - Panel			
17		1	KMW AM-X-CD-14-65-00T- Panel			
18		6	Powerwave LGP21401 TMA			
19		3	Ericsson RRUS-11- RRU			
20		1	Raycap DC6-48-60-18-8F Surge			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	178.0	6	JMA MX06FRO660-03 - Panel	Platform w/ Handrails (3) 91900314	(2) 1 5/8" Hybrid	Verizon
2		3	Samsung B5/B13 RRH BR04C			
3		3	Samsung B2/B66A RRH BR049			
4		1	Raycap RRFDS-6627-PF48			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	86.5%	78.0%	57.2%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5490.3	45.8	69.8

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.8668 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-H Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 86.51% at 0.0ft

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: C
Gh: 1.1

12/5/2019

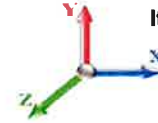
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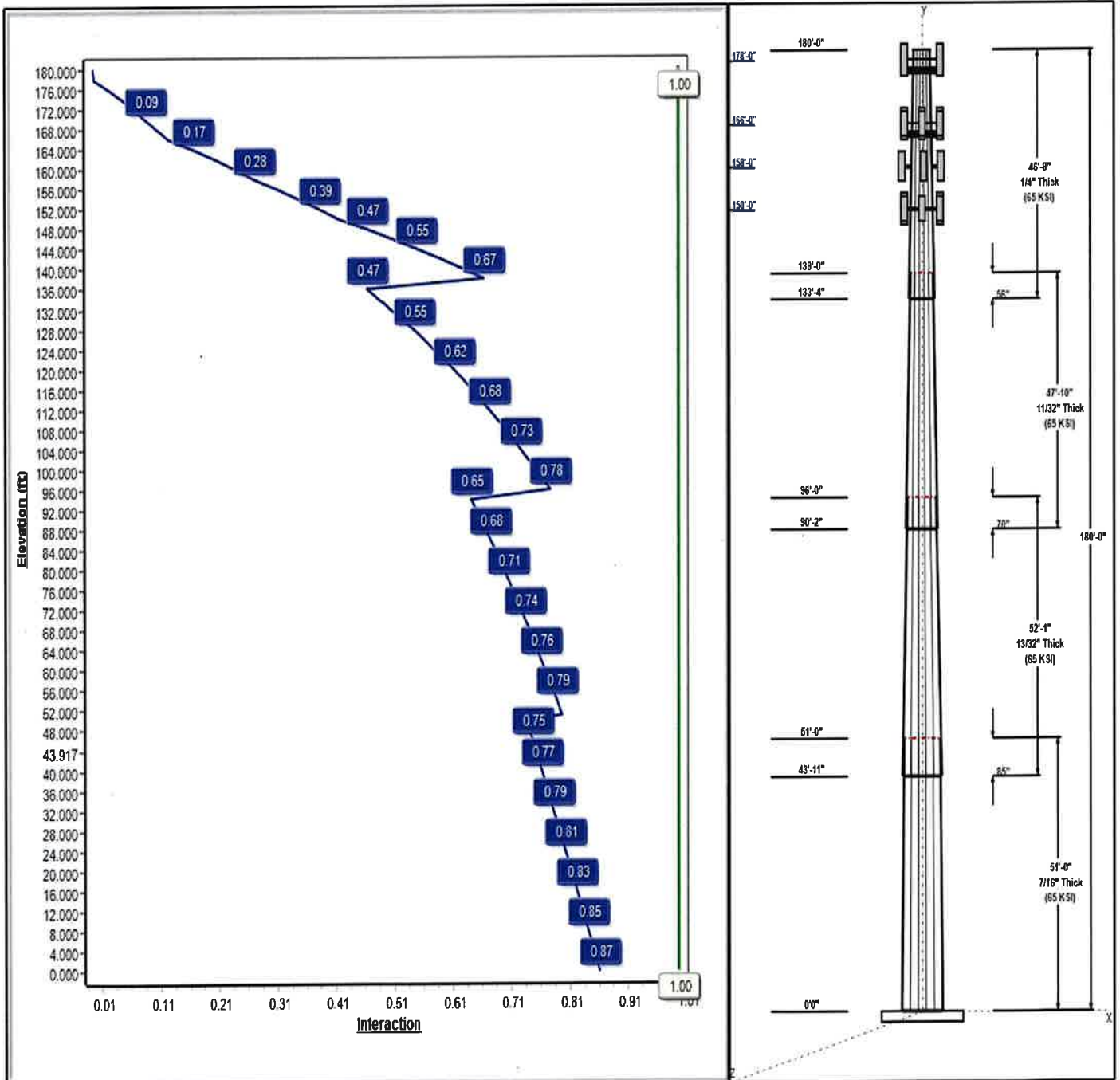
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Iterations: 29

Load Case : 1.2D + 1.0W 123 mph Wind



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Structure: CT46130-A-SBA

Type: Tapered
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.24800

12/5/2019

Page: 2



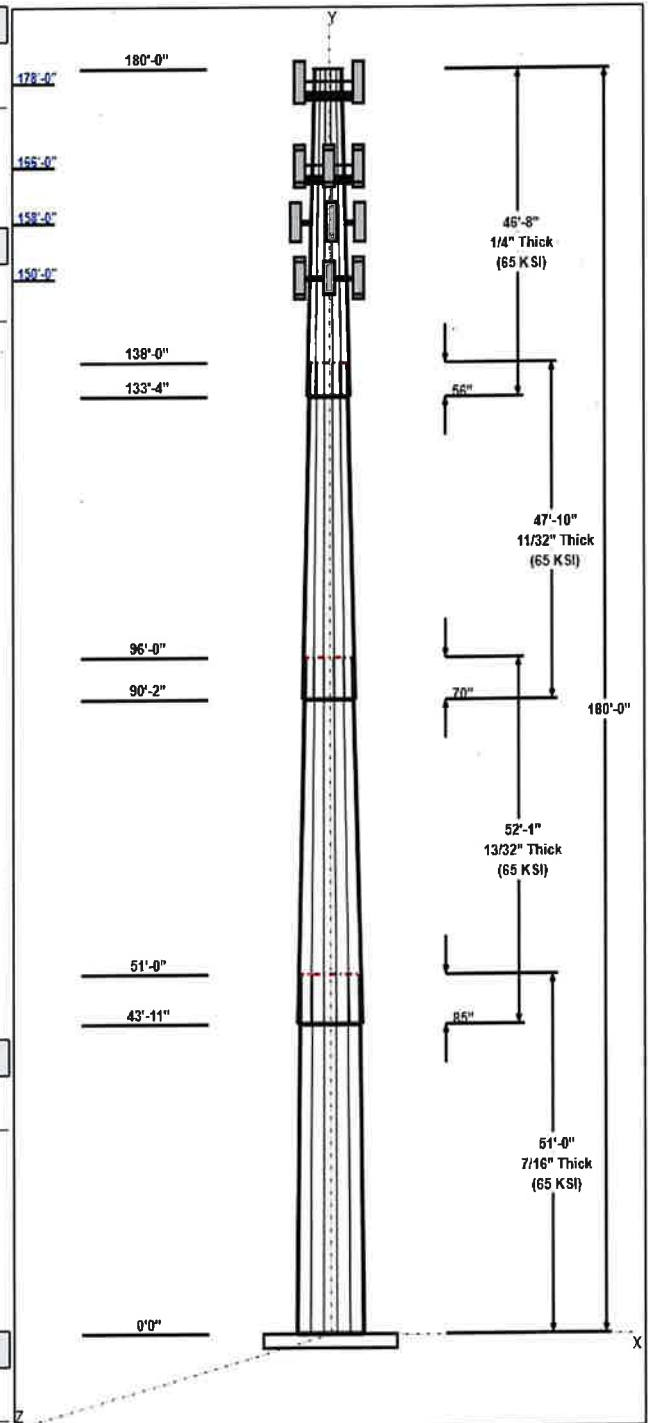
Shaft Properties							
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.00	49.35	62.00	0.438		0.24800	65
2	52.08	39.00	51.92	0.406	Slip	0.24800	65
3	47.83	29.28	41.14	0.344	Slip	0.24800	65
4	46.67	19.36	30.93	0.250	Slip	0.24800	65

Discrete Appurtenances				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
178.00	178.00	6	JMA MX06FRO660-03	Verizon
178.00	178.00	3	Samsung B2/B66A RRH	Verizon
178.00	178.00	1	Platform w/ Handrails w/	Verizon
178.00	178.00	3	Samsung B5/B13 RRH	Verizon
178.00	178.00	1	Raycap	Verizon
166.00	166.00	3	RFS APXVTM14-C-I20	Sprint Nextel
166.00	166.00	3	Commscope	Sprint Nextel
166.00	166.00	3	ALU 1900 Mhz	Sprint Nextel
166.00	166.00	6	ALU 800 Mhz	Sprint Nextel
166.00	166.00	3	ALU TD-RRH8x20-25	Sprint Nextel
166.00	166.00	1	Sitepro	Sprint Nextel
166.00	166.00	1	Sitepro	Sprint Nextel
166.00	166.00	1	Platform w/ Hand Rails	Sprint Nextel
158.00	158.00	3	T-Arms	T-Mobile
158.00	158.00	6	EMS RR90-17-02DP	T-Mobile
158.00	158.00	6	PCS1900 G3 TMA	T-Mobile
150.00	150.00	2	Cci HPA-65R-BUU-H6	AT&T
150.00	150.00	1	SBNHH-1D65A	AT&T
150.00	150.00	3	RRUS-32	AT&T
150.00	150.00	2	KMW AM-X-CD-16-65-00T	AT&T
150.00	150.00	3	Powerwave 7770	AT&T
150.00	150.00	1	KMW AM-X-CD-14-65-00T	AT&T
150.00	150.00	6	Powerwave LGP21401	AT&T
150.00	150.00	3	Ericsson RRUS-11	AT&T
150.00	150.00	1	Raycap DC6-48-60-18-8F	AT&T
150.00	150.00	1	Platform w/ Hand Rail	AT&T

Linear Appurtenances				
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	178.00	Inside	1 5/8" Hybrid	Verizon
3.00	166.00	Inside	1-1/4" Fiber	Sprint Nextel
3.00	158.00	Inside	1 5/8" Coax	T-Mobile
3.00	150.00	Inside	1 1/4" Coax	AT&T
3.00	150.00	Inside	10 mm Fiber	AT&T
3.00	150.00	Inside	19.7 mm DC	AT&T
3.00	150.00	Inside	3" Innerduct	AT&T

Anchor Bolts			
Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Radial

Base Plate



Structure: CT46130-A-SBA

Type: Tapered
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.24800

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Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	76.7	60.0	Polygon

Reactions

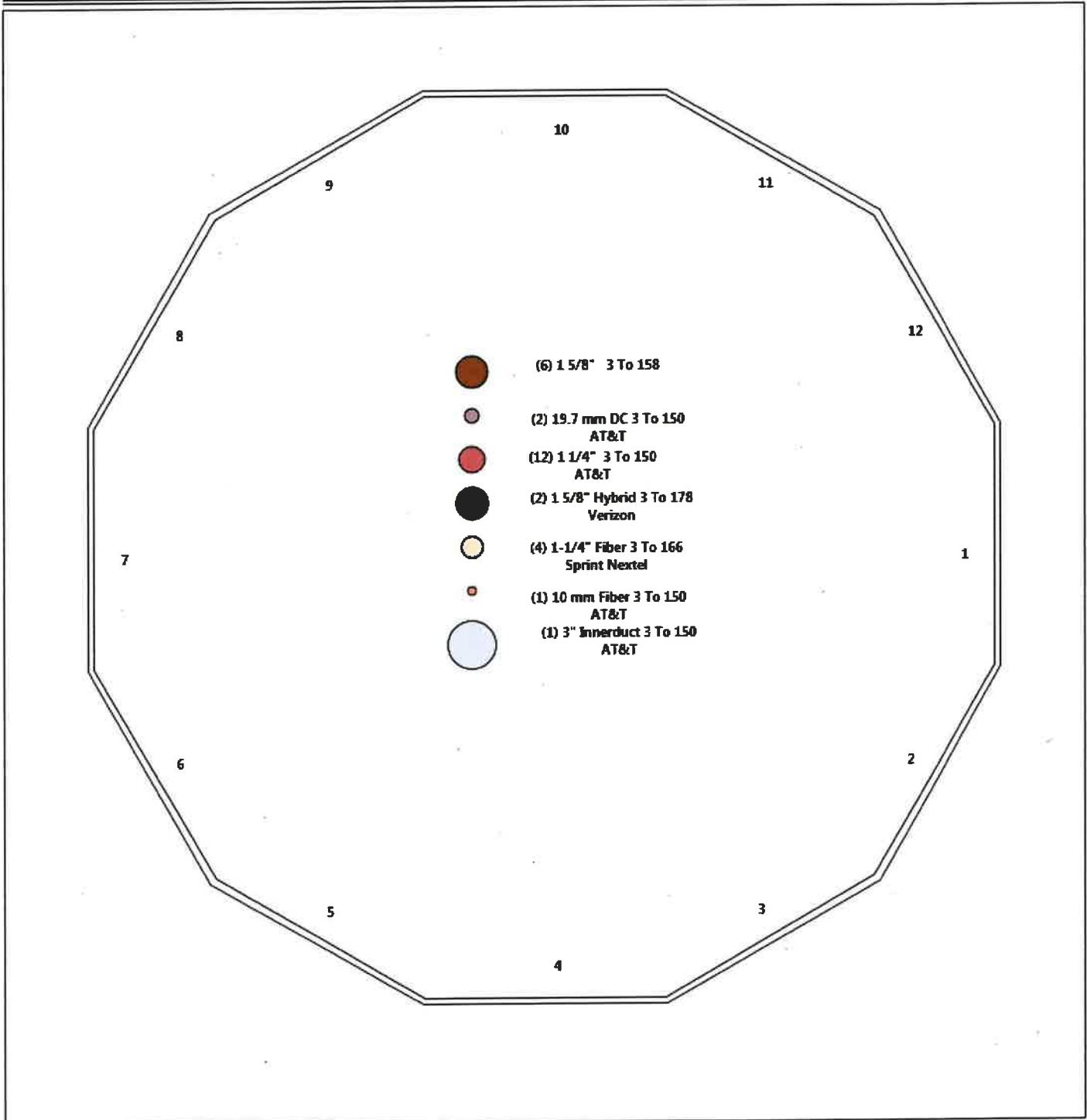
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 123 mph Wind	5490.3	45.8	56.5
0.9D + 1.0W 123 mph Wind	5425.5	45.8	42.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1165.4	9.6	69.8
1.2D + 1.0Ev + 1.0Eh	527.4	4.5	56.5
0.9D + 1.0Ev + 1.0Eh	520.8	4.5	42.4
1.0D + 1.0W 60 mph Wind	1298.7	10.9	47.1

Structure: CT46130-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)

12/5/2019

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Shaft Properties

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	51.000	0.4375	65		0.00	13,505
2	12	52.083	0.4063	65	Slip	85.00	10,446
3	12	47.833	0.3438	65	Slip	70.00	6,281
4	12	46.667	0.2500	65	Slip	56.00	3,183
Total Shaft Weight:							33,414

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	62.00	0.00	86.73	41953.54	35.83	141.71	49.35	51.00	68.91	21044.2	28.08	112.8	0.248000
2	51.92	43.92	67.39	22826.23	32.10	127.81	39.00	96.00	50.49	9601.48	23.58	96.01	0.248000
3	41.14	90.17	45.15	9591.86	29.92	119.68	29.28	138.00	32.02	3421.62	20.68	85.17	0.248000
4	30.93	133.3	24.70	2968.17	31.01	123.73	19.36	180.00	15.38	717.07	18.61	77.44	0.248000

Load Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	178.00	JMA MX06FRO660-03	6	60.00	9.87	0.82	186.20	10.501	0.82	0.00	0.00
2	178.00	Samsung B2/B66A RRH BR049	3	84.40	1.88	0.67	147.57	2.327	0.67	0.00	0.00
3	178.00	Platform w/ Handrails w/ 91900314	1	2202.20	40.00	1.00	3375.10	50.652	1.00	0.00	0.00
4	178.00	Samsung B5/B13 RRH BR04C	3	70.30	2.22	0.67	99.75	2.535	0.67	0.00	0.00
5	178.00	Raycap RRFDS-6627-PF48	1	32.00	2.61	1.00	69.76	2.937	1.00	0.00	0.00
6	166.00	RFS APXVTM14-C-I20	3	56.20	6.34	0.77	129.28	6.885	0.77	0.00	0.00
7	166.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.74	221.63	13.005	0.74	0.00	0.00
8	166.00	ALU 1900 Mhz	3	44.00	3.80	0.67	99.14	4.502	0.67	0.00	0.00
9	166.00	ALU 800 Mhz	6	53.00	2.49	0.50	90.36	3.068	0.50	0.00	0.00
10	166.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	120.20	4.444	0.67	0.00	0.00
11	166.00	Sitepro	1	230.00	6.70	1.00	392.20	10.244	1.00	0.00	0.00
12	166.00	Sitepro	1	406.61	7.00	1.00	650.34	10.456	1.00	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	3057.80	50.578	1.00	0.00	0.00
14	158.00	T-Arms	3	350.00	8.00	0.75	472.80	11.509	0.75	0.00	0.00
15	158.00	EMS RR90-17-02DP	6	13.50	7.34	0.68	84.72	7.931	0.68	0.00	0.00
16	158.00	PCS1900 G3 TMA	6	20.00	1.04	0.50	31.34	1.441	0.50	0.00	0.00
17	150.00	Cci HPA-65R-BUU-H6	2	51.00	9.66	0.85	165.08	10.322	0.85	0.00	0.00
18	150.00	SBNHH-1D65A	1	33.50	5.88	1.00	104.86	6.402	1.00	0.00	0.00
19	150.00	RRUS-32	3	77.00	3.87	0.67	128.08	3.695	0.67	0.00	0.00
20	150.00	KMW AM-X-CD-16-65-00T	2	48.50	8.02	0.75	129.64	9.417	0.75	0.00	0.00
21	150.00	Powerwave 7770	3	35.00	5.51	0.73	95.06	6.017	0.73	0.00	0.00
22	150.00	KMW AM-X-CD-14-65-00T	1	36.40	7.05	1.00	92.16	8.371	1.00	0.00	0.00
23	150.00	Powerwave LGP21401 TMA's	6	14.10	1.22	0.50	26.60	1.615	0.50	0.00	0.00
24	150.00	Ericsson RRUS-11	3	50.70	2.52	0.67	86.30	2.832	0.67	0.00	0.00
25	150.00	Raycap DC6-48-60-18-8F	1	31.80	1.81	0.67	62.71	2.241	0.67	0.00	0.00
26	150.00	Platform w/ Hand Rail	1	1600.00	35.00	1.00	2649.92	50.271	1.00	0.00	0.00
Totals:			73	10,480.11			18,359.04				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	178.00	(2) 1 5/8" Hybrid	0.00	Inside
3.00	166.00	(4) 1-1/4" Fiber	0.00	Inside
3.00	158.00	(6) 1 5/8" Coax	0.00	Inside
3.00	150.00	(12) 1 1/4" Coax	0.00	Inside
3.00	150.00	(1) 10 mm Fiber	0.00	Inside
3.00	150.00	(2) 19.7 mm DC	0.00	Inside
3.00	150.00	(1) 3" Innerduct	0.00	Inside

Shaft Section Properties

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 7



Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	62.000	86.726	41953.5	35.83	141.71	65.6	1307.	0.0
2.00		0.4375	61.504	86.027	40947.6	35.52	140.58	66.0	1286.	587.8
4.00		0.4375	61.008	85.329	39958.0	35.22	139.45	66.3	1265.	583.1
6.00		0.4375	60.512	84.630	38984.4	34.92	138.31	66.6	1244.	578.3
8.00		0.4375	60.016	83.931	38026.7	34.61	137.18	67.0	1224.	573.6
10.00		0.4375	59.520	83.232	37084.8	34.31	136.05	67.3	1203.	568.8
12.00		0.4375	59.024	82.534	36158.7	34.01	134.91	67.6	1183.	564.1
14.00		0.4375	58.528	81.835	35248.1	33.70	133.78	68.0	1163.	559.3
16.00		0.4375	58.032	81.136	34352.9	33.40	132.64	68.3	1143.	554.6
18.00		0.4375	57.536	80.438	33472.9	33.09	131.51	68.6	1123.	549.8
20.00		0.4375	57.040	79.739	32608.2	32.79	130.38	69.0	1104.	545.0
22.00		0.4375	56.544	79.040	31758.5	32.49	129.24	69.3	1085.	540.3
24.00		0.4375	56.048	78.341	30923.6	32.18	128.11	69.6	1065.	535.5
26.00		0.4375	55.552	77.643	30103.5	31.88	126.98	69.9	1046.	530.8
28.00		0.4375	55.056	76.944	29298.1	31.58	125.84	70.3	1028.	526.0
30.00		0.4375	54.560	76.245	28507.1	31.27	124.71	70.6	1009.	521.3
32.00		0.4375	54.064	75.546	27730.5	30.97	123.57	70.9	990.9	516.5
34.00		0.4375	53.568	74.848	26968.2	30.66	122.44	71.3	972.6	511.8
36.00		0.4375	53.072	74.149	26219.9	30.36	121.31	71.6	954.4	507.0
38.00		0.4375	52.576	73.450	25485.6	30.06	120.17	71.9	936.4	502.2
40.00		0.4375	52.080	72.751	24765.2	29.75	119.04	72.3	918.6	497.5
42.00		0.4375	51.584	72.053	24058.4	29.45	117.91	72.6	901.0	492.7
43.92	Bot - Section 2	0.4375	51.109	71.383	23393.9	29.16	116.82	72.9	884.3	467.7
44.00		0.4375	51.088	71.354	23365.3	29.15	116.77	72.9	883.5	39.3
46.00		0.4375	50.592	70.655	22685.6	28.84	115.64	73.3	866.2	939.4
48.00		0.4375	50.096	69.956	22019.2	28.54	114.51	73.6	849.1	930.3
50.00		0.4375	49.600	69.258	21365.9	28.23	113.37	73.9	832.2	921.1
51.00	Top - Section 1	0.4063	50.165	65.090	20569.8	30.94	123.48	0.0	0.0	457.1
52.00		0.4063	49.917	64.766	20263.8	30.78	122.87	71.1	784.2	220.9
54.00		0.4063	49.421	64.117	19660.8	30.45	121.65	71.5	768.5	438.6
56.00		0.4063	48.925	63.468	19070.0	30.13	120.43	71.9	753.0	434.1
58.00		0.4063	48.429	62.819	18491.1	29.80	119.21	72.2	737.6	429.7
60.00		0.4063	47.933	62.170	17924.0	29.47	117.99	72.6	722.4	425.3
62.00		0.4063	47.437	61.521	17368.7	29.14	116.77	72.9	707.3	420.9
64.00		0.4063	46.941	60.873	16824.9	28.82	115.55	73.3	692.4	416.5
66.00		0.4063	46.445	60.224	16292.6	28.49	114.32	73.6	677.7	412.1
68.00		0.4063	45.949	59.575	15771.7	28.16	113.10	74.0	663.1	407.6
70.00		0.4063	45.453	58.926	15262.0	27.84	111.88	74.4	648.7	403.2
72.00		0.4063	44.957	58.277	14763.4	27.51	110.66	74.7	634.4	398.8
74.00		0.4063	44.461	57.628	14275.7	27.18	109.44	75.1	620.3	394.4
76.00		0.4063	43.965	56.980	13799.0	26.85	108.22	75.4	606.3	390.0
78.00		0.4063	43.469	56.331	13332.9	26.53	107.00	75.8	592.5	385.6
80.00		0.4063	42.973	55.682	12877.5	26.20	105.78	76.1	578.9	381.2
82.00		0.4063	42.477	55.033	12432.6	25.87	104.56	76.5	565.4	376.7
84.00		0.4063	41.981	54.384	11998.0	25.55	103.34	76.9	552.1	372.3
86.00		0.4063	41.485	53.735	11573.7	25.22	102.12	77.2	539.0	367.9
88.00		0.4063	40.989	53.087	11159.5	24.89	100.89	77.6	526.0	363.5
90.00		0.4063	40.493	52.438	10755.3	24.56	99.67	77.9	513.1	359.1
90.17	Bot - Section 3	0.4063	40.451	52.384	10722.0	24.54	99.57	78.0	512.1	29.7
92.00		0.4063	39.997	51.789	10361.0	24.24	98.45	78.3	500.4	605.1

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
94.00		0.4063	39.501	51.140	9976.4	23.91	97.23	78.6	487.9	652.3
96.00	Top - Section 2	0.3438	39.692	43.554	8607.2	28.80	115.47	0.0	0.0	644.1
98.00		0.3438	39.196	43.005	8285.8	28.41	114.02	73.7	408.4	294.5
100.00		0.3438	38.700	42.456	7972.5	28.02	112.58	74.2	398.0	290.8
102.00		0.3438	38.204	41.907	7667.2	27.64	111.14	74.6	387.7	287.1
104.00		0.3438	37.708	41.358	7369.8	27.25	109.70	75.0	377.6	283.3
106.00		0.3438	37.212	40.809	7080.1	26.86	108.25	75.4	367.6	279.6
108.00		0.3438	36.716	40.260	6798.2	26.48	106.81	75.8	357.7	275.9
110.00		0.3438	36.220	39.711	6523.9	26.09	105.37	76.3	348.0	272.1
112.00		0.3438	35.724	39.162	6257.0	25.70	103.92	76.7	338.4	268.4
114.00		0.3438	35.228	38.613	5997.5	25.32	102.48	77.1	328.9	264.6
116.00		0.3438	34.732	38.063	5745.3	24.93	101.04	77.5	319.6	260.9
118.00		0.3438	34.236	37.514	5500.3	24.54	99.60	77.9	310.4	257.2
120.00		0.3438	33.740	36.965	5262.3	24.16	98.15	78.4	301.3	253.4
122.00		0.3438	33.244	36.416	5031.3	23.77	96.71	78.8	292.4	249.7
124.00		0.3438	32.748	35.867	4807.2	23.38	95.27	79.2	283.6	246.0
126.00		0.3438	32.252	35.318	4589.8	23.00	93.82	79.6	274.9	242.2
128.00		0.3438	31.756	34.769	4379.1	22.61	92.38	80.1	266.4	238.5
130.00		0.3438	31.260	34.220	4174.9	22.22	90.94	80.5	258.0	234.8
132.00		0.3438	30.764	33.671	3977.2	21.84	89.50	80.9	249.7	231.0
133.33	Bot - Section 4	0.3438	30.433	33.305	3848.9	21.58	88.53	81.2	244.3	151.9
134.00		0.3438	30.268	33.122	3785.8	21.45	88.05	81.3	241.6	131.2
136.00		0.3438	29.772	32.573	3600.6	21.06	86.61	81.7	233.6	389.4
138.00	Top - Section 3	0.2500	29.776	23.768	2644.8	29.77	119.10	0.0	0.0	382.9
140.00		0.2500	29.280	23.369	2513.8	29.24	117.12	72.8	165.9	160.4
142.00		0.2500	28.784	22.970	2387.1	28.71	115.14	73.4	160.2	157.7
144.00		0.2500	28.288	22.571	2264.8	28.18	113.15	74.0	154.7	155.0
146.00		0.2500	27.792	22.171	2146.7	27.64	111.17	74.6	149.2	152.2
148.00		0.2500	27.296	21.772	2032.8	27.11	109.18	75.1	143.9	149.5
150.00		0.2500	26.800	21.373	1923.0	26.58	107.20	75.7	138.6	146.8
152.00		0.2500	26.304	20.973	1817.2	26.05	105.22	76.3	133.5	144.1
154.00		0.2500	25.808	20.574	1715.4	25.52	103.23	76.9	128.4	141.4
156.00		0.2500	25.312	20.175	1617.4	24.99	101.25	77.5	123.4	138.7
158.00		0.2500	24.816	19.776	1523.3	24.45	99.26	78.0	118.6	135.9
160.00		0.2500	24.320	19.376	1432.9	23.92	97.28	78.6	113.8	133.2
162.00		0.2500	23.824	18.977	1346.1	23.39	95.30	79.2	109.2	130.5
164.00		0.2500	23.328	18.578	1262.9	22.86	93.31	79.8	104.6	127.8
166.00		0.2500	22.832	18.179	1183.2	22.33	91.33	80.4	100.1	125.1
168.00		0.2500	22.336	17.779	1107.0	21.80	89.34	80.9	95.7	122.4
170.00		0.2500	21.840	17.380	1034.0	21.26	87.36	81.5	91.5	119.6
172.00		0.2500	21.344	16.981	964.4	20.73	85.38	81.9	87.3	116.9
174.00		0.2500	20.848	16.581	898.0	20.20	83.39	81.9	83.2	114.2
176.00		0.2500	20.352	16.182	834.6	19.67	81.41	81.9	79.2	111.5
178.00		0.2500	19.856	15.783	774.4	19.14	79.42	81.9	75.3	108.8
180.00		0.2500	19.360	15.384	717.1	18.61	77.44	81.9	71.6	106.1

