MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS, LLC
95 RYAN DRIVE
RAYNHAM MA 02767

1 LBS **1 OF 1**

SHIP TO:
JULIA PEMBERTON, FIRST SELECTMAN
203-938-2002
TOWN OF REDDING
100 HILL ROAD
REDDING CT 06896-2007

CT 068 0-03

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 1284 6284

BILLING: P/P

Reference#1: CT5125: CSC filing to 1st Selectman

UIS 20.0.32. WNTNV50 97.0A 01/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS, LLC
95 RYAN DRIVE
RAYNHAM MA 02767

1 LBS

1 OF 1

SHIP TO:
AIMEE PARDEE, M.A. - ZONING DEPT.
203-938-8517
TOWN OF REDDING
100 HILL ROAD
REDDING CT 06896-2007

CT 068 0-03

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 1498 9279

BILLING: P/P

Reference#1: CT2152: CSC filing to Zoning

UIS 20.0.32. WNINV50 97.0A 01/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS, LLC
95 RYAN DRIVE
RAYNHAM MA 02767

1 LBS

1 OF 1

SHIP TO:
ROBERT KAUFMAN
100 OLD REDDING ROAD
REDDING CT 06896-2205

CT 068 0-03

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 0316 6302

BILLING: P/P

Reference#1: CT2152: CSC filing to ground owner

UIS 20.0.32. WNTNV50 97.0A 01/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS, LLC
95 RYAN DRIVE
RAYNHAM MA 02767

1 LBS

1 OF 1

SHIP TO:
SHAWN DUNN
781-926-7061
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

MA 018 9-04

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 0210 5290

BILLING: P/P

Reference#1: CT2152: CSC filing to ATC

UIS 20.0.32. WNTNV50 97.0A 01/2018

Mary Caulfield, Site Acquisition Consultant
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (978) 994-0252
MCaulfield@centerlinecommunications.com

March 16, 2018

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

RE: Notice of Exempt Modification
Site Number: CT2152 (Name: Redding)
100 Old Redding Road, Redding, CT 06875
N 41.2870555555556 // W -73.4381944444444

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains 9 total antennas at the 183-foot mount level on the existing 180-foot self-support tower, located at 100 Old Redding Road, Redding, CT. The tower is owned by American Tower. The property is owned by Robert Kaufman. AT&T now intends to replace six (6) of its existing antennas with six (6) new LTE (700/1900/2300 band) antennas for its LTE upgrade. AT&T also intends to install six (6) new remote radios and; and certain in-cabinet upgrades at the base.

Note that this facility was originally approved by the Connecticut Siting Council on August 9, 1995, Docket No. 167.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Julia Pemberton, First Selectman for the Town of Redding, Aimee Pardee, M.A., Zoning Enforcement Officer for the Town of Redding, as well as the tower owner, American Tower, and the ground owner, Robert Kaufman.

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

Attached to accommodate this filing are construction drawings dated March 16, 2018 by Hudson Design Group LLC, a structural analysis dated January 11, 2018 by American Tower Corporation and an Emissions Analysis Report dated February 28, 2018 by Centerline Communications, LLC.

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

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

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

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

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading, pursuant to the structural analysis by American Tower Corporation, dated January 11, 2018.

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

Sincerely,

_____

Mary Caulfield, Site Acquisition Consultant
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767
Mobile: (978) 994-0252
MCaulfield@centerlinecommunications.com

cc: Julia Pemberton, First Selectman, Town of Redding
Aimee Pardee, M.A., Zoning Enforcement Officers, Town of Redding
American Tower, Tower Owner
Robert Kaufman, Ground Owner

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Structural Analysis Report

Structure	:	**180 ft Self Supported Tower**
ATC Site Name	:	**Redding, CT**
ATC Site Number	:	**302522**
Engineering Number	:	**OAA719370_C3_02**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Redding**
Carrier Site Number	:	**CT2152**
Site Location	:	**Old Redding Road** **Redding, CT 06896-2721** **41.287100,-73.438200**
County	:	**Fairfield**
Date	:	**January 11, 2018**
Max Usage	:	**83%**
Result	:	**Pass**

Prepared By:
Peter Giordano
Structural Engineer II

Peter J. Giordano

Reviewed By:

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Rohn Drawing #C951762, dated December 26, 1995
Foundation Drawing	Rohn Drawing #A953313-1, dated January 12, 1996
Geotechnical Report	SoilTesting Job #591, dated December 26, 1995

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	93 mph (3-Second Gust, Vasd)/120 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.22, S_1 = 0.07
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
183.0	183.0	6	Powerwave LGP21401	Sector Frames	(12) 1 1/4" Coax (2) 0.74" 8 AWG 7 (1) 0.29" Fiber	AT&T Mobility
		3	Powerwave 7770.00			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		1	Raycap DC6-48-60-18-8F.			
172.0	172.0	6	Commscope SBNHH-1D65B	Sector Frames	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		4	Andrew DB844G65ZAXY			
		2	RFS APL868013-42T0			
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B25 RRH4x30			
		3	Alcatel-Lucent RRH2X60-1900			
		2	RFS DB-T1-6Z-8AB-0Z			
		6	RFS FD9R6004/1C-3L			
164.0	164.0	12	Decibel DB844H90E-XY	Sector Frames	(12) 1 5/8" Coax	Sprint Nextel
157.0	157.0	3	Commscope DT465B-2XR	Sector Frames	(4) 1 1/4" Hybriflex	
		3	RFS APXVSPP18-C-A20			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Alcatel-Lucent 800MHz RRH			
		3	Alcatel-Lucent RRH2x50-08			
148.0	148.0	2	Scala OGT9-840	Side Arm	(2) 1 5/8" Coax	CT State Police Dept
147.0	147.0	3	Andrew LNX-6515DS-VTM	Sector Frames	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex (1) 1 5/8" Hybriflex	Metro PCS
		3	Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs)			
		3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
		3	Kathrein Smart Bias Tee			
142.5	142.5	1	Morad VHF 156-DELUXE	Side Arms	(2) 3/8" Coax (1) 1/2" Coax	CT State Police Dept
	142.0	2	TX RX Systems 422-86A-99575-18R1			
136.0	136.0	2	Scala OGT9-840	Side Arms	(2) 1 5/8" Coax	
133.0	133.0	2	24" x 24" Ice Shield	Leg	(1) 1 5/8" Coax	
131.0		1	Sinclair SE419-SF3P4LDF.	Side Arms	(2) 1 5/8" Coax	
	131.0	2	Andrew DB810K-XT			
129.0	129.0	2	RFS PA6-65AC	Leg	(2) EW63	
127.0	127.0	1	Bird 432-83H-01-T	Side Arms	(1) 3/8" Coax	
121.0	121.0	1	Sinclair SE419-SF3P4LDF	Side Arm	(1) 1 5/8" Coax	
113.0	113.0	1	Decibel DB586	Side Arm	(1) 7/8" Coax	Eversource Energy
107.0	107.0	1	Decibel DB586	Side Arm	(1) 7/8" Coax	
91.0	91.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	Sprint Nextel
88.0	88.0	1	Sinclair SD210D	Stand-Off	(2) 7/8" Coax	Eversource Energy
86.0	86.0	1	12' Omni	Side Arms	(1) 7/8" Coax	Other
66.0	66.0	1	Andrew DB264-A	Leg	(1) 7/8" Coax	CT State Police Dept
30.0	30.0	1	2" x 4" GPS	Leg	(1) 1/2" Coax	Verizon
18.0	18.0	1	GPS	Leg	(1) 1/2" Coax	AT&T Mobility

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	180.0	3	Powerwave P65-16-XLH-RR	-	-	AT&T Mobility
		3	Powerwave 7770.00			
		3	Powerwave TT19-08BP111-001			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
183.0	183.0	3	Kaelus DBC0061F1V51-2	Sector Frames	(2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		1	CCI TPA-65R-LCUUUU-H8			
		1	CCI HPA-65R-BUU-H8			
		2	CCI HPA-65R-BUU-H6			
		2	Quintel QS66512-2			
		3	Ericsson RRUS 32 B30 (53 lbs)			
		3	Ericsson RRUS 32 B2			
		1	Raycap DC6-48-60-18-8C			

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

Install proposed coax on top of existing AT&T Mobility coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	83%	Pass
Diagonals	80%	Pass
Horizontals	45%	Pass
Anchor Bolts	60%	Pass
Leg Bolts	61%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	287.6	388.3	289.6	75%
Axial (Kips)	321.3	433.8	334.3	77%
Shear (Kips)	56.4	76.1	60.2	79%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
183.0	Kaelus DBC0061F1V51-2	AT&T Mobility	0.393	0.031	0.390
	Ericsson RRUS 32 B2				
	Ericsson RRUS 32 B30 (53 lbs)				
	Raycap DC6-48-60-18-8C				
	Quintel QS66512-2				
	CCI HPA-65R-BUU-H6				
	CCI HPA-65R-BUU-H8				
	CCI TPA-65R-LCUUUU-H8				
129.0	RFS PA6-65AC	CT State Police Dept	0.195	0.013	0.171

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

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Standard Conditions

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

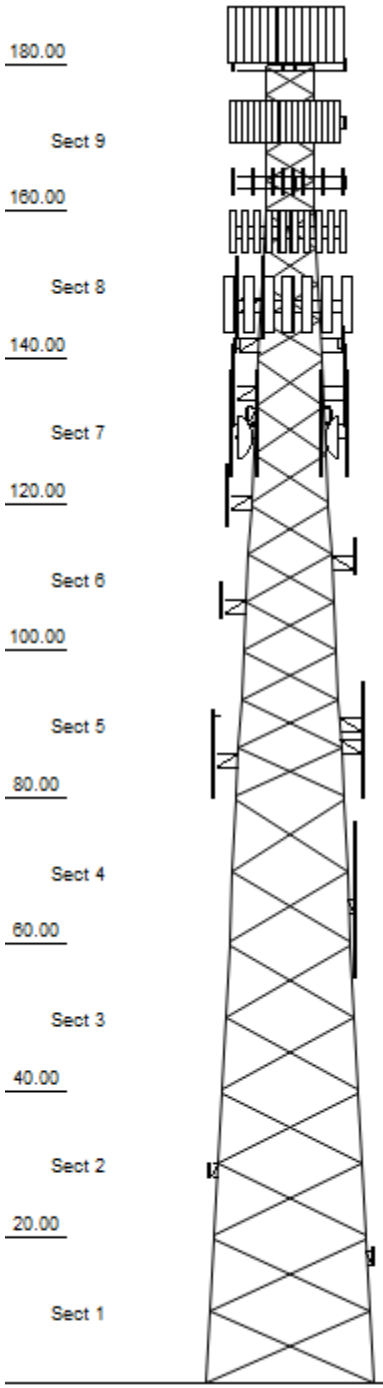
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Loads: 93 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.22 S1: 0.07
60 mph Serviceability