33413.9

Wind Loading - Shaft

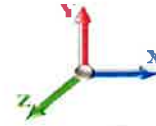
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	31.009	34.11	603.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	31.009	34.11	599.16	0.950	0.000	2.00	10.655	10.12	345.3	0.0	705.4
4.00		1.00	0.85	31.009	34.11	594.33	0.950	0.000	2.00	10.569	10.04	342.5	0.0	699.7
6.00		1.00	0.85	31.009	34.11	589.49	0.950	0.000	2.00	10.484	9.96	339.7	0.0	694.0
8.00		1.00	0.85	31.009	34.11	584.66	0.950	0.000	2.00	10.398	9.88	337.0	0.0	688.3
10.00		1.00	0.85	31.009	34.11	579.83	0.950	0.000	2.00	10.313	9.80	334.2	0.0	682.6
12.00		1.00	0.85	31.009	34.11	575.00	0.950	0.000	2.00	10.227	9.72	331.4	0.0	676.9
14.00		1.00	0.85	31.009	34.11	570.17	0.950	0.000	2.00	10.142	9.63	328.6	0.0	671.2
16.00		1.00	0.86	31.392	34.53	568.81	0.950	0.000	2.00	10.056	9.55	329.9	0.0	665.5
18.00		1.00	0.88	32.180	35.40	570.99	0.950	0.000	2.00	9.970	9.47	335.3	0.0	659.8
20.00		1.00	0.90	32.902	36.19	572.38	0.950	0.000	2.00	9.885	9.39	339.9	0.0	654.1
22.00		1.00	0.92	33.569	36.93	573.12	0.950	0.000	2.00	9.799	9.31	343.8	0.0	648.3
24.00		1.00	0.94	34.189	37.61	573.32	0.950	0.000	2.00	9.714	9.23	347.0	0.0	642.6
26.00		1.00	0.95	34.770	38.25	573.06	0.950	0.000	2.00	9.628	9.15	349.8	0.0	636.9
28.00		1.00	0.97	35.317	38.85	572.39	0.950	0.000	2.00	9.542	9.07	352.2	0.0	631.2
30.00		1.00	0.98	35.834	39.42	571.37	0.950	0.000	2.00	9.457	8.98	354.1	0.0	625.5
32.00		1.00	1.00	36.324	39.96	570.03	0.950	0.000	2.00	9.371	8.90	355.7	0.0	619.8
34.00		1.00	1.01	36.791	40.47	568.42	0.950	0.000	2.00	9.286	8.82	357.0	0.0	614.1
36.00		1.00	1.02	37.236	40.96	566.55	0.950	0.000	2.00	9.200	8.74	358.0	0.0	608.4
38.00		1.00	1.03	37.662	41.43	564.46	0.950	0.000	2.00	9.115	8.66	358.7	0.0	602.7
40.00		1.00	1.04	38.071	41.88	562.16	0.950	0.000	2.00	9.029	8.58	359.2	0.0	597.0
42.00		1.00	1.05	38.464	42.31	559.68	0.950	0.000	2.00	8.943	8.50	359.5	0.0	591.3
43.92 Bot - Section 2		1.00	1.06	38.827	42.71	557.13	0.950	0.000	1.92	8.490	8.07	344.5	0.0	561.3
44.00		1.00	1.06	38.843	42.73	557.02	0.950	0.000	0.08	0.373	0.35	15.1	0.0	47.2
46.00		1.00	1.07	39.208	43.13	554.19	0.950	0.000	2.00	8.912	8.47	365.2	0.0	1127.3
48.00		1.00	1.08	39.561	43.52	551.23	0.950	0.000	2.00	8.827	8.39	364.9	0.0	1116.3
50.00		1.00	1.09	39.902	43.89	548.12	0.950	0.000	2.00	8.741	8.30	364.5	0.0	1105.3
51.00 Top - Section 1		1.00	1.10	40.069	44.08	546.52	0.950	0.000	1.00	4.339	4.12	181.7	0.0	548.5
52.00		1.00	1.10	40.233	44.26	553.90	0.950	0.000	1.00	4.317	4.10	181.5	0.0	265.1
54.00		1.00	1.11	40.554	44.61	550.58	0.950	0.000	2.00	8.570	8.14	363.2	0.0	526.3
56.00		1.00	1.12	40.866	44.95	547.14	0.950	0.000	2.00	8.485	8.06	362.3	0.0	521.0
58.00		1.00	1.13	41.169	45.29	543.60	0.950	0.000	2.00	8.399	7.98	361.3	0.0	515.7
60.00		1.00	1.14	41.464	45.61	539.95	0.950	0.000	2.00	8.313	7.90	360.2	0.0	510.4
62.00		1.00	1.14	41.751	45.93	536.21	0.950	0.000	2.00	8.228	7.82	359.0	0.0	505.1
64.00		1.00	1.15	42.031	46.23	532.38	0.950	0.000	2.00	8.142	7.74	357.6	0.0	499.8
66.00		1.00	1.16	42.304	46.53	528.47	0.950	0.000	2.00	8.057	7.65	356.2	0.0	494.5
68.00		1.00	1.17	42.571	46.83	524.47	0.950	0.000	2.00	7.971	7.57	354.6	0.0	489.2
70.00		1.00	1.17	42.831	47.11	520.39	0.950	0.000	2.00	7.885	7.49	352.9	0.0	483.9
72.00		1.00	1.18	43.086	47.39	516.24	0.950	0.000	2.00	7.800	7.41	351.2	0.0	478.6
74.00		1.00	1.19	43.335	47.67	512.02	0.950	0.000	2.00	7.714	7.33	349.3	0.0	473.3
76.00		1.00	1.19	43.579	47.94	507.73	0.950	0.000	2.00	7.629	7.25	347.4	0.0	468.0
78.00		1.00	1.20	43.818	48.20	503.38	0.950	0.000	2.00	7.543	7.17	345.4	0.0	462.7
80.00		1.00	1.21	44.053	48.46	498.96	0.950	0.000	2.00	7.458	7.08	343.3	0.0	457.4
82.00		1.00	1.21	44.282	48.71	494.49	0.950	0.000	2.00	7.372	7.00	341.1	0.0	452.1
84.00		1.00	1.22	44.507	48.96	489.96	0.950	0.000	2.00	7.286	6.92	338.9	0.0	446.8
86.00		1.00	1.23	44.728	49.20	485.37	0.950	0.000	2.00	7.201	6.84	336.6	0.0	441.5
88.00		1.00	1.23	44.945	49.44	480.73	0.950	0.000	2.00	7.115	6.76	334.2	0.0	436.2

Wind Loading - Shaft

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 10



90.00	1.00	1.24	45.159	49.67	476.03	0.950	0.000	2.00	7.030	6.68	331.7	0.0	430.9
90.17 Bot - Section 3	1.00	1.24	45.176	49.69	475.64	0.950	0.000	0.17	0.582	0.55	27.5	0.0	35.7
92.00	1.00	1.24	45.368	49.90	471.29	0.950	0.000	1.83	6.471	6.15	306.8	0.0	726.1
94.00	1.00	1.25	45.574	50.13	466.50	0.950	0.000	2.00	6.977	6.63	332.3	0.0	782.7
96.00 Top - Section 2	1.00	1.25	45.776	50.35	461.67	0.950	0.000	2.00	6.891	6.55	329.7	0.0	772.9
98.00	1.00	1.26	45.975	50.57	464.94	0.950	0.000	2.00	6.806	6.47	327.0	0.0	353.4
100.00	1.00	1.27	46.171	50.79	460.03	0.950	0.000	2.00	6.720	6.38	324.2	0.0	349.0
102.00	1.00	1.27	46.364	51.00	455.09	0.950	0.000	2.00	6.635	6.30	321.5	0.0	344.5
104.00	1.00	1.28	46.554	51.21	450.10	0.950	0.000	2.00	6.549	6.22	318.6	0.0	340.0
106.00	1.00	1.28	46.741	51.42	445.07	0.950	0.000	2.00	6.464	6.14	315.7	0.0	335.5
108.00	1.00	1.29	46.926	51.62	440.00	0.950	0.000	2.00	6.378	6.06	312.8	0.0	331.0
110.00	1.00	1.29	47.107	51.82	434.90	0.950	0.000	2.00	6.292	5.98	309.8	0.0	326.5
112.00	1.00	1.30	47.286	52.01	429.75	0.950	0.000	2.00	6.207	5.90	306.7	0.0	322.1
114.00	1.00	1.30	47.463	52.21	424.58	0.950	0.000	2.00	6.121	5.82	303.6	0.0	317.6
116.00	1.00	1.31	47.637	52.40	419.37	0.950	0.000	2.00	6.036	5.73	300.5	0.0	313.1
118.00	1.00	1.31	47.809	52.59	414.12	0.950	0.000	2.00	5.950	5.65	297.3	0.0	308.6
120.00	1.00	1.32	47.978	52.78	408.85	0.950	0.000	2.00	5.864	5.57	294.0	0.0	304.1
122.00	1.00	1.32	48.145	52.96	403.54	0.950	0.000	2.00	5.779	5.49	290.7	0.0	299.6
124.00	1.00	1.32	48.310	53.14	398.20	0.950	0.000	2.00	5.693	5.41	287.4	0.0	295.2
126.00	1.00	1.33	48.473	53.32	392.83	0.950	0.000	2.00	5.608	5.33	284.1	0.0	290.7
128.00	1.00	1.33	48.634	53.50	387.43	0.950	0.000	2.00	5.522	5.25	280.7	0.0	286.2
130.00	1.00	1.34	48.793	53.67	382.00	0.950	0.000	2.00	5.437	5.16	277.2	0.0	281.7
132.00	1.00	1.34	48.950	53.85	376.54	0.950	0.000	2.00	5.351	5.08	273.7	0.0	277.2
133.33 Bot - Section 4	1.00	1.34	49.054	53.96	372.89	0.950	0.000	1.33	3.520	3.34	180.4	0.0	182.3
134.00	1.00	1.35	49.106	54.02	371.06	0.950	0.000	0.67	1.774	1.69	91.1	0.0	157.5
136.00	1.00	1.35	49.259	54.19	365.55	0.950	0.000	2.00	5.266	5.00	271.1	0.0	467.3
138.00 Top - Section 3	1.00	1.35	49.411	54.35	360.01	0.950	0.000	2.00	5.181	4.92	267.5	0.0	459.5
140.00	1.00	1.36	49.561	54.52	360.61	0.950	0.000	2.00	5.095	4.84	263.9	0.0	192.5
142.00	1.00	1.36	49.709	54.68	355.03	0.950	0.000	2.00	5.009	4.76	260.2	0.0	189.2
144.00	1.00	1.37	49.855	54.84	349.42	0.950	0.000	2.00	4.924	4.68	256.5	0.0	186.0
146.00	1.00	1.37	50.000	55.00	343.80	0.950	0.000	2.00	4.838	4.60	252.8	0.0	182.7
148.00	1.00	1.37	50.144	55.16	338.14	0.950	0.000	2.00	4.753	4.51	249.0	0.0	179.4
150.00 Appurtenance(s)	1.00	1.38	50.286	55.31	332.47	0.950	0.000	2.00	4.667	4.43	245.2	0.0	176.2
152.00	1.00	1.38	50.426	55.47	326.77	0.950	0.000	2.00	4.581	4.35	241.4	0.0	172.9
154.00	1.00	1.39	50.565	55.62	321.05	0.950	0.000	2.00	4.496	4.27	237.6	0.0	169.7
156.00	1.00	1.39	50.703	55.77	315.31	0.950	0.000	2.00	4.410	4.19	233.7	0.0	166.4
158.00 Appurtenance(s)	1.00	1.39	50.839	55.92	309.54	0.950	0.000	2.00	4.325	4.11	229.8	0.0	163.1
160.00	1.00	1.40	50.974	56.07	303.76	0.950	0.000	2.00	4.239	4.03	225.8	0.0	159.9
162.00	1.00	1.40	51.107	56.22	297.95	0.950	0.000	2.00	4.154	3.95	221.8	0.0	156.6
164.00	1.00	1.40	51.239	56.36	292.13	0.950	0.000	2.00	4.068	3.86	217.8	0.0	153.3
166.00 Appurtenance(s)	1.00	1.41	51.370	56.51	286.28	0.950	0.000	2.00	3.982	3.78	213.8	0.0	150.1
168.00	1.00	1.41	51.500	56.65	280.42	0.950	0.000	2.00	3.897	3.70	209.7	0.0	146.8
170.00	1.00	1.42	51.628	56.79	274.53	0.950	0.000	2.00	3.811	3.62	205.6	0.0	143.6
172.00	1.00	1.42	51.756	56.93	268.63	0.950	0.000	2.00	3.726	3.54	201.5	0.0	140.3
174.00	1.00	1.42	51.882	57.07	262.70	0.950	0.000	2.00	3.640	3.46	197.3	0.0	137.0
176.00	1.00	1.43	52.007	57.21	256.76	0.950	0.000	2.00	3.554	3.38	193.2	0.0	133.8
178.00 Appurtenance(s)	1.00	1.43	52.131	57.34	250.80	0.950	0.000	2.00	3.469	3.30	189.0	0.0	130.5
180.00	1.00	1.43	52.253	57.48	244.83	0.950	0.000	2.00	3.383	3.21	184.7	0.0	127.3
Totals:								180.00			27,684.8		40,096.7

Discrete Appurtenance Forces

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

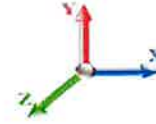
12/5/2019

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Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Samsung B5/B13 RRH	3	52.131	57.344	0.50	0.75	3.35	253.08	0.000	0.000	191.91	0.00	0.00
2	178.00	Samsung B2/B66A RRH	3	52.131	57.344	0.50	0.75	2.83	303.84	0.000	0.000	162.52	0.00	0.00
3	178.00	JMA MX06FRO660-03	6	52.131	57.344	0.61	0.75	36.42	432.00	0.000	0.000	2088.48	0.00	0.00
4	178.00	Platform w/ Handrails w/	1	52.131	57.344	1.00	1.00	40.00	2642.64	0.000	0.000	2293.75	0.00	0.00
5	178.00	Raycap	1	52.131	57.344	1.00	1.00	2.61	38.40	0.000	0.000	149.67	0.00	0.00
6	166.00	ALU 800 Mhz	6	51.370	56.507	0.38	0.75	5.60	381.60	0.000	0.000	316.58	0.00	0.00
7	166.00	RFS APXVTM14-C-I20	3	51.370	56.507	0.58	0.75	10.98	202.32	0.000	0.000	620.68	0.00	0.00
8	166.00	Commscope	3	51.370	56.507	0.55	0.75	20.43	278.64	0.000	0.000	1154.42	0.00	0.00
9	166.00	ALU 1900 Mhz	3	51.370	56.507	0.50	0.75	5.73	158.40	0.000	0.000	323.70	0.00	0.00
10	166.00	Sitepro	1	51.370	56.507	1.00	1.00	7.00	487.93	0.000	0.000	395.55	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	51.370	56.507	0.50	0.75	6.11	252.00	0.000	0.000	345.00	0.00	0.00
12	166.00	Sitepro	1	51.370	56.507	1.00	1.00	6.70	276.00	0.000	0.000	378.60	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	51.370	56.507	1.00	1.00	40.00	2400.00	0.000	0.000	2260.29	0.00	0.00
14	158.00	PCS1900 G3 TMA	6	50.839	55.923	0.40	0.80	2.50	144.00	0.000	0.000	139.58	0.00	0.00
15	158.00	T-Arms	3	50.839	55.923	0.56	0.75	13.50	1260.00	0.000	0.000	754.96	0.00	0.00
16	158.00	EMS RR90-17-02DP	6	50.839	55.923	0.54	0.80	23.96	97.20	0.000	0.000	1339.78	0.00	0.00
17	150.00	Powerwave 7770	3	50.286	55.314	0.55	0.75	9.05	126.00	0.000	0.000	500.60	0.00	0.00
18	150.00	Cci HPA-65R-BUU-H6	2	50.286	55.314	0.77	0.90	14.78	122.40	0.000	0.000	817.53	0.00	0.00
19	150.00	SBNHH-1D65A	1	50.286	55.314	1.00	1.00	5.88	40.20	0.000	0.000	325.25	0.00	0.00
20	150.00	RRUS-32	3	50.286	55.314	0.50	0.75	5.83	277.20	0.000	0.000	322.71	0.00	0.00
21	150.00	KMW AM-X-CD-16-65-00T	2	50.286	55.314	0.56	0.75	9.02	116.40	0.000	0.000	499.07	0.00	0.00
22	150.00	Powerwave LGP21401	6	50.286	55.314	0.38	0.75	2.75	101.52	0.000	0.000	151.84	0.00	0.00
23	150.00	KMW AM-X-CD-14-65-00T	1	50.286	55.314	0.75	0.75	5.29	43.68	0.000	0.000	292.47	0.00	0.00
24	150.00	Ericsson RRUS-11	3	50.286	55.314	0.50	0.75	3.80	182.52	0.000	0.000	210.13	0.00	0.00
25	150.00	Raycap DC6-48-60-18-8F	1	50.286	55.314	0.67	1.00	1.21	38.16	0.000	0.000	67.08	0.00	0.00
26	150.00	Platform w/ Hand Rail	1	50.286	55.314	1.00	1.00	35.00	1920.00	0.000	0.000	1936.00	0.00	0.00

Totals: 12,576.13

18,038.15

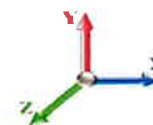
Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 12
	Struct Class: II	



Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		345.27	705.41	0.00	0.00
4.00		342.50	724.29	0.00	0.00
6.00		339.73	743.16	0.00	0.00
8.00		336.95	737.46	0.00	0.00
10.00		334.18	731.75	0.00	0.00
12.00		331.41	726.05	0.00	0.00
14.00		328.63	720.34	0.00	0.00
16.00		329.88	714.63	0.00	0.00
18.00		335.29	708.93	0.00	0.00
20.00		339.86	703.22	0.00	0.00
22.00		343.75	697.51	0.00	0.00
24.00		347.05	691.81	0.00	0.00
26.00		349.84	686.10	0.00	0.00
28.00		352.18	680.39	0.00	0.00
30.00		354.13	674.69	0.00	0.00
32.00		355.72	668.98	0.00	0.00
34.00		357.00	663.27	0.00	0.00
36.00		357.99	657.57	0.00	0.00
38.00		358.72	651.86	0.00	0.00
40.00		359.21	646.16	0.00	0.00
42.00		359.48	640.45	0.00	0.00
43.92		344.50	608.41	0.00	0.00
44.00		15.15	49.26	0.00	0.00
46.00		365.16	1176.50	0.00	0.00
48.00		364.91	1165.50	0.00	0.00
50.00		364.49	1154.49	0.00	0.00
51.00		181.66	573.12	0.00	0.00
52.00		181.51	289.71	0.00	0.00
54.00		363.19	575.44	0.00	0.00
56.00		362.33	570.14	0.00	0.00
58.00		361.33	564.84	0.00	0.00
60.00		360.21	559.54	0.00	0.00
62.00		358.98	554.24	0.00	0.00
64.00		357.62	548.94	0.00	0.00
66.00		356.16	543.64	0.00	0.00
68.00		354.60	538.34	0.00	0.00
70.00		352.94	533.05	0.00	0.00
72.00		351.19	527.75	0.00	0.00
74.00		349.34	522.45	0.00	0.00
76.00		347.41	517.15	0.00	0.00
78.00		345.40	511.85	0.00	0.00
80.00		343.31	506.55	0.00	0.00
82.00		341.14	501.25	0.00	0.00
84.00		338.89	495.95	0.00	0.00
86.00		336.57	490.66	0.00	0.00
88.00		334.19	485.36	0.00	0.00

Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



90.00	331.73	480.06	0.00	0.00
90.17	27.47	39.77	0.00	0.00
92.00	306.78	771.14	0.00	0.00
94.00	332.28	831.87	0.00	0.00
96.00	329.66	822.09	0.00	0.00
98.00	326.99	402.61	0.00	0.00
100.00	324.25	398.13	0.00	0.00
102.00	321.46	393.65	0.00	0.00
104.00	318.61	389.16	0.00	0.00
106.00	315.71	384.68	0.00	0.00
108.00	312.76	380.19	0.00	0.00
110.00	309.76	375.71	0.00	0.00
112.00	306.70	371.23	0.00	0.00
114.00	303.61	366.74	0.00	0.00
116.00	300.46	362.26	0.00	0.00
118.00	297.27	357.78	0.00	0.00
120.00	294.03	353.29	0.00	0.00
122.00	290.75	348.81	0.00	0.00
124.00	287.42	344.33	0.00	0.00
126.00	284.06	339.84	0.00	0.00
128.00	280.65	335.36	0.00	0.00
130.00	277.21	330.87	0.00	0.00
132.00	273.72	326.39	0.00	0.00
133.33	180.43	215.10	0.00	0.00
134.00	91.05	173.86	0.00	0.00
136.00	271.08	516.42	0.00	0.00
138.00	267.49	508.68	0.00	0.00
140.00	263.87	241.64	0.00	0.00
142.00	260.21	238.38	0.00	0.00
144.00	256.52	235.12	0.00	0.00
146.00	252.80	231.86	0.00	0.00
148.00	249.04	228.60	0.00	0.00
150.00	(23) attachments 5367.94	3193.42	0.00	0.00
152.00	241.42	202.04	0.00	0.00
154.00	237.56	198.78	0.00	0.00
156.00	233.68	195.52	0.00	0.00
158.00	(15) attachments 2464.08	1693.46	0.00	0.00
160.00	225.81	174.02	0.00	0.00
162.00	221.83	170.76	0.00	0.00
164.00	217.82	167.50	0.00	0.00
166.00	(21) attachments 6008.60	4601.13	0.00	0.00
168.00	209.71	151.82	0.00	0.00
170.00	205.62	148.56	0.00	0.00
172.00	201.50	145.30	0.00	0.00
174.00	197.35	142.04	0.00	0.00
176.00	193.17	138.78	0.00	0.00
178.00	(14) attachments 5075.29	3805.48	0.00	0.00
180.00	184.74	127.26	0.00	0.00
	Totals:	45,722.93	56,489.65	0.00
			0.00	0.00

Calculated Forces

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

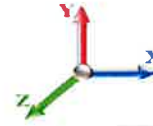
12/5/2019



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Load Case: 1.2D + 1.0W 123 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 29

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-56.46	-45.76	0.00	-5490.3	0.00	5490.30	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.865
2.00	-55.69	-45.49	0.00	-5398.7	0.00	5398.78	5107.67	1509.78	7683.09	6363.61	0.02	-0.074	0.000	0.860
4.00	-54.91	-45.21	0.00	-5307.8	0.00	5307.81	5091.62	1497.52	7558.79	6291.73	0.06	-0.148	0.000	0.855
6.00	-54.11	-44.94	0.00	-5217.3	0.00	5217.39	5075.16	1485.26	7435.50	6219.67	0.14	-0.223	0.000	0.850
8.00	-53.32	-44.67	0.00	-5127.5	0.00	5127.50	5058.29	1472.99	7313.22	6147.44	0.25	-0.299	0.000	0.846
10.00	-52.53	-44.40	0.00	-5038.1	0.00	5038.16	5041.00	1460.73	7191.96	6075.05	0.39	-0.375	0.000	0.841
12.00	-51.74	-44.14	0.00	-4949.3	0.00	4949.35	5023.29	1448.47	7071.72	6002.51	0.57	-0.451	0.000	0.836
14.00	-50.97	-43.87	0.00	-4861.0	0.00	4861.08	5005.16	1436.20	6952.48	5929.84	0.77	-0.529	0.000	0.831
16.00	-50.20	-43.60	0.00	-4773.3	0.00	4773.33	4986.62	1423.94	6834.27	5857.05	1.01	-0.606	0.000	0.826
18.00	-49.43	-43.33	0.00	-4686.1	0.00	4686.13	4967.66	1411.68	6717.06	5784.16	1.28	-0.685	0.000	0.821
20.00	-48.67	-43.05	0.00	-4599.4	0.00	4599.47	4948.29	1399.42	6600.87	5711.17	1.59	-0.764	0.000	0.816
22.00	-47.92	-42.76	0.00	-4513.3	0.00	4513.38	4928.49	1387.15	6485.69	5638.10	1.93	-0.843	0.000	0.811
24.00	-47.18	-42.47	0.00	-4427.8	0.00	4427.86	4908.28	1374.89	6371.53	5564.95	2.30	-0.923	0.000	0.806
26.00	-46.44	-42.17	0.00	-4342.9	0.00	4342.93	4887.66	1362.63	6258.37	5491.76	2.70	-1.004	0.000	0.801
28.00	-45.70	-41.87	0.00	-4258.5	0.00	4258.59	4866.62	1350.36	6146.24	5418.52	3.14	-1.085	0.000	0.796
30.00	-44.98	-41.57	0.00	-4174.8	0.00	4174.84	4845.16	1338.10	6035.11	5345.24	3.61	-1.167	0.000	0.791
32.00	-44.25	-41.26	0.00	-4091.7	0.00	4091.70	4823.28	1325.84	5925.00	5271.95	4.12	-1.250	0.000	0.786
34.00	-43.54	-40.96	0.00	-4009.1	0.00	4009.17	4800.99	1313.58	5815.91	5198.66	4.66	-1.333	0.000	0.781
36.00	-42.83	-40.65	0.00	-3927.2	0.00	3927.26	4778.28	1301.31	5707.83	5125.37	5.24	-1.416	0.000	0.776
38.00	-42.13	-40.33	0.00	-3845.9	0.00	3845.97	4755.15	1289.05	5600.76	5052.10	5.85	-1.501	0.000	0.771
40.00	-41.43	-40.02	0.00	-3765.3	0.00	3765.31	4731.61	1276.79	5494.70	4978.87	6.50	-1.586	0.000	0.766
42.00	-40.75	-39.70	0.00	-3685.2	0.00	3685.27	4707.65	1264.52	5389.66	4905.68	7.18	-1.671	0.000	0.761
43.92	-40.12	-39.37	0.00	-3609.1	0.00	3609.18	4684.30	1252.77	5289.95	4835.60	7.87	-1.754	0.000	0.756
44.00	-40.04	-39.38	0.00	-3605.9	0.00	3605.90	4683.27	1252.26	5285.64	4832.55	7.90	-1.758	0.000	0.756
46.00	-38.81	-39.04	0.00	-3527.1	0.00	3527.14	4658.48	1240.00	5182.62	4759.49	8.65	-1.844	0.000	0.750
48.00	-37.60	-38.69	0.00	-3449.0	0.00	3449.06	4633.27	1227.74	5080.62	4686.52	9.45	-1.932	0.000	0.745
50.00	-36.42	-38.33	0.00	-3371.6	0.00	3371.67	4607.64	1215.47	4979.64	4613.64	10.27	-2.020	0.000	0.740
51.00	-35.82	-38.16	0.00	-3333.3	0.00	3333.34	4157.28	1142.33	4736.69	4216.21	10.70	-2.065	0.000	0.800
52.00	-35.49	-38.01	0.00	-3295.1	0.00	3295.18	4146.96	1136.64	4689.60	4184.61	11.14	-2.110	0.000	0.797
54.00	-34.87	-37.68	0.00	-3219.1	0.00	3219.17	4126.01	1125.25	4596.10	4121.41	12.04	-2.201	0.000	0.791
56.00	-34.26	-37.35	0.00	-3143.8	0.00	3143.81	4104.64	1113.86	4503.55	4058.23	12.99	-2.293	0.000	0.784
58.00	-33.65	-37.02	0.00	-3069.1	0.00	3069.11	4082.85	1102.48	4411.95	3995.08	13.97	-2.386	0.000	0.778
60.00	-33.04	-36.69	0.00	-2995.0	0.00	2995.07	4060.64	1091.09	4321.28	3931.97	14.99	-2.479	0.000	0.771
62.00	-32.44	-36.36	0.00	-2921.6	0.00	2921.68	4038.02	1079.70	4231.55	3868.91	16.05	-2.573	0.000	0.764
64.00	-31.85	-36.03	0.00	-2848.9	0.00	2848.96	4014.98	1068.31	4142.77	3805.92	17.14	-2.668	0.000	0.758
66.00	-31.27	-35.70	0.00	-2776.8	0.00	2776.89	3991.52	1056.93	4054.92	3743.01	18.28	-2.763	0.000	0.751
68.00	-30.69	-35.37	0.00	-2705.4	0.00	2705.49	3967.65	1045.54	3968.02	3680.19	19.46	-2.858	0.000	0.744
70.00	-30.11	-35.05	0.00	-2634.7	0.00	2634.74	3943.36	1034.15	3882.06	3617.47	20.68	-2.955	0.000	0.737
72.00	-29.55	-34.72	0.00	-2564.6	0.00	2564.65	3918.66	1022.77	3797.04	3554.87	21.94	-3.052	0.000	0.730
74.00	-28.99	-34.39	0.00	-2495.2	0.00	2495.22	3893.54	1011.38	3712.96	3492.40	23.23	-3.149	0.000	0.723
76.00	-28.43	-34.06	0.00	-2426.4	0.00	2426.44	3868.00	999.99	3629.83	3430.07	24.57	-3.247	0.000	0.716
78.00	-27.88	-33.74	0.00	-2358.3	0.00	2358.32	3842.04	988.61	3547.63	3367.90	25.96	-3.346	0.000	0.709
80.00	-27.34	-33.41	0.00	-2290.8	0.00	2290.84	3815.67	977.22	3466.38	3305.90	27.38	-3.445	0.000	0.701
82.00	-26.80	-33.09	0.00	-2224.0	0.00	2224.02	3788.88	965.83	3386.07	3244.07	28.84	-3.545	0.000	0.694
84.00	-26.27	-32.76	0.00	-2157.8	0.00	2157.85	3761.67	954.44	3306.69	3182.44	30.35	-3.645	0.000	0.686
86.00	-25.74	-32.44	0.00	-2092.3	0.00	2092.32	3734.05	943.06	3228.26	3121.02	31.90	-3.746	0.000	0.678
88.00	-25.22	-32.12	0.00	-2027.4	0.00	2027.44	3706.01	931.67	3150.77	3059.82	33.49	-3.847	0.000	0.671
90.00	-24.74	-31.78	0.00	-1963.1	0.00	1963.19	3677.55	920.28	3074.23	2998.84	35.12	-3.949	0.000	0.663

Calculated Forces

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 15



90.17	-24.67	-31.77	0.00	-1957.9	0.00	1957.90	3675.16	919.33	3067.89	2993.77	35.26	-3.958	0.000	0.662
92.00	-23.87	-31.45	0.00	-1899.6	0.00	1899.65	3648.68	908.90	2998.62	2938.12	36.79	-4.051	0.000	0.654
94.00	-23.01	-31.10	0.00	-1836.7	0.00	1836.74	3619.39	897.51	2923.96	2877.64	38.51	-4.154	0.000	0.646
96.00	-22.16	-30.76	0.00	-1774.5	0.00	1774.53	2873.56	764.37	2506.37	2303.28	40.27	-4.257	0.000	0.780
98.00	-21.72	-30.44	0.00	-1713.0	0.00	1713.02	2853.66	754.73	2443.58	2258.25	42.08	-4.360	0.000	0.768
100.00	-21.29	-30.13	0.00	-1652.1	0.00	1652.14	2833.34	745.10	2381.59	2213.29	43.93	-4.476	0.000	0.756
102.00	-20.86	-29.82	0.00	-1591.8	0.00	1591.88	2812.61	735.46	2320.39	2168.43	45.83	-4.592	0.000	0.743
104.00	-20.44	-29.51	0.00	-1532.2	0.00	1532.24	2791.46	725.83	2259.99	2123.68	47.77	-4.708	0.000	0.730
106.00	-20.02	-29.21	0.00	-1473.2	0.00	1473.21	2769.89	716.19	2200.39	2079.04	49.77	-4.824	0.000	0.717
108.00	-19.61	-28.90	0.00	-1414.8	0.00	1414.80	2747.90	706.55	2141.58	2034.53	51.81	-4.940	0.000	0.704
110.00	-19.21	-28.60	0.00	-1356.9	0.00	1356.99	2725.50	696.92	2083.57	1990.17	53.90	-5.056	0.000	0.691
112.00	-18.81	-28.30	0.00	-1299.7	0.00	1299.79	2702.68	687.28	2026.36	1945.97	56.04	-5.171	0.000	0.677
114.00	-18.41	-28.00	0.00	-1243.1	0.00	1243.19	2679.45	677.65	1969.94	1901.93	58.23	-5.287	0.000	0.662
116.00	-18.03	-27.70	0.00	-1187.1	0.00	1187.19	2655.79	668.01	1914.32	1858.08	60.47	-5.402	0.000	0.647
118.00	-17.64	-27.41	0.00	-1131.7	0.00	1131.78	2631.73	658.38	1859.50	1814.42	62.76	-5.517	0.000	0.632
120.00	-17.27	-27.12	0.00	-1076.9	0.00	1076.96	2607.24	648.74	1805.47	1770.96	65.09	-5.631	0.000	0.616
122.00	-16.90	-26.83	0.00	-1022.7	0.00	1022.73	2582.34	639.11	1752.24	1727.73	67.47	-5.745	0.000	0.600
124.00	-16.53	-26.54	0.00	-969.08	0.00	969.08	2557.02	629.47	1699.80	1684.74	69.90	-5.858	0.000	0.583
126.00	-16.17	-26.25	0.00	-916.00	0.00	916.00	2531.28	619.84	1648.16	1641.98	72.37	-5.969	0.000	0.566
128.00	-15.82	-25.97	0.00	-863.49	0.00	863.49	2505.13	610.20	1597.32	1599.49	74.89	-6.079	0.000	0.548
130.00	-15.47	-25.69	0.00	-811.56	0.00	811.56	2478.56	600.57	1547.28	1557.27	77.46	-6.188	0.000	0.529
132.00	-15.14	-25.40	0.00	-760.18	0.00	760.18	2451.58	590.93	1498.03	1515.33	80.07	-6.295	0.000	0.510
133.33	-14.92	-25.21	0.00	-726.31	0.00	726.31	2433.35	584.51	1465.64	1487.53	81.83	-6.366	0.000	0.496
134.00	-14.73	-25.12	0.00	-709.51	0.00	709.51	2424.17	581.30	1449.58	1473.69	82.72	-6.402	0.000	0.489
136.00	-14.20	-24.82	0.00	-659.26	0.00	659.26	2396.35	571.66	1401.92	1432.35	85.42	-6.505	0.000	0.468
138.00	-13.68	-24.52	0.00	-609.63	0.00	609.63	1545.45	417.14	1026.36	929.77	88.16	-6.605	0.000	0.668
140.00	-13.43	-24.26	0.00	-560.59	0.00	560.59	1531.69	410.13	992.17	905.88	90.94	-6.702	0.000	0.631
142.00	-13.17	-24.00	0.00	-512.08	0.00	512.08	1517.50	403.12	958.56	882.03	93.77	-6.823	0.000	0.593
144.00	-12.92	-23.74	0.00	-464.09	0.00	464.09	1502.90	396.11	925.52	858.22	96.65	-6.940	0.000	0.553
146.00	-12.68	-23.48	0.00	-416.61	0.00	416.61	1487.88	389.11	893.06	834.49	99.57	-7.050	0.000	0.511
148.00	-12.44	-23.23	0.00	-369.64	0.00	369.64	1472.45	382.10	861.19	810.82	102.54	-7.155	0.000	0.468
150.00	-9.92	-17.52	0.00	-323.18	0.00	323.18	1456.60	375.09	829.89	787.25	105.56	-7.252	0.000	0.420
152.00	-9.72	-17.27	0.00	-288.14	0.00	288.14	1440.33	368.08	799.17	763.78	108.61	-7.342	0.000	0.386
154.00	-9.53	-17.02	0.00	-253.61	0.00	253.61	1423.65	361.08	769.03	740.42	111.69	-7.427	0.000	0.351
156.00	-9.34	-16.78	0.00	-219.56	0.00	219.56	1406.55	354.07	739.47	717.20	114.81	-7.505	0.000	0.315
158.00	-7.97	-14.12	0.00	-186.01	0.00	186.01	1389.03	347.06	710.49	694.11	117.96	-7.577	0.000	0.275
160.00	-7.81	-13.88	0.00	-157.77	0.00	157.77	1371.10	340.05	682.09	671.17	121.14	-7.641	0.000	0.242
162.00	-7.66	-13.65	0.00	-130.00	0.00	130.00	1352.75	333.05	654.27	648.41	124.35	-7.698	0.000	0.208
164.00	-7.52	-13.42	0.00	-102.70	0.00	102.70	1333.98	326.04	627.03	625.81	127.57	-7.747	0.000	0.171
166.00	-3.76	-6.84	0.00	-75.87	0.00	75.87	1314.79	319.03	600.37	603.42	130.82	-7.787	0.000	0.129
168.00	-3.64	-6.62	0.00	-62.19	0.00	62.19	1295.19	312.03	574.28	581.22	134.08	-7.821	0.000	0.110
170.00	-3.52	-6.39	0.00	-48.96	0.00	48.96	1275.17	305.02	548.78	559.24	137.35	-7.849	0.000	0.091
172.00	-3.40	-6.17	0.00	-36.17	0.00	36.17	1251.65	298.01	523.85	536.17	140.63	-7.873	0.000	0.071
174.00	-3.28	-5.96	0.00	-23.82	0.00	23.82	1222.21	291.00	499.51	511.11	143.93	-7.890	0.000	0.050
176.00	-3.17	-5.75	0.00	-11.90	0.00	11.90	1192.78	284.00	475.74	486.64	147.22	-7.902	0.000	0.028
178.00	-0.10	-0.20	0.00	-0.40	0.00	0.40	1163.35	276.99	452.55	462.78	150.53	-7.906	0.000	0.001
180.00	0.00	-0.18	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	153.83	-7.906	0.000	0.000

Wind Loading - Shaft

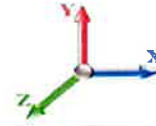
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	31.009	34.11	603.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	31.009	34.11	599.16	0.950	0.000	2.00	10.655	10.12	345.3	0.0	529.1
4.00		1.00	0.85	31.009	34.11	594.33	0.950	0.000	2.00	10.569	10.04	342.5	0.0	524.8
6.00		1.00	0.85	31.009	34.11	589.49	0.950	0.000	2.00	10.484	9.96	339.7	0.0	520.5
8.00		1.00	0.85	31.009	34.11	584.66	0.950	0.000	2.00	10.398	9.88	337.0	0.0	516.2
10.00		1.00	0.85	31.009	34.11	579.83	0.950	0.000	2.00	10.313	9.80	334.2	0.0	511.9
12.00		1.00	0.85	31.009	34.11	575.00	0.950	0.000	2.00	10.227	9.72	331.4	0.0	507.7
14.00		1.00	0.85	31.009	34.11	570.17	0.950	0.000	2.00	10.142	9.63	328.6	0.0	503.4
16.00		1.00	0.86	31.392	34.53	568.81	0.950	0.000	2.00	10.056	9.55	329.9	0.0	499.1
18.00		1.00	0.88	32.180	35.40	570.99	0.950	0.000	2.00	9.970	9.47	335.3	0.0	494.8
20.00		1.00	0.90	32.902	36.19	572.38	0.950	0.000	2.00	9.885	9.39	339.9	0.0	490.5
22.00		1.00	0.92	33.569	36.93	573.12	0.950	0.000	2.00	9.799	9.31	343.8	0.0	486.3
24.00		1.00	0.94	34.189	37.61	573.32	0.950	0.000	2.00	9.714	9.23	347.0	0.0	482.0
26.00		1.00	0.95	34.770	38.25	573.06	0.950	0.000	2.00	9.628	9.15	349.8	0.0	477.7
28.00		1.00	0.97	35.317	38.85	572.39	0.950	0.000	2.00	9.542	9.07	352.2	0.0	473.4
30.00		1.00	0.98	35.834	39.42	571.37	0.950	0.000	2.00	9.457	8.98	354.1	0.0	469.1
32.00		1.00	1.00	36.324	39.96	570.03	0.950	0.000	2.00	9.371	8.90	355.7	0.0	464.9
34.00		1.00	1.01	36.791	40.47	568.42	0.950	0.000	2.00	9.286	8.82	357.0	0.0	460.6
36.00		1.00	1.02	37.236	40.96	566.55	0.950	0.000	2.00	9.200	8.74	358.0	0.0	456.3
38.00		1.00	1.03	37.662	41.43	564.46	0.950	0.000	2.00	9.115	8.66	358.7	0.0	452.0
40.00		1.00	1.04	38.071	41.88	562.16	0.950	0.000	2.00	9.029	8.58	359.2	0.0	447.7
42.00		1.00	1.05	38.464	42.31	559.68	0.950	0.000	2.00	8.943	8.50	359.5	0.0	443.5
43.92 Bot - Section 2		1.00	1.06	38.827	42.71	557.13	0.950	0.000	1.92	8.490	8.07	344.5	0.0	421.0
44.00		1.00	1.06	38.843	42.73	557.02	0.950	0.000	0.08	0.373	0.35	15.1	0.0	35.4
46.00		1.00	1.07	39.208	43.13	554.19	0.950	0.000	2.00	8.912	8.47	365.2	0.0	845.5
48.00		1.00	1.08	39.561	43.52	551.23	0.950	0.000	2.00	8.827	8.39	364.9	0.0	837.2
50.00		1.00	1.09	39.902	43.89	548.12	0.950	0.000	2.00	8.741	8.30	364.5	0.0	829.0
51.00 Top - Section 1		1.00	1.10	40.069	44.08	546.52	0.950	0.000	1.00	4.339	4.12	181.7	0.0	411.4
52.00		1.00	1.10	40.233	44.26	553.90	0.950	0.000	1.00	4.317	4.10	181.5	0.0	198.8
54.00		1.00	1.11	40.554	44.61	550.58	0.950	0.000	2.00	8.570	8.14	363.2	0.0	394.7
56.00		1.00	1.12	40.866	44.95	547.14	0.950	0.000	2.00	8.485	8.06	362.3	0.0	390.7
58.00		1.00	1.13	41.169	45.29	543.60	0.950	0.000	2.00	8.399	7.98	361.3	0.0	386.8
60.00		1.00	1.14	41.464	45.61	539.95	0.950	0.000	2.00	8.313	7.90	360.2	0.0	382.8
62.00		1.00	1.14	41.751	45.93	536.21	0.950	0.000	2.00	8.228	7.82	359.0	0.0	378.8
64.00		1.00	1.15	42.031	46.23	532.38	0.950	0.000	2.00	8.142	7.74	357.6	0.0	374.8
66.00		1.00	1.16	42.304	46.53	528.47	0.950	0.000	2.00	8.057	7.65	356.2	0.0	370.9
68.00		1.00	1.17	42.571	46.83	524.47	0.950	0.000	2.00	7.971	7.57	354.6	0.0	366.9
70.00		1.00	1.17	42.831	47.11	520.39	0.950	0.000	2.00	7.885	7.49	352.9	0.0	362.9
72.00		1.00	1.18	43.086	47.39	516.24	0.950	0.000	2.00	7.800	7.41	351.2	0.0	358.9
74.00		1.00	1.19	43.335	47.67	512.02	0.950	0.000	2.00	7.714	7.33	349.3	0.0	355.0
76.00		1.00	1.19	43.579	47.94	507.73	0.950	0.000	2.00	7.629	7.25	347.4	0.0	351.0
78.00		1.00	1.20	43.818	48.20	503.38	0.950	0.000	2.00	7.543	7.17	345.4	0.0	347.0
80.00		1.00	1.21	44.053	48.46	498.96	0.950	0.000	2.00	7.458	7.08	343.3	0.0	343.0
82.00		1.00	1.21	44.282	48.71	494.49	0.950	0.000	2.00	7.372	7.00	341.1	0.0	339.1
84.00		1.00	1.22	44.507	48.96	489.96	0.950	0.000	2.00	7.286	6.92	338.9	0.0	335.1
86.00		1.00	1.23	44.728	49.20	485.37	0.950	0.000	2.00	7.201	6.84	336.6	0.0	331.1
88.00		1.00	1.23	44.945	49.44	480.73	0.950	0.000	2.00	7.115	6.76	334.2	0.0	327.1

Wind Loading - Shaft

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



90.00	1.00	1.24	45.159	49.67	476.03	0.950	0.000	2.00	7.030	6.68	331.7	0.0	323.2
90.17 Bot - Section 3	1.00	1.24	45.176	49.69	475.64	0.950	0.000	0.17	0.582	0.55	27.5	0.0	26.8
92.00	1.00	1.24	45.368	49.90	471.29	0.950	0.000	1.83	6.471	6.15	306.8	0.0	544.6
94.00	1.00	1.25	45.574	50.13	466.50	0.950	0.000	2.00	6.977	6.63	332.3	0.0	587.0
96.00 Top - Section 2	1.00	1.25	45.776	50.35	461.67	0.950	0.000	2.00	6.891	6.55	329.7	0.0	579.7
98.00	1.00	1.26	45.975	50.57	464.94	0.950	0.000	2.00	6.806	6.47	327.0	0.0	265.1
100.00	1.00	1.27	46.171	50.79	460.03	0.950	0.000	2.00	6.720	6.38	324.2	0.0	261.7
102.00	1.00	1.27	46.364	51.00	455.09	0.950	0.000	2.00	6.635	6.30	321.5	0.0	258.4
104.00	1.00	1.28	46.554	51.21	450.10	0.950	0.000	2.00	6.549	6.22	318.6	0.0	255.0
106.00	1.00	1.28	46.741	51.42	445.07	0.950	0.000	2.00	6.464	6.14	315.7	0.0	251.6
108.00	1.00	1.29	46.926	51.62	440.00	0.950	0.000	2.00	6.378	6.06	312.8	0.0	248.3
110.00	1.00	1.29	47.107	51.82	434.90	0.950	0.000	2.00	6.292	5.98	309.8	0.0	244.9
112.00	1.00	1.30	47.286	52.01	429.75	0.950	0.000	2.00	6.207	5.90	306.7	0.0	241.5
114.00	1.00	1.30	47.463	52.21	424.58	0.950	0.000	2.00	6.121	5.82	303.6	0.0	238.2
116.00	1.00	1.31	47.637	52.40	419.37	0.950	0.000	2.00	6.036	5.73	300.5	0.0	234.8
118.00	1.00	1.31	47.809	52.59	414.12	0.950	0.000	2.00	5.950	5.65	297.3	0.0	231.5
120.00	1.00	1.32	47.978	52.78	408.85	0.950	0.000	2.00	5.864	5.57	294.0	0.0	228.1
122.00	1.00	1.32	48.145	52.96	403.54	0.950	0.000	2.00	5.779	5.49	290.7	0.0	224.7
124.00	1.00	1.32	48.310	53.14	398.20	0.950	0.000	2.00	5.693	5.41	287.4	0.0	221.4
126.00	1.00	1.33	48.473	53.32	392.83	0.950	0.000	2.00	5.608	5.33	284.1	0.0	218.0
128.00	1.00	1.33	48.634	53.50	387.43	0.950	0.000	2.00	5.522	5.25	280.7	0.0	214.6
130.00	1.00	1.34	48.793	53.67	382.00	0.950	0.000	2.00	5.437	5.16	277.2	0.0	211.3
132.00	1.00	1.34	48.950	53.85	376.54	0.950	0.000	2.00	5.351	5.08	273.7	0.0	207.9
133.33 Bot - Section 4	1.00	1.34	49.054	53.96	372.89	0.950	0.000	1.33	3.520	3.34	180.4	0.0	136.7
134.00	1.00	1.35	49.106	54.02	371.06	0.950	0.000	0.67	1.774	1.69	91.1	0.0	118.1
136.00	1.00	1.35	49.259	54.19	365.55	0.950	0.000	2.00	5.266	5.00	271.1	0.0	350.4
138.00 Top - Section 3	1.00	1.35	49.411	54.35	360.01	0.950	0.000	2.00	5.181	4.92	267.5	0.0	344.6
140.00	1.00	1.36	49.561	54.52	360.61	0.950	0.000	2.00	5.095	4.84	263.9	0.0	144.4
142.00	1.00	1.36	49.709	54.68	355.03	0.950	0.000	2.00	5.009	4.76	260.2	0.0	141.9
144.00	1.00	1.37	49.855	54.84	349.42	0.950	0.000	2.00	4.924	4.68	256.5	0.0	139.5
146.00	1.00	1.37	50.000	55.00	343.80	0.950	0.000	2.00	4.838	4.60	252.8	0.0	137.0
148.00	1.00	1.37	50.144	55.16	338.14	0.950	0.000	2.00	4.753	4.51	249.0	0.0	134.6
150.00 Appurtenance(s)	1.00	1.38	50.286	55.31	332.47	0.950	0.000	2.00	4.667	4.43	245.2	0.0	132.1
152.00	1.00	1.38	50.426	55.47	326.77	0.950	0.000	2.00	4.581	4.35	241.4	0.0	129.7
154.00	1.00	1.39	50.565	55.62	321.05	0.950	0.000	2.00	4.496	4.27	237.6	0.0	127.2
156.00	1.00	1.39	50.703	55.77	315.31	0.950	0.000	2.00	4.410	4.19	233.7	0.0	124.8
158.00 Appurtenance(s)	1.00	1.39	50.839	55.92	309.54	0.950	0.000	2.00	4.325	4.11	229.8	0.0	122.3
160.00	1.00	1.40	50.974	56.07	303.76	0.950	0.000	2.00	4.239	4.03	225.8	0.0	119.9
162.00	1.00	1.40	51.107	56.22	297.95	0.950	0.000	2.00	4.154	3.95	221.8	0.0	117.5
164.00	1.00	1.40	51.239	56.36	292.13	0.950	0.000	2.00	4.068	3.86	217.8	0.0	115.0
166.00 Appurtenance(s)	1.00	1.41	51.370	56.51	286.28	0.950	0.000	2.00	3.982	3.78	213.8	0.0	112.6
168.00	1.00	1.41	51.500	56.65	280.42	0.950	0.000	2.00	3.897	3.70	209.7	0.0	110.1
170.00	1.00	1.42	51.628	56.79	274.53	0.950	0.000	2.00	3.811	3.62	205.6	0.0	107.7
172.00	1.00	1.42	51.756	56.93	268.63	0.950	0.000	2.00	3.726	3.54	201.5	0.0	105.2
174.00	1.00	1.42	51.882	57.07	262.70	0.950	0.000	2.00	3.640	3.46	197.3	0.0	102.8
176.00	1.00	1.43	52.007	57.21	256.76	0.950	0.000	2.00	3.554	3.38	193.2	0.0	100.3
178.00 Appurtenance(s)	1.00	1.43	52.131	57.34	250.80	0.950	0.000	2.00	3.469	3.30	189.0	0.0	97.9
180.00	1.00	1.43	52.253	57.48	244.83	0.950	0.000	2.00	3.383	3.21	184.7	0.0	95.4
Totals:								180.00			27,684.8		30,072.5

Discrete Appurtenance Forces

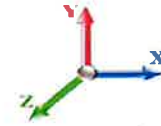
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Samsung B5/B13 RRH	3	52.131	57.344	0.50	0.75	3.35	189.81	0.000	0.000	191.91	0.00	0.00
2	178.00	Samsung B2/B66A RRH	3	52.131	57.344	0.50	0.75	2.83	227.88	0.000	0.000	162.52	0.00	0.00
3	178.00	JMA MX06FRO660-03	6	52.131	57.344	0.61	0.75	36.42	324.00	0.000	0.000	2088.48	0.00	0.00
4	178.00	Platform w/ Handrails w/	1	52.131	57.344	1.00	1.00	40.00	1981.98	0.000	0.000	2293.75	0.00	0.00
5	178.00	Raycap	1	52.131	57.344	1.00	1.00	2.61	28.80	0.000	0.000	149.67	0.00	0.00
6	166.00	ALU 800 Mhz	6	51.370	56.507	0.38	0.75	5.60	286.20	0.000	0.000	316.58	0.00	0.00
7	166.00	RFS APXVTM14-C-120	3	51.370	56.507	0.58	0.75	10.98	151.74	0.000	0.000	620.68	0.00	0.00
8	166.00	Commscope	3	51.370	56.507	0.55	0.75	20.43	208.98	0.000	0.000	1154.42	0.00	0.00
9	166.00	ALU 1900 Mhz	3	51.370	56.507	0.50	0.75	5.73	118.80	0.000	0.000	323.70	0.00	0.00
10	166.00	Sitepro	1	51.370	56.507	1.00	1.00	7.00	365.95	0.000	0.000	395.55	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	51.370	56.507	0.50	0.75	6.11	189.00	0.000	0.000	345.00	0.00	0.00
12	166.00	Sitepro	1	51.370	56.507	1.00	1.00	6.70	207.00	0.000	0.000	378.60	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	51.370	56.507	1.00	1.00	40.00	1800.00	0.000	0.000	2260.29	0.00	0.00
14	158.00	PCS1900 G3 TMA	6	50.839	55.923	0.40	0.80	2.50	108.00	0.000	0.000	139.58	0.00	0.00
15	158.00	T-Arms	3	50.839	55.923	0.56	0.75	13.50	945.00	0.000	0.000	754.96	0.00	0.00
16	158.00	EMS RR90-17-02DP	6	50.839	55.923	0.54	0.80	23.96	72.90	0.000	0.000	1339.78	0.00	0.00
17	150.00	Powerwave 7770	3	50.286	55.314	0.55	0.75	9.05	94.50	0.000	0.000	500.60	0.00	0.00
18	150.00	Cci HPA-65R-BUU-H6	2	50.286	55.314	0.77	0.90	14.78	91.80	0.000	0.000	817.53	0.00	0.00
19	150.00	SBNHH-1D65A	1	50.286	55.314	1.00	1.00	5.88	30.15	0.000	0.000	325.25	0.00	0.00
20	150.00	RRUS-32	3	50.286	55.314	0.50	0.75	5.83	207.90	0.000	0.000	322.71	0.00	0.00
21	150.00	KMW AM-X-CD-16-65-00T	2	50.286	55.314	0.56	0.75	9.02	87.30	0.000	0.000	499.07	0.00	0.00
22	150.00	Powerwave LGP21401	6	50.286	55.314	0.38	0.75	2.75	76.14	0.000	0.000	151.84	0.00	0.00
23	150.00	KMW AM-X-CD-14-65-00T	1	50.286	55.314	0.75	0.75	5.29	32.76	0.000	0.000	292.47	0.00	0.00
24	150.00	Ericsson RRUS-11	3	50.286	55.314	0.50	0.75	3.80	136.89	0.000	0.000	210.13	0.00	0.00
25	150.00	Raycap DC6-48-60-18-8F	1	50.286	55.314	0.67	1.00	1.21	28.62	0.000	0.000	67.08	0.00	0.00
26	150.00	Platform w/ Hand Rail	1	50.286	55.314	1.00	1.00	35.00	1440.00	0.000	0.000	1936.00	0.00	0.00

Totals: 9,432.10

18,038.15

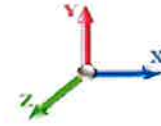
Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 19
	Struct Class: II	



Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		345.27	529.06	0.00	0.00
4.00		342.50	543.22	0.00	0.00
6.00		339.73	557.37	0.00	0.00
8.00		336.95	553.09	0.00	0.00
10.00		334.18	548.81	0.00	0.00
12.00		331.41	544.53	0.00	0.00
14.00		328.63	540.25	0.00	0.00
16.00		329.88	535.97	0.00	0.00
18.00		335.29	531.69	0.00	0.00
20.00		339.86	527.41	0.00	0.00
22.00		343.75	523.13	0.00	0.00
24.00		347.05	518.86	0.00	0.00
26.00		349.84	514.58	0.00	0.00
28.00		352.18	510.30	0.00	0.00
30.00		354.13	506.02	0.00	0.00
32.00		355.72	501.74	0.00	0.00
34.00		357.00	497.46	0.00	0.00
36.00		357.99	493.18	0.00	0.00
38.00		358.72	488.90	0.00	0.00
40.00		359.21	484.62	0.00	0.00
42.00		359.48	480.34	0.00	0.00
43.92		344.50	456.31	0.00	0.00
44.00		15.15	36.94	0.00	0.00
46.00		365.16	882.38	0.00	0.00
48.00		364.91	874.12	0.00	0.00
50.00		364.49	865.87	0.00	0.00
51.00		181.66	429.84	0.00	0.00
52.00		181.51	217.28	0.00	0.00
54.00		363.19	431.58	0.00	0.00
56.00		362.33	427.60	0.00	0.00
58.00		361.33	423.63	0.00	0.00
60.00		360.21	419.65	0.00	0.00
62.00		358.98	415.68	0.00	0.00
64.00		357.62	411.71	0.00	0.00
66.00		356.16	407.73	0.00	0.00
68.00		354.60	403.76	0.00	0.00
70.00		352.94	399.78	0.00	0.00
72.00		351.19	395.81	0.00	0.00
74.00		349.34	391.84	0.00	0.00
76.00		347.41	387.86	0.00	0.00
78.00		345.40	383.89	0.00	0.00
80.00		343.31	379.91	0.00	0.00
82.00		341.14	375.94	0.00	0.00
84.00		338.89	371.97	0.00	0.00
86.00		336.57	367.99	0.00	0.00
88.00		334.19	364.02	0.00	0.00

Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 20
	Struct Class: II	



90.00		331.73	360.04	0.00	0.00
90.17		27.47	29.82	0.00	0.00
92.00		306.78	578.36	0.00	0.00
94.00		332.28	623.91	0.00	0.00
96.00		329.66	616.57	0.00	0.00
98.00		326.99	301.96	0.00	0.00
100.00		324.25	298.60	0.00	0.00
102.00		321.46	295.23	0.00	0.00
104.00		318.61	291.87	0.00	0.00
106.00		315.71	288.51	0.00	0.00
108.00		312.76	285.15	0.00	0.00
110.00		309.76	281.78	0.00	0.00
112.00		306.70	278.42	0.00	0.00
114.00		303.61	275.06	0.00	0.00
116.00		300.46	271.70	0.00	0.00
118.00		297.27	268.33	0.00	0.00
120.00		294.03	264.97	0.00	0.00
122.00		290.75	261.61	0.00	0.00
124.00		287.42	258.24	0.00	0.00
126.00		284.06	254.88	0.00	0.00
128.00		280.65	251.52	0.00	0.00
130.00		277.21	248.16	0.00	0.00
132.00		273.72	244.79	0.00	0.00
133.33		180.43	161.33	0.00	0.00
134.00		91.05	130.40	0.00	0.00
136.00		271.08	387.32	0.00	0.00
138.00		267.49	381.51	0.00	0.00
140.00		263.87	181.23	0.00	0.00
142.00		260.21	178.79	0.00	0.00
144.00		256.52	176.34	0.00	0.00
146.00		252.80	173.90	0.00	0.00
148.00		249.04	171.45	0.00	0.00
150.00	(23) attachments	5367.94	2395.07	0.00	0.00
152.00		241.42	151.53	0.00	0.00
154.00		237.56	149.08	0.00	0.00
156.00		233.68	146.64	0.00	0.00
158.00	(15) attachments	2464.08	1270.09	0.00	0.00
160.00		225.81	130.52	0.00	0.00
162.00		221.83	128.07	0.00	0.00
164.00		217.82	125.62	0.00	0.00
166.00	(21) attachments	6008.60	3450.85	0.00	0.00
168.00		209.71	113.86	0.00	0.00
170.00		205.62	111.42	0.00	0.00
172.00		201.50	108.97	0.00	0.00
174.00		197.35	106.53	0.00	0.00
176.00		193.17	104.08	0.00	0.00
178.00	(14) attachments	5075.29	2854.11	0.00	0.00
180.00		184.74	95.45	0.00	0.00
	Totals:	45,722.93	42,367.24	0.00	0.00

Calculated Forces

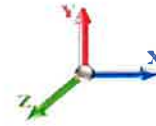
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0W 123 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 29