Job Information

Tower : 302522	Location : Redding, CT	Base Width : 23.00 ft
Client : AT&T Mobility		Top Width : 6.65 ft
Code : ANSI/TIA-222-G		Tower Ht : 180.00 ft
		Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 4X4X0.3125	
2	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 4X4X0.25	
3	PX 50 ksi 6" DIA PIPE	SAE 50 ksi 4X4X0.25	
4	PX 50 ksi 6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
5 - 6	PSP 50 ksi ROHN 5 EH	SAE 50 ksi 3X3X0.25	
7	PX 50 ksi 4" DIA PIPE	SAE 50 ksi 2.5X2.5X0.25	
8	PST 50 ksi 3" DIA PIPE	SAE 50 ksi 2X2X0.25	SAE 36 ksi 1.75X1.75X0.1875
9	PST 50 ksi 2-1/2" DIA PIPE	SAE 50 ksi 1.75X1.75X0.1875	SAE 36 ksi 1.75X1.75X0.1875

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
180.00	Panel	3	Kaelus DBC0061F1V51-2
180.00	Panel	1	CCI TPA-65R-LCUUUU-H8
180.00	Panel	1	CCI HPA-65R-BUU-H8
180.00	Panel	2	CCI HPA-65R-BUU-H6
180.00	Panel	2	Quintel QS66512-2
180.00	Panel	3	Ericsson RRUS 32 B30 (53 lbs)
180.00	Panel	3	Ericsson RRUS 32 B2
180.00	Panel	1	Raycap DC6-48-60-18-8C
180.00	Mounting Frame	3	Round Sector Frames
180.00	Panel	3	Powerwave 7770.00
180.00	Panel	3	Ericsson RRUS 11 (Band 12) (55
180.00	Panel	1	Raycap DC6-48-60-18-8F.
180.00		6	Powerwave LGP21401
172.00	Panel	6	Commscope SBNHH-1D65B
172.00	Panel	4	Andrew DB844G65ZAXY
172.00	Panel	2	RFS APL868013-42T0
172.00	Panel	3	Alcatel-Lucent RRH2x60 700
172.00	Panel	3	Alcatel-Lucent B25 RRH4x30
172.00	Panel	3	Alcatel-Lucent RRH2X60-1900
172.00	Panel	2	RFS DB-T1-6Z-8AB-0Z
172.00	Mounting Frame	3	Round Sector Frame
172.00	Panel	6	RFS FD9R6004/1C-3L
164.00	Panel	12	Decibel DB844H90E-XY
164.00	Mounting Frame	3	Round Sector Frame
157.00	Mounting Frame	3	Round Sector Frames
157.00	Panel	3	Commscope DT465B-2XR
157.00	Panel	3	RFS APXVSPP18-C-A20
157.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
157.00	Panel	3	Alcatel-Lucent 1900 MHz 4x45 R
157.00	Panel	3	Alcatel-Lucent 800 MHz RRH
157.00	Panel	3	Alcatel-Lucent RRH2x50-08
148.00	Straight Arm	1	Round Side Arm
148.00	Whip	2	Scala OGT9-840
147.00	Mounting Frame	3	Round Sector Frames
147.00	Panel	3	Andrew LNX-6515DS-VTM
147.00	Panel	3	Ericsson AIR 21, 1.3M, B4A B2P
147.00	Panel	3	Ericsson AIR 21, 1.3M, B2A B4P
147.00	Panel	3	Kathrein Scala Smart Bias Tee
142.50	Panel	2	TX RX Systems 422-86A-99575-18
142.50	Straight Arm	2	Round Side Arm
142.50	Whip	1	Morad VHF 156-DELUXE
136.00	Straight Arm	2	Round Side Arm
136.00	Whip	2	Scala OGT9-840
133.00	Panel	2	24" x 24" Ice Shield
131.00	Straight Arm	2	Round Side Arm

Job Information

Tower : 302522	**Location : Redding, CT**	**Base Width : 23.00 ft**
Client : AT&T Mobility		**Top Width : 6.65 ft**
Code : ANSI/TIA-222-G		**Tower Ht : 180.00 ft**
		Shape : Triangle

131.00	Whip	1	Sinclair SE419-SF3P4LDF.
131.00	Whip	2	Andrew Microwaves DB810K-XT
129.00	Dish	2	RFS PA6-65AC
127.00		1	Bird 432-83H-01-T
127.00	Straight Arm	1	Round Side Arms
121.00	Whip	1	Sinclair SE419-SF3P4LDF
121.00	Straight Arm	1	Round Side Arm
113.00	Straight Arm	1	Round Side Arm
113.00	Whip	1	Decibel DB586
107.00	Straight Arm	1	Round Side Arm
107.00	Whip	1	Decibel DB586
91.00	Straight Arm	1	Stand-Off
91.00	Panel	1	PCTEL GPS-TMG-HR-26N
88.00	Whip	1	Sinclair SD210D
88.00	Straight Arm	1	Stand-Off
86.00	Straight Arm	1	Side Arms
86.00	Whip	1	12' Omni
66.00	Whip	1	Andrew DB264-A
30.00	Whip	1	2" x 4" GPS
18.00	Whip	1	GPS

Linear Appurtenance

Elev (ft) From	To	Qty	Description
0.00	180.00	1	Wave Guide
0.00	180.00	12	1 1/4" Coax
0.00	180.00	2	0.78" (19.7mm) 8 AWG
0.00	180.00	2	0.74" (18.7mm) 8 AWG
0.00	180.00	1	0.39" (10mm) Fiber T
0.00	180.00	1	0.29" Fiber
0.00	172.00	1	Wave Guide
0.00	172.00	2	1 5/8" Hybriflex
0.00	172.00	12	1 5/8" Coax
0.00	164.00	1	Wave Guide
0.00	164.00	12	1 5/8" Coax
0.00	157.00	4	1 1/4" Hybriflex
0.00	148.00	2	1 5/8" Coax
0.00	147.00	1	Wave Guide
0.00	147.00	1	1 5/8" Hybriflex
0.00	147.00	12	1 5/8" Coax
0.00	147.00	1	1 1/4" Hybriflex Cab
0.00	142.50	1	Wave Guide
0.00	142.50	2	3/8" Coax
0.00	142.50	1	1/2" Coax
0.00	136.00	2	1 5/8" Coax
0.00	133.00	1	1 5/8" Coax
0.00	131.00	2	1 5/8" Coax
0.00	129.00	2	EW63
0.00	127.00	1	3/8" Coax
0.00	121.00	1	1 5/8" Coax
0.00	113.00	1	7/8" Coax
0.00	107.00	1	7/8" Coax
0.00	91.00	1	1/2" Coax
0.00	88.00	2	7/8" Coax
0.00	86.00	1	7/8" Coax
0.00	66.00	1	7/8" Coax
0.00	30.00	1	1/2" Coax
0.00	18.00	1	1/2" Coax

Job Information

Tower : 302522	**Location :** Redding, CT	**Base Width :** 23.00 ft
Client : AT&T Mobility		**Top Width :** 6.65 ft
Code : ANSI/TIA-222-G		**Tower Ht :** 180.00 ft
		Shape : Triangle

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	6,268.86	58.69	60.17
DL + WL + IL	2,328.13	180.77	23.19

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
334.29	289.61	36.58

Site Number:	302522	Code:	ANSI/TIA-222-G	
Site Name:	Redding, CT	Engineering Number:	OAA719370_C3_02	1/12/2018 3:44:45 PM
Customer:	AT&T Mobility			

Analysis Parameters

Location:	FAIRFIELD County, CT	Height (ft):	180
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	23.00
Tower Manufacturer:	Rohn	Top Face Width (ft):	6.65
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	93 mph
Exposure Category:	B	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.92				
T_L (sec):	6	p:	1.3	C_S:	0.039
S_S :	0.225	S_1 :	0.067	C_S, Max:	0.039
F_a :	1.600	F_V :	2.400	C_S, Min:	0.030
S_{ds} :	0.240	S_{d1} :	0.107		

Load Cases

1.2D + 1.6W Normal	93 mph Normal with No Ice
1.2D + 1.6W 60 deg	93 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	93 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	93 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	93 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	93 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	93 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	93 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	93 mph 330 degree with No Ice
0.9D + 1.6W Normal	93 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	93 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	93 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 120 deg	93 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	93 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 210 deg	93 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.6W 240 deg	93 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.6W 300 deg	93 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.6W 330 deg	93 mph 330 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice

Analysis Parameters

1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 302522 Code: ANSI/TIA-222-G