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-42.34	-45.75	0.00	-5425.5	0.00	5425.51	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.852
2.00	-41.75	-45.46	0.00	-5334.0	0.00	5334.01	5107.67	1509.78	7683.09	6363.61	0.02	-0.073	0.000	0.847
4.00	-41.15	-45.17	0.00	-5243.0	0.00	5243.09	5091.62	1497.52	7558.79	6291.73	0.06	-0.146	0.000	0.842
6.00	-40.53	-44.88	0.00	-5152.7	0.00	5152.76	5075.16	1485.26	7435.50	6219.67	0.14	-0.220	0.000	0.837
8.00	-39.92	-44.59	0.00	-5063.0	0.00	5063.00	5058.29	1472.99	7313.22	6147.44	0.25	-0.295	0.000	0.832
10.00	-39.32	-44.31	0.00	-4973.8	0.00	4973.82	5041.00	1460.73	7191.96	6075.05	0.39	-0.370	0.000	0.827
12.00	-38.72	-44.02	0.00	-4885.2	0.00	4885.21	5023.29	1448.47	7071.72	6002.51	0.56	-0.446	0.000	0.822
14.00	-38.12	-43.74	0.00	-4797.1	0.00	4797.17	5005.16	1436.20	6952.48	5929.84	0.77	-0.522	0.000	0.818
16.00	-37.53	-43.45	0.00	-4709.6	0.00	4709.69	4986.62	1423.94	6834.27	5857.05	1.00	-0.599	0.000	0.813
18.00	-36.95	-43.16	0.00	-4622.7	0.00	4622.78	4967.66	1411.68	6717.06	5784.16	1.27	-0.676	0.000	0.808
20.00	-36.36	-42.87	0.00	-4536.4	0.00	4536.46	4948.29	1399.42	6600.87	5711.17	1.57	-0.754	0.000	0.803
22.00	-35.79	-42.57	0.00	-4450.7	0.00	4450.72	4928.49	1387.15	6485.69	5638.10	1.90	-0.832	0.000	0.798
24.00	-35.22	-42.26	0.00	-4365.5	0.00	4365.59	4908.28	1374.89	6371.53	5564.95	2.27	-0.911	0.000	0.793
26.00	-34.65	-41.95	0.00	-4281.0	0.00	4281.08	4887.66	1362.63	6258.37	5491.76	2.67	-0.991	0.000	0.788
28.00	-34.09	-41.64	0.00	-4197.1	0.00	4197.18	4866.62	1350.36	6146.24	5418.52	3.10	-1.071	0.000	0.783
30.00	-33.53	-41.32	0.00	-4113.9	0.00	4113.91	4845.16	1338.10	6035.11	5345.24	3.57	-1.152	0.000	0.778
32.00	-32.98	-41.00	0.00	-4031.2	0.00	4031.27	4823.28	1325.84	5925.00	5271.95	4.07	-1.233	0.000	0.772
34.00	-32.43	-40.68	0.00	-3949.2	0.00	3949.27	4800.99	1313.58	5815.91	5198.66	4.60	-1.315	0.000	0.767
36.00	-31.89	-40.36	0.00	-3867.9	0.00	3867.92	4778.28	1301.31	5707.83	5125.37	5.17	-1.397	0.000	0.762
38.00	-31.35	-40.03	0.00	-3787.2	0.00	3787.21	4755.15	1289.05	5600.76	5052.10	5.77	-1.480	0.000	0.757
40.00	-30.81	-39.70	0.00	-3707.1	0.00	3707.15	4731.61	1276.79	5494.70	4978.87	6.41	-1.564	0.000	0.752
42.00	-30.29	-39.37	0.00	-3627.7	0.00	3627.75	4707.65	1264.52	5389.66	4905.68	7.09	-1.648	0.000	0.747
43.92	-29.81	-39.04	0.00	-3552.2	0.00	3552.28	4684.30	1252.77	5289.95	4835.60	7.76	-1.730	0.000	0.742
44.00	-29.75	-39.05	0.00	-3549.0	0.00	3549.03	4683.27	1252.26	5285.64	4832.55	7.80	-1.733	0.000	0.742
46.00	-28.82	-38.70	0.00	-3470.9	0.00	3470.94	4658.48	1240.00	5182.62	4759.49	8.54	-1.819	0.000	0.736
48.00	-27.90	-38.35	0.00	-3393.5	0.00	3393.55	4633.27	1227.74	5080.62	4686.52	9.32	-1.905	0.000	0.731
50.00	-27.00	-37.98	0.00	-3316.8	0.00	3316.86	4607.64	1215.47	4979.64	4613.64	10.14	-1.991	0.000	0.726
51.00	-26.55	-37.81	0.00	-3278.8	0.00	3278.87	4157.28	1142.33	4736.69	4216.21	10.56	-2.035	0.000	0.785
52.00	-26.29	-37.65	0.00	-3241.0	0.00	3241.07	4146.96	1136.64	4689.60	4184.61	10.99	-2.079	0.000	0.782
54.00	-25.82	-37.31	0.00	-3165.7	0.00	3165.77	4126.01	1125.25	4596.10	4121.41	11.88	-2.169	0.000	0.775
56.00	-25.35	-36.97	0.00	-3091.1	0.00	3091.16	4104.64	1113.86	4503.55	4058.23	12.81	-2.260	0.000	0.769
58.00	-24.88	-36.63	0.00	-3017.2	0.00	3017.22	4082.85	1102.48	4411.95	3995.08	13.78	-2.351	0.000	0.762
60.00	-24.42	-36.29	0.00	-2943.9	0.00	2943.95	4060.64	1091.09	4321.28	3931.97	14.78	-2.443	0.000	0.756
62.00	-23.96	-35.96	0.00	-2871.3	0.00	2871.36	4038.02	1079.70	4231.55	3868.91	15.82	-2.535	0.000	0.749
64.00	-23.51	-35.62	0.00	-2799.4	0.00	2799.45	4014.98	1068.31	4142.77	3805.92	16.91	-2.628	0.000	0.743
66.00	-23.06	-35.28	0.00	-2728.2	0.00	2728.22	3991.52	1056.93	4054.92	3743.01	18.03	-2.721	0.000	0.736
68.00	-22.61	-34.95	0.00	-2657.6	0.00	2657.65	3967.65	1045.54	3968.02	3680.19	19.19	-2.815	0.000	0.729
70.00	-22.18	-34.61	0.00	-2587.7	0.00	2587.76	3943.36	1034.15	3882.06	3617.47	20.39	-2.910	0.000	0.722
72.00	-21.74	-34.27	0.00	-2518.5	0.00	2518.54	3918.66	1022.77	3797.04	3554.87	21.63	-3.005	0.000	0.715
74.00	-21.31	-33.94	0.00	-2449.9	0.00	2449.99	3893.54	1011.38	3712.96	3492.40	22.91	-3.101	0.000	0.708
76.00	-20.89	-33.61	0.00	-2382.1	0.00	2382.11	3868.00	999.99	3629.83	3430.07	24.23	-3.197	0.000	0.701
78.00	-20.47	-33.28	0.00	-2314.9	0.00	2314.90	3842.04	988.61	3547.63	3367.90	25.59	-3.294	0.000	0.694
80.00	-20.05	-32.95	0.00	-2248.3	0.00	2248.35	3815.67	977.22	3466.38	3305.90	26.99	-3.392	0.000	0.686
82.00	-19.64	-32.62	0.00	-2182.4	0.00	2182.46	3788.88	965.83	3386.07	3244.07	28.43	-3.489	0.000	0.679
84.00	-19.23	-32.29	0.00	-2117.2	0.00	2117.23	3761.67	954.44	3306.69	3182.44	29.91	-3.588	0.000	0.672
86.00	-18.83	-31.96	0.00	-2052.6	0.00	2052.65	3734.05	943.06	3228.26	3121.02	31.43	-3.687	0.000	0.664
88.00	-18.44	-31.64	0.00	-1988.7	0.00	1988.73	3706.01	931.67	3150.77	3059.82	33.00	-3.786	0.000	0.656
90.00	-18.07	-31.30	0.00	-1925.4	0.00	1925.46	3677.55	920.28	3074.23	2998.84	34.61	-3.886	0.000	0.648

Calculated Forces

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 22



90.17	-18.02	-31.28	0.00	-1920.2	0.00	1920.24	3675.16	919.33	3067.89	2993.77	34.74	-3.894	0.000	0.647
92.00	-17.41	-30.97	0.00	-1862.8	0.00	1862.89	3648.68	908.90	2998.62	2938.12	36.25	-3.986	0.000	0.640
94.00	-16.75	-30.62	0.00	-1800.9	0.00	1800.95	3619.39	897.51	2923.96	2877.64	37.94	-4.087	0.000	0.632
96.00	-16.11	-30.28	0.00	-1739.7	0.00	1739.71	2873.56	764.37	2506.37	2303.28	39.68	-4.188	0.000	0.762
98.00	-15.78	-29.96	0.00	-1679.1	0.00	1679.15	2853.66	754.73	2443.58	2258.25	41.45	-4.289	0.000	0.751
100.00	-15.44	-29.64	0.00	-1619.2	0.00	1619.23	2833.34	745.10	2381.59	2213.29	43.27	-4.402	0.000	0.739
102.00	-15.12	-29.33	0.00	-1559.9	0.00	1559.95	2812.61	735.46	2320.39	2168.43	45.14	-4.516	0.000	0.726
104.00	-14.79	-29.02	0.00	-1501.2	0.00	1501.29	2791.46	725.83	2259.99	2123.68	47.05	-4.630	0.000	0.714
106.00	-14.48	-28.71	0.00	-1443.2	0.00	1443.25	2769.89	716.19	2200.39	2079.04	49.02	-4.743	0.000	0.701
108.00	-14.16	-28.40	0.00	-1385.8	0.00	1385.83	2747.90	706.55	2141.58	2034.53	51.03	-4.857	0.000	0.688
110.00	-13.85	-28.10	0.00	-1329.0	0.00	1329.03	2725.50	696.92	2083.57	1990.17	53.08	-4.970	0.000	0.675
112.00	-13.55	-27.79	0.00	-1272.8	0.00	1272.84	2702.68	687.28	2026.36	1945.97	55.19	-5.084	0.000	0.661
114.00	-13.25	-27.49	0.00	-1217.2	0.00	1217.25	2679.45	677.65	1969.94	1901.93	57.34	-5.197	0.000	0.647
116.00	-12.95	-27.19	0.00	-1162.2	0.00	1162.27	2655.79	668.01	1914.32	1858.08	59.54	-5.310	0.000	0.632
118.00	-12.66	-26.90	0.00	-1107.8	0.00	1107.88	2631.73	658.38	1859.50	1814.42	61.78	-5.422	0.000	0.617
120.00	-12.37	-26.60	0.00	-1054.0	0.00	1054.09	2607.24	648.74	1805.47	1770.96	64.08	-5.534	0.000	0.602
122.00	-12.09	-26.31	0.00	-1000.8	0.00	1000.88	2582.34	639.11	1752.24	1727.73	66.41	-5.645	0.000	0.586
124.00	-11.81	-26.02	0.00	-948.25	0.00	948.25	2557.02	629.47	1699.80	1684.74	68.80	-5.756	0.000	0.569
126.00	-11.53	-25.74	0.00	-896.21	0.00	896.21	2531.28	619.84	1648.16	1641.98	71.23	-5.865	0.000	0.552
128.00	-11.27	-25.45	0.00	-844.74	0.00	844.74	2505.13	610.20	1597.32	1599.49	73.71	-5.973	0.000	0.534
130.00	-11.00	-25.17	0.00	-793.83	0.00	793.83	2478.56	600.57	1547.28	1557.27	76.23	-6.079	0.000	0.516
132.00	-10.75	-24.89	0.00	-743.49	0.00	743.49	2451.58	590.93	1498.03	1515.33	78.79	-6.184	0.000	0.497
133.33	-10.59	-24.70	0.00	-710.30	0.00	710.30	2433.35	584.51	1465.64	1487.53	80.53	-6.253	0.000	0.484
134.00	-10.44	-24.61	0.00	-693.83	0.00	693.83	2424.17	581.30	1449.58	1473.69	81.40	-6.288	0.000	0.477
136.00	-10.04	-24.32	0.00	-644.61	0.00	644.61	2396.35	571.66	1401.92	1432.35	84.05	-6.388	0.000	0.456
138.00	-9.65	-24.02	0.00	-595.98	0.00	595.98	1545.45	417.14	1026.36	929.77	86.74	-6.486	0.000	0.651
140.00	-9.46	-23.76	0.00	-547.94	0.00	547.94	1531.69	410.13	992.17	905.88	89.48	-6.582	0.000	0.614
142.00	-9.26	-23.50	0.00	-500.42	0.00	500.42	1517.50	403.12	958.56	882.03	92.25	-6.700	0.000	0.577
144.00	-9.07	-23.24	0.00	-453.43	0.00	453.43	1502.90	396.11	925.52	858.22	95.08	-6.814	0.000	0.538
146.00	-8.89	-22.98	0.00	-406.95	0.00	406.95	1487.88	389.11	893.06	834.49	97.95	-6.922	0.000	0.497
148.00	-8.71	-22.73	0.00	-360.98	0.00	360.98	1472.45	382.10	861.19	810.82	100.87	-7.024	0.000	0.455
150.00	-6.97	-17.12	0.00	-315.52	0.00	315.52	1456.60	375.09	829.89	787.25	103.82	-7.118	0.000	0.408
152.00	-6.82	-16.87	0.00	-281.28	0.00	281.28	1440.33	368.08	799.17	763.78	106.82	-7.207	0.000	0.375
154.00	-6.68	-16.63	0.00	-247.53	0.00	247.53	1423.65	361.08	769.03	740.42	109.85	-7.290	0.000	0.341
156.00	-6.54	-16.39	0.00	-214.28	0.00	214.28	1406.55	354.07	739.47	717.20	112.91	-7.366	0.000	0.306
158.00	-5.58	-13.78	0.00	-181.51	0.00	181.51	1389.03	347.06	710.49	694.11	116.00	-7.436	0.000	0.267
160.00	-5.47	-13.55	0.00	-153.94	0.00	153.94	1371.10	340.05	682.09	671.17	119.12	-7.498	0.000	0.235
162.00	-5.36	-13.32	0.00	-126.84	0.00	126.84	1352.75	333.05	654.27	648.41	122.27	-7.554	0.000	0.201
164.00	-5.25	-13.09	0.00	-100.21	0.00	100.21	1333.98	326.04	627.03	625.81	125.44	-7.602	0.000	0.166
166.00	-2.63	-6.68	0.00	-74.03	0.00	74.03	1314.79	319.03	600.37	603.42	128.62	-7.641	0.000	0.125
168.00	-2.54	-6.46	0.00	-60.68	0.00	60.68	1295.19	312.03	574.28	581.22	131.82	-7.674	0.000	0.107
170.00	-2.45	-6.24	0.00	-47.77	0.00	47.77	1275.17	305.02	548.78	559.24	135.03	-7.702	0.000	0.088
172.00	-2.37	-6.02	0.00	-35.29	0.00	35.29	1251.65	298.01	523.85	536.17	138.25	-7.724	0.000	0.068
174.00	-2.29	-5.82	0.00	-23.24	0.00	23.24	1222.21	291.00	499.51	511.11	141.48	-7.742	0.000	0.048
176.00	-2.21	-5.61	0.00	-11.61	0.00	11.61	1192.78	284.00	475.74	486.64	144.72	-7.753	0.000	0.026
178.00	-0.07	-0.20	0.00	-0.39	0.00	0.39	1163.35	276.99	452.55	462.78	147.96	-7.757	0.000	0.001
180.00	0.00	-0.18	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	151.20	-7.757	0.000	0.000

Wind Loading - Shaft

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

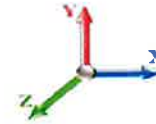
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.124	5.64	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	5.124	5.64	0.00	1.200	0.567	2.00	10.844	13.01	73.3	91.2	796.6
4.00		1.00	0.85	5.124	5.64	0.00	1.200	0.607	2.00	10.772	12.93	72.9	97.0	796.7
6.00		1.00	0.85	5.124	5.64	0.00	1.200	0.632	2.00	10.695	12.83	72.3	100.2	794.2
8.00		1.00	0.85	5.124	5.64	0.00	1.200	0.651	2.00	10.615	12.74	71.8	102.3	790.6
10.00		1.00	0.85	5.124	5.64	0.00	1.200	0.666	2.00	10.535	12.64	71.3	103.8	786.4
12.00		1.00	0.85	5.124	5.64	0.00	1.200	0.678	2.00	10.453	12.54	70.7	104.9	781.8
14.00		1.00	0.85	5.124	5.64	0.00	1.200	0.688	2.00	10.371	12.45	70.1	105.6	776.8
16.00		1.00	0.86	5.187	5.71	0.00	1.200	0.698	2.00	10.289	12.35	70.4	106.2	771.7
18.00		1.00	0.88	5.318	5.85	0.00	1.200	0.706	2.00	10.206	12.25	71.6	106.6	766.3
20.00		1.00	0.90	5.437	5.98	0.00	1.200	0.713	2.00	10.123	12.15	72.6	106.8	760.8
22.00		1.00	0.92	5.547	6.10	0.00	1.200	0.720	2.00	10.039	12.05	73.5	106.9	755.2
24.00		1.00	0.94	5.650	6.21	0.00	1.200	0.726	2.00	9.956	11.95	74.2	106.9	749.5
26.00		1.00	0.95	5.746	6.32	0.00	1.200	0.732	2.00	9.872	11.85	74.9	106.8	743.8
28.00		1.00	0.97	5.836	6.42	0.00	1.200	0.738	2.00	9.788	11.75	75.4	106.7	737.9
30.00		1.00	0.98	5.921	6.51	0.00	1.200	0.743	2.00	9.705	11.65	75.9	106.5	732.0
32.00		1.00	1.00	6.002	6.60	0.00	1.200	0.748	2.00	9.621	11.54	76.2	106.2	726.0
34.00		1.00	1.01	6.079	6.69	0.00	1.200	0.752	2.00	9.536	11.44	76.5	105.9	720.0
36.00		1.00	1.02	6.153	6.77	0.00	1.200	0.757	2.00	9.452	11.34	76.8	105.5	713.9
38.00		1.00	1.03	6.224	6.85	0.00	1.200	0.761	2.00	9.368	11.24	77.0	105.1	707.8
40.00		1.00	1.04	6.291	6.92	0.00	1.200	0.765	2.00	9.284	11.14	77.1	104.7	701.7
42.00		1.00	1.05	6.356	6.99	0.00	1.200	0.768	2.00	9.200	11.04	77.2	104.2	695.5
43.92 Bot - Section 2		1.00	1.06	6.416	7.06	0.00	1.200	0.772	1.92	8.737	10.48	74.0	99.4	660.7
44.00		1.00	1.06	6.419	7.06	0.00	1.200	0.772	0.08	0.384	0.46	3.3	4.4	51.6
46.00		1.00	1.07	6.479	7.13	0.00	1.200	0.775	2.00	9.171	11.01	78.4	104.8	1232.2
48.00		1.00	1.08	6.537	7.19	0.00	1.200	0.779	2.00	9.086	10.90	78.4	104.3	1220.6
50.00		1.00	1.09	6.594	7.25	0.00	1.200	0.782	2.00	9.002	10.80	78.3	103.7	1209.0
51.00 Top - Section 1		1.00	1.10	6.621	7.28	0.00	1.200	0.783	1.00	4.469	5.36	39.1	51.7	600.2
52.00		1.00	1.10	6.648	7.31	0.00	1.200	0.785	1.00	4.448	5.34	39.0	51.6	316.7
54.00		1.00	1.11	6.701	7.37	0.00	1.200	0.788	2.00	8.833	10.60	78.1	102.5	628.8
56.00		1.00	1.12	6.753	7.43	0.00	1.200	0.791	2.00	8.748	10.50	78.0	101.9	622.8
58.00		1.00	1.13	6.803	7.48	0.00	1.200	0.794	2.00	8.663	10.40	77.8	101.2	616.9
60.00		1.00	1.14	6.852	7.54	0.00	1.200	0.796	2.00	8.579	10.29	77.6	100.5	610.9
62.00		1.00	1.14	6.899	7.59	0.00	1.200	0.799	2.00	8.494	10.19	77.4	99.8	604.9
64.00		1.00	1.15	6.945	7.64	0.00	1.200	0.801	2.00	8.409	10.09	77.1	99.1	598.9
66.00		1.00	1.16	6.991	7.69	0.00	1.200	0.804	2.00	8.325	9.99	76.8	98.4	592.9
68.00		1.00	1.17	7.035	7.74	0.00	1.200	0.806	2.00	8.240	9.89	76.5	97.7	586.9
70.00		1.00	1.17	7.078	7.79	0.00	1.200	0.809	2.00	8.155	9.79	76.2	96.9	580.8
72.00		1.00	1.18	7.120	7.83	0.00	1.200	0.811	2.00	8.070	9.68	75.8	96.2	574.7
74.00		1.00	1.19	7.161	7.88	0.00	1.200	0.813	2.00	7.985	9.58	75.5	95.4	568.7
76.00		1.00	1.19	7.201	7.92	0.00	1.200	0.815	2.00	7.900	9.48	75.1	94.6	562.6
78.00		1.00	1.20	7.241	7.96	0.00	1.200	0.817	2.00	7.816	9.38	74.7	93.8	556.5
80.00		1.00	1.21	7.279	8.01	0.00	1.200	0.819	2.00	7.731	9.28	74.3	93.0	550.4
82.00		1.00	1.21	7.317	8.05	0.00	1.200	0.821	2.00	7.646	9.17	73.9	92.2	544.2
84.00		1.00	1.22	7.355	8.09	0.00	1.200	0.823	2.00	7.561	9.07	73.4	91.3	538.1
86.00		1.00	1.23	7.391	8.13	0.00	1.200	0.825	2.00	7.476	8.97	72.9	90.5	532.0
88.00		1.00	1.23	7.427	8.17	0.00	1.200	0.827	2.00	7.391	8.87	72.5	89.6	525.8

Wind Loading - Shaft

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

12/5/2019



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90.00	1.00	1.24	7.462	8.21	0.00	1.200	0.829	2.00	7.306	8.77	72.0	88.8	519.7		
90.17 Bot - Section 3	1.00	1.24	7.465	8.21	0.00	1.200	0.829	0.17	0.605	0.73	6.0	7.4	43.1		
92.00	1.00	1.24	7.497	8.25	0.00	1.200	0.831	1.83	6.725	8.07	66.5	81.9	808.0		
94.00	1.00	1.25	7.531	8.28	0.00	1.200	0.833	2.00	7.255	8.71	72.1	88.5	871.2		
96.00 Top - Section 2	1.00	1.25	7.564	8.32	0.00	1.200	0.835	2.00	7.170	8.60	71.6	87.6	860.6		
98.00	1.00	1.26	7.597	8.36	0.00	1.200	0.836	2.00	7.085	8.50	71.0	86.7	440.2		
100.00	1.00	1.27	7.630	8.39	0.00	1.200	0.838	2.00	7.000	8.40	70.5	85.8	434.8		
102.00	1.00	1.27	7.661	8.43	0.00	1.200	0.840	2.00	6.915	8.30	69.9	84.9	429.4		
104.00	1.00	1.28	7.693	8.46	0.00	1.200	0.841	2.00	6.830	8.20	69.4	84.0	424.0		
106.00	1.00	1.28	7.724	8.50	0.00	1.200	0.843	2.00	6.745	8.09	68.8	83.1	418.6		
108.00	1.00	1.29	7.754	8.53	0.00	1.200	0.844	2.00	6.659	7.99	68.2	82.2	413.2		
110.00	1.00	1.29	7.784	8.56	0.00	1.200	0.846	2.00	6.574	7.89	67.6	81.2	407.8		
112.00	1.00	1.30	7.814	8.60	0.00	1.200	0.847	2.00	6.489	7.79	66.9	80.3	402.4		
114.00	1.00	1.30	7.843	8.63	0.00	1.200	0.849	2.00	6.404	7.69	66.3	79.4	396.9		
116.00	1.00	1.31	7.872	8.66	0.00	1.200	0.850	2.00	6.319	7.58	65.7	78.4	391.5		
118.00	1.00	1.31	7.900	8.69	0.00	1.200	0.852	2.00	6.234	7.48	65.0	77.4	386.0		
120.00	1.00	1.32	7.928	8.72	0.00	1.200	0.853	2.00	6.149	7.38	64.3	76.5	380.6		
122.00	1.00	1.32	7.956	8.75	0.00	1.200	0.855	2.00	6.064	7.28	63.7	75.5	375.1		
124.00	1.00	1.32	7.983	8.78	0.00	1.200	0.856	2.00	5.979	7.17	63.0	74.5	369.7		
126.00	1.00	1.33	8.010	8.81	0.00	1.200	0.858	2.00	5.894	7.07	62.3	73.6	364.2		
128.00	1.00	1.33	8.037	8.84	0.00	1.200	0.859	2.00	5.808	6.97	61.6	72.6	358.8		
130.00	1.00	1.34	8.063	8.87	0.00	1.200	0.860	2.00	5.723	6.87	60.9	71.6	353.3		
132.00	1.00	1.34	8.089	8.90	0.00	1.200	0.862	2.00	5.638	6.77	60.2	70.6	347.8		
133.33 Bot - Section 4	1.00	1.34	8.106	8.92	0.00	1.200	0.862	1.33	3.711	4.45	39.7	46.6	228.9		
134.00	1.00	1.35	8.115	8.93	0.00	1.200	0.863	0.67	1.870	2.24	20.0	23.6	181.0		
136.00	1.00	1.35	8.140	8.95	0.00	1.200	0.864	2.00	5.554	6.66	59.7	69.7	537.0		
138.00 Top - Section 3	1.00	1.35	8.165	8.98	0.00	1.200	0.865	2.00	5.469	6.56	58.9	68.7	528.2		
140.00	1.00	1.36	8.190	9.01	0.00	1.200	0.867	2.00	5.384	6.46	58.2	67.7	260.1		
142.00	1.00	1.36	8.214	9.04	0.00	1.200	0.868	2.00	5.299	6.36	57.5	66.7	255.9		
144.00	1.00	1.37	8.238	9.06	0.00	1.200	0.869	2.00	5.213	6.26	56.7	65.6	251.6		
146.00	1.00	1.37	8.262	9.09	0.00	1.200	0.870	2.00	5.128	6.15	55.9	64.6	247.3		
148.00	1.00	1.37	8.286	9.11	0.00	1.200	0.871	2.00	5.043	6.05	55.2	63.6	243.0		
150.00 Appurtenance(s)	1.00	1.38	8.309	9.14	0.00	1.200	0.873	2.00	4.958	5.95	54.4	62.5	238.7		
152.00	1.00	1.38	8.333	9.17	0.00	1.200	0.874	2.00	4.873	5.85	53.6	61.5	234.4		
154.00	1.00	1.39	8.356	9.19	0.00	1.200	0.875	2.00	4.787	5.74	52.8	60.5	230.1		
156.00	1.00	1.39	8.378	9.22	0.00	1.200	0.876	2.00	4.702	5.64	52.0	59.4	225.8		
158.00 Appurtenance(s)	1.00	1.39	8.401	9.24	0.00	1.200	0.877	2.00	4.617	5.54	51.2	58.4	221.5		
160.00	1.00	1.40	8.423	9.27	0.00	1.200	0.878	2.00	4.532	5.44	50.4	57.3	217.2		
162.00	1.00	1.40	8.445	9.29	0.00	1.200	0.879	2.00	4.447	5.34	49.6	56.3	212.9		
164.00	1.00	1.40	8.467	9.31	0.00	1.200	0.880	2.00	4.361	5.23	48.7	55.2	208.5		
166.00 Appurtenance(s)	1.00	1.41	8.489	9.34	0.00	1.200	0.881	2.00	4.276	5.13	47.9	54.1	204.2		
168.00	1.00	1.41	8.510	9.36	0.00	1.200	0.883	2.00	4.191	5.03	47.1	53.1	199.9		
170.00	1.00	1.42	8.531	9.38	0.00	1.200	0.884	2.00	4.106	4.93	46.2	52.0	195.6		
172.00	1.00	1.42	8.552	9.41	0.00	1.200	0.885	2.00	4.020	4.82	45.4	50.9	191.2		
174.00	1.00	1.42	8.573	9.43	0.00	1.200	0.886	2.00	3.935	4.72	44.5	49.8	186.9		
176.00	1.00	1.43	8.594	9.45	0.00	1.200	0.887	2.00	3.850	4.62	43.7	48.8	182.5		
178.00 Appurtenance(s)	1.00	1.43	8.614	9.48	0.00	1.200	0.888	2.00	3.765	4.52	42.8	47.7	178.2		
180.00	1.00	1.43	8.635	9.50	0.00	1.200	0.889	2.00	3.680	4.42	41.9	46.6	173.8		
Totals:								180.00				6,013.4			47,724.7

Discrete Appurtenance Forces

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

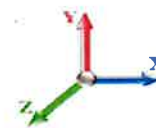
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Samsung B5/B13 RRH	3	8.614	9.476	0.50	0.75	3.82	289.84	0.000	0.000	36.22	0.00	0.00
2	178.00	Samsung B2/B66A RRH	3	8.614	9.476	0.50	0.75	3.51	533.26	0.000	0.000	33.23	0.00	0.00
3	178.00	JMA MX06FRO660-03	6	8.614	9.476	0.61	0.75	38.75	1189.18	0.000	0.000	367.17	0.00	0.00
4	178.00	Platform w/ Handrails w/	1	8.614	9.476	1.00	1.00	50.65	3417.74	0.000	0.000	479.97	0.00	0.00
5	178.00	Raycap	1	8.614	9.476	1.00	1.00	2.94	57.76	0.000	0.000	27.83	0.00	0.00
6	166.00	ALU 800 Mhz	6	8.489	9.338	0.38	0.75	6.90	479.14	0.000	0.000	64.45	0.00	0.00
7	166.00	RFS APXVTM14-C-I20	3	8.489	9.338	0.58	0.75	11.93	421.57	0.000	0.000	111.37	0.00	0.00
8	166.00	Commscope	3	8.489	9.338	0.55	0.75	21.65	513.94	0.000	0.000	202.20	0.00	0.00
9	166.00	ALU 1900 Mhz	3	8.489	9.338	0.50	0.75	6.79	230.21	0.000	0.000	63.37	0.00	0.00
10	166.00	Sitepro	1	8.489	9.338	1.00	1.00	10.46	1138.27	0.000	0.000	97.63	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	8.489	9.338	0.50	0.75	6.70	402.61	0.000	0.000	62.55	0.00	0.00
12	166.00	Sitepro	1	8.489	9.338	1.00	1.00	10.24	337.20	0.000	0.000	95.65	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	8.489	9.338	1.00	1.00	50.58	2857.80	0.000	0.000	472.28	0.00	0.00
14	158.00	PCS1900 G3 TMA	6	8.401	9.241	0.40	0.80	3.46	173.64	0.000	0.000	31.95	0.00	0.00
15	158.00	T-Arms	3	8.401	9.241	0.56	0.75	19.42	1418.40	0.000	0.000	179.47	0.00	0.00
16	158.00	EMS RR90-17-02DP	6	8.401	9.241	0.54	0.80	25.89	524.52	0.000	0.000	239.22	0.00	0.00
17	150.00	Powerwave 7770	3	8.309	9.140	0.55	0.75	9.88	306.19	0.000	0.000	90.33	0.00	0.00
18	150.00	Cci HPA-65R-BUU-H6	2	8.309	9.140	0.77	0.90	15.79	350.56	0.000	0.000	144.35	0.00	0.00
19	150.00	SBNHH-1D65A	1	8.309	9.140	1.00	1.00	6.40	111.56	0.000	0.000	58.52	0.00	0.00
20	150.00	RRUS-32	3	8.309	9.140	0.50	0.75	5.57	430.43	0.000	0.000	50.92	0.00	0.00
21	150.00	KMW AM-X-CD-16-65-00T	2	8.309	9.140	0.56	0.75	10.59	185.68	0.000	0.000	96.83	0.00	0.00
22	150.00	Powerwave LGP21401	6	8.309	9.140	0.38	0.75	3.63	133.92	0.000	0.000	33.22	0.00	0.00
23	150.00	KMW AM-X-CD-14-65-00T	1	8.309	9.140	0.75	0.75	6.28	67.54	0.000	0.000	57.39	0.00	0.00
24	150.00	Ericsson RRUS-11	3	8.309	9.140	0.50	0.75	4.27	289.33	0.000	0.000	39.02	0.00	0.00
25	150.00	Raycap DC6-48-60-18-8F	1	8.309	9.140	0.67	1.00	1.50	51.37	0.000	0.000	13.72	0.00	0.00
26	150.00	Platform w/ Hand Rail	1	8.309	9.140	1.00	1.00	50.27	2369.92	0.000	0.000	459.50	0.00	0.00

Totals: 18,281.57

3,608.35

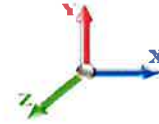
Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 26
	Struct Class: II	



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		73.35	796.58	0.00	0.00
4.00		72.86	821.28	0.00	0.00
6.00		72.34	843.39	0.00	0.00
8.00		71.80	839.81	0.00	0.00
10.00		71.25	835.58	0.00	0.00
12.00		70.70	830.93	0.00	0.00
14.00		70.15	825.99	0.00	0.00
16.00		70.45	820.82	0.00	0.00
18.00		71.64	815.48	0.00	0.00
20.00		72.65	810.00	0.00	0.00
22.00		73.51	804.40	0.00	0.00
24.00		74.25	798.70	0.00	0.00
26.00		74.87	792.92	0.00	0.00
28.00		75.41	787.07	0.00	0.00
30.00		75.85	781.16	0.00	0.00
32.00		76.23	775.19	0.00	0.00
34.00		76.53	769.17	0.00	0.00
36.00		76.77	763.11	0.00	0.00
38.00		76.96	757.00	0.00	0.00
40.00		77.10	750.86	0.00	0.00
42.00		77.18	744.69	0.00	0.00
43.92		74.00	707.84	0.00	0.00
44.00		3.25	53.65	0.00	0.00
46.00		78.43	1281.34	0.00	0.00
48.00		78.41	1269.79	0.00	0.00
50.00		78.35	1258.21	0.00	0.00
51.00		39.06	624.83	0.00	0.00
52.00		39.03	341.27	0.00	0.00
54.00		78.13	677.94	0.00	0.00
56.00		77.98	672.01	0.00	0.00
58.00		77.80	666.05	0.00	0.00
60.00		77.59	660.08	0.00	0.00
62.00		77.35	654.09	0.00	0.00
64.00		77.10	648.08	0.00	0.00
66.00		76.82	642.06	0.00	0.00
68.00		76.51	636.02	0.00	0.00
70.00		76.19	629.97	0.00	0.00
72.00		75.84	623.91	0.00	0.00
74.00		75.48	617.83	0.00	0.00
76.00		75.10	611.75	0.00	0.00
78.00		74.70	605.65	0.00	0.00
80.00		74.28	599.53	0.00	0.00
82.00		73.85	593.41	0.00	0.00
84.00		73.40	587.28	0.00	0.00
86.00		72.94	581.14	0.00	0.00
88.00		72.46	574.99	0.00	0.00

Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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90.00	71.97	568.83	0.00	0.00	
90.17	5.96	47.16	0.00	0.00	
92.00	66.55	853.08	0.00	0.00	
94.00	72.12	920.38	0.00	0.00	
96.00	71.59	909.72	0.00	0.00	
98.00	71.05	489.35	0.00	0.00	
100.00	70.49	483.97	0.00	0.00	
102.00	69.93	478.58	0.00	0.00	
104.00	69.35	473.18	0.00	0.00	
106.00	68.76	467.78	0.00	0.00	
108.00	68.16	462.37	0.00	0.00	
110.00	67.55	456.95	0.00	0.00	
112.00	66.93	451.52	0.00	0.00	
114.00	66.30	446.09	0.00	0.00	
116.00	65.66	440.66	0.00	0.00	
118.00	65.01	435.22	0.00	0.00	
120.00	64.35	429.77	0.00	0.00	
122.00	63.68	424.32	0.00	0.00	
124.00	63.00	418.86	0.00	0.00	
126.00	62.31	413.39	0.00	0.00	
128.00	61.62	407.92	0.00	0.00	
130.00	60.91	402.45	0.00	0.00	
132.00	60.20	396.97	0.00	0.00	
133.33	39.71	261.71	0.00	0.00	
134.00	20.03	197.43	0.00	0.00	
136.00	59.68	586.12	0.00	0.00	
138.00	58.94	577.36	0.00	0.00	
140.00	58.20	309.32	0.00	0.00	
142.00	57.45	305.04	0.00	0.00	
144.00	56.69	300.76	0.00	0.00	
146.00	55.93	296.47	0.00	0.00	
148.00	55.16	292.18	0.00	0.00	
150.00	(23) attachments 1098.17	4584.38	0.00	0.00	
152.00	53.60	263.54	0.00	0.00	
154.00	52.80	259.24	0.00	0.00	
156.00	52.00	254.93	0.00	0.00	
158.00	(15) attachments 501.84	2367.19	0.00	0.00	
160.00	50.39	231.33	0.00	0.00	
162.00	49.57	227.01	0.00	0.00	
164.00	48.75	222.69	0.00	0.00	
166.00	(21) attachments 1217.42	6599.10	0.00	0.00	
168.00	47.08	204.88	0.00	0.00	
170.00	46.24	200.55	0.00	0.00	
172.00	45.39	196.21	0.00	0.00	
174.00	44.53	191.88	0.00	0.00	
176.00	43.67	187.53	0.00	0.00	
178.00	(14) attachments 987.23	5670.96	0.00	0.00	
180.00	41.94	173.85	0.00	0.00	
Totals:		9,621.76	69,823.03	0.00	0.00

Calculated Forces

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

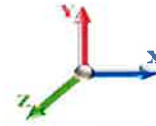
12/5/2019



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-69.82	-9.63	0.00	-1165.4	0.00	1165.43	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.195
2.00	-69.02	-9.58	0.00	-1146.1	0.00	1146.17	5107.67	1509.78	7683.09	6363.61	0.00	-0.016	0.000	0.194
4.00	-68.20	-9.52	0.00	-1127.0	0.00	1127.02	5091.62	1497.52	7558.79	6291.73	0.01	-0.031	0.000	0.193
6.00	-67.35	-9.47	0.00	-1107.9	0.00	1107.98	5075.16	1485.26	7435.50	6219.67	0.03	-0.047	0.000	0.191
8.00	-66.51	-9.41	0.00	-1089.0	0.00	1089.05	5058.29	1472.99	7313.22	6147.44	0.05	-0.063	0.000	0.190
10.00	-65.67	-9.36	0.00	-1070.2	0.00	1070.22	5041.00	1460.73	7191.96	6075.05	0.08	-0.080	0.000	0.189
12.00	-64.84	-9.31	0.00	-1051.5	0.00	1051.51	5023.29	1448.47	7071.72	6002.51	0.12	-0.096	0.000	0.188
14.00	-64.01	-9.25	0.00	-1032.9	0.00	1032.90	5005.16	1436.20	6952.48	5929.84	0.16	-0.112	0.000	0.187
16.00	-63.19	-9.20	0.00	-1014.3	0.00	1014.39	4986.62	1423.94	6834.27	5857.05	0.22	-0.129	0.000	0.186
18.00	-62.37	-9.14	0.00	-996.00	0.00	996.00	4967.66	1411.68	6717.06	5784.16	0.27	-0.145	0.000	0.185
20.00	-61.56	-9.09	0.00	-977.71	0.00	977.71	4948.29	1399.42	6600.87	5711.17	0.34	-0.162	0.000	0.184
22.00	-60.75	-9.03	0.00	-959.54	0.00	959.54	4928.49	1387.15	6485.69	5638.10	0.41	-0.179	0.000	0.183
24.00	-59.95	-8.97	0.00	-941.48	0.00	941.48	4908.28	1374.89	6371.53	5564.95	0.49	-0.196	0.000	0.181
26.00	-59.15	-8.91	0.00	-923.54	0.00	923.54	4887.66	1362.63	6258.37	5491.76	0.57	-0.213	0.000	0.180
28.00	-58.36	-8.85	0.00	-905.73	0.00	905.73	4866.62	1350.36	6146.24	5418.52	0.67	-0.231	0.000	0.179
30.00	-57.58	-8.79	0.00	-888.03	0.00	888.03	4845.16	1338.10	6035.11	5345.24	0.77	-0.248	0.000	0.178
32.00	-56.80	-8.72	0.00	-870.46	0.00	870.46	4823.28	1325.84	5925.00	5271.95	0.88	-0.266	0.000	0.177
34.00	-56.03	-8.66	0.00	-853.01	0.00	853.01	4800.99	1313.58	5815.91	5198.66	0.99	-0.283	0.000	0.176
36.00	-55.27	-8.60	0.00	-835.68	0.00	835.68	4778.28	1301.31	5707.83	5125.37	1.11	-0.301	0.000	0.175
38.00	-54.51	-8.53	0.00	-818.49	0.00	818.49	4755.15	1289.05	5600.76	5052.10	1.24	-0.319	0.000	0.174
40.00	-53.75	-8.47	0.00	-801.42	0.00	801.42	4731.61	1276.79	5494.70	4978.87	1.38	-0.337	0.000	0.172
42.00	-53.01	-8.41	0.00	-784.48	0.00	784.48	4707.65	1264.52	5389.66	4905.68	1.53	-0.355	0.000	0.171
43.92	-52.30	-8.34	0.00	-768.37	0.00	768.37	4684.30	1252.77	5289.95	4835.60	1.67	-0.373	0.000	0.170
44.00	-52.24	-8.34	0.00	-767.67	0.00	767.67	4683.27	1252.26	5285.64	4832.55	1.68	-0.374	0.000	0.170
46.00	-50.96	-8.27	0.00	-750.99	0.00	750.99	4658.48	1240.00	5182.62	4759.49	1.84	-0.392	0.000	0.169
48.00	-49.69	-8.20	0.00	-734.46	0.00	734.46	4633.27	1227.74	5080.62	4686.52	2.01	-0.411	0.000	0.167
50.00	-48.43	-8.12	0.00	-718.06	0.00	718.06	4607.64	1215.47	4979.64	4613.64	2.18	-0.430	0.000	0.166
51.00	-47.80	-8.09	0.00	-709.94	0.00	709.94	4157.28	1142.33	4736.69	4216.21	2.27	-0.439	0.000	0.180
52.00	-47.46	-8.06	0.00	-701.85	0.00	701.85	4146.96	1136.64	4689.60	4184.61	2.37	-0.449	0.000	0.179
54.00	-46.78	-7.99	0.00	-685.73	0.00	685.73	4126.01	1125.25	4596.10	4121.41	2.56	-0.468	0.000	0.178
56.00	-46.10	-7.92	0.00	-669.75	0.00	669.75	4104.64	1113.86	4503.55	4058.23	2.76	-0.488	0.000	0.176
58.00	-45.44	-7.85	0.00	-653.91	0.00	653.91	4082.85	1102.48	4411.95	3995.08	2.97	-0.507	0.000	0.175
60.00	-44.77	-7.79	0.00	-638.20	0.00	638.20	4060.64	1091.09	4321.28	3931.97	3.19	-0.527	0.000	0.173
62.00	-44.12	-7.72	0.00	-622.63	0.00	622.63	4038.02	1079.70	4231.55	3868.91	3.41	-0.547	0.000	0.172
64.00	-43.47	-7.65	0.00	-607.19	0.00	607.19	4014.98	1068.31	4142.77	3805.92	3.65	-0.567	0.000	0.170
66.00	-42.82	-7.58	0.00	-591.89	0.00	591.89	3991.52	1056.93	4054.92	3743.01	3.89	-0.588	0.000	0.169
68.00	-42.19	-7.51	0.00	-576.73	0.00	576.73	3967.65	1045.54	3968.02	3680.19	4.14	-0.608	0.000	0.167
70.00	-41.56	-7.45	0.00	-561.70	0.00	561.70	3943.36	1034.15	3882.06	3617.47	4.40	-0.629	0.000	0.166
72.00	-40.93	-7.38	0.00	-546.81	0.00	546.81	3918.66	1022.77	3797.04	3554.87	4.67	-0.649	0.000	0.164
74.00	-40.31	-7.31	0.00	-532.05	0.00	532.05	3893.54	1011.38	3712.96	3492.40	4.94	-0.670	0.000	0.163
76.00	-39.70	-7.24	0.00	-517.43	0.00	517.43	3868.00	999.99	3629.83	3430.07	5.23	-0.691	0.000	0.161
78.00	-39.09	-7.17	0.00	-502.95	0.00	502.95	3842.04	988.61	3547.63	3367.90	5.52	-0.712	0.000	0.160
80.00	-38.49	-7.11	0.00	-488.60	0.00	488.60	3815.67	977.22	3466.38	3305.90	5.82	-0.733	0.000	0.158
82.00	-37.89	-7.04	0.00	-474.39	0.00	474.39	3788.88	965.83	3386.07	3244.07	6.14	-0.755	0.000	0.156
84.00	-37.30	-6.97	0.00	-460.31	0.00	460.31	3761.67	954.44	3306.69	3182.44	6.46	-0.776	0.000	0.155
86.00	-36.72	-6.91	0.00	-446.36	0.00	446.36	3734.05	943.06	3228.26	3121.02	6.79	-0.797	0.000	0.153
88.00	-36.14	-6.84	0.00	-432.55	0.00	432.55	3706.01	931.67	3150.77	3059.82	7.13	-0.819	0.000	0.151
90.00	-35.58	-6.77	0.00	-418.88	0.00	418.88	3677.55	920.28	3074.23	2998.84	7.47	-0.841	0.000	0.149

Calculated Forces

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 29



90.17	-35.53	-6.77	0.00	-417.75	0.00	417.75	3675.16	919.33	3067.89	2993.77	7.50	-0.843	0.000	0.149
92.00	-34.67	-6.70	0.00	-405.35	0.00	405.35	3648.68	908.90	2998.62	2938.12	7.83	-0.863	0.000	0.148
94.00	-33.75	-6.63	0.00	-391.95	0.00	391.95	3619.39	897.51	2923.96	2877.64	8.20	-0.885	0.000	0.146
96.00	-32.84	-6.55	0.00	-378.70	0.00	378.70	2873.56	764.37	2506.37	2303.28	8.57	-0.906	0.000	0.176
98.00	-32.35	-6.49	0.00	-365.59	0.00	365.59	2853.66	754.73	2443.58	2258.25	8.96	-0.929	0.000	0.173
100.00	-31.86	-6.42	0.00	-352.62	0.00	352.62	2833.34	745.10	2381.59	2213.29	9.35	-0.953	0.000	0.171
102.00	-31.38	-6.36	0.00	-339.77	0.00	339.77	2812.61	735.46	2320.39	2168.43	9.76	-0.978	0.000	0.168
104.00	-30.91	-6.29	0.00	-327.06	0.00	327.06	2791.46	725.83	2259.99	2123.68	10.17	-1.003	0.000	0.165
106.00	-30.44	-6.23	0.00	-314.47	0.00	314.47	2769.89	716.19	2200.39	2079.04	10.60	-1.027	0.000	0.162
108.00	-29.98	-6.17	0.00	-302.01	0.00	302.01	2747.90	706.55	2141.58	2034.53	11.03	-1.052	0.000	0.159
110.00	-29.52	-6.10	0.00	-289.68	0.00	289.68	2725.50	696.92	2083.57	1990.17	11.48	-1.077	0.000	0.156
112.00	-29.07	-6.04	0.00	-277.47	0.00	277.47	2702.68	687.28	2026.36	1945.97	11.93	-1.102	0.000	0.153
114.00	-28.62	-5.98	0.00	-265.39	0.00	265.39	2679.45	677.65	1969.94	1901.93	12.40	-1.126	0.000	0.150
116.00	-28.18	-5.92	0.00	-253.43	0.00	253.43	2655.79	668.01	1914.32	1858.08	12.88	-1.151	0.000	0.147
118.00	-27.74	-5.85	0.00	-241.60	0.00	241.60	2631.73	658.38	1859.50	1814.42	13.37	-1.175	0.000	0.144
120.00	-27.31	-5.79	0.00	-229.90	0.00	229.90	2607.24	648.74	1805.47	1770.96	13.86	-1.200	0.000	0.140
122.00	-26.88	-5.73	0.00	-218.31	0.00	218.31	2582.34	639.11	1752.24	1727.73	14.37	-1.224	0.000	0.137
124.00	-26.46	-5.67	0.00	-206.85	0.00	206.85	2557.02	629.47	1699.80	1684.74	14.89	-1.248	0.000	0.133
126.00	-26.05	-5.61	0.00	-195.52	0.00	195.52	2531.28	619.84	1648.16	1641.98	15.42	-1.272	0.000	0.129
128.00	-25.64	-5.55	0.00	-184.30	0.00	184.30	2505.13	610.20	1597.32	1599.49	15.96	-1.296	0.000	0.126
130.00	-25.24	-5.49	0.00	-173.20	0.00	173.20	2478.56	600.57	1547.28	1557.27	16.50	-1.319	0.000	0.121
132.00	-24.84	-5.43	0.00	-162.22	0.00	162.22	2451.58	590.93	1498.03	1515.33	17.06	-1.342	0.000	0.117
133.33	-24.58	-5.39	0.00	-154.99	0.00	154.99	2433.35	584.51	1465.64	1487.53	17.44	-1.357	0.000	0.114
134.00	-24.38	-5.37	0.00	-151.40	0.00	151.40	2424.17	581.30	1449.58	1473.69	17.63	-1.364	0.000	0.113
136.00	-23.79	-5.30	0.00	-140.66	0.00	140.66	2396.35	571.66	1401.92	1432.35	18.20	-1.386	0.000	0.108
138.00	-23.22	-5.24	0.00	-130.05	0.00	130.05	1545.45	417.14	1026.36	929.77	18.79	-1.408	0.000	0.155
140.00	-22.91	-5.18	0.00	-119.57	0.00	119.57	1531.69	410.13	992.17	905.88	19.38	-1.428	0.000	0.147
142.00	-22.60	-5.13	0.00	-109.21	0.00	109.21	1517.50	403.12	958.56	882.03	19.99	-1.454	0.000	0.139
144.00	-22.30	-5.07	0.00	-98.95	0.00	98.95	1502.90	396.11	925.52	858.22	20.60	-1.479	0.000	0.130
146.00	-22.00	-5.02	0.00	-88.81	0.00	88.81	1487.88	389.11	893.06	834.49	21.23	-1.503	0.000	0.121
148.00	-21.71	-4.96	0.00	-78.77	0.00	78.77	1472.45	382.10	861.19	810.82	21.86	-1.525	0.000	0.112
150.00	-17.16	-3.75	0.00	-68.84	0.00	68.84	1456.60	375.09	829.89	787.25	22.51	-1.546	0.000	0.099
152.00	-16.89	-3.69	0.00	-61.35	0.00	61.35	1440.33	368.08	799.17	763.78	23.16	-1.565	0.000	0.092
154.00	-16.63	-3.64	0.00	-53.96	0.00	53.96	1423.65	361.08	769.03	740.42	23.82	-1.583	0.000	0.085
156.00	-16.38	-3.58	0.00	-46.68	0.00	46.68	1406.55	354.07	739.47	717.20	24.48	-1.600	0.000	0.077
158.00	-14.03	-3.02	0.00	-39.51	0.00	39.51	1389.03	347.06	710.49	694.11	25.16	-1.615	0.000	0.067
160.00	-13.80	-2.97	0.00	-33.48	0.00	33.48	1371.10	340.05	682.09	671.17	25.84	-1.628	0.000	0.060
162.00	-13.57	-2.91	0.00	-27.54	0.00	27.54	1352.75	333.05	654.27	648.41	26.52	-1.640	0.000	0.053
164.00	-13.35	-2.86	0.00	-21.72	0.00	21.72	1333.98	326.04	627.03	625.81	27.21	-1.651	0.000	0.045
166.00	-6.79	-1.45	0.00	-16.00	0.00	16.00	1314.79	319.03	600.37	603.42	27.90	-1.659	0.000	0.032
168.00	-6.58	-1.40	0.00	-13.09	0.00	13.09	1295.19	312.03	574.28	581.22	28.60	-1.666	0.000	0.028
170.00	-6.38	-1.35	0.00	-10.29	0.00	10.29	1275.17	305.02	548.78	559.24	29.30	-1.672	0.000	0.023
172.00	-6.19	-1.30	0.00	-7.59	0.00	7.59	1251.65	298.01	523.85	536.17	30.00	-1.677	0.000	0.019
174.00	-6.00	-1.25	0.00	-4.99	0.00	4.99	1222.21	291.00	499.51	511.11	30.71	-1.681	0.000	0.015
176.00	-5.81	-1.20	0.00	-2.49	0.00	2.49	1192.78	284.00	475.74	486.64	31.41	-1.683	0.000	0.010
178.00	-0.17	-0.05	0.00	-0.09	0.00	0.09	1163.35	276.99	452.55	462.78	32.12	-1.684	0.000	0.000
180.00	0.00	-0.04	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	32.82	-1.684	0.000	0.000

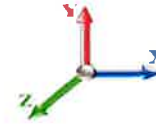
Seismic Segment Forces (Factored)

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Ev + 1.0Eh						Iterations 26
Gust Response Factor	1.10			Sds	0.22	Ss 0.21
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.09	S1 0.05
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
2.00		587.84	0.00	0.01	0.01	33.92	
4.00		583.09	0.00	0.02	0.01	38.47	
6.00		578.33	0.00	0.03	0.02	41.53	
8.00		573.58	0.00	0.04	0.02	43.66	
10.00		568.82	0.01	0.05	0.03	45.15	
12.00		564.07	0.01	0.05	0.03	46.19	
14.00		559.31	0.01	0.06	0.03	46.88	
16.00		554.55	0.01	0.06	0.04	47.32	
18.00		549.80	0.02	0.06	0.04	47.57	
20.00		545.04	0.02	0.07	0.04	47.67	
22.00		540.29	0.03	0.07	0.04	47.66	
24.00		535.53	0.03	0.07	0.04	47.57	
26.00		530.78	0.04	0.07	0.04	47.42	
28.00		526.02	0.05	0.07	0.04	47.23	
30.00		521.27	0.05	0.07	0.04	47.01	
32.00		516.51	0.06	0.07	0.04	46.78	
34.00		511.76	0.07	0.07	0.04	46.54	
36.00		507.00	0.08	0.07	0.04	46.29	
38.00		502.25	0.08	0.07	0.04	46.05	
40.00		497.49	0.09	0.07	0.04	45.81	
42.00		492.74	0.10	0.07	0.04	45.58	
43.92	Bot - Section 2	467.74	0.11	0.07	0.04	43.45	
44.00		39.34	0.11	0.07	0.04	3.66	
46.00		939.45	0.12	0.07	0.03	87.70	
48.00		930.27	0.13	0.07	0.03	87.24	
50.00		921.10	0.15	0.07	0.03	86.76	
51.00	Top - Section 1	457.11	0.15	0.07	0.03	43.15	
52.00		220.93	0.16	0.07	0.03	20.89	
54.00		438.56	0.17	0.07	0.03	41.62	
56.00		434.14	0.18	0.06	0.03	41.31	
58.00		429.73	0.20	0.06	0.02	40.95	
60.00		425.31	0.21	0.06	0.02	40.53	
62.00		420.90	0.22	0.06	0.02	40.04	
64.00		416.48	0.24	0.06	0.02	39.46	
66.00		412.06	0.25	0.05	0.02	38.76	
68.00		407.65	0.27	0.05	0.02	37.94	
70.00		403.23	0.29	0.05	0.01	36.97	
72.00		398.82	0.30	0.04	0.01	35.83	
74.00		394.40	0.32	0.04	0.01	34.50	
76.00		389.99	0.34	0.04	0.01	32.96	
78.00		385.57	0.35	0.03	0.01	31.20	
80.00		381.15	0.37	0.03	0.01	29.21	
82.00		376.74	0.39	0.02	0.01	26.98	
84.00		372.32	0.41	0.01	0.01	24.54	
86.00		367.91	0.43	0.01	0.01	21.92	

Seismic Segment Forces (Factored)

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		363.49	0.45	0.00	0.01	19.16
90.00		359.08	0.47	-0.01	0.01	16.31
90.17	Bot - Section 3	29.72	0.47	-0.01	0.01	1.33
92.00		605.06	0.49	-0.01	0.01	22.97
94.00		652.26	0.52	-0.02	0.01	19.89
96.00	Top - Section 2	644.10	0.54	-0.03	0.01	14.96
98.00		294.54	0.56	-0.04	0.01	4.83
100.00		290.80	0.58	-0.05	0.01	2.94
102.00		287.07	0.61	-0.06	0.02	1.29
104.00		283.33	0.63	-0.06	0.02	-0.10
106.00		279.59	0.66	-0.07	0.02	-1.23
108.00		275.86	0.68	-0.08	0.03	-2.11
110.00		272.12	0.71	-0.09	0.03	-2.74
112.00		268.38	0.73	-0.10	0.04	-3.15
114.00		264.65	0.76	-0.10	0.04	-3.34
116.00		260.91	0.78	-0.11	0.05	-3.32
118.00		257.18	0.81	-0.11	0.06	-3.13
120.00		253.44	0.84	-0.12	0.07	-2.76
122.00		249.70	0.87	-0.12	0.08	-2.24
124.00		245.97	0.90	-0.12	0.09	-1.57
126.00		242.23	0.93	-0.12	0.10	-0.76
128.00		238.49	0.96	-0.12	0.11	0.17
130.00		234.76	0.99	-0.11	0.12	1.22
132.00		231.02	1.02	-0.11	0.14	2.38
133.33	Bot - Section 4	151.94	1.04	-0.10	0.15	2.13
134.00		131.23	1.05	-0.09	0.16	2.10
136.00		389.38	1.08	-0.08	0.17	8.70
138.00	Top - Section 3	382.93	1.11	-0.06	0.19	11.21
140.00		160.40	1.14	-0.04	0.21	5.90
142.00		157.68	1.18	-0.02	0.24	7.09
144.00		154.96	1.21	0.01	0.26	8.33
146.00		152.25	1.24	0.05	0.29	9.61
148.00		149.53	1.28	0.09	0.32	10.94
150.00	Appurtenance(s)	2620.2	1.31	0.14	0.35	219.68
152.00		144.09	1.35	0.19	0.38	13.71
154.00		141.38	1.38	0.25	0.41	15.14
156.00		138.66	1.42	0.32	0.45	16.59
158.00	Appurtenance(s)	1386.9	1.46	0.40	0.49	184.36
160.00		133.23	1.49	0.48	0.53	19.56
162.00		130.51	1.53	0.58	0.58	21.07
164.00		127.79	1.57	0.69	0.63	22.58
166.00	Appurtenance(s)	3822.4	1.61	0.80	0.68	736.27
168.00		122.36	1.65	0.93	0.73	25.60
170.00		119.64	1.69	1.07	0.79	27.11
172.00		116.92	1.73	1.22	0.85	28.60
174.00		114.20	1.77	1.39	0.92	30.07
176.00		111.49	1.81	1.57	0.99	31.52
178.00	Appurtenance(s)	3167.0	1.85	1.77	1.06	959.34
180.00		106.05	1.89	1.98	1.14	34.34

Totals: 43,894.1 4,452.4

Total Wind: 45,722.9

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

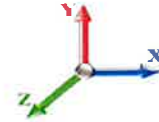
Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