Site Name: Redding, CT Engineering Number: OAA719370_C3_02 1/12/2018 3:44:45 PM

Customer: AT&T Mobility

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
180.0	Kaelus	3	26	0.5	0.7	6.5	6.2	0.80	0.50	3.0	55.2	22.10	18	92
180.0	Powerwave	6	14	1.1	1.2	9.2	2.6	0.80	0.50	3.0	238.1	22.10	79	102
180.0	Raycap DC6-48-60-	1	32	2.2	2.0	11.0	11.0	0.80	0.67	3.0	106.3	22.10	35	38
180.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	3.0	365.4	22.10	122	198
180.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	397.3	22.10	132	191
180.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	397.3	22.10	132	191
180.0	Raycap DC6-48-60-	1	16	3.0	1.5	20.1	6.4	0.80	0.67	3.0	147.4	22.10	49	19
180.0	Powerwave 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	3.0	775.2	22.10	258	126
180.0	Quintel QS66512-2	2	111	8.1	6.0	12.0	9.6	0.80	0.74	3.0	868.1	22.10	289	266
180.0	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.1	0.80	0.69	3.0	961.8	22.10	321	122
180.0	CCI HPA-65R-BUU-H8	1	68	13.0	7.7	14.8	7.4	0.80	0.67	3.0	627.4	22.10	209	82
180.0	CCI TPA-65R-	1	82	13.3	8.0	14.4	8.6	0.80	0.69	3.0	662.1	22.10	221	98
180.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	22.00	727	1080
172.0	RFS FD9R6004/1C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	21.72	26	22
172.0	Alcatel-Lucent	3	43	1.9	1.7	11.2	7.2	0.80	0.50	0.0	0.0	21.72	67	155
172.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	21.72	101	191
172.0	Alcatel-Lucent	3	57	2.2	1.8	12.0	9.0	0.80	0.67	0.0	0.0	21.72	102	204
172.0	RFS APL868013-	2	6	3.6	4.0	6.0	8.0	0.80	0.73	0.0	0.0	21.72	125	15
172.0	Andrew	4	12	4.3	4.0	10.0	8.5	0.80	0.75	0.0	0.0	21.72	308	58
172.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	24.0	0.80	0.67	0.0	0.0	21.72	152	106
172.0	Commscope SBNHH-	6	51	8.2	6.1	11.9	7.1	0.80	0.69	0.0	0.0	21.72	799	365
172.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.72	718	1080
164.0	Decibel DB844H90E-	12	14	3.6	4.0	6.5	8.0	0.80	0.74	0.0	0.0	21.42	747	202
164.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.42	708	1080
157.0	Alcatel-Lucent	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	21.16	59	190
157.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.0	21.16	99	191
157.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	21.16	107	216
157.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	0.0	0.0	21.16	187	252
157.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	21.16	382	205
157.0	Commscope	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	21.16	434	209
157.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.16	699	1080
148.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	20.80	128	44
148.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.80	99	180
147.0	Kathrein Scala	3	3	0.1	0.3	3.1	1.7	0.80	0.50	0.0	0.0	20.76	3	12
147.0	Ericsson AIR 21,	3	92	6.0	4.7	12.0	7.8	0.80	0.70	0.0	0.0	20.76	287	329
147.0	Ericsson AIR 21,	3	90	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	20.76	289	325
147.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	20.76	542	185
147.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	20.76	686	1080
142.5	Morad VHF 156-	1	1	0.3	3.3	0.8	0.8	1.00	1.00	0.0	0.0	20.58	7	1
142.5	TX RX Systems 422-	2	40	2.7	1.7	16.0	6.0	1.00	0.67	-0.5	50.0	20.56	100	96
142.5	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.58	195	360
136.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	20.31	125	44
136.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.31	192	360
133.0	24" x 24" Ice Shield	2	50	0.9	0.3	24.0	24.0	1.00	1.00	0.0	0.0	20.18	51	120
131.0	Andrew Microwaves	2	35	4.3	14.5	3.0	3.0	0.90	1.00	0.0	0.0	20.09	214	84
131.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.09	190	360
131.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	0.90	1.00	2.0	471.7	20.18	236	29
129.0	RFS PA6-65AC	2	278	47.0	6.0	72.0	0.0	1.00	1.00	0.0	0.0	20.00	2560	667
127.0	Bird 432-83H-01-T	1	25	1.4	1.2	12.0	7.0	1.00	0.50	0.0	0.0	19.91	19	30
127.0	Round Side Arms	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.91	91	120
121.0	Round Side Arm	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.64	89	120
121.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	1.00	1.00	0.0	0.0	19.64	255	29
113.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	19.26	17	10
113.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.26	91	180

Site Number: 302522 Code: ANSI/TIA-222-G

Site Name: Redding, CT Engineering Number: OAA719370_C3_02 1/12/2018 3:44:45 PM

Customer: AT&T Mobility

Tower Loading

107.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	18.96	17	10
107.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	18.96	90	180
91.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	18.10	2	1
91.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	18.10	74	60
88.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	17.93	73	60
88.00	Sinclair SD210D	1	40	4.4	16.0	41.0	4.0	1.00	1.00	0.0	0.0	17.93	109	48
86.00	12' Omni	1	40	3.6	12.0	3.0	3.0	0.90	1.00	0.0	0.0	17.81	78	48
86.00	Side Arms	1	150	6.3	0.0	0.0	0.0	1.00	0.90	0.0	0.0	17.81	137	180
66.00	Andrew DB264-A	1	36	5.9	21.5	0.0	0.0	1.00	1.00	0.0	0.0	16.52	133	43
30.00	2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	0.60	1.00	0.0	0.0	13.19	0	6
18.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	13.17	18	12
	Totals	153	11532	857.4									15613	13839

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
180.0	Kaelus	3	26	0.5	0.7	6.5	6.2	0.80	0.50	3.0	55.2	22.10	18	69
180.0	Powerwave	6	14	1.1	1.2	9.2	2.6	0.80	0.50	3.0	238.1	22.10	79	76
180.0	Raycap DC6-48-60-	1	32	2.2	2.0	11.0	11.0	0.80	0.67	3.0	106.3	22.10	35	29
180.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	3.0	365.4	22.10	122	149
180.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	397.3	22.10	132	143
180.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	397.3	22.10	132	143
180.0	Raycap DC6-48-60-	1	16	3.0	1.5	20.1	6.4	0.80	0.67	3.0	147.4	22.10	49	14
180.0	Powerwave 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	3.0	775.2	22.10	258	95
180.0	Quintel QS66512-2	2	111	8.1	6.0	12.0	9.6	0.80	0.74	3.0	868.1	22.10	289	200
180.0	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.1	0.80	0.69	3.0	961.8	22.10	321	92
180.0	CCI HPA-65R-BUU-H8	1	68	13.0	7.7	14.8	7.4	0.80	0.67	3.0	627.4	22.10	209	61
180.0	CCI TPA-65R-	1	82	13.3	8.0	14.4	8.6	0.80	0.69	3.0	662.1	22.10	221	73
180.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	22.00	727	810
172.0	RFS FD9R6004/1C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	21.72	26	17
172.0	Alcatel-Lucent	3	43	1.9	1.7	11.2	7.2	0.80	0.50	0.0	0.0	21.72	67	116
172.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	21.72	101	143
172.0	Alcatel-Lucent	3	57	2.2	1.8	12.0	9.0	0.80	0.67	0.0	0.0	21.72	102	153
172.0	RFS APL868013-	2	6	3.6	4.0	6.0	8.0	0.80	0.73	0.0	0.0	21.72	125	11
172.0	Andrew	4	12	4.3	4.0	10.0	8.5	0.80	0.75	0.0	0.0	21.72	308	43
172.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	24.0	0.80	0.67	0.0	0.0	21.72	152	79
172.0	Commscope SBNHH-	6	51	8.2	6.1	11.9	7.1	0.80	0.69	0.0	0.0	21.72	799	274
172.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.72	718	810
164.0	Decibel DB844H90E-	12	14	3.6	4.0	6.5	8.0	0.80	0.74	0.0	0.0	21.42	747	151
164.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.42	708	810
157.0	Alcatel-Lucent	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	21.16	59	143
157.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.0	21.16	99	143
157.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	21.16	107	162
157.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	0.0	0.0	21.16	187	189
157.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	21.16	382	154
157.0	Commscope	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	21.16	434	157
157.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	21.16	699	810
148.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	20.80	128	33
148.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.80	99	135
147.0	Kathrein Scala	3	3	0.1	0.3	3.1	1.7	0.80	0.50	0.0	0.0	20.76	3	9
147.0	Ericsson AIR 21,	3	92	6.0	4.7	12.0	7.8	0.80	0.70	0.0	0.0	20.76	287	247
147.0	Ericsson AIR 21,	3	90	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	20.76	289	244
147.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	20.76	542	139
147.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	20.76	686	810
142.5	Morad VHF 156-	1	1	0.3	3.3	0.8	0.8	1.00	1.00	0.0	0.0	20.58	7	1

Tower Loading

142.5	TX RX Systems 422-	2	40	2.7	1.7	16.0	6.0	1.00	0.67	-0.5	50.0	20.56	100	72
142.5	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.58	195	270
136.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	20.31	125	33
136.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.31	192	270
133.0	24" x 24" Ice Shield	2	50	0.9	0.3	24.0	24.0	1.00	1.00	0.0	0.0	20.18	51	90
131.0	Andrew Microwaves	2	35	4.3	14.5	3.0	3.0	0.90	1.00	0.0	0.0	20.09	214	63
131.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	20.09	190	270
131.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	0.90	1.00	2.0	471.7	20.18	236	22
129.0	RFS PA6-65AC	2	278	47.0	6.0	72.0	0.0	1.00	1.00	0.0	0.0	20.00	2560	500
127.0	Bird 432-83H-01-T	1	25	1.4	1.2	12.0	7.0	1.00	0.50	0.0	0.0	19.91	19	23
127.0	Round Side Arms	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.91	91	90
121.0	Round Side Arm	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.64	89	90
121.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	1.00	1.00	0.0	0.0	19.64	255	22
113.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	19.26	17	7
113.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	19.26	91	135
107.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	18.96	17	7
107.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	18.96	90	135
91.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	18.10	2	1
91.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	18.10	74	45
88.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	17.93	73	45
88.00	Sinclair SD210D	1	40	4.4	16.0	41.0	4.0	1.00	1.00	0.0	0.0	17.93	109	36
86.00	12' Omni	1	40	3.6	12.0	3.0	3.0	0.90	1.00	0.0	0.0	17.81	78	36
86.00	Side Arms	1	150	6.3	0.0	0.0	0.0	1.00	0.90	0.0	0.0	17.81	137	135
66.00	Andrew DB264-A	1	36	5.9	21.5	0.0	0.0	1.00	1.00	0.0	0.0	16.52	133	32
30.00	2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	0.60	1.00	0.0	0.0	13.19	0	5
18.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	13.17	18	9
	Totals	153	11532	857.4									15613	10379