12/5/2019
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Load Case: 1.2D + 1.0Ev + 1.0Eh						Iterations 26
Gust Response Factor 1.10		Seismic Load Factor 1.00		Sds 0.22	Ss 0.21	
Dead Load Factor 1.20		Structure Frequency (f1) 0.31		Sd1 0.09	S1 0.05	
Wind Load Factor 0.00				SA 0.03	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-56.49	-4.48	0.00	-527.40	0.00	527.40	5123.29	1522.04	7808.40	6435.29	0.00	0.00	0.00	0.093
2.00	-55.78	-4.45	0.00	-518.44	0.00	518.44	5107.67	1509.78	7683.09	6363.61	0.00	0.00	-0.01	0.092
4.00	-55.06	-4.42	0.00	-509.54	0.00	509.54	5091.62	1497.52	7558.79	6291.73	0.01	0.01	-0.01	0.092
6.00	-54.31	-4.39	0.00	-500.69	0.00	500.69	5075.16	1485.26	7435.50	6219.67	0.01	0.01	-0.02	0.091
8.00	-53.58	-4.35	0.00	-491.92	0.00	491.92	5058.29	1472.99	7313.22	6147.44	0.02	0.02	-0.03	0.091
10.00	-52.84	-4.31	0.00	-483.22	0.00	483.22	5041.00	1460.73	7191.96	6075.05	0.04	0.04	-0.04	0.090
12.00	-52.12	-4.27	0.00	-474.60	0.00	474.60	5023.29	1448.47	7071.72	6002.51	0.05	0.05	-0.04	0.089
14.00	-51.40	-4.23	0.00	-466.06	0.00	466.06	5005.16	1436.20	6952.48	5929.84	0.07	0.07	-0.05	0.089
16.00	-50.68	-4.19	0.00	-457.60	0.00	457.60	4986.62	1423.94	6834.27	5857.05	0.10	0.10	-0.06	0.088
18.00	-49.97	-4.15	0.00	-449.23	0.00	449.23	4967.66	1411.68	6717.06	5784.16	0.12	0.12	-0.07	0.088
20.00	-49.27	-4.10	0.00	-440.93	0.00	440.93	4948.29	1399.42	6600.87	5711.17	0.15	0.15	-0.07	0.087
22.00	-48.57	-4.06	0.00	-432.73	0.00	432.73	4928.49	1387.15	6485.69	5638.10	0.18	0.18	-0.08	0.087
24.00	-47.88	-4.02	0.00	-424.60	0.00	424.60	4908.28	1374.89	6371.53	5564.95	0.22	0.22	-0.09	0.086
26.00	-47.19	-3.98	0.00	-416.56	0.00	416.56	4887.66	1362.63	6258.37	5491.76	0.26	0.26	-0.10	0.086
28.00	-46.51	-3.94	0.00	-408.60	0.00	408.60	4866.62	1350.36	6146.24	5418.52	0.30	0.30	-0.10	0.085
30.00	-45.84	-3.89	0.00	-400.73	0.00	400.73	4845.16	1338.10	6035.11	5345.24	0.35	0.35	-0.11	0.084
32.00	-45.17	-3.85	0.00	-392.95	0.00	392.95	4823.28	1325.84	5925.00	5271.95	0.40	0.40	-0.12	0.084
34.00	-44.50	-3.81	0.00	-385.24	0.00	385.24	4800.99	1313.58	5815.91	5198.66	0.45	0.45	-0.13	0.083
36.00	-43.84	-3.77	0.00	-377.62	0.00	377.62	4778.28	1301.31	5707.83	5125.37	0.50	0.50	-0.14	0.083
38.00	-43.19	-3.73	0.00	-370.08	0.00	370.08	4755.15	1289.05	5600.76	5052.10	0.56	0.56	-0.14	0.082
40.00	-42.55	-3.69	0.00	-362.63	0.00	362.63	4731.61	1276.79	5494.70	4978.87	0.62	0.62	-0.15	0.082
42.00	-41.91	-3.64	0.00	-355.26	0.00	355.26	4707.65	1264.52	5389.66	4905.68	0.69	0.69	-0.16	0.081
43.92	-41.30	-3.60	0.00	-348.27	0.00	348.27	4684.30	1252.77	5289.95	4835.60	0.76	0.76	-0.17	0.081
44.00	-41.25	-3.60	0.00	-347.97	0.00	347.97	4683.27	1252.26	5285.64	4832.55	0.76	0.76	-0.17	0.081
46.00	-40.07	-3.52	0.00	-340.77	0.00	340.77	4658.48	1240.00	5182.62	4759.49	0.83	0.83	-0.18	0.080
48.00	-38.90	-3.43	0.00	-333.74	0.00	333.74	4633.27	1227.74	5080.62	4686.52	0.91	0.91	-0.19	0.080
50.00	-37.75	-3.34	0.00	-326.87	0.00	326.87	4607.64	1215.47	4979.64	4613.64	0.99	0.99	-0.19	0.079
51.00	-37.18	-3.30	0.00	-323.53	0.00	323.53	4157.28	1142.33	4736.69	4216.21	1.03	1.03	-0.20	0.086
52.00	-36.89	-3.28	0.00	-320.23	0.00	320.23	4146.96	1136.64	4689.60	4184.61	1.07	1.07	-0.20	0.085
54.00	-36.31	-3.25	0.00	-313.66	0.00	313.66	4126.01	1125.25	4596.10	4121.41	1.16	1.16	-0.21	0.085
56.00	-35.74	-3.21	0.00	-307.16	0.00	307.16	4104.64	1113.86	4503.55	4058.23	1.25	1.25	-0.22	0.084
58.00	-35.18	-3.17	0.00	-300.75	0.00	300.75	4082.85	1102.48	4411.95	3995.08	1.34	1.34	-0.23	0.084
60.00	-34.62	-3.13	0.00	-294.40	0.00	294.40	4060.64	1091.09	4321.28	3931.97	1.44	1.44	-0.24	0.083
62.00	-34.06	-3.10	0.00	-288.13	0.00	288.13	4038.02	1079.70	4231.55	3868.91	1.54	1.54	-0.25	0.083
64.00	-33.51	-3.06	0.00	-281.94	0.00	281.94	4014.98	1068.31	4142.77	3805.92	1.65	1.65	-0.26	0.082
66.00	-32.97	-3.03	0.00	-275.82	0.00	275.82	3991.52	1056.93	4054.92	3743.01	1.76	1.76	-0.27	0.082
68.00	-32.43	-2.99	0.00	-269.77	0.00	269.77	3967.65	1045.54	3968.02	3680.19	1.87	1.87	-0.28	0.081
70.00	-31.90	-2.96	0.00	-263.79	0.00	263.79	3943.36	1034.15	3882.06	3617.47	1.99	1.99	-0.29	0.081
72.00	-31.37	-2.92	0.00	-257.88	0.00	257.88	3918.66	1022.77	3797.04	3554.87	2.11	2.11	-0.30	0.081
74.00	-30.84	-2.89	0.00	-252.03	0.00	252.03	3893.54	1011.38	3712.96	3492.40	2.24	2.24	-0.31	0.080
76.00	-30.33	-2.86	0.00	-246.25	0.00	246.25	3868.00	999.99	3629.83	3430.07	2.37	2.37	-0.32	0.080
78.00	-29.82	-2.83	0.00	-240.53	0.00	240.53	3842.04	988.61	3547.63	3367.90	2.50	2.50	-0.33	0.079
80.00	-29.31	-2.80	0.00	-234.87	0.00	234.87	3815.67	977.22	3466.38	3305.90	2.64	2.64	-0.34	0.079
82.00	-28.81	-2.78	0.00	-229.26	0.00	229.26	3788.88	965.83	3386.07	3244.07	2.78	2.78	-0.35	0.078
84.00	-28.31	-2.76	0.00	-223.70	0.00	223.70	3761.67	954.44	3306.69	3182.44	2.93	2.93	-0.36	0.078
86.00	-27.82	-2.74	0.00	-218.18	0.00	218.18	3734.05	943.06	3228.26	3121.02	3.08	3.08	-0.37	0.077
88.00	-27.33	-2.72	0.00	-212.71	0.00	212.71	3706.01	931.67	3150.77	3059.82	3.24	3.24	-0.38	0.077

Calculated Forces

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

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90.00	-26.85	-2.70	0.00	-207.27	0.00	207.27	3677.55	920.28	3074.23	2998.84	3.40	-0.39	0.076
90.17	-26.81	-2.70	0.00	-206.82	0.00	206.82	3675.16	919.33	3067.89	2993.77	3.41	-0.39	0.076
92.00	-26.04	-2.68	0.00	-201.86	0.00	201.86	3648.68	908.90	2998.62	2938.12	3.56	-0.40	0.076
94.00	-25.21	-2.66	0.00	-196.49	0.00	196.49	3619.39	897.51	2923.96	2877.64	3.73	-0.41	0.075
96.00	-24.39	-2.64	0.00	-191.17	0.00	191.17	2873.56	764.37	2506.37	2303.28	3.91	-0.42	0.091
98.00	-23.98	-2.64	0.00	-185.89	0.00	185.89	2853.66	754.73	2443.58	2258.25	4.09	-0.43	0.091
100.00	-23.59	-2.64	0.00	-180.60	0.00	180.60	2833.34	745.10	2381.59	2213.29	4.27	-0.44	0.090
102.00	-23.19	-2.64	0.00	-175.32	0.00	175.32	2812.61	735.46	2320.39	2168.43	4.46	-0.46	0.089
104.00	-22.80	-2.64	0.00	-170.04	0.00	170.04	2791.46	725.83	2259.99	2123.68	4.65	-0.47	0.088
106.00	-22.42	-2.65	0.00	-164.75	0.00	164.75	2769.89	716.19	2200.39	2079.04	4.85	-0.48	0.087
108.00	-22.04	-2.65	0.00	-159.46	0.00	159.46	2747.90	706.55	2141.58	2034.53	5.06	-0.50	0.086
110.00	-21.66	-2.65	0.00	-154.17	0.00	154.17	2725.50	696.92	2083.57	1990.17	5.27	-0.51	0.085
112.00	-21.29	-2.65	0.00	-148.87	0.00	148.87	2702.68	687.28	2026.36	1945.97	5.49	-0.52	0.084
114.00	-20.92	-2.65	0.00	-143.57	0.00	143.57	2679.45	677.65	1969.94	1901.93	5.71	-0.54	0.083
116.00	-20.56	-2.65	0.00	-138.27	0.00	138.27	2655.79	668.01	1914.32	1858.08	5.93	-0.55	0.082
118.00	-20.20	-2.65	0.00	-132.96	0.00	132.96	2631.73	658.38	1859.50	1814.42	6.17	-0.56	0.081
120.00	-19.85	-2.66	0.00	-127.66	0.00	127.66	2607.24	648.74	1805.47	1770.96	6.41	-0.58	0.080
122.00	-19.50	-2.66	0.00	-122.34	0.00	122.34	2582.34	639.11	1752.24	1727.73	6.65	-0.59	0.078
124.00	-19.15	-2.66	0.00	-117.03	0.00	117.03	2557.02	629.47	1699.80	1684.74	6.90	-0.60	0.077
126.00	-18.81	-2.66	0.00	-111.71	0.00	111.71	2531.28	619.84	1648.16	1641.98	7.16	-0.62	0.075
128.00	-18.47	-2.66	0.00	-106.40	0.00	106.40	2505.13	610.20	1597.32	1599.49	7.42	-0.63	0.074
130.00	-18.14	-2.66	0.00	-101.08	0.00	101.08	2478.56	600.57	1547.28	1557.27	7.68	-0.64	0.072
132.00	-17.82	-2.66	0.00	-95.76	0.00	95.76	2451.58	590.93	1498.03	1515.33	7.96	-0.66	0.070
133.33	-17.60	-2.65	0.00	-92.22	0.00	92.22	2433.35	584.51	1465.64	1487.53	8.14	-0.67	0.069
134.00	-17.43	-2.65	0.00	-90.45	0.00	90.45	2424.17	581.30	1449.58	1473.69	8.24	-0.67	0.069
136.00	-16.91	-2.64	0.00	-85.15	0.00	85.15	2396.35	571.66	1401.92	1432.35	8.52	-0.68	0.067
138.00	-16.40	-2.63	0.00	-79.87	0.00	79.87	1545.45	417.14	1026.36	929.77	8.81	-0.70	0.097
140.00	-16.16	-2.62	0.00	-74.61	0.00	74.61	1531.69	410.13	992.17	905.88	9.10	-0.71	0.093
142.00	-15.92	-2.62	0.00	-69.36	0.00	69.36	1517.50	403.12	958.56	882.03	9.40	-0.73	0.089
144.00	-15.68	-2.61	0.00	-64.13	0.00	64.13	1502.90	396.11	925.52	858.22	9.71	-0.74	0.085
146.00	-15.45	-2.60	0.00	-58.91	0.00	58.91	1487.88	389.11	893.06	834.49	10.03	-0.76	0.081
148.00	-15.22	-2.59	0.00	-53.71	0.00	53.71	1472.45	382.10	861.19	810.82	10.35	-0.77	0.077
150.00	-12.03	-2.33	0.00	-48.52	0.00	48.52	1456.60	375.09	829.89	787.25	10.67	-0.79	0.070
152.00	-11.83	-2.32	0.00	-43.86	0.00	43.86	1440.33	368.08	799.17	763.78	11.01	-0.80	0.066
154.00	-11.63	-2.30	0.00	-39.22	0.00	39.22	1423.65	361.08	769.03	740.42	11.34	-0.81	0.061
156.00	-11.43	-2.29	0.00	-34.62	0.00	34.62	1406.55	354.07	739.47	717.20	11.69	-0.83	0.056
158.00	-9.74	-2.08	0.00	-30.05	0.00	30.05	1389.03	347.06	710.49	694.11	12.04	-0.84	0.050
160.00	-9.57	-2.06	0.00	-25.89	0.00	25.89	1371.10	340.05	682.09	671.17	12.39	-0.85	0.046
162.00	-9.40	-2.04	0.00	-21.77	0.00	21.77	1352.75	333.05	654.27	648.41	12.75	-0.86	0.041
164.00	-9.23	-2.01	0.00	-17.70	0.00	17.70	1333.98	326.04	627.03	625.81	13.11	-0.87	0.035
166.00	-4.64	-1.21	0.00	-13.67	0.00	13.67	1314.79	319.03	600.37	603.42	13.47	-0.87	0.026
168.00	-4.49	-1.18	0.00	-11.26	0.00	11.26	1295.19	312.03	574.28	581.22	13.84	-0.88	0.023
170.00	-4.34	-1.15	0.00	-8.90	0.00	8.90	1275.17	305.02	548.78	559.24	14.21	-0.88	0.019
172.00	-4.20	-1.12	0.00	-6.60	0.00	6.60	1251.65	298.01	523.85	536.17	14.58	-0.89	0.016
174.00	-4.06	-1.09	0.00	-4.36	0.00	4.36	1222.21	291.00	499.51	511.11	14.95	-0.89	0.012
176.00	-3.92	-1.05	0.00	-2.18	0.00	2.18	1192.78	284.00	475.74	486.64	15.32	-0.89	0.008
178.00	-0.13	-0.04	0.00	-0.07	0.00	0.07	1163.35	276.99	452.55	462.78	15.70	-0.89	0.000
180.00	0.00	-0.03	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	16.07	-0.89	0.000

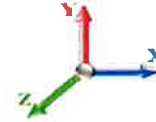
Seismic Segment Forces (Factored)

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0Ev + 1.0Eh						Iterations 26
Gust Response Factor	1.10			Sds	0.22	Ss 0.21
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09	S1 0.05
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
2.00		587.84	0.00	0.01	0.01	33.92	
4.00		583.09	0.00	0.02	0.01	38.47	
6.00		578.33	0.00	0.03	0.02	41.53	
8.00		573.58	0.00	0.04	0.02	43.66	
10.00		568.82	0.01	0.05	0.03	45.15	
12.00		564.07	0.01	0.05	0.03	46.19	
14.00		559.31	0.01	0.06	0.03	46.88	
16.00		554.55	0.01	0.06	0.04	47.32	
18.00		549.80	0.02	0.06	0.04	47.57	
20.00		545.04	0.02	0.07	0.04	47.67	
22.00		540.29	0.03	0.07	0.04	47.66	
24.00		535.53	0.03	0.07	0.04	47.57	
26.00		530.78	0.04	0.07	0.04	47.42	
28.00		526.02	0.05	0.07	0.04	47.23	
30.00		521.27	0.05	0.07	0.04	47.01	
32.00		516.51	0.06	0.07	0.04	46.78	
34.00		511.76	0.07	0.07	0.04	46.54	
36.00		507.00	0.08	0.07	0.04	46.29	
38.00		502.25	0.08	0.07	0.04	46.05	
40.00		497.49	0.09	0.07	0.04	45.81	
42.00		492.74	0.10	0.07	0.04	45.58	
43.92	Bot - Section 2	467.74	0.11	0.07	0.04	43.45	
44.00		39.34	0.11	0.07	0.04	3.66	
46.00		939.45	0.12	0.07	0.03	87.70	
48.00		930.27	0.13	0.07	0.03	87.24	
50.00		921.10	0.15	0.07	0.03	86.76	
51.00	Top - Section 1	457.11	0.15	0.07	0.03	43.15	
52.00		220.93	0.16	0.07	0.03	20.89	
54.00		438.56	0.17	0.07	0.03	41.62	
56.00		434.14	0.18	0.06	0.03	41.31	
58.00		429.73	0.20	0.06	0.02	40.95	
60.00		425.31	0.21	0.06	0.02	40.53	
62.00		420.90	0.22	0.06	0.02	40.04	
64.00		416.48	0.24	0.06	0.02	39.46	
66.00		412.06	0.25	0.05	0.02	38.76	
68.00		407.65	0.27	0.05	0.02	37.94	
70.00		403.23	0.29	0.05	0.01	36.97	
72.00		398.82	0.30	0.04	0.01	35.83	
74.00		394.40	0.32	0.04	0.01	34.50	
76.00		389.99	0.34	0.04	0.01	32.96	
78.00		385.57	0.35	0.03	0.01	31.20	
80.00		381.15	0.37	0.03	0.01	29.21	
82.00		376.74	0.39	0.02	0.01	26.98	
84.00		372.32	0.41	0.01	0.01	24.54	
86.00		367.91	0.43	0.01	0.01	21.92	

Seismic Segment Forces (Factored)

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		363.49	0.45	0.00	0.01	19.16
90.00		359.08	0.47	-0.01	0.01	16.31
90.17	Bot - Section 3	29.72	0.47	-0.01	0.01	1.33
92.00		605.06	0.49	-0.01	0.01	22.97
94.00		652.26	0.52	-0.02	0.01	19.89
96.00	Top - Section 2	644.10	0.54	-0.03	0.01	14.96
98.00		294.54	0.56	-0.04	0.01	4.83
100.00		290.80	0.58	-0.05	0.01	2.94
102.00		287.07	0.61	-0.06	0.02	1.29
104.00		283.33	0.63	-0.06	0.02	-0.10
106.00		279.59	0.66	-0.07	0.02	-1.23
108.00		275.86	0.68	-0.08	0.03	-2.11
110.00		272.12	0.71	-0.09	0.03	-2.74
112.00		268.38	0.73	-0.10	0.04	-3.15
114.00		264.65	0.76	-0.10	0.04	-3.34
116.00		260.91	0.78	-0.11	0.05	-3.32
118.00		257.18	0.81	-0.11	0.06	-3.13
120.00		253.44	0.84	-0.12	0.07	-2.76
122.00		249.70	0.87	-0.12	0.08	-2.24
124.00		245.97	0.90	-0.12	0.09	-1.57
126.00		242.23	0.93	-0.12	0.10	-0.76
128.00		238.49	0.96	-0.12	0.11	0.17
130.00		234.76	0.99	-0.11	0.12	1.22
132.00		231.02	1.02	-0.11	0.14	2.38
133.33	Bot - Section 4	151.94	1.04	-0.10	0.15	2.13
134.00		131.23	1.05	-0.09	0.16	2.10
136.00		389.38	1.08	-0.08	0.17	8.70
138.00	Top - Section 3	382.93	1.11	-0.06	0.19	11.21
140.00		160.40	1.14	-0.04	0.21	5.90
142.00		157.68	1.18	-0.02	0.24	7.09
144.00		154.96	1.21	0.01	0.26	8.33
146.00		152.25	1.24	0.05	0.29	9.61
148.00		149.53	1.28	0.09	0.32	10.94
150.00	Appurtenance(s)	2620.2	1.31	0.14	0.35	219.68
152.00		144.09	1.35	0.19	0.38	13.71
154.00		141.38	1.38	0.25	0.41	15.14
156.00		138.66	1.42	0.32	0.45	16.59
158.00	Appurtenance(s)	1386.9	1.46	0.40	0.49	184.36
160.00		133.23	1.49	0.48	0.53	19.56
162.00		130.51	1.53	0.58	0.58	21.07
164.00		127.79	1.57	0.69	0.63	22.58
166.00	Appurtenance(s)	3822.4	1.61	0.80	0.68	736.27
168.00		122.36	1.65	0.93	0.73	25.60
170.00		119.64	1.69	1.07	0.79	27.11
172.00		116.92	1.73	1.22	0.85	28.60
174.00		114.20	1.77	1.39	0.92	30.07
176.00		111.49	1.81	1.57	0.99	31.52
178.00	Appurtenance(s)	3167.0	1.85	1.77	1.06	959.34
180.00		106.05	1.89	1.98	1.14	34.34

Totals:	43,894.1	4,452.4
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Total Wind: 45,722.9

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

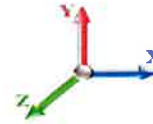
Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

12/5/2019
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Load Case: 0.9D + 1.0Ev + 1.0Eh						Iterations 26
Gust Response Factor 1.10		Seismic Load Factor 1.00		Sds 0.22	Ss 0.21	
Dead Load Factor 0.90		Structure Frequency (f1) 0.31		Sd1 0.09	S1 0.05	
Wind Load Factor 0.00		SA 0.03		Seismic Importance Factor 1.00		



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-42.37	-4.48	0.00	-520.82	0.00	520.82	5123.29	1522.04	7808.40	6435.29	0.00	0.00	0.00	0.089
2.00	-41.84	-4.45	0.00	-511.86	0.00	511.86	5107.67	1509.78	7683.09	6363.61	0.00	0.00	-0.01	0.089
4.00	-41.29	-4.42	0.00	-502.96	0.00	502.96	5091.62	1497.52	7558.79	6291.73	0.01	0.01	-0.01	0.088
6.00	-40.74	-4.38	0.00	-494.13	0.00	494.13	5075.16	1485.26	7435.50	6219.67	0.01	0.01	-0.02	0.087
8.00	-40.18	-4.34	0.00	-485.37	0.00	485.37	5058.29	1472.99	7313.22	6147.44	0.02	0.02	-0.03	0.087
10.00	-39.63	-4.30	0.00	-476.68	0.00	476.68	5041.00	1460.73	7191.96	6075.05	0.04	0.04	-0.04	0.086
12.00	-39.09	-4.26	0.00	-468.08	0.00	468.08	5023.29	1448.47	7071.72	6002.51	0.05	0.05	-0.04	0.086
14.00	-38.55	-4.22	0.00	-459.56	0.00	459.56	5005.16	1436.20	6952.48	5929.84	0.07	0.07	-0.05	0.085
16.00	-38.01	-4.17	0.00	-451.13	0.00	451.13	4986.62	1423.94	6834.27	5857.05	0.10	0.10	-0.06	0.085
18.00	-37.48	-4.13	0.00	-442.78	0.00	442.78	4967.66	1411.68	6717.06	5784.16	0.12	0.12	-0.06	0.084
20.00	-36.95	-4.09	0.00	-434.52	0.00	434.52	4948.29	1399.42	6600.87	5711.17	0.15	0.15	-0.07	0.084
22.00	-36.43	-4.04	0.00	-426.35	0.00	426.35	4928.49	1387.15	6485.69	5638.10	0.18	0.18	-0.08	0.083
24.00	-35.91	-4.00	0.00	-418.26	0.00	418.26	4908.28	1374.89	6371.53	5564.95	0.22	0.22	-0.09	0.082
26.00	-35.39	-3.96	0.00	-410.26	0.00	410.26	4887.66	1362.63	6258.37	5491.76	0.26	0.26	-0.09	0.082
28.00	-34.88	-3.91	0.00	-402.34	0.00	402.34	4866.62	1350.36	6146.24	5418.52	0.30	0.30	-0.10	0.081
30.00	-34.38	-3.87	0.00	-394.52	0.00	394.52	4845.16	1338.10	6035.11	5345.24	0.34	0.34	-0.11	0.081
32.00	-33.87	-3.83	0.00	-386.78	0.00	386.78	4823.28	1325.84	5925.00	5271.95	0.39	0.39	-0.12	0.080
34.00	-33.38	-3.78	0.00	-379.12	0.00	379.12	4800.99	1313.58	5815.91	5198.66	0.44	0.44	-0.13	0.080
36.00	-32.88	-3.74	0.00	-371.56	0.00	371.56	4778.28	1301.31	5707.83	5125.37	0.50	0.50	-0.13	0.079
38.00	-32.39	-3.70	0.00	-364.07	0.00	364.07	4755.15	1289.05	5600.76	5052.10	0.55	0.55	-0.14	0.079
40.00	-31.91	-3.66	0.00	-356.68	0.00	356.68	4731.61	1276.79	5494.70	4978.87	0.61	0.61	-0.15	0.078
42.00	-31.43	-3.61	0.00	-349.37	0.00	349.37	4707.65	1264.52	5389.66	4905.68	0.68	0.68	-0.16	0.078
43.92	-30.97	-3.57	0.00	-342.44	0.00	342.44	4684.30	1252.77	5289.95	4835.60	0.74	0.74	-0.17	0.077
44.00	-30.93	-3.57	0.00	-342.14	0.00	342.14	4683.27	1252.26	5285.64	4832.55	0.75	0.75	-0.17	0.077
46.00	-30.05	-3.48	0.00	-335.00	0.00	335.00	4658.48	1240.00	5182.62	4759.49	0.82	0.82	-0.17	0.077
48.00	-29.18	-3.40	0.00	-328.04	0.00	328.04	4633.27	1227.74	5080.62	4686.52	0.89	0.89	-0.18	0.076
50.00	-28.31	-3.31	0.00	-321.24	0.00	321.24	4607.64	1215.47	4979.64	4613.64	0.97	0.97	-0.19	0.076
51.00	-27.88	-3.27	0.00	-317.93	0.00	317.93	4157.28	1142.33	4736.69	4216.21	1.01	1.01	-0.20	0.082
52.00	-27.66	-3.25	0.00	-314.66	0.00	314.66	4146.96	1136.64	4689.60	4184.61	1.05	1.05	-0.20	0.082
54.00	-27.23	-3.21	0.00	-308.16	0.00	308.16	4126.01	1125.25	4596.10	4121.41	1.14	1.14	-0.21	0.081
56.00	-26.80	-3.17	0.00	-301.74	0.00	301.74	4104.64	1113.86	4503.55	4058.23	1.23	1.23	-0.22	0.081
58.00	-26.38	-3.13	0.00	-295.40	0.00	295.40	4082.85	1102.48	4411.95	3995.08	1.32	1.32	-0.23	0.080
60.00	-25.96	-3.10	0.00	-289.13	0.00	289.13	4060.64	1091.09	4321.28	3931.97	1.42	1.42	-0.24	0.080
62.00	-25.54	-3.06	0.00	-282.94	0.00	282.94	4038.02	1079.70	4231.55	3868.91	1.52	1.52	-0.24	0.079
64.00	-25.13	-3.02	0.00	-276.82	0.00	276.82	4014.98	1068.31	4142.77	3805.92	1.62	1.62	-0.25	0.079
66.00	-24.72	-2.98	0.00	-270.78	0.00	270.78	3991.52	1056.93	4054.92	3743.01	1.73	1.73	-0.26	0.079
68.00	-24.32	-2.95	0.00	-264.81	0.00	264.81	3967.65	1045.54	3968.02	3680.19	1.84	1.84	-0.27	0.078
70.00	-23.92	-2.91	0.00	-258.91	0.00	258.91	3943.36	1034.15	3882.06	3617.47	1.96	1.96	-0.28	0.078
72.00	-23.52	-2.88	0.00	-253.09	0.00	253.09	3918.66	1022.77	3797.04	3554.87	2.08	2.08	-0.29	0.077
74.00	-23.13	-2.85	0.00	-247.33	0.00	247.33	3893.54	1011.38	3712.96	3492.40	2.20	2.20	-0.30	0.077
76.00	-22.74	-2.82	0.00	-241.63	0.00	241.63	3868.00	999.99	3629.83	3430.07	2.33	2.33	-0.31	0.076
78.00	-22.36	-2.79	0.00	-236.00	0.00	236.00	3842.04	988.61	3547.63	3367.90	2.46	2.46	-0.32	0.076
80.00	-21.98	-2.76	0.00	-230.43	0.00	230.43	3815.67	977.22	3466.38	3305.90	2.60	2.60	-0.33	0.075
82.00	-21.60	-2.73	0.00	-224.91	0.00	224.91	3788.88	965.83	3386.07	3244.07	2.74	2.74	-0.34	0.075
84.00	-21.23	-2.71	0.00	-219.44	0.00	219.44	3761.67	954.44	3306.69	3182.44	2.89	2.89	-0.35	0.075
86.00	-20.86	-2.69	0.00	-214.02	0.00	214.02	3734.05	943.06	3228.26	3121.02	3.04	3.04	-0.36	0.074
88.00	-20.50	-2.67	0.00	-208.64	0.00	208.64	3706.01	931.67	3150.77	3059.82	3.19	3.19	-0.37	0.074

Calculated Forces

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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90.00	-20.14	-2.66	0.00	-203.29	0.00	203.29	3677.55	920.28	3074.23	2998.84	3.35	-0.38	0.073
90.17	-20.11	-2.66	0.00	-202.85	0.00	202.85	3675.16	919.33	3067.89	2993.77	3.36	-0.38	0.073
92.00	-19.53	-2.63	0.00	-197.98	0.00	197.98	3648.68	908.90	2998.62	2938.12	3.51	-0.39	0.073
94.00	-18.90	-2.61	0.00	-192.72	0.00	192.72	3619.39	897.51	2923.96	2877.64	3.68	-0.40	0.072
96.00	-18.29	-2.60	0.00	-187.49	0.00	187.49	2873.56	764.37	2506.37	2303.28	3.85	-0.41	0.088
98.00	-17.98	-2.59	0.00	-182.30	0.00	182.30	2853.66	754.73	2443.58	2258.25	4.02	-0.42	0.087
100.00	-17.68	-2.59	0.00	-177.11	0.00	177.11	2833.34	745.10	2381.59	2213.29	4.20	-0.44	0.086
102.00	-17.39	-2.59	0.00	-171.93	0.00	171.93	2812.61	735.46	2320.39	2168.43	4.39	-0.45	0.085
104.00	-17.10	-2.59	0.00	-166.75	0.00	166.75	2791.46	725.83	2259.99	2123.68	4.58	-0.46	0.085
106.00	-16.81	-2.59	0.00	-161.56	0.00	161.56	2769.89	716.19	2200.39	2079.04	4.78	-0.47	0.084
108.00	-16.52	-2.60	0.00	-156.37	0.00	156.37	2747.90	706.55	2141.58	2034.53	4.98	-0.49	0.083
110.00	-16.24	-2.60	0.00	-151.18	0.00	151.18	2725.50	696.92	2083.57	1990.17	5.18	-0.50	0.082
112.00	-15.96	-2.60	0.00	-145.98	0.00	145.98	2702.68	687.28	2026.36	1945.97	5.40	-0.51	0.081
114.00	-15.68	-2.60	0.00	-140.78	0.00	140.78	2679.45	677.65	1969.94	1901.93	5.62	-0.53	0.080
116.00	-15.41	-2.60	0.00	-135.59	0.00	135.59	2655.79	668.01	1914.32	1858.08	5.84	-0.54	0.079
118.00	-15.14	-2.60	0.00	-130.38	0.00	130.38	2631.73	658.38	1859.50	1814.42	6.07	-0.55	0.078
120.00	-14.88	-2.60	0.00	-125.18	0.00	125.18	2607.24	648.74	1805.47	1770.96	6.30	-0.57	0.076
122.00	-14.62	-2.60	0.00	-119.98	0.00	119.98	2582.34	639.11	1752.24	1727.73	6.54	-0.58	0.075
124.00	-14.36	-2.60	0.00	-114.77	0.00	114.77	2557.02	629.47	1699.80	1684.74	6.79	-0.59	0.074
126.00	-14.10	-2.60	0.00	-109.56	0.00	109.56	2531.28	619.84	1648.16	1641.98	7.04	-0.61	0.072
128.00	-13.85	-2.61	0.00	-104.35	0.00	104.35	2505.13	610.20	1597.32	1599.49	7.30	-0.62	0.071
130.00	-13.60	-2.60	0.00	-99.14	0.00	99.14	2478.56	600.57	1547.28	1557.27	7.56	-0.63	0.069
132.00	-13.36	-2.60	0.00	-93.93	0.00	93.93	2451.58	590.93	1498.03	1515.33	7.83	-0.65	0.067
133.33	-13.19	-2.60	0.00	-90.46	0.00	90.46	2433.35	584.51	1465.64	1487.53	8.01	-0.65	0.066
134.00	-13.06	-2.60	0.00	-88.73	0.00	88.73	2424.17	581.30	1449.58	1473.69	8.10	-0.66	0.066
136.00	-12.68	-2.59	0.00	-83.53	0.00	83.53	2396.35	571.66	1401.92	1432.35	8.38	-0.67	0.064
138.00	-12.29	-2.57	0.00	-78.36	0.00	78.36	1545.45	417.14	1026.36	929.77	8.66	-0.68	0.092
140.00	-12.11	-2.57	0.00	-73.21	0.00	73.21	1531.69	410.13	992.17	905.88	8.95	-0.70	0.089
142.00	-11.93	-2.56	0.00	-68.07	0.00	68.07	1517.50	403.12	958.56	882.03	9.25	-0.71	0.085
144.00	-11.76	-2.56	0.00	-62.94	0.00	62.94	1502.90	396.11	925.52	858.22	9.55	-0.73	0.081
146.00	-11.58	-2.55	0.00	-57.83	0.00	57.83	1487.88	389.11	893.06	834.49	9.86	-0.74	0.077
148.00	-11.41	-2.54	0.00	-52.74	0.00	52.74	1472.45	382.10	861.19	810.82	10.17	-0.76	0.073
150.00	-9.02	-2.29	0.00	-47.66	0.00	47.66	1456.60	375.09	829.89	787.25	10.49	-0.77	0.067
152.00	-8.86	-2.27	0.00	-43.09	0.00	43.09	1440.33	368.08	799.17	763.78	10.82	-0.79	0.063
154.00	-8.72	-2.26	0.00	-38.54	0.00	38.54	1423.65	361.08	769.03	740.42	11.15	-0.80	0.058
156.00	-8.57	-2.24	0.00	-34.02	0.00	34.02	1406.55	354.07	739.47	717.20	11.49	-0.81	0.054
158.00	-7.30	-2.04	0.00	-29.54	0.00	29.54	1389.03	347.06	710.49	694.11	11.83	-0.82	0.048
160.00	-7.17	-2.02	0.00	-25.45	0.00	25.45	1371.10	340.05	682.09	671.17	12.18	-0.83	0.043
162.00	-7.04	-2.00	0.00	-21.41	0.00	21.41	1352.75	333.05	654.27	648.41	12.53	-0.84	0.038
164.00	-6.92	-1.98	0.00	-17.41	0.00	17.41	1333.98	326.04	627.03	625.81	12.88	-0.85	0.033
166.00	-3.48	-1.19	0.00	-13.46	0.00	13.46	1314.79	319.03	600.37	603.42	13.24	-0.86	0.025
168.00	-3.36	-1.16	0.00	-11.09	0.00	11.09	1295.19	312.03	574.28	581.22	13.60	-0.86	0.022
170.00	-3.25	-1.13	0.00	-8.76	0.00	8.76	1275.17	305.02	548.78	559.24	13.96	-0.87	0.018
172.00	-3.14	-1.10	0.00	-6.50	0.00	6.50	1251.65	298.01	523.85	536.17	14.33	-0.87	0.015
174.00	-3.04	-1.07	0.00	-4.29	0.00	4.29	1222.21	291.00	499.51	511.11	14.69	-0.88	0.011
176.00	-2.93	-1.04	0.00	-2.15	0.00	2.15	1192.78	284.00	475.74	486.64	15.06	-0.88	0.007
178.00	-0.09	-0.04	0.00	-0.07	0.00	0.07	1163.35	276.99	452.55	462.78	15.43	-0.88	0.000
180.00	0.00	-0.03	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	15.80	-0.88	0.000

Wind Loading - Shaft

Structure: CT46130-A-SBA
Site Name: Deep River-winthrop Rd
Height: 180.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

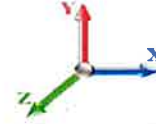
12/5/2019



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.379	8.12	294.63	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.379	8.12	292.27	0.950	0.000	2.00	10.655	10.12	82.2	0.0	587.8
4.00		1.00	0.85	7.379	8.12	289.91	0.950	0.000	2.00	10.569	10.04	81.5	0.0	583.1
6.00		1.00	0.85	7.379	8.12	287.56	0.950	0.000	2.00	10.484	9.96	80.8	0.0	578.3
8.00		1.00	0.85	7.379	8.12	285.20	0.950	0.000	2.00	10.398	9.88	80.2	0.0	573.6
10.00		1.00	0.85	7.379	8.12	282.84	0.950	0.000	2.00	10.313	9.80	79.5	0.0	568.8
12.00		1.00	0.85	7.379	8.12	280.49	0.950	0.000	2.00	10.227	9.72	78.9	0.0	564.1
14.00		1.00	0.85	7.379	8.12	278.13	0.950	0.000	2.00	10.142	9.63	78.2	0.0	559.3
16.00		1.00	0.86	7.470	8.22	277.47	0.950	0.000	2.00	10.056	9.55	78.5	0.0	554.6
18.00		1.00	0.88	7.657	8.42	278.53	0.950	0.000	2.00	9.970	9.47	79.8	0.0	549.8
20.00		1.00	0.90	7.829	8.61	279.21	0.950	0.000	2.00	9.885	9.39	80.9	0.0	545.0
22.00		1.00	0.92	7.988	8.79	279.57	0.950	0.000	2.00	9.799	9.31	81.8	0.0	540.3
24.00		1.00	0.94	8.135	8.95	279.67	0.950	0.000	2.00	9.714	9.23	82.6	0.0	535.5
26.00		1.00	0.95	8.274	9.10	279.54	0.950	0.000	2.00	9.628	9.15	83.2	0.0	530.8
28.00		1.00	0.97	8.404	9.24	279.21	0.950	0.000	2.00	9.542	9.07	83.8	0.0	526.0
30.00		1.00	0.98	8.527	9.38	278.72	0.950	0.000	2.00	9.457	8.98	84.3	0.0	521.3
32.00		1.00	1.00	8.643	9.51	278.06	0.950	0.000	2.00	9.371	8.90	84.6	0.0	516.5
34.00		1.00	1.01	8.754	9.63	277.28	0.950	0.000	2.00	9.286	8.82	84.9	0.0	511.8
36.00		1.00	1.02	8.860	9.75	276.37	0.950	0.000	2.00	9.200	8.74	85.2	0.0	507.0
38.00		1.00	1.03	8.962	9.86	275.35	0.950	0.000	2.00	9.115	8.66	85.4	0.0	502.2
40.00		1.00	1.04	9.059	9.97	274.23	0.950	0.000	2.00	9.029	8.58	85.5	0.0	497.5
42.00		1.00	1.05	9.153	10.07	273.01	0.950	0.000	2.00	8.943	8.50	85.5	0.0	492.7
43.92 Bot - Section 2		1.00	1.06	9.239	10.16	271.77	0.950	0.000	1.92	8.490	8.07	82.0	0.0	467.7
44.00		1.00	1.06	9.243	10.17	271.71	0.950	0.000	0.08	0.373	0.35	3.6	0.0	39.3
46.00		1.00	1.07	9.330	10.26	270.34	0.950	0.000	2.00	8.912	8.47	86.9	0.0	939.4
48.00		1.00	1.08	9.414	10.36	268.89	0.950	0.000	2.00	8.827	8.39	86.8	0.0	930.3
50.00		1.00	1.09	9.495	10.44	267.37	0.950	0.000	2.00	8.741	8.30	86.7	0.0	921.1
51.00 Top - Section 1		1.00	1.10	9.535	10.49	266.59	0.950	0.000	1.00	4.339	4.12	43.2	0.0	457.1
52.00		1.00	1.10	9.574	10.53	270.19	0.950	0.000	1.00	4.317	4.10	43.2	0.0	220.9
54.00		1.00	1.11	9.650	10.61	268.57	0.950	0.000	2.00	8.570	8.14	86.4	0.0	438.6
56.00		1.00	1.12	9.724	10.70	266.90	0.950	0.000	2.00	8.485	8.06	86.2	0.0	434.1
58.00		1.00	1.13	9.796	10.78	265.17	0.950	0.000	2.00	8.399	7.98	86.0	0.0	429.7
60.00		1.00	1.14	9.866	10.85	263.39	0.950	0.000	2.00	8.313	7.90	85.7	0.0	425.3
62.00		1.00	1.14	9.935	10.93	261.57	0.950	0.000	2.00	8.228	7.82	85.4	0.0	420.9
64.00		1.00	1.15	10.001	11.00	259.70	0.950	0.000	2.00	8.142	7.74	85.1	0.0	416.5
66.00		1.00	1.16	10.066	11.07	257.79	0.950	0.000	2.00	8.057	7.65	84.8	0.0	412.1
68.00		1.00	1.17	10.130	11.14	255.84	0.950	0.000	2.00	7.971	7.57	84.4	0.0	407.6
70.00		1.00	1.17	10.192	11.21	253.85	0.950	0.000	2.00	7.885	7.49	84.0	0.0	403.2
72.00		1.00	1.18	10.253	11.28	251.83	0.950	0.000	2.00	7.800	7.41	83.6	0.0	398.8
74.00		1.00	1.19	10.312	11.34	249.77	0.950	0.000	2.00	7.714	7.33	83.1	0.0	394.4
76.00		1.00	1.19	10.370	11.41	247.67	0.950	0.000	2.00	7.629	7.25	82.7	0.0	390.0
78.00		1.00	1.20	10.427	11.47	245.55	0.950	0.000	2.00	7.543	7.17	82.2	0.0	385.6
80.00		1.00	1.21	10.482	11.53	243.40	0.950	0.000	2.00	7.458	7.08	81.7	0.0	381.2
82.00		1.00	1.21	10.537	11.59	241.21	0.950	0.000	2.00	7.372	7.00	81.2	0.0	376.7
84.00		1.00	1.22	10.591	11.65	239.00	0.950	0.000	2.00	7.286	6.92	80.6	0.0	372.3
86.00		1.00	1.23	10.643	11.71	236.76	0.950	0.000	2.00	7.201	6.84	80.1	0.0	367.9
88.00		1.00	1.23	10.695	11.76	234.50	0.950	0.000	2.00	7.115	6.76	79.5	0.0	363.5

Wind Loading - Shaft

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



90.00	1.00	1.24	10.746	11.82	232.21	0.950	0.000	2.00	7.030	6.68	78.9	0.0	359.1
90.17 Bot - Section 3	1.00	1.24	10.750	11.82	232.02	0.950	0.000	0.17	0.582	0.55	6.5	0.0	29.7
92.00	1.00	1.24	10.795	11.88	229.90	0.950	0.000	1.83	6.471	6.15	73.0	0.0	605.1
94.00	1.00	1.25	10.844	11.93	227.56	0.950	0.000	2.00	6.977	6.63	79.1	0.0	652.3
96.00 Top - Section 2	1.00	1.25	10.893	11.98	225.20	0.950	0.000	2.00	6.891	6.55	78.4	0.0	644.1
98.00	1.00	1.26	10.940	12.03	226.80	0.950	0.000	2.00	6.806	6.47	77.8	0.0	294.5
100.00	1.00	1.27	10.987	12.09	224.41	0.950	0.000	2.00	6.720	6.38	77.2	0.0	290.8
102.00	1.00	1.27	11.033	12.14	221.99	0.950	0.000	2.00	6.635	6.30	76.5	0.0	287.1
104.00	1.00	1.28	11.078	12.19	219.56	0.950	0.000	2.00	6.549	6.22	75.8	0.0	283.3
106.00	1.00	1.28	11.122	12.23	217.11	0.950	0.000	2.00	6.464	6.14	75.1	0.0	279.6
108.00	1.00	1.29	11.166	12.28	214.63	0.950	0.000	2.00	6.378	6.06	74.4	0.0	275.9
110.00	1.00	1.29	11.209	12.33	212.14	0.950	0.000	2.00	6.292	5.98	73.7	0.0	272.1
112.00	1.00	1.30	11.252	12.38	209.64	0.950	0.000	2.00	6.207	5.90	73.0	0.0	268.4
114.00	1.00	1.30	11.294	12.42	207.11	0.950	0.000	2.00	6.121	5.82	72.2	0.0	264.6
116.00	1.00	1.31	11.335	12.47	204.57	0.950	0.000	2.00	6.036	5.73	71.5	0.0	260.9
118.00	1.00	1.31	11.376	12.51	202.01	0.950	0.000	2.00	5.950	5.65	70.7	0.0	257.2
120.00	1.00	1.32	11.417	12.56	199.44	0.950	0.000	2.00	5.864	5.57	70.0	0.0	253.4
122.00	1.00	1.32	11.456	12.60	196.85	0.950	0.000	2.00	5.779	5.49	69.2	0.0	249.7
124.00	1.00	1.32	11.496	12.65	194.24	0.950	0.000	2.00	5.693	5.41	68.4	0.0	246.0
126.00	1.00	1.33	11.534	12.69	191.62	0.950	0.000	2.00	5.608	5.33	67.6	0.0	242.2
128.00	1.00	1.33	11.573	12.73	188.99	0.950	0.000	2.00	5.522	5.25	66.8	0.0	238.5
130.00	1.00	1.34	11.611	12.77	186.34	0.950	0.000	2.00	5.437	5.16	66.0	0.0	234.8
132.00	1.00	1.34	11.648	12.81	183.68	0.950	0.000	2.00	5.351	5.08	65.1	0.0	231.0
133.33 Bot - Section 4	1.00	1.34	11.673	12.84	181.90	0.950	0.000	1.33	3.520	3.34	42.9	0.0	151.9
134.00	1.00	1.35	11.685	12.85	181.00	0.950	0.000	0.67	1.774	1.69	21.7	0.0	131.2
136.00	1.00	1.35	11.721	12.89	178.32	0.950	0.000	2.00	5.266	5.00	64.5	0.0	389.4
138.00 Top - Section 3	1.00	1.35	11.757	12.93	175.62	0.950	0.000	2.00	5.181	4.92	63.7	0.0	382.9
140.00	1.00	1.36	11.793	12.97	175.91	0.950	0.000	2.00	5.095	4.84	62.8	0.0	160.4
142.00	1.00	1.36	11.828	13.01	173.18	0.950	0.000	2.00	5.009	4.76	61.9	0.0	157.7
144.00	1.00	1.37	11.863	13.05	170.45	0.950	0.000	2.00	4.924	4.68	61.0	0.0	155.0
146.00	1.00	1.37	11.898	13.09	167.70	0.950	0.000	2.00	4.838	4.60	60.2	0.0	152.2
148.00	1.00	1.37	11.932	13.13	164.95	0.950	0.000	2.00	4.753	4.51	59.3	0.0	149.5
150.00 Appurtenance(s)	1.00	1.38	11.966	13.16	162.18	0.950	0.000	2.00	4.667	4.43	58.4	0.0	146.8
152.00	1.00	1.38	11.999	13.20	159.40	0.950	0.000	2.00	4.581	4.35	57.4	0.0	144.1
154.00	1.00	1.39	12.032	13.24	156.61	0.950	0.000	2.00	4.496	4.27	56.5	0.0	141.4
156.00	1.00	1.39	12.065	13.27	153.81	0.950	0.000	2.00	4.410	4.19	55.6	0.0	138.7
158.00 Appurtenance(s)	1.00	1.39	12.097	13.31	151.00	0.950	0.000	2.00	4.325	4.11	54.7	0.0	135.9
160.00	1.00	1.40	12.129	13.34	148.18	0.950	0.000	2.00	4.239	4.03	53.7	0.0	133.2
162.00	1.00	1.40	12.161	13.38	145.34	0.950	0.000	2.00	4.154	3.95	52.8	0.0	130.5
164.00	1.00	1.40	12.193	13.41	142.50	0.950	0.000	2.00	4.068	3.86	51.8	0.0	127.8
166.00 Appurtenance(s)	1.00	1.41	12.224	13.45	139.65	0.950	0.000	2.00	3.982	3.78	50.9	0.0	125.1
168.00	1.00	1.41	12.255	13.48	136.79	0.950	0.000	2.00	3.897	3.70	49.9	0.0	122.4
170.00	1.00	1.42	12.285	13.51	133.92	0.950	0.000	2.00	3.811	3.62	48.9	0.0	119.6
172.00	1.00	1.42	12.315	13.55	131.04	0.950	0.000	2.00	3.726	3.54	47.9	0.0	116.9
174.00	1.00	1.42	12.345	13.58	128.15	0.950	0.000	2.00	3.640	3.46	47.0	0.0	114.2
176.00	1.00	1.43	12.375	13.61	125.25	0.950	0.000	2.00	3.554	3.38	46.0	0.0	111.5
178.00 Appurtenance(s)	1.00	1.43	12.405	13.65	122.34	0.950	0.000	2.00	3.469	3.30	45.0	0.0	108.8
180.00	1.00	1.43	12.434	13.68	119.43	0.950	0.000	2.00	3.383	3.21	44.0	0.0	106.1
Totals:								180.00	6,587.7	33,413.9			

Discrete Appurtenance Forces

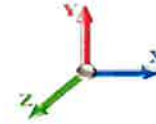
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Samsung B5/B13 RRH	3	12.405	13.645	0.50	0.75	3.35	210.90	0.000	0.000	45.67	0.00	0.00
2	178.00	Samsung B2/B66A RRH	3	12.405	13.645	0.50	0.75	2.83	253.20	0.000	0.000	38.67	0.00	0.00
3	178.00	JMA MX06FRO660-03	6	12.405	13.645	0.61	0.75	36.42	360.00	0.000	0.000	496.96	0.00	0.00
4	178.00	Platform w/ Handrails w/	1	12.405	13.645	1.00	1.00	40.00	2202.20	0.000	0.000	545.81	0.00	0.00
5	178.00	Raycap	1	12.405	13.645	1.00	1.00	2.61	32.00	0.000	0.000	35.61	0.00	0.00
6	166.00	ALU 800 Mhz	6	12.224	13.446	0.38	0.75	5.60	318.00	0.000	0.000	75.33	0.00	0.00
7	166.00	RFS APXVTM14-C-I20	3	12.224	13.446	0.58	0.75	10.98	168.60	0.000	0.000	147.69	0.00	0.00
8	166.00	Commscope	3	12.224	13.446	0.55	0.75	20.43	232.20	0.000	0.000	274.70	0.00	0.00
9	166.00	ALU 1900 Mhz	3	12.224	13.446	0.50	0.75	5.73	132.00	0.000	0.000	77.03	0.00	0.00
10	166.00	Sitepro	1	12.224	13.446	1.00	1.00	7.00	406.61	0.000	0.000	94.12	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	12.224	13.446	0.50	0.75	6.11	210.00	0.000	0.000	82.09	0.00	0.00
12	166.00	Sitepro	1	12.224	13.446	1.00	1.00	6.70	230.00	0.000	0.000	90.09	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	12.224	13.446	1.00	1.00	40.00	2000.00	0.000	0.000	537.84	0.00	0.00
14	158.00	PCS1900 G3 TMA	6	12.097	13.307	0.40	0.80	2.50	120.00	0.000	0.000	33.21	0.00	0.00
15	158.00	T-Arms	3	12.097	13.307	0.56	0.75	13.50	1050.00	0.000	0.000	179.64	0.00	0.00
16	158.00	EMS RR90-17-Q2DP	6	12.097	13.307	0.54	0.80	23.96	81.00	0.000	0.000	318.81	0.00	0.00
17	150.00	Powerwave 7770	3	11.966	13.162	0.55	0.75	9.05	105.00	0.000	0.000	119.12	0.00	0.00
18	150.00	Cci HPA-65R-BUU-H6	2	11.966	13.162	0.77	0.90	14.78	102.00	0.000	0.000	194.54	0.00	0.00
19	150.00	SBNHH-1D65A	1	11.966	13.162	1.00	1.00	5.88	33.50	0.000	0.000	77.39	0.00	0.00
20	150.00	RRUS-32	3	11.966	13.162	0.50	0.75	5.83	231.00	0.000	0.000	76.79	0.00	0.00
21	150.00	KMW AM-X-CD-16-65-00T	2	11.966	13.162	0.56	0.75	9.02	97.00	0.000	0.000	118.76	0.00	0.00
22	150.00	Powerwave LGP21401	6	11.966	13.162	0.38	0.75	2.75	84.60	0.000	0.000	36.13	0.00	0.00
23	150.00	KMW AM-X-CD-14-65-00T	1	11.966	13.162	0.75	0.75	5.29	36.40	0.000	0.000	69.60	0.00	0.00
24	150.00	Ericsson RRUS-11	3	11.966	13.162	0.50	0.75	3.80	152.10	0.000	0.000	50.00	0.00	0.00
25	150.00	Raycap DC6-48-60-18-8F	1	11.966	13.162	0.67	1.00	1.21	31.80	0.000	0.000	15.96	0.00	0.00
26	150.00	Platform w/ Hand Rail	1	11.966	13.162	1.00	1.00	35.00	1600.00	0.000	0.000	460.68	0.00	0.00

Totals: 10,480.11

4,292.24

Total Applied Force Summary

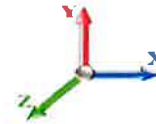
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		82.16	587.84	0.00	0.00
4.00		81.50	603.57	0.00	0.00
6.00		80.84	619.30	0.00	0.00
8.00		80.18	614.55	0.00	0.00
10.00		79.52	609.79	0.00	0.00
12.00		78.86	605.04	0.00	0.00
14.00		78.20	600.28	0.00	0.00
16.00		78.50	595.53	0.00	0.00
18.00		79.78	590.77	0.00	0.00
20.00		80.87	586.02	0.00	0.00
22.00		81.80	581.26	0.00	0.00
24.00		82.58	576.51	0.00	0.00
26.00		83.24	571.75	0.00	0.00
28.00		83.80	567.00	0.00	0.00
30.00		84.27	562.24	0.00	0.00
32.00		84.65	557.48	0.00	0.00
34.00		84.95	552.73	0.00	0.00
36.00		85.19	547.97	0.00	0.00
38.00		85.36	543.22	0.00	0.00
40.00		85.48	538.46	0.00	0.00
42.00		85.54	533.71	0.00	0.00
43.92		81.97	507.01	0.00	0.00
44.00		3.60	41.05	0.00	0.00
46.00		86.89	980.42	0.00	0.00
48.00		86.83	971.25	0.00	0.00
50.00		86.73	962.08	0.00	0.00
51.00		43.23	477.60	0.00	0.00
52.00		43.19	241.42	0.00	0.00
54.00		86.42	479.53	0.00	0.00
56.00		86.22	475.11	0.00	0.00
58.00		85.98	470.70	0.00	0.00
60.00		85.71	466.28	0.00	0.00
62.00		85.42	461.87	0.00	0.00
64.00		85.10	457.45	0.00	0.00
66.00		84.75	453.04	0.00	0.00
68.00		84.38	448.62	0.00	0.00
70.00		83.98	444.20	0.00	0.00
72.00		83.57	439.79	0.00	0.00
74.00		83.13	435.37	0.00	0.00
76.00		82.67	430.96	0.00	0.00
78.00		82.19	426.54	0.00	0.00
80.00		81.69	422.13	0.00	0.00
82.00		81.17	417.71	0.00	0.00
84.00		80.64	413.30	0.00	0.00
86.00		80.09	408.88	0.00	0.00
88.00		79.52	404.46	0.00	0.00

Total Applied Force Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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90.00	78.94	400.05	0.00	0.00
90.17	6.54	33.14	0.00	0.00
92.00	73.00	642.62	0.00	0.00
94.00	79.07	693.23	0.00	0.00
96.00	78.44	685.08	0.00	0.00
98.00	77.81	335.51	0.00	0.00
100.00	77.16	331.77	0.00	0.00
102.00	76.49	328.04	0.00	0.00
104.00	75.81	324.30	0.00	0.00
106.00	75.12	320.56	0.00	0.00
108.00	74.42	316.83	0.00	0.00
110.00	73.71	313.09	0.00	0.00
112.00	72.98	309.36	0.00	0.00
114.00	72.24	305.62	0.00	0.00
116.00	71.50	301.88	0.00	0.00
118.00	70.74	298.15	0.00	0.00
120.00	69.97	294.41	0.00	0.00
122.00	69.18	290.67	0.00	0.00
124.00	68.39	286.94	0.00	0.00
126.00	67.59	283.20	0.00	0.00
128.00	66.78	279.47	0.00	0.00
130.00	65.96	275.73	0.00	0.00
132.00	65.13	271.99	0.00	0.00
133.33	42.93	179.25	0.00	0.00
134.00	21.67	144.89	0.00	0.00
136.00	64.50	430.35	0.00	0.00
138.00	63.65	423.90	0.00	0.00
140.00	62.79	201.37	0.00	0.00
142.00	61.92	198.65	0.00	0.00
144.00	61.04	195.94	0.00	0.00
146.00	60.15	193.22	0.00	0.00
148.00	59.26	190.50	0.00	0.00
150.00	(23) attachments	1277.32	2661.18	0.00
152.00		57.45	168.37	0.00
154.00		56.53	165.65	0.00
156.00		55.60	162.93	0.00
158.00	(15) attachments	586.34	1411.21	0.00
160.00		53.73	145.02	0.00
162.00		52.78	142.30	0.00
164.00		51.83	139.58	0.00
166.00	(21) attachments	1429.77	3834.28	0.00
168.00		49.90	126.52	0.00
170.00		48.93	123.80	0.00
172.00		47.95	121.08	0.00
174.00		46.96	118.36	0.00
176.00		45.97	115.65	0.00
178.00	(14) attachments	1207.68	3171.23	0.00
180.00		43.96	106.05	0.00
	Totals:	10,879.94	47,074.71	0.00

Calculated Forces

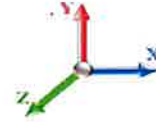
Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 27