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
180.0	Kaelus	3	52	0.7	0.7	6.5	6.2	0.80	0.50	3.0	14.6	6.39	5	170
180.0	Powerwave	6	39	1.8	1.2	9.2	2.6	0.80	0.50	3.0	71.2	6.39	24	253
180.0	Raycap DC6-48-60-	1	126	2.9	2.0	11.0	11.0	0.80	0.67	3.0	25.0	6.39	8	133
180.0	Ericsson RRUS 11	3	137	3.2	1.5	17.0	7.2	0.80	0.67	3.0	83.2	6.39	28	443
180.0	Ericsson RRUS 32 B2	3	142	3.5	2.3	12.1	7.0	0.80	0.67	3.0	91.3	6.39	30	459
180.0	Ericsson RRUS 32	3	142	3.5	2.3	12.1	7.0	0.80	0.67	3.0	91.3	6.39	30	459
180.0	Raycap DC6-48-60-	1	106	3.8	1.5	20.1	6.4	0.80	0.67	3.0	33.0	6.39	11	109
180.0	Powerwave 7770.00	3	172	6.6	4.6	11.0	5.0	0.80	0.65	3.0	167.2	6.39	56	538
180.0	Quintel QS66512-2	2	342	9.4	6.0	12.0	9.6	0.80	0.74	3.0	182.2	6.39	61	728
180.0	CCI HPA-65R-BUU-H6	2	304	11.0	6.0	14.8	9.1	0.80	0.69	3.0	198.7	6.39	66	628
180.0	CCI HPA-65R-BUU-H8	1	363	14.6	7.7	14.8	7.4	0.80	0.67	3.0	127.6	6.39	43	377
180.0	CCI TPA-65R-	1	398	15.0	8.0	14.4	8.6	0.80	0.69	3.0	134.6	6.39	45	415
180.0	Round Sector	3	673	31.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.36	285	2200
172.0	RFS FD9R6004/1C-3L	6	17	0.6	0.5	6.5	1.5	0.80	0.50	0.0	0.0	6.28	8	103
172.0	Alcatel-Lucent	3	112	2.5	1.7	11.2	7.2	0.80	0.50	0.0	0.0	6.28	16	361
172.0	Alcatel-Lucent B25	3	127	2.8	1.8	12.0	7.2	0.80	0.67	0.0	0.0	6.28	24	414
172.0	Alcatel-Lucent	3	139	2.8	1.8	12.0	9.0	0.80	0.67	0.0	0.0	6.28	24	452
172.0	RFS APL868013-	2	115	3.7	4.0	6.0	8.0	0.80	0.73	0.0	0.0	6.28	23	233
172.0	Andrew	4	152	5.3	4.0	10.0	8.5	0.80	0.75	0.0	0.0	6.28	68	617
172.0	RFS DB-T1-6Z-8AB-	2	273	5.7	2.0	24.0	24.0	0.80	0.67	0.0	0.0	6.28	33	563
172.0	Commscope SBNHH-	6	257	9.5	6.1	11.9	7.1	0.80	0.69	0.0	0.0	6.28	168	1604
172.0	Round Sector Frame	3	673	31.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.28	281	2200
164.0	Decibel DB844H90E-	12	126	3.9	4.0	6.5	8.0	0.80	0.74	0.0	0.0	6.19	147	1551
164.0	Round Sector Frame	3	673	31.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.19	277	2200

Tower Loading

157.0	Alcatel-Lucent	3	124	2.2	1.3	13.0	9.8	0.80	0.50	0.0	0.0	6.12	14	405
157.0	Alcatel-Lucent 800	3	140	2.7	1.6	13.0	10.8	0.80	0.67	0.0	0.0	6.12	23	453
157.0	Alcatel-Lucent 1900	3	155	3.0	2.1	11.1	10.7	0.80	0.67	0.0	0.0	6.12	25	502
157.0	Alcatel-Lucent TD-	3	162	5.7	2.2	18.6	6.7	0.80	0.67	0.0	0.0	6.12	48	527
157.0	RFS APXVSPP18-C-	3	257	9.3	6.0	11.8	7.0	0.80	0.69	0.0	0.0	6.12	80	804
157.0	Commscope	3	288	10.4	6.0	13.8	8.2	0.80	0.69	0.0	0.0	6.12	90	899
157.0	Round Sector	3	669	31.0	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.12	272	2186
148.0	Scala OGT9-840	2	138	6.4	11.4	2.0	2.0	1.00	1.00	0.0	0.0	6.01	65	282
148.0	Round Side Arm	1	223	7.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	6.01	27	253
147.0	Kathrein Scala	3	10	0.2	0.3	3.1	1.7	0.80	0.50	0.0	0.0	6.00	1	32
147.0	Ericsson AIR 21,	3	259	7.1	4.7	12.0	7.8	0.80	0.70	0.0	0.0	6.00	61	831
147.0	Ericsson AIR 21,	3	259	7.2	4.7	12.1	7.9	0.80	0.70	0.0	0.0	6.00	62	832
147.0	Andrew LNX-	3	315	13.1	8.0	11.9	7.1	0.80	0.70	0.0	0.0	6.00	112	975
147.0	Round Sector	3	669	31.0	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.00	267	2186
142.5	Morad VHF 156-	1	25	1.1	3.3	0.8	0.8	1.00	1.00	0.0	0.0	5.95	6	26
142.5	TX RX Systems 422-	2	119	3.3	1.7	16.0	6.0	1.00	0.67	-0.5	11.3	5.94	23	253
142.5	Round Side Arm	2	223	7.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.95	54	507
136.0	Scala OGT9-840	2	135	6.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	5.87	63	277
136.0	Round Side Arm	2	222	7.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.87	53	505
133.0	24" x 24" Ice Shield	2	142	1.9	0.3	24.0	24.0	1.00	1.00	0.0	0.0	5.83	19	303
131.0	Andrew Microwaves	2	143	9.5	14.5	3.0	3.0	0.90	1.00	0.0	0.0	5.81	84	300
131.0	Round Side Arm	2	222	7.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.81	52	505
131.0	Sinclair SE419-	1	248	30.2	8.6	2.9	8.5	0.90	1.00	2.0	269.8	5.83	135	252
129.0	RFS PA6-65AC	2	745	51.6	6.0	72.0	0.0	1.00	1.00	0.0	0.0	5.78	507	1601
127.0	Bird 432-83H-01-T	1	68	2.2	1.2	12.0	7.0	1.00	0.50	0.0	0.0	5.76	5	73
127.0	Round Side Arms	1	148	7.6	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.76	25	168
121.0	Round Side Arm	1	148	6.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.68	22	168
121.0	Sinclair SE419-	1	203	4.8	8.6	2.9	8.5	1.00	1.00	0.0	0.0	5.68	23	208
113.0	Decibel DB586	1	52	2.0	4.9	1.5	1.5	0.90	1.00	0.0	0.0	5.57	8	54
113.0	Round Side Arm	1	221	7.8	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.57	25	251
107.0	Decibel DB586	1	52	2.0	4.9	1.5	1.5	0.90	1.00	0.0	0.0	5.48	8	54
107.0	Round Side Arm	1	221	7.8	0.0	0.0	0.0	1.00	0.67	0.0	0.0	5.48	24	251
91.00	PCTEL GPS-TMG-HR-	1	10	0.3	0.4	3.2	3.2	1.00	1.00	0.0	0.0	5.23	1	11
91.00	Stand-Off	1	106	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.23	22	116
88.00	Stand-Off	1	73	4.1	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.18	18	83
88.00	Sinclair SD210D	1	163	14.9	16.0	41.0	4.0	1.00	1.00	0.0	0.0	5.18	66	171
86.00	12' Omni	1	188	7.5	12.0	3.0	3.0	0.90	1.00	0.0	0.0	5.15	30	196
86.00	Side Arms	1	220	8.6	0.0	0.0	0.0	1.00	0.90	0.0	0.0	5.15	34	250
66.00	Andrew DB264-A	1	208	23.6	21.5	0.0	0.0	1.00	1.00	0.0	0.0	4.77	96	215
30.00	2" x 4" GPS	1	10	0.2	0.2	4.0	2.0	0.60	1.00	0.0	0.0	3.81	0	11
18.00	GPS	1	32	1.5	1.0	9.0	6.0	1.00	1.00	0.0	0.0	3.81	5	34
	Totals	153	32912	1313.9									4314	35218

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
180.0	Kaelus	3	26	0.5	0.7	6.5	6.2	0.80	0.50	3.0	14.4	9.20	5	77
180.0	Powerwave	6	14	1.1	1.2	9.2	2.6	0.80	0.50	3.0	61.9	9.20	21	85
180.0	Raycap DC6-48-60-	1	32	2.2	2.0	11.0	11.0	0.80	0.67	3.0	27.7	9.20	9	32
180.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	3.0	95.1	9.20	32	165
180.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	103.4	9.20	34	159
180.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.67	3.0	103.4	9.20	34	159
180.0	Raycap DC6-48-60-	1	16	3.0	1.5	20.1	6.4	0.80	0.67	3.0	38.4	9.20	13	16
180.0	Powerwave 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	3.0	201.7	9.20	67	105
180.0	Quintel QS66512-2	2	111	8.1	6.0	12.0	9.6	0.80	0.74	3.0	225.8	9.20	75	222

Tower Loading

180.0	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.1	0.80	0.69	3.0	250.2	9.20	83	102
180.0	CCI HPA-65R-BUU-H8	1	68	13.0	7.7	14.8	7.4	0.80	0.67	3.0	163.2	9.20	54	68
180.0	CCI TPA-65R-	1	82	13.3	8.0	14.4	8.6	0.80	0.69	3.0	172.2	9.20	57	82
180.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	9.16	189	900
172.0	RFS FD9R6004/1C-3L	6	3	0.4	0.5	6.5	1.5	0.80	0.50	0.0	0.0	9.04	7	19
172.0	Alcatel-Lucent	3	43	1.9	1.7	11.2	7.2	0.80	0.50	0.0	0.0	9.04	17	129
172.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	9.04	26	159
172.0	Alcatel-Lucent	3	57	2.2	1.8	12.0	9.0	0.80	0.67	0.0	0.0	9.04	27	170
172.0	RFS APL868013-	2	6	3.6	4.0	6.0	8.0	0.80	0.73	0.0	0.0	9.04	32	13
172.0	Andrew	4	12	4.3	4.0	10.0	8.5	0.80	0.75	0.0	0.0	9.04	80	48
172.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	24.0	0.80	0.67	0.0	0.0	9.04	40	88
172.0	Commscope SBNHH-	6	51	8.2	6.1	11.9	7.1	0.80	0.69	0.0	0.0	9.04	208	304
172.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	9.04	187	900
164.0	Decibel DB844H90E-	12	14	3.6	4.0	6.5	8.0	0.80	0.74	0.0	0.0	8.92	194	168
164.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.92	184	900
157.0	Alcatel-Lucent	3	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	8.81	15	159
157.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.67	0.0	0.0	8.81	26	159
157.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	8.81	28	180
157.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.67	0.0	0.0	8.81	49	210
157.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	8.81	99	171
157.0	Commscope	3	58	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	8.81	113	174
157.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.81	182	900
148.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	8.66	33	37
148.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.66	26	150
147.0	Kathrein Scala	3	3	0.1	0.3	3.1	1.7	0.80	0.50	0.0	0.0	8.64	1	10
147.0	Ericsson AIR 21,	3	92	6.0	4.7	12.0	7.8	0.80	0.70	0.0	0.0	8.64	75	275
147.0	Ericsson AIR 21,	3	90	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	8.64	75	271
147.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	8.64	141	154
147.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.64	179	900
142.5	Morad VHF 156-	1	1	0.3	3.3	0.8	0.8	1.00	1.00	0.0	0.0	8.57	2	1
142.5	TX RX Systems 422-	2	40	2.7	1.7	16.0	6.0	1.00	0.67	-0.5	13.0	8.56	26	80
142.5	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.57	51	300
136.0	Scala OGT9-840	2	19	2.3	11.4	2.0	2.0	1.00	1.00	0.0	0.0	8.45	33	37
136.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.45	50	300
133.0	24" x 24" Ice Shield	2	50	0.9	0.3	24.0	24.0	1.00	1.00	0.0	0.0	8.40	13	100
131.0	Andrew Microwaves	2	35	4.3	14.5	3.0	3.0	0.90	1.00	0.0	0.0	8.36	56	70
131.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.36	50	300
131.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	0.90	1.00	2.0	122.7	8.40	61	24
129.0	RFS PA6-65AC	2	278	47.0	6.0	72.0	0.0	1.00	1.00	0.0	0.0	8.33	666	556
127.0	Bird 432-83H-01-T	1	25	1.4	1.2	12.0	7.0	1.00	0.50	0.0	0.0	8.29	5	25
127.0	Round Side Arms	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.29	24	100
121.0	Round Side Arm	1	100	5.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.17	23	100
121.0	Sinclair SE419-	1	24	9.6	8.6	2.9	8.5	1.00	1.00	0.0	0.0	8.17	66	24
113.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	8.02	5	8
113.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.02	24	150
107.0	Decibel DB586	1	8	0.7	4.9	1.5	1.5	0.90	1.00	0.0	0.0	7.89	4	8
107.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.89	23	150
91.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	7.54	1	1
91.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.54	19	50
88.00	Stand-Off	1	50	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.46	19	50
88.00	Sinclair SD210D	1	40	4.4	16.0	41.0	4.0	1.00	1.00	0.0	0.0	7.46	28	40
86.00	12' Omni	1	40	3.6	12.0	3.0	3.0	0.90	1.00	0.0	0.0	7.41	20	40
86.00	Side Arms	1	150	6.3	0.0	0.0	0.0	1.00	0.90	0.0	0.0	7.41	36	150
66.00	Andrew DB264-A	1	36	5.9	21.5	0.0	0.0	1.00	1.00	0.0	0.0	6.87	34	36
30.00	2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	0.60	1.00	0.0	0.0	5.49	0	5
18.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	5.48	5	10

Tower Loading

Totals	153	11532	857.4			4062	11532

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.0	0.29" Fiber	1	0.29	0.03	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	0.39" (10mm) Fiber	1	0.39	0.06	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	180.0	0.74" (18.7mm) 8	2	0.74	0.49	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	0.78" (19.7mm) 8	2	0.78	0.59	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	180.0	1 1/4" Coax	12	1.55	0.63	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	Wave Guide	1	1.50	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	172.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	0.50	1.00	0.00
0.00	172.0	1 5/8" Hybriflex	2	1.98	1.30	0	2	Individual	0.00	N	0.00	1.00	0.01
0.00	172.0	Wave Guide	1	1.50	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	164.0	1 5/8" Coax	12	1.98	0.82	0	1	Individual	0.00	N	0.00	1.00	0.00
0.00	164.0	Wave Guide	1	1.50	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	157.0	1 1/4" Hybriflex	4	1.54	1.00	0	1	Individual	0.00	N	1.00	1.00	0.01
0.00	148.0	1 5/8" Coax	2	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	147.0	1 1/4" Hybriflex	1	1.54	1.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	147.0	1 5/8" Coax	12	1.98	0.82	50	3	Block	0.00	N	0.50	1.00	0.00
0.00	147.0	1 5/8" Hybriflex	1	1.98	1.30	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	147.0	Wave Guide	1	1.50	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	142.5	1/2" Coax	1	0.63	0.15	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	142.5	3/8" Coax	2	0.44	0.08	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	142.5	Wave Guide	1	1.50	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	136.0	1 5/8" Coax	2	1.98	0.82	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	133.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	131.0	1 5/8" Coax	2	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	129.0	EW63	2	2.01	0.51	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	127.0	3/8" Coax	1	0.44	0.08	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	121.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	113.0	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	107.0	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	91.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	88.00	7/8" Coax	2	1.09	0.33	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	86.00	7/8" Coax	1	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	66.00	7/8" Coax	1	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	30.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	18.00	1/2" Coax	1	0.63	0.15	0	Lin App	Individual	0.00	N	1.00	1.00	0.00

Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.22
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s:	0.04
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.21
Total Unfactored Dead Load:	48.91 k
Seismic Base Shear (E):	2.48 k

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,482	733,765	0.060	150	1,849
8	150.00	2,423	1,031,71	0.085	211	3,025
7	130.00	3,437	1,231,03	0.101	251	4,290
6	110.00	4,170	1,220,56	0.100	249	5,205
5	90.00	4,344	997,652	0.082	204	5,421
4	70.00	4,775	809,379	0.067	165	5,959
3	50.00	5,100	575,810	0.047	118	6,365
2	30.00	5,518	336,053	0.028	69	6,886
1	10.00	6,128	98,966	0.008	20	7,647
Kaelus DBC0061F1V51-2	180.00	76	40,592	0.003	8	95
Powerwave LGP21401	180.00	85	44,890	0.004	9	106
Raycap DC6-48-60-18-8F.	180.00	32	16,874	0.001	3	40
Ericsson RRUS 11 (Band 12) (55 lb)	180.00	165	87,552	0.007	18	206
Ericsson RRUS 32 B2	180.00	159	84,369	0.007	17	198
Ericsson RRUS 32 B30 (53 lbs)	180.00	159	84,369	0.007	17	198
Raycap DC6-48-60-18-8C	180.00	16	8,490	0.001	2	20
Powerwave 7770.00	180.00	105	55,715	0.005	11	131
Quintel QS66512-2	180.00	222	117,798	0.010	24	277
CCI HPA-65R-BUU-H6	180.00	102	54,123	0.004	11	127
CCI HPA-65R-BUU-H8	180.00	68	36,082	0.003	7	85
CCI TPA-65R-LCUUUU-H8	180.00	82	43,299	0.004	9	102
Round Sector Frames	180.00	900	477,558	0.039	97	1,123
RFS FD9R6004/1C-3L	172.00	19	9,342	0.001	2	23