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.07	-10.89	0.00	-1298.7	0.00	1298.75	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.211
2.00	-46.48	-10.82	0.00	-1276.9	0.00	1276.97	5107.67	1509.78	7683.09	6363.61	0.00	-0.017	0.000	0.210
4.00	-45.87	-10.75	0.00	-1255.3	0.00	1255.34	5091.62	1497.52	7558.79	6291.73	0.02	-0.035	0.000	0.209
6.00	-45.25	-10.68	0.00	-1233.8	0.00	1233.84	5075.16	1485.26	7435.50	6219.67	0.03	-0.053	0.000	0.207
8.00	-44.63	-10.62	0.00	-1212.4	0.00	1212.48	5058.29	1472.99	7313.22	6147.44	0.06	-0.071	0.000	0.206
10.00	-44.02	-10.55	0.00	-1191.2	0.00	1191.25	5041.00	1460.73	7191.96	6075.05	0.09	-0.089	0.000	0.205
12.00	-43.41	-10.48	0.00	-1170.1	0.00	1170.15	5023.29	1448.47	7071.72	6002.51	0.13	-0.107	0.000	0.204
14.00	-42.81	-10.42	0.00	-1149.1	0.00	1149.18	5005.16	1436.20	6952.48	5929.84	0.18	-0.125	0.000	0.202
16.00	-42.21	-10.35	0.00	-1128.3	0.00	1128.35	4986.62	1423.94	6834.27	5857.05	0.24	-0.143	0.000	0.201
18.00	-41.62	-10.28	0.00	-1107.6	0.00	1107.65	4967.66	1411.68	6717.06	5784.16	0.30	-0.162	0.000	0.200
20.00	-41.03	-10.21	0.00	-1087.0	0.00	1087.08	4948.29	1399.42	6600.87	5711.17	0.38	-0.181	0.000	0.199
22.00	-40.44	-10.14	0.00	-1066.6	0.00	1066.65	4928.49	1387.15	6485.69	5638.10	0.46	-0.199	0.000	0.197
24.00	-39.86	-10.07	0.00	-1046.3	0.00	1046.37	4908.28	1374.89	6371.53	5564.95	0.54	-0.218	0.000	0.196
26.00	-39.29	-10.00	0.00	-1026.2	0.00	1026.22	4887.66	1362.63	6258.37	5491.76	0.64	-0.237	0.000	0.195
28.00	-38.72	-9.93	0.00	-1006.2	0.00	1006.22	4866.62	1350.36	6146.24	5418.52	0.74	-0.257	0.000	0.194
30.00	-38.15	-9.85	0.00	-986.37	0.00	986.37	4845.16	1338.10	6035.11	5345.24	0.85	-0.276	0.000	0.192
32.00	-37.59	-9.78	0.00	-966.67	0.00	966.67	4823.28	1325.84	5925.00	5271.95	0.97	-0.295	0.000	0.191
34.00	-37.04	-9.70	0.00	-947.11	0.00	947.11	4800.99	1313.58	5815.91	5198.66	1.10	-0.315	0.000	0.190
36.00	-36.49	-9.63	0.00	-927.71	0.00	927.71	4778.28	1301.31	5707.83	5125.37	1.24	-0.335	0.000	0.189
38.00	-35.94	-9.55	0.00	-908.45	0.00	908.45	4755.15	1289.05	5600.76	5052.10	1.38	-0.355	0.000	0.187
40.00	-35.40	-9.47	0.00	-889.35	0.00	889.35	4731.61	1276.79	5494.70	4978.87	1.54	-0.375	0.000	0.186
42.00	-34.86	-9.40	0.00	-870.40	0.00	870.40	4707.65	1264.52	5389.66	4905.68	1.70	-0.395	0.000	0.185
43.92	-34.36	-9.32	0.00	-852.39	0.00	852.39	4684.30	1252.77	5289.95	4835.60	1.86	-0.415	0.000	0.184
44.00	-34.31	-9.32	0.00	-851.62	0.00	851.62	4683.27	1252.26	5285.64	4832.55	1.87	-0.415	0.000	0.184
46.00	-33.33	-9.24	0.00	-832.97	0.00	832.97	4658.48	1240.00	5182.62	4759.49	2.05	-0.436	0.000	0.182
48.00	-32.36	-9.16	0.00	-814.50	0.00	814.50	4633.27	1227.74	5080.62	4686.52	2.23	-0.457	0.000	0.181
50.00	-31.39	-9.07	0.00	-796.19	0.00	796.19	4607.64	1215.47	4979.64	4613.64	2.43	-0.477	0.000	0.179
51.00	-30.91	-9.03	0.00	-787.12	0.00	787.12	4157.28	1142.33	4736.69	4216.21	2.53	-0.488	0.000	0.194
52.00	-30.67	-8.99	0.00	-778.09	0.00	778.09	4146.96	1136.64	4689.60	4184.61	2.63	-0.498	0.000	0.193
54.00	-30.19	-8.91	0.00	-760.11	0.00	760.11	4126.01	1125.25	4596.10	4121.41	2.85	-0.520	0.000	0.192
56.00	-29.71	-8.83	0.00	-742.28	0.00	742.28	4104.64	1113.86	4503.55	4058.23	3.07	-0.542	0.000	0.190
58.00	-29.24	-8.75	0.00	-724.62	0.00	724.62	4082.85	1102.48	4411.95	3995.08	3.30	-0.564	0.000	0.189
60.00	-28.77	-8.67	0.00	-707.11	0.00	707.11	4060.64	1091.09	4321.28	3931.97	3.54	-0.586	0.000	0.187
62.00	-28.30	-8.60	0.00	-689.76	0.00	689.76	4038.02	1079.70	4231.55	3868.91	3.79	-0.608	0.000	0.185
64.00	-27.84	-8.52	0.00	-672.57	0.00	672.57	4014.98	1068.31	4142.77	3805.92	4.05	-0.630	0.000	0.184
66.00	-27.39	-8.44	0.00	-655.54	0.00	655.54	3991.52	1056.93	4054.92	3743.01	4.32	-0.653	0.000	0.182
68.00	-26.94	-8.36	0.00	-638.67	0.00	638.67	3967.65	1045.54	3968.02	3680.19	4.60	-0.675	0.000	0.180
70.00	-26.49	-8.28	0.00	-621.95	0.00	621.95	3943.36	1034.15	3882.06	3617.47	4.89	-0.698	0.000	0.179
72.00	-26.05	-8.20	0.00	-605.39	0.00	605.39	3918.66	1022.77	3797.04	3554.87	5.19	-0.721	0.000	0.177
74.00	-25.61	-8.12	0.00	-588.99	0.00	588.99	3893.54	1011.38	3712.96	3492.40	5.49	-0.744	0.000	0.175
76.00	-25.18	-8.04	0.00	-572.75	0.00	572.75	3868.00	999.99	3629.83	3430.07	5.81	-0.767	0.000	0.174
78.00	-24.75	-7.97	0.00	-556.66	0.00	556.66	3842.04	988.61	3547.63	3367.90	6.14	-0.790	0.000	0.172
80.00	-24.33	-7.89	0.00	-540.73	0.00	540.73	3815.67	977.22	3466.38	3305.90	6.47	-0.814	0.000	0.170
82.00	-23.91	-7.81	0.00	-524.95	0.00	524.95	3788.88	965.83	3386.07	3244.07	6.82	-0.837	0.000	0.168
84.00	-23.49	-7.73	0.00	-509.33	0.00	509.33	3761.67	954.44	3306.69	3182.44	7.17	-0.861	0.000	0.166
86.00	-23.08	-7.66	0.00	-493.86	0.00	493.86	3734.05	943.06	3228.26	3121.02	7.54	-0.885	0.000	0.164
88.00	-22.67	-7.58	0.00	-478.54	0.00	478.54	3706.01	931.67	3150.77	3059.82	7.92	-0.909	0.000	0.163
90.00	-22.27	-7.50	0.00	-463.38	0.00	463.38	3677.55	920.28	3074.23	2998.84	8.30	-0.933	0.000	0.161

Calculated Forces

Structure: CT46130-A-SBA **Code:** EIA/TIA-222-H 12/5/2019
Site Name: Deep River-winthrop Rd **Exposure:** C
Height: 180.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 44



90.17	-22.24	-7.50	0.00	-462.13	0.00	462.13	3675.16	919.33	3067.89	2993.77	8.33	-0.935	0.000	0.160
92.00	-21.59	-7.42	0.00	-448.38	0.00	448.38	3648.68	908.90	2998.62	2938.12	8.70	-0.957	0.000	0.159
94.00	-20.90	-7.34	0.00	-433.54	0.00	433.54	3619.39	897.51	2923.96	2877.64	9.10	-0.981	0.000	0.156
96.00	-20.21	-7.26	0.00	-418.85	0.00	418.85	2873.56	764.37	2506.37	2303.28	9.52	-1.005	0.000	0.189
98.00	-19.88	-7.19	0.00	-404.33	0.00	404.33	2853.66	754.73	2443.58	2258.25	9.95	-1.030	0.000	0.186
100.00	-19.54	-7.11	0.00	-389.96	0.00	389.96	2833.34	745.10	2381.59	2213.29	10.38	-1.057	0.000	0.183
102.00	-19.21	-7.04	0.00	-375.74	0.00	375.74	2812.61	735.46	2320.39	2168.43	10.83	-1.084	0.000	0.180
104.00	-18.89	-6.97	0.00	-361.66	0.00	361.66	2791.46	725.83	2259.99	2123.68	11.29	-1.112	0.000	0.177
106.00	-18.56	-6.89	0.00	-347.73	0.00	347.73	2769.89	716.19	2200.39	2079.04	11.76	-1.139	0.000	0.174
108.00	-18.25	-6.82	0.00	-333.95	0.00	333.95	2747.90	706.55	2141.58	2034.53	12.25	-1.167	0.000	0.171
110.00	-17.93	-6.75	0.00	-320.31	0.00	320.31	2725.50	696.92	2083.57	1990.17	12.74	-1.194	0.000	0.168
112.00	-17.62	-6.68	0.00	-306.81	0.00	306.81	2702.68	687.28	2026.36	1945.97	13.25	-1.221	0.000	0.164
114.00	-17.31	-6.61	0.00	-293.45	0.00	293.45	2679.45	677.65	1969.94	1901.93	13.77	-1.249	0.000	0.161
116.00	-17.01	-6.54	0.00	-280.24	0.00	280.24	2655.79	668.01	1914.32	1858.08	14.29	-1.276	0.000	0.157
118.00	-16.71	-6.47	0.00	-267.16	0.00	267.16	2631.73	658.38	1859.50	1814.42	14.83	-1.303	0.000	0.154
120.00	-16.41	-6.40	0.00	-254.23	0.00	254.23	2607.24	648.74	1805.47	1770.96	15.39	-1.330	0.000	0.150
122.00	-16.12	-6.33	0.00	-241.43	0.00	241.43	2582.34	639.11	1752.24	1727.73	15.95	-1.357	0.000	0.146
124.00	-15.83	-6.26	0.00	-228.77	0.00	228.77	2557.02	629.47	1699.80	1684.74	16.52	-1.383	0.000	0.142
126.00	-15.55	-6.20	0.00	-216.25	0.00	216.25	2531.28	619.84	1648.16	1641.98	17.11	-1.410	0.000	0.138
128.00	-15.27	-6.13	0.00	-203.86	0.00	203.86	2505.13	610.20	1597.32	1599.49	17.71	-1.436	0.000	0.134
130.00	-14.99	-6.06	0.00	-191.60	0.00	191.60	2478.56	600.57	1547.28	1557.27	18.31	-1.461	0.000	0.129
132.00	-14.72	-6.00	0.00	-179.47	0.00	179.47	2451.58	590.93	1498.03	1515.33	18.93	-1.487	0.000	0.125
133.33	-14.54	-5.95	0.00	-171.48	0.00	171.48	2433.35	584.51	1465.64	1487.53	19.35	-1.503	0.000	0.121
134.00	-14.39	-5.93	0.00	-167.51	0.00	167.51	2424.17	581.30	1449.58	1473.69	19.56	-1.512	0.000	0.120
136.00	-13.96	-5.86	0.00	-155.65	0.00	155.65	2396.35	571.66	1401.92	1432.35	20.20	-1.536	0.000	0.115
138.00	-13.54	-5.79	0.00	-143.93	0.00	143.93	1545.45	417.14	1026.36	929.77	20.85	-1.560	0.000	0.164
140.00	-13.34	-5.73	0.00	-132.35	0.00	132.35	1531.69	410.13	992.17	905.88	21.50	-1.583	0.000	0.155
142.00	-13.14	-5.67	0.00	-120.90	0.00	120.90	1517.50	403.12	958.56	882.03	22.17	-1.611	0.000	0.146
144.00	-12.94	-5.61	0.00	-109.56	0.00	109.56	1502.90	396.11	925.52	858.22	22.85	-1.639	0.000	0.136
146.00	-12.75	-5.55	0.00	-98.35	0.00	98.35	1487.88	389.11	893.06	834.49	23.55	-1.665	0.000	0.127
148.00	-12.56	-5.49	0.00	-87.26	0.00	87.26	1472.45	382.10	861.19	810.82	24.25	-1.689	0.000	0.116
150.00	-9.93	-4.14	0.00	-76.28	0.00	76.28	1456.60	375.09	829.89	787.25	24.96	-1.712	0.000	0.104
152.00	-9.76	-4.08	0.00	-68.01	0.00	68.01	1440.33	368.08	799.17	763.78	25.68	-1.734	0.000	0.096
154.00	-9.60	-4.02	0.00	-59.86	0.00	59.86	1423.65	361.08	769.03	740.42	26.41	-1.754	0.000	0.088
156.00	-9.44	-3.96	0.00	-51.82	0.00	51.82	1406.55	354.07	739.47	717.20	27.15	-1.772	0.000	0.079
158.00	-8.04	-3.33	0.00	-43.90	0.00	43.90	1389.03	347.06	710.49	694.11	27.90	-1.789	0.000	0.069
160.00	-7.90	-3.28	0.00	-37.24	0.00	37.24	1371.10	340.05	682.09	671.17	28.65	-1.804	0.000	0.061
162.00	-7.76	-3.22	0.00	-30.69	0.00	30.69	1352.75	333.05	654.27	648.41	29.41	-1.818	0.000	0.053
164.00	-7.62	-3.17	0.00	-24.24	0.00	24.24	1333.98	326.04	627.03	625.81	30.18	-1.829	0.000	0.045
166.00	-3.83	-1.62	0.00	-17.91	0.00	17.91	1314.79	319.03	600.37	603.42	30.94	-1.839	0.000	0.033
168.00	-3.71	-1.56	0.00	-14.68	0.00	14.68	1295.19	312.03	574.28	581.22	31.72	-1.847	0.000	0.028
170.00	-3.59	-1.51	0.00	-11.56	0.00	11.56	1275.17	305.02	548.78	559.24	32.49	-1.853	0.000	0.024
172.00	-3.47	-1.46	0.00	-8.54	0.00	8.54	1251.65	298.01	523.85	536.17	33.27	-1.859	0.000	0.019
174.00	-3.35	-1.41	0.00	-5.62	0.00	5.62	1222.21	291.00	499.51	511.11	34.05	-1.863	0.000	0.014
176.00	-3.23	-1.36	0.00	-2.81	0.00	2.81	1192.78	284.00	475.74	486.64	34.83	-1.866	0.000	0.009
178.00	-0.10	-0.05	0.00	-0.09	0.00	0.09	1163.35	276.99	452.55	462.78	35.61	-1.867	0.000	0.000
180.00	0.00	-0.04	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	36.39	-1.867	0.000	0.000

Final Analysis Summary

Structure: CT46130-A-SBA	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 123 mph Wind	45.8	0.00	56.46	0.00	0.00	5490.30
0.9D + 1.0W 123 mph Wind	45.8	0.00	42.34	0.00	0.00	5425.51
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.6	0.00	69.82	0.00	0.00	1165.43
1.2D + 1.0Ev + 1.0Eh	4.5	0.00	56.49	0.00	0.00	527.40
0.9D + 1.0Ev + 1.0Eh	4.5	0.00	42.37	0.00	0.00	520.82
1.0D + 1.0W 60 mph Wind	10.9	0.00	47.07	0.00	0.00	1298.75

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 123 mph Wind	-56.46	-45.76	0.00	-5490.3	0.00	-5490.3	5123.29	1522.0	7808.40	6435.29	0.00	0.865
0.9D + 1.0W 123 mph Wind	-42.34	-45.75	0.00	-5425.5	0.00	-5425.5	5123.29	1522.0	7808.40	6435.29	0.00	0.852
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-69.82	-9.63	0.00	-1165.4	0.00	-1165.4	5123.29	1522.0	7808.40	6435.29	0.00	0.195
1.2D + 1.0Ev + 1.0Eh	-16.40	-2.63	0.00	-79.87	0.00	-79.87	1545.45	417.14	1026.36	929.77	138.00	0.097
0.9D + 1.0Ev + 1.0Eh	-12.29	-2.57	0.00	-78.36	0.00	-78.36	1545.45	417.14	1026.36	929.77	138.00	0.092
1.0D + 1.0W 60 mph Wind	-47.07	-10.89	0.00	-1298.7	0.00	-1298.7	5123.29	1522.0	7808.40	6435.29	0.00	0.211

Base Plate Summary

Structure: CT46130-A-SB	Code: EIA/TIA-222-H	12/5/2019
Site Name: Deep River-winthrop Rd	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 46

Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 70.69
Moment (kip-ft): 5076.00	Width (in): 76.69	Number Bolts: 20.00
Axial (kip): 59.10	Style: Polygon	Bolt Type: 2.25" 18J
Shear (kip): 41.70	Polygon Sides: 12.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 5490.30	Effective Len (in): 14.14	Ultimate (ksi): 100.00
Axial (kip): 69.82	Moment (kip-in): 825.08	Arrangement: Radial
Shear (kip): 45.76	Allow Stress (ksi): 81.00	Cluster Dist (in): 0.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 0.00
Moment Design %: 108.16	Stress Ratio: 0.57	Compression
		Force (kip): 189.89
		Allowable (kip): 243.75
		Ratio: 0.78
		Tension
		Force (kip): 182.91
		Allowable (kip): 243.75
		Ratio: 0.75



Monopole Mat Foundation Design			Date
			12/5/2019
Customer Name:	SBA Communcations Corp	EIA/TIA Standard:	EIA-222-H
Site Name:	Deep River-winthrop Rd	Structure Height (Ft.):	180
Site Number:	CT46130-A-SBA	Engineer Name:	D. Zhou
Engr. Number:	90244	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):

Uplift Force (Kips):

Foundation Geometries:

Anchor Bolt Circle (ft.):

Thickness of Pad (ft):

Length of Pad (ft.):

Final Length of pad (ft)

Material Properties and Reabr Info:

Concrete Strength (psi):

Pad Rebar Yield (Ksi):

Pad Steel Rebar Size (#):

Concrete Cover (in.):

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):

Soil Design Parameters:

Water Table B.G.S. (ft):

Ultimate Bearing Pressure (psf):

Consider Friction for O.T.M. (Y/N):

Consider soil hor. resist. for OTM.:

Drawings/Calculations

Monopole

Analysis

56.5 Shear Force (Kips): 45.8

0.0 Moment (Kips-ft): 5490.3

Mods required- Yes/No?: No

Depth of Base BG (ft.): 0.75

Width of Pad (ft.): 27

Final width of pad (ft): 27.0

Steel Elastic Modulus: 29000 ksi

Tie Spacing (in): 12.0

Unit Weight of Concrete: 150.0 pcf

Qty. of Rebar in Pad (W): 20

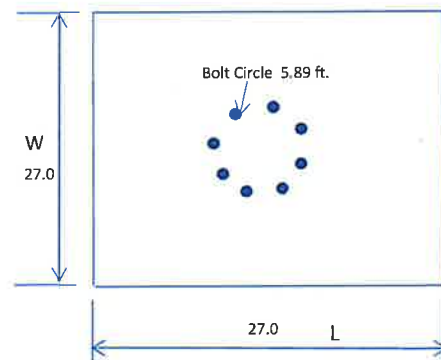
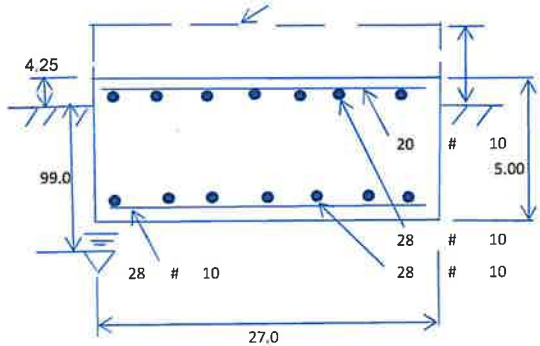
Qty. of Rebar in Pad (W): 28

Unit Weight of Water: 62.4 pcf

Ultimate Skin Friction: 0 Psf

Consider Friction for bearing (Y/N): No

Reduction factor on the maximum soil bearing pressure: 1.00



Uplift Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):

Total Buoyant Soil Volume (cu. Ft.):

Total Effective Soil Weight (Kips):

Total Dry Concrete Volume (cu. Ft.):

Total Buoyant Concrete Volume (cu. Ft.):

Total Effective Concrete Weight (Kips):

Compression Strength Reduction Factor: 0.75

Total Dry Soil Weight (Kips): 0.00

Total Buoyant Soil Weight (Kips): 0.00

Weight from the Concrete Block at Top (K): 0.00

Total Dry Concrete Weight (Kips): 3645.00

Total Buoyant Concrete Weight (Kips): 0.00

Total Vertical Load on Base (Kips): 546.75

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):

Allowable Foundation Overturning Resistance (kips-ft.):

Factor of Safety Against Overturning (O. R. Moment/Design Moment):

3782 < Allowable Factored Soil Bearing (psf): 90000

7405.2 > Design Factored Momont (kips-ft): 5722

1.29 OK!

Load/
Capacity
Ratio

0.04 OK!

0.77 OK!

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):
 Strength reduction factor (Axial compression):

0.90 Strength reduction factor (Shear): 0.75
 0.65 Wind Load Factor on Concrete Design: 1.00

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1732.8	>	One-Way Factored Shear (L-D, Kips):	341.2	0.20	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1732.8	>	One-Way Factored Shear (W-D., Kips):	341.2	0.20	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	2040.5	>	One-Way Factored Shear (C-C, Kips):	740.1	0.36	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0014	OK!	Lower Steel Pad Reinf. Ratio (W-Direct.):	0.0014		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	6364.6	>	Moment at Bottom (L-Direct. K-Ft):	956.5	0.15	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	6364.6	>	Moment at Bottom (W-Direct. K-Ft):	956.5	0.15	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	8978.4	>	Moment at Bottom (C-C Dir. K-Ft):	1352.7	0.15	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0019	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0019		
Upper Steel Pad Moment Capacity (L-Direction, Kips-ft):	8866.2	>	Moment at the top (L-Dir Kips-Ft):	45.2	0.01	OK!
Upper Steel Pad Moment Capacity (W-Direction, Kips-ft):	8866.2	>	Moment at the top (W-Dir Kips-Ft):	45.2	0.01	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	12494.6	>	Moment at the top (C-C Direc. K-Ft):	776.2	0.06	OK!

Report Date: January 3, 2020

Client: On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
Attn: David Weinpahl, P.E.
(201) 456-4624

Structure: Existing 180-ft Monopole
Carrier: Verizon Wireless
Carrier Site Name: Deep River West CT
Mount Type: (1) SitePro1 RMQP-496-HK
Site Address: 220 Winthrop Rd
City, County, State: Deep River, Middlesex County, CT
Latitude, Longitude: 41.365772, -72.475314

PJF Project: A42919-0016.002.7101

Paul J. Ford and Company is pleased to submit this "Opinion Letter" regarding the adequacy of the new SitePro1 RMQP-496-HK with (12) P2.0X-Strong mount pipes on the above referenced tower to replace existing overstressed mounting frames for a proposed Verizon Wireless antenna modification.

Opinion Criteria:

Reference Standard: 2018 Connecticut State Building Code with the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1.

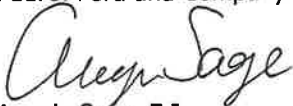
Ultimate Wind Speed: 130 mph 3-second gust wind speed without ice
Nominal Wind Speed: 901 mph 3-second gust wind speed without ice
Ice Wind Speed: 50 mph 3-second gust wind speed with 0.75" ice
IBC Site Criteria: Risk Category II, Topographic Category 1, Exposure Category C

Summary of Analysis Results:

Antenna Mount: **83.6%** **SUFFICIENT***
Based on the load comparison and the above listed parameters, it is our opinion that **SitePro1 RMQP-496-HK with (12) P2.0X-Strong mount pipes will be adequate for supporting the proposed loading listed in Table 1 of this letter.*

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and On Air Engineering, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company



Angela Sage, E.I.
Structural Designer
asage@pauljford.com

D.S.



Columbus
250 E Broad St, Suite 600
Columbus, OH 43215
Phone 614.221.6679



Orlando
1801 Lee Rd, Suite 230
Winter Park, FL 32789
Phone 407.898.9039

Table 1 – Equipment Information

Mounting Level (feet)	Center Line Elevation (feet)	Quantity	Manufacturer	Model	Status	Mount Type
176	178	1	Raycap	RRFDC-6627-PF-48	Proposed	(1) SitePro1 RMQP-496-HK with (12) P2.0X-Strong mount pipes
		3	JMA	9190314 Dual Bracket Mounts		
		6	JMA Wireless	MX06FRO660-03		
		3	Samsung Telecomm	B2/B66A RRH BR049		
		3	Samsung Telecomm	B15/B13 RRH BR04C		

Columbus
 250 E Broad St, Suite 600
 Columbus, OH 43215
 Phone 614.221.6679

Founded in 1965



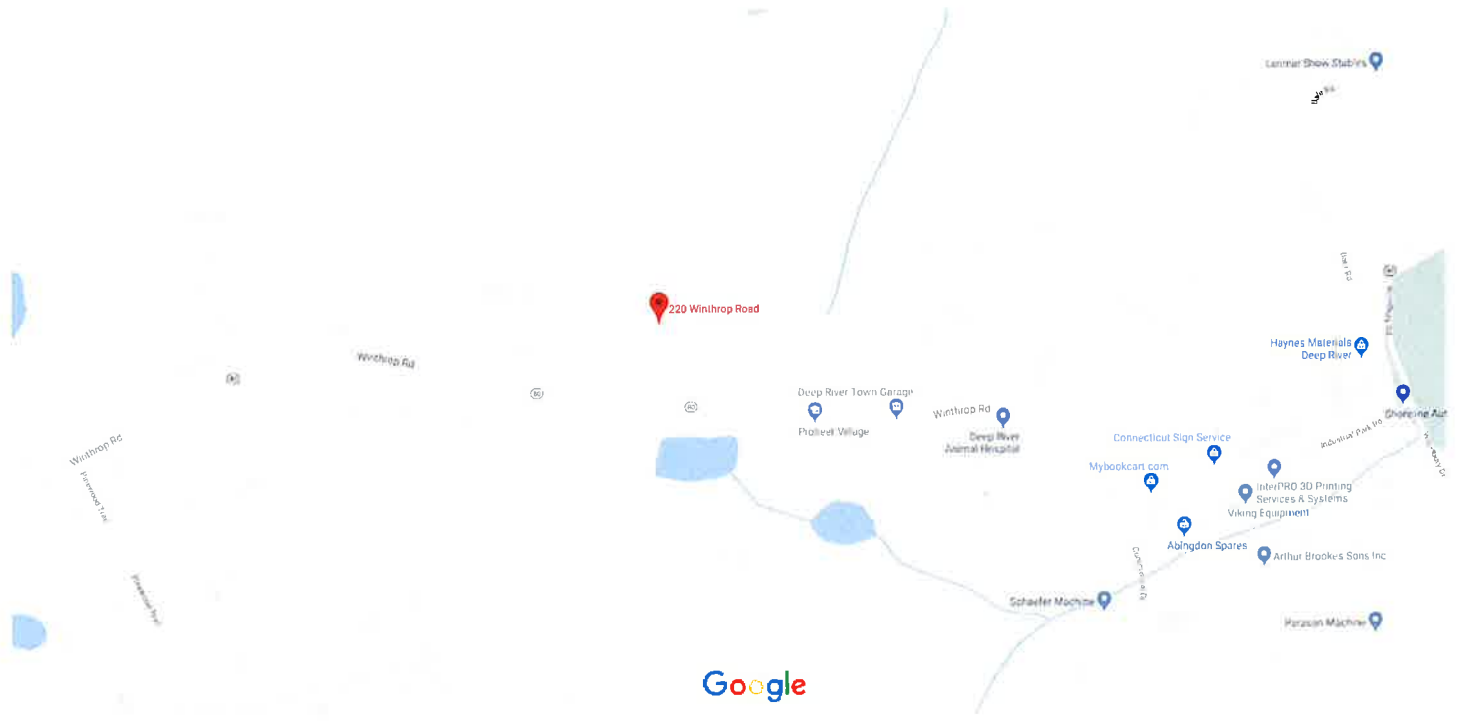
www.PaulJFord.com

Orlando
 1801 Lee Rd, Suite 230
 Winter Park, FL 32789
 Phone 407.898.9039

100% Employee Owned

ATTACHMENT 4

Google Maps 220 Winthrop Rd



Map data ©2020 200 ft



220 Winthrop Rd

Deep River, CT 06417



Directions



Save



Nearby



Send to your phone



Share

9G8F+4P Deep River, CT

At this location

Deep River Transfer Station

5.0 ★★★★★ (4)

City government office · 220 Winthrop Rd

Open until 4:00 PM



220 WINTHROP RD

Location 220 WINTHROP RD

Mblu 33 / 1A /

Acct# 00047000

Owner TOWN OF DEEP RIVER

Assessment \$239,260

Appraisal \$341,800

PID 546

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$185,000	\$156,800	\$341,800

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$129,500	\$109,760	\$239,260

Owner of Record

Owner TOWN OF DEEP RIVER

Sale Price \$0

Co-Owner

Certificate

Book & Page 0093/0797

Sale Date 12/27/1977

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
TOWN OF DEEP RIVER	\$0		0093/0797	12/27/1977

Building Information

Building 1 : Section 1

Year Built: 1979

Living Area: 247

Building Attributes
No Data for Building Attributes

Building Photo



(<http://images.vgsi.com/photos/DeepRiverCTPhotos//\00\00\72/>)

Building Layout



(<http://images.vgsi.com/photos/DeepRiverCTPhotos//Sketches/5/>)

Building Sub-Areas (sq ft)			
Code	Description	Gross Area	Living Area
BAS	First Floor	247	247
CTH	Cath Ceiling	304	0
UBM	Basement, Unfinished	551	0
		1,102	247

Land

Land Use

Use Code 9030
Description MUNICIPAL MDL-94
Zone PRD
Neighborhood 0002

Land Line Valuation

Size (Acres) 9.94
Assessed Value \$109,760
Appraised Value \$156,800

Outbuildings

Outbuildings

Code	Description	Size
PAV1	PAVING-ASPHALT	30000 S.F.
PAV2	PAVING-CONC	1400 S.F.
SHD1	SHED FRAME	45 S.F.
SHD1	SHED FRAME	100 S.F.
FN3	FENCE-6' CHAIN	200 L.F.
	COMPACTOR	1

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ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103

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of Pieces Listed by Sender

[Handwritten signature]

TOTAL NO.
of Pieces Received at Post Office™

Postmaster, per (name of receiving employee)

[Handwritten signature]
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JAN 14 2020

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Postmark with Date of Receipt.

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01/14/2020
US POSTAGE \$002.79
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USPS® Tracking Number
Firm-specific Identifier

USPS Address
(Name, Street, City, State, and ZIP Code™)

1. Angus L. McDonald, Jr., First Selectman
Town of Deep River
174 Main Street
Deep River, CT 06417
2. Julie Pudem, Zoning Enforcement Officer
Town of Deep River
174 Main Street
Deep River, CT 06417
- 3.
- 4.
- 5.
- 6.

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