Equivalent Lateral Force Method

Alcatel-Lucent RRH2X60-1900	172.00	129	64,792	0.005	13	161
Alcatel-Lucent B25 RRH4x30	172.00	159	79,859	0.007	16	198
Alcatel-Lucent RRH2x60 700	172.00	170	85,435	0.007	17	212
RFS APL868013-42T0	172.00	13	6,328	0.001	1	16
Andrew DB844G65ZAXY	172.00	48	24,109	0.002	5	60
RFS DB-T1-6Z-8AB-0Z	172.00	88	44,199	0.004	9	110
Commscope SBNHH-1D65B	172.00	304	152,788	0.013	31	380
Round Sector Frame	172.00	900	452,035	0.037	92	1,123
Decibel DB844H90E-XY	164.00	168	79,661	0.007	16	210
Round Sector Frame	164.00	900	426,757	0.035	87	1,123
Alcatel-Lucent RRH2x50-08	157.00	159	71,388	0.006	15	198
Alcatel-Lucent 800 MHz RRH	157.00	159	71,523	0.006	15	198
Alcatel-Lucent 1900 MHz 4x45 RRH	157.00	180	80,970	0.007	17	225
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	157.00	210	94,465	0.008	19	262
RFS APXVSPP18-C-A20	157.00	171	76,921	0.006	16	213
Commscope DT465B-2XR	157.00	174	78,271	0.006	16	217
Round Sector Frames	157.00	900	404,849	0.033	83	1,123
Scala OGT9-840	148.00	37	15,498	0.001	3	46
Round Side Arm	148.00	150	62,830	0.005	13	187
Kathrein Scala Smart Bias Tee	147.00	10	4,125	0.000	1	12
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs	147.00	275	114,041	0.009	23	343
Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs	147.00	271	112,670	0.009	23	338
Andrew LNX-6515DS-VTM	147.00	154	63,937	0.005	13	192
Round Sector Frames	147.00	900	373,904	0.031	76	1,123
Morad VHF 156-DELUXE	142.50	1	360	0.000	0	1
TX RX Systems 422-86A-99575-18R1	142.50	80	32,011	0.003	7	100
Round Side Arm	142.50	300	120,040	0.010	24	374
Scala OGT9-840	136.00	37	13,993	0.001	3	46
Round Side Arm	136.00	300	113,456	0.009	23	374
24" x 24" Ice Shield	133.00	100	36,813	0.003	8	125
Andrew Microwaves DB810K-XT	131.00	70	25,302	0.002	5	87
Round Side Arm	131.00	300	108,436	0.009	22	374
Sinclair SE419-SF3P4LDF.	131.00	24	8,675	0.001	2	30
RFS PA6-65AC	129.00	556	197,267	0.016	40	694
Bird 432-83H-01-T	127.00	25	8,704	0.001	2	31
Round Side Arms	127.00	100	34,816	0.003	7	125
Round Side Arm	121.00	100	32,839	0.003	7	125
Sinclair SE419-SF3P4LDF	121.00	24	7,881	0.001	2	30
Decibel DB586	113.00	8	2,509	0.000	1	10
Round Side Arm	113.00	150	45,351	0.004	9	187
Decibel DB586	107.00	8	2,349	0.000	0	10
Round Side Arm	107.00	150	42,458	0.003	9	187
PCTEL GPS-TMG-HR-26N	91.00	1	140	0.000	0	1
Stand-Off	91.00	50	11,637	0.001	2	62
Stand-Off	88.00	50	11,175	0.001	2	62
Sinclair SD210D	88.00	40	8,940	0.001	2	50
12' Omni	86.00	40	8,695	0.001	2	50
Side Arms	86.00	150	32,608	0.003	7	187
Andrew DB264-A	66.00	36	5,684	0.000	1	45
2" x 4" GPS	30.00	5	305	0.000	0	6
GPS	18.00	10	329	0.000	0	12
		48,910	12,150,124	1.000	2,479	61,040

Equivalent Lateral Force Method

LoadCase (0.9 - 0.2Sds) * DL + E Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,482	733,765	0.060	150	1,262
8	150.00	2,423	1,031,71	0.085	211	2,065
7	130.00	3,437	1,231,03	0.101	251	2,929
6	110.00	4,170	1,220,56	0.100	249	3,553
5	90.00	4,344	997,652	0.082	204	3,701
4	70.00	4,775	809,379	0.067	165	4,068
3	50.00	5,100	575,810	0.047	118	4,346
2	30.00	5,518	336,053	0.028	69	4,701
1	10.00	6,128	98,966	0.008	20	5,221
Kaelus DBC0061F1V51-2	180.00	76	40,592	0.003	8	65
Powerwave LGP21401	180.00	85	44,890	0.004	9	72
Raycap DC6-48-60-18-8F.	180.00	32	16,874	0.001	3	27
Ericsson RRUS 11 (Band 12) (55 lb)	180.00	165	87,552	0.007	18	141
Ericsson RRUS 32 B2	180.00	159	84,369	0.007	17	135
Ericsson RRUS 32 B30 (53 lbs)	180.00	159	84,369	0.007	17	135
Raycap DC6-48-60-18-8C	180.00	16	8,490	0.001	2	14
Powerwave 7770.00	180.00	105	55,715	0.005	11	89
Quintel QS66512-2	180.00	222	117,798	0.010	24	189
CCI HPA-65R-BUU-H6	180.00	102	54,123	0.004	11	87
CCI HPA-65R-BUU-H8	180.00	68	36,082	0.003	7	58
CCI TPA-65R-LCUUUU-H8	180.00	82	43,299	0.004	9	70
Round Sector Frames	180.00	900	477,558	0.039	97	767
RFS FD9R6004/1C-3L	172.00	19	9,342	0.001	2	16
Alcatel-Lucent RRH2X60-1900	172.00	129	64,792	0.005	13	110
Alcatel-Lucent B25 RRH4x30	172.00	159	79,859	0.007	16	135
Alcatel-Lucent RRH2x60 700	172.00	170	85,435	0.007	17	145
RFS APL868013-42T0	172.00	13	6,328	0.001	1	11
Andrew DB844G65ZAXY	172.00	48	24,109	0.002	5	41
RFS DB-T1-6Z-8AB-0Z	172.00	88	44,199	0.004	9	75
Commscope SBNHH-1D65B	172.00	304	152,788	0.013	31	259
Round Sector Frame	172.00	900	452,035	0.037	92	767
Decibel DB844H90E-XY	164.00	168	79,661	0.007	16	143
Round Sector Frame	164.00	900	426,757	0.035	87	767
Alcatel-Lucent RRH2x50-08	157.00	159	71,388	0.006	15	135
Alcatel-Lucent 800 MHz RRH	157.00	159	71,523	0.006	15	135
Alcatel-Lucent 1900 MHz 4x45 RRH	157.00	180	80,970	0.007	17	153
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	157.00	210	94,465	0.008	19	179
RFS APXVSPP18-C-A20	157.00	171	76,921	0.006	16	146
Commscope DT465B-2XR	157.00	174	78,271	0.006	16	148
Round Sector Frames	157.00	900	404,849	0.033	83	767
Scala OGT9-840	148.00	37	15,498	0.001	3	32
Round Side Arm	148.00	150	62,830	0.005	13	128
Kathrein Scala Smart Bias Tee	147.00	10	4,125	0.000	1	8
Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs	147.00	275	114,041	0.009	23	234
Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs	147.00	271	112,670	0.009	23	231
Andrew LNX-6515DS-VTM	147.00	154	63,937	0.005	13	131
Round Sector Frames	147.00	900	373,904	0.031	76	767
Morad VHF 156-DELUXE	142.50	1	360	0.000	0	1
TX RX Systems 422-86A-99575-18R1	142.50	80	32,011	0.003	7	68
Round Side Arm	142.50	300	120,040	0.010	24	256

Equivalent Lateral Force Method

Scala OGT9-840	136.00	37	13,993	0.001	3	32
Round Side Arm	136.00	300	113,456	0.009	23	256
24" x 24" Ice Shield	133.00	100	36,813	0.003	8	85
Andrew Microwaves DB810K-XT	131.00	70	25,302	0.002	5	60
Round Side Arm	131.00	300	108,436	0.009	22	256
Sinclair SE419-SF3P4LDF.	131.00	24	8,675	0.001	2	20
RFS PA6-65AC	129.00	556	197,267	0.016	40	474
Bird 432-83H-01-T	127.00	25	8,704	0.001	2	21
Round Side Arms	127.00	100	34,816	0.003	7	85
Round Side Arm	121.00	100	32,839	0.003	7	85
Sinclair SE419-SF3P4LDF	121.00	24	7,881	0.001	2	20
Decibel DB586	113.00	8	2,509	0.000	1	7
Round Side Arm	113.00	150	45,351	0.004	9	128
Decibel DB586	107.00	8	2,349	0.000	0	7
Round Side Arm	107.00	150	42,458	0.003	9	128
PCTEL GPS-TMG-HR-26N	91.00	1	140	0.000	0	1
Stand-Off	91.00	50	11,637	0.001	2	43
Stand-Off	88.00	50	11,175	0.001	2	43
Sinclair SD210D	88.00	40	8,940	0.001	2	34
12' Omni	86.00	40	8,695	0.001	2	34
Side Arms	86.00	150	32,608	0.003	7	128
Andrew DB264-A	66.00	36	5,684	0.000	1	31
2" x 4" GPS	30.00	5	305	0.000	0	4
GPS	18.00	10	329	0.000	0	9
		48,910	12,150,124	1.000	2,479	41,672

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.22
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	0.92
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,482	1.686	1.069	0.793	0.347	223	1,849
8	150.00	2,423	1.312	0.138	0.347	0.141	148	3,025
7	130.00	3,437	0.986	-0.113	0.124	0.048	72	4,290
6	110.00	4,170	0.706	-0.089	0.031	0.037	66	5,205
5	90.00	4,344	0.472	-0.006	0.006	0.052	97	5,421
4	70.00	4,775	0.286	0.048	0.013	0.056	115	5,959
3	50.00	5,100	0.146	0.068	0.031	0.048	105	6,365
2	30.00	5,518	0.053	0.071	0.042	0.038	91	6,886
1	10.00	6,128	0.006	0.047	0.027	0.023	60	7,647
Kaelus DBC0061F1V51-2	180.00	76	1.890	1.980	1.140	0.497	16	95
Powerwave LGP21401	180.00	85	1.890	1.980	1.140	0.497	18	106
Raycap DC6-48-60-18-8F.	180.00	32	1.890	1.980	1.140	0.497	7	40
Ericsson RRUS 11 (Band 12) (55	180.00	165	1.890	1.980	1.140	0.497	36	206
Ericsson RRUS 32 B2	180.00	159	1.890	1.980	1.140	0.497	34	198
Ericsson RRUS 32 B30 (53 lbs)	180.00	159	1.890	1.980	1.140	0.497	34	198
Raycap DC6-48-60-18-8C	180.00	16	1.890	1.980	1.140	0.497	3	20
Powerwave 7770.00	180.00	105	1.890	1.980	1.140	0.497	23	131
Quintel QS66512-2	180.00	222	1.890	1.980	1.140	0.497	48	277
CCI HPA-65R-BUU-H6	180.00	102	1.890	1.980	1.140	0.497	22	127
CCI HPA-65R-BUU-H8	180.00	68	1.890	1.980	1.140	0.497	15	85
CCI TPA-65R-LCUUUU-H8	180.00	82	1.890	1.980	1.140	0.497	18	102
Round Sector Frames	180.00	900	1.890	1.980	1.140	0.497	194	1,123
RFS FD9R6004/1C-3L	172.00	19	1.726	1.222	0.855	0.375	3	23
Alcatel-Lucent RRH2X60-1900	172.00	129	1.726	1.222	0.855	0.375	21	161
Alcatel-Lucent B25 RRH4x30	172.00	159	1.726	1.222	0.855	0.375	26	198
Alcatel-Lucent RRH2x60 700	172.00	170	1.726	1.222	0.855	0.375	28	212
RFS APL868013-42T0	172.00	13	1.726	1.222	0.855	0.375	2	16
Andrew DB844G65ZAXY	172.00	48	1.726	1.222	0.855	0.375	8	60
RFS DB-T1-6Z-8AB-0Z	172.00	88	1.726	1.222	0.855	0.375	14	110
Commscope SBNHH-1D65B	172.00	304	1.726	1.222	0.855	0.375	49	380
Round Sector Frame	172.00	900	1.726	1.222	0.855	0.375	146	1,123
Decibel DB844H90E-XY	164.00	168	1.569	0.685	0.629	0.273	20	210
Round Sector Frame	164.00	900	1.569	0.685	0.629	0.273	106	1,123
Alcatel-Lucent RRH2x50-08	157.00	159	1.438	0.359	0.472	0.200	14	198
Alcatel-Lucent 800 MHz RRH	157.00	159	1.438	0.359	0.472	0.200	14	198
Alcatel-Lucent 1900 MHz 4x45	157.00	180	1.438	0.359	0.472	0.200	16	225
Alcatel-Lucent TD-RRH8x20-25	157.00	210	1.438	0.359	0.472	0.200	18	262
RFS APXVSPP18-C-A20	157.00	171	1.438	0.359	0.472	0.200	15	213

Equivalent Modal Analysis Method

Commscope DT465B-2XR	157.00	174	1.438	0.359	0.472	0.200	15	217
Round Sector Frames	157.00	900	1.438	0.359	0.472	0.200	78	1,123
Scala OGT9-840	148.00	37	1.278	0.091	0.317	0.127	2	46
Round Side Arm	148.00	150	1.278	0.091	0.317	0.127	8	187
Kathrein Scala Smart Bias Tee	147.00	10	1.261	0.069	0.302	0.121	1	12
Ericsson AIR 21, 1.3M, B2A B4P	147.00	275	1.261	0.069	0.302	0.121	14	343
Ericsson AIR 21, 1.3M, B4A B2P	147.00	271	1.261	0.069	0.302	0.121	14	338
Andrew LNX-6515DS-VTM	147.00	154	1.261	0.069	0.302	0.121	8	192
Round Sector Frames	147.00	900	1.261	0.069	0.302	0.121	47	1,123
Morad VHF 156-DELUXE	142.50	1	1.185	-0.009	0.243	0.094	0	1
TX RX Systems 422-86A-99575-	142.50	80	1.185	-0.009	0.243	0.094	3	100
Round Side Arm	142.50	300	1.185	-0.009	0.243	0.094	12	374
Scala OGT9-840	136.00	37	1.079	-0.081	0.174	0.066	1	46
Round Side Arm	136.00	300	1.079	-0.081	0.174	0.066	9	374
24" x 24" Ice Shield	133.00	100	1.032	-0.101	0.148	0.056	2	125
Andrew Microwaves DB810K-XT	131.00	70	1.001	-0.110	0.132	0.051	2	87
Round Side Arm	131.00	300	1.001	-0.110	0.132	0.051	7	374
Sinclair SE419-SF3P4LDF.	131.00	24	1.001	-0.110	0.132	0.051	1	30
RFS PA6-65AC	129.00	556	0.971	-0.116	0.117	0.046	11	694
Bird 432-83H-01-T	127.00	25	0.941	-0.120	0.104	0.043	0	31
Round Side Arms	127.00	100	0.941	-0.120	0.104	0.043	2	125
Round Side Arm	121.00	100	0.854	-0.120	0.071	0.036	2	125
Sinclair SE419-SF3P4LDF	121.00	24	0.854	-0.120	0.071	0.036	0	30
Decibel DB586	113.00	8	0.745	-0.100	0.039	0.035	0	10
Round Side Arm	113.00	150	0.745	-0.100	0.039	0.035	2	187
Decibel DB586	107.00	8	0.668	-0.077	0.024	0.038	0	10
Round Side Arm	107.00	150	0.668	-0.077	0.024	0.038	3	187
PCTEL GPS-TMG-HR-26N	91.00	1	0.483	-0.010	0.006	0.051	0	1
Stand-Off	91.00	50	0.483	-0.010	0.006	0.051	1	62
Stand-Off	88.00	50	0.452	0.001	0.006	0.053	1	62
Sinclair SD210D	88.00	40	0.452	0.001	0.006	0.053	1	50
12' Omni	86.00	40	0.431	0.008	0.006	0.054	1	50
Side Arms	86.00	150	0.431	0.008	0.006	0.054	3	187
Andrew DB264-A	66.00	36	0.254	0.055	0.017	0.055	1	45
2" x 4" GPS	30.00	5	0.053	0.071	0.042	0.038	0	6
GPS	18.00	10	0.019	0.063	0.037	0.031	0	12
		48,910	88.006	41.010	32.981	14.831	2,197	61,040

LoadCase (0.9 - 0.2Sds) * DL + E Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,482	1.686	1.069	0.793	0.347	223	1,262
8	150.00	2,423	1.312	0.138	0.347	0.141	148	2,065
7	130.00	3,437	0.986	-0.113	0.124	0.048	72	2,929
6	110.00	4,170	0.706	-0.089	0.031	0.037	66	3,553
5	90.00	4,344	0.472	-0.006	0.006	0.052	97	3,701
4	70.00	4,775	0.286	0.048	0.013	0.056	115	4,068
3	50.00	5,100	0.146	0.068	0.031	0.048	105	4,346
2	30.00	5,518	0.053	0.071	0.042	0.038	91	4,701
1	10.00	6,128	0.006	0.047	0.027	0.023	60	5,221
Kaelus DBC0061F1V51-2	180.00	76	1.890	1.980	1.140	0.497	16	65
Powerwave LGP21401	180.00	85	1.890	1.980	1.140	0.497	18	72
Raycap DC6-48-60-18-8F.	180.00	32	1.890	1.980	1.140	0.497	7	27
Ericsson RRUS 11 (Band 12) (55	180.00	165	1.890	1.980	1.140	0.497	36	141
Ericsson RRUS 32 B2	180.00	159	1.890	1.980	1.140	0.497	34	135
Ericsson RRUS 32 B30 (53 lbs)	180.00	159	1.890	1.980	1.140	0.497	34	135
Raycap DC6-48-60-18-8C	180.00	16	1.890	1.980	1.140	0.497	3	14
Powerwave 7770.00	180.00	105	1.890	1.980	1.140	0.497	23	89
Quintel QS66512-2	180.00	222	1.890	1.980	1.140	0.497	48	189
CCI HPA-65R-BUU-H6	180.00	102	1.890	1.980	1.140	0.497	22	87
CCI HPA-65R-BUU-H8	180.00	68	1.890	1.980	1.140	0.497	15	58
CCI TPA-65R-LCUUUU-H8	180.00	82	1.890	1.980	1.140	0.497	18	70

Equivalent Modal Analysis Method

Round Sector Frames	180.00	900	1.890	1.980	1.140	0.497	194	767
RFS FD9R6004/1C-3L	172.00	19	1.726	1.222	0.855	0.375	3	16
Alcatel-Lucent RRH2X60-1900	172.00	129	1.726	1.222	0.855	0.375	21	110
Alcatel-Lucent B25 RRH4x30	172.00	159	1.726	1.222	0.855	0.375	26	135
Alcatel-Lucent RRH2x60 700	172.00	170	1.726	1.222	0.855	0.375	28	145
RFS APL868013-42T0	172.00	13	1.726	1.222	0.855	0.375	2	11
Andrew DB844G65ZAXY	172.00	48	1.726	1.222	0.855	0.375	8	41
RFS DB-T1-6Z-8AB-0Z	172.00	88	1.726	1.222	0.855	0.375	14	75
Commscope SBNHH-1D65B	172.00	304	1.726	1.222	0.855	0.375	49	259
Round Sector Frame	172.00	900	1.726	1.222	0.855	0.375	146	767
Decibel DB844H90E-XY	164.00	168	1.569	0.685	0.629	0.273	20	143
Round Sector Frame	164.00	900	1.569	0.685	0.629	0.273	106	767
Alcatel-Lucent RRH2x50-08	157.00	159	1.438	0.359	0.472	0.200	14	135
Alcatel-Lucent 800 MHz RRH	157.00	159	1.438	0.359	0.472	0.200	14	135
Alcatel-Lucent 1900 MHz 4x45	157.00	180	1.438	0.359	0.472	0.200	16	153
Alcatel-Lucent TD-RRH8x20-25	157.00	210	1.438	0.359	0.472	0.200	18	179
RFS APXVSPP18-C-A20	157.00	171	1.438	0.359	0.472	0.200	15	146
Commscope DT465B-2XR	157.00	174	1.438	0.359	0.472	0.200	15	148
Round Sector Frames	157.00	900	1.438	0.359	0.472	0.200	78	767
Scala OGT9-840	148.00	37	1.278	0.091	0.317	0.127	2	32
Round Side Arm	148.00	150	1.278	0.091	0.317	0.127	8	128
Kathrein Scala Smart Bias Tee	147.00	10	1.261	0.069	0.302	0.121	1	8
Ericsson AIR 21, 1.3M, B2A B4P	147.00	275	1.261	0.069	0.302	0.121	14	234
Ericsson AIR 21, 1.3M, B4A B2P	147.00	271	1.261	0.069	0.302	0.121	14	231
Andrew LNX-6515DS-VTM	147.00	154	1.261	0.069	0.302	0.121	8	131
Round Sector Frames	147.00	900	1.261	0.069	0.302	0.121	47	767
Morad VHF 156-DELUXE	142.50	1	1.185	-0.009	0.243	0.094	0	1
TX RX Systems 422-86A-99575-	142.50	80	1.185	-0.009	0.243	0.094	3	68
Round Side Arm	142.50	300	1.185	-0.009	0.243	0.094	12	256
Scala OGT9-840	136.00	37	1.079	-0.081	0.174	0.066	1	32
Round Side Arm	136.00	300	1.079	-0.081	0.174	0.066	9	256
24" x 24" Ice Shield	133.00	100	1.032	-0.101	0.148	0.056	2	85
Andrew Microwaves DB810K-XT	131.00	70	1.001	-0.110	0.132	0.051	2	60
Round Side Arm	131.00	300	1.001	-0.110	0.132	0.051	7	256
Sinclair SE419-SF3P4LDF.	131.00	24	1.001	-0.110	0.132	0.051	1	20
RFS PA6-65AC	129.00	556	0.971	-0.116	0.117	0.046	11	474
Bird 432-83H-01-T	127.00	25	0.941	-0.120	0.104	0.043	0	21
Round Side Arms	127.00	100	0.941	-0.120	0.104	0.043	2	85
Round Side Arm	121.00	100	0.854	-0.120	0.071	0.036	2	85
Sinclair SE419-SF3P4LDF	121.00	24	0.854	-0.120	0.071	0.036	0	20
Decibel DB586	113.00	8	0.745	-0.100	0.039	0.035	0	7
Round Side Arm	113.00	150	0.745	-0.100	0.039	0.035	2	128
Decibel DB586	107.00	8	0.668	-0.077	0.024	0.038	0	7
Round Side Arm	107.00	150	0.668	-0.077	0.024	0.038	3	128
PCTEL GPS-TMG-HR-26N	91.00	1	0.483	-0.010	0.006	0.051	0	1
Stand-Off	91.00	50	0.483	-0.010	0.006	0.051	1	43
Stand-Off	88.00	50	0.452	0.001	0.006	0.053	1	43
Sinclair SD210D	88.00	40	0.452	0.001	0.006	0.053	1	34
12' Omni	86.00	40	0.431	0.008	0.006	0.054	1	34
Side Arms	86.00	150	0.431	0.008	0.006	0.054	3	128
Andrew DB264-A	66.00	36	0.254	0.055	0.017	0.055	1	31
2" x 4" GPS	30.00	5	0.053	0.071	0.042	0.038	0	4
GPS	18.00	10	0.019	0.063	0.037	0.031	0	9
		48,910	88.006	41.010	32.981	14.831	2,197	41,672

Force/Stress Summary

Section: 1 SSV Bot Elev (ft): 0.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-325.49	1.2D + 1.6W	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	83	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.3125	-11.11	1.2D + 1.6W 90	24.51	50	50	50	188.3	50.0	15.29	1	1	17.89	29.25	72	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	290.94	0.9D + 1.6W 60	50	65	437.40	0	0	0.00	0.00		66	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.3125	11.62	1.2D + 1.6W 90	50	65	77.75	1	1	17.89	17.67	22.47	65	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	261.07	0.9D + 1.6W 180	0.00	0	0	
Top Compression	300.83	1.2D + 1.6W	0.00	0		
Bot Tension	291.41	0.9D + 1.6W 180	605.70	58	10	1" A354-BC
Bot Compression	335.34	1.2D + 1.6W	0.00	0		

Section: 2 SSV Bot Elev (ft): 20.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	-289.97	1.2D + 1.6W	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	74	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-11.34	1.2D + 1.6W 90	22.69	50	50	50	171.3	43.5	14.94	1	1	17.89	23.40	75	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 8 EHS	260.93	0.9D + 1.6W 60	50	65	437.40	0	0	0.00	0.00		59	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	11.32	1.2D + 1.6W 90	50	65	62.93	1	1	17.89	14.14	17.98	80	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	228.69	0.9D + 1.6W 180	0.00	0	0	
Top Compression	263.13	1.2D + 1.6W	0.00	0		
Bot Tension	261.07	0.9D + 1.6W 180	436.16	60	8	1 A325
Bot Compression	300.83	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 3 SSV Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	-252.86	1.2D + 1.6W	9.77	100	100	100	53.4	50.0	306.85	0	0	0.00	0.00	82	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-10.61	1.2D + 1.6W 90	19.95	50	50	50	150.6	43.5	19.33	1	1	17.89	23.40	59	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	228.58	0.9D + 1.6W 60	50	65	378.00	0	0	0.00	0.00		60	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	10.28	1.2D + 1.6W 90	50	65	62.93	1	1	17.89	14.14	17.98	72	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	196.57	0.9D + 1.6W 180	0.00	0	0	
Top Compression	225.94	1.2D + 1.6W	0.00	0		
Bot Tension	228.69	0.9D + 1.6W 180	436.16	52	8	1 A325
Bot Compression	263.13	1.2D + 1.6W	0.00	0		

Section: 4 SSV Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	-214.59	1.2D + 1.6W	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	69	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-10.38	1.2D + 1.6W 90	19.03	50	50	50	166.0	50.0	13.86	1	1	17.89	23.40	74	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	196.88	0.9D + 1.6W 180	50	65	378.00	0	0	0.00	0.00		52	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	10.38	1.2D + 1.6W 90	50	65	53.79	1	1	17.89	14.14	17.98	73	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	160.61	0.9D + 1.6W 180	0.00	0	0	
Top Compression	185.13	1.2D + 1.6W	0.00	0		
Bot Tension	196.57	0.9D + 1.6W 180	327.12	60	6	1 A325
Bot Compression	225.94	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 5 SSV Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 5 EH	-176.93	1.2D + 1.6W	6.51	100	100	100	42.5	50.0	240.99	0	0	0.00	0.00	73	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-9.02	1.2D + 1.6W 90	15.89	50	50	50	161.1	50.0	12.54	1	1	17.89	23.40	71	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 5 EH	160.24	0.9D + 1.6W 60	50	65	274.95	0	0	0.00	0.00		58	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	8.90	1.2D + 1.6W 90	50	65	44.65	1	1	17.89	14.14	14.93	62	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	123.84	0.9D + 1.6W 180	0.00	0	0	
Top Compression	143.54	1.2D + 1.6W	0.00	0		
Bot Tension	160.61	0.9D + 1.6W 180	327.12	49	6	1 A325
Bot Compression	185.13	1.2D + 1.6W	0.00	0		

Section: 6 SSV Bot Elev (ft): 100.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PSP - ROHN 5 EH	-135.27	1.2D + 1.6W	6.51	100	100	100	42.5	50.0	240.99	0	0	0.00	0.00	56	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-8.35	1.2D + 1.6W 90	14.07	50	50	50	142.7	50.0	15.99	1	1	17.89	23.40	52	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PSP - ROHN 5 EH	124.07	0.9D + 1.6W 180	50	65	274.95	0	0	0.00	0.00		45	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	8.49	1.2D + 1.6W 90	50	65	44.65	1	1	17.89	14.14	14.93	60	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	84.56	0.9D + 1.6W 180	0.00	0	0	
Top Compression	99.92	1.2D + 1.6W	0.00	0		
Bot Tension	123.84	0.9D + 1.6W 180	327.12	38	6	1 A325
Bot Compression	143.54	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 7 SSV Bot Elev (ft): 120.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	-91.52	1.2D + 1.6W	6.51	100	100	100	52.8	50.0	161.86	0	0	0.00	0.00	56	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	-7.42	1.2D + 1.6W 90	12.32	50	50	50	150.6	50.0	11.85	1	1	17.89	23.40	62	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 4" DIA PIPE	83.84	0.9D + 1.6W 60	50	65	198.45	0	0	0.00	0.00		42	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.25	7.36	1.2D + 1.6W 90	50	65	35.51	1	1	17.89	14.14	13.41	54	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	48.41	0.9D + 1.6W 180	0.00	0	0	
Top Compression	59.16	1.2D + 1.6W	0.00	0		
Bot Tension	84.56	0.9D + 1.6W 180	218.08	39	4	1 A325
Bot Compression	99.92	1.2D + 1.6W	0.00	0		

Section: 8 SSV Bot Elev (ft): 140.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 3" DIA PIPE	-53.67	1.2D + 1.6W	4.88	100	100	100	50.5	50.0	83.27	0	0	0.00	0.00	64	Member X
HORIZ SAE - 1.75X1.75X0.18	-0.37	1.2D + 1.6W	6.688	100	100	100	234.0	36.0	2.56	1	1	12.43	13.05	14	Member Z
DIAG SAE - 2X2X0.25	-5.04	1.2D + 1.6W 90	9.784	50	50	50	150.1	50.0	9.42	1	1	12.43	19.50	53	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 3" DIA PIPE	48.60	0.9D + 1.6W 180	50	65	100.35	0	0	0.00	0.00		48	Member
HORIZ SAE - 1.75X1.75X0.18	0.38	1.2D + 1.6W 180	36	58	15.67	1	1	12.43	7.83	5.81	6	Blk Shear
DIAG SAE - 2X2X0.25	5.01	1.2D + 1.6W 90	50	65	27.51	1	1	12.43	11.70	10.21	49	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	19.39	0.9D + 1.6W 180	0.00	0	0	
Top Compression	24.59	1.2D + 1.6W	0.00	0		
Bot Tension	48.41	0.9D + 1.6W 180	166.24	29	4	7/8 A325
Bot Compression	59.16	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 9 SSV Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	-20.65	1.2D + 1.6W	3.90	100	100	100	49.4	50.0	64.14	0	0	0.00	0.00	32	Member X
HORIZ SAE - 1.75X1.75X0.18	-1.18	1.2D + 1.6W	6.646	100	100	100	232.5	36.0	2.59	1	1	12.43	13.05	45	Member Z
DIAG SAE - 1.75X1.75X0.18	-3.73	1.2D + 1.6W	7.738	50	50	50	135.4	50.0	7.66	1	1	12.43	14.63	48	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 2-1/2" DIA PIP	19.29	0.9D + 1.6W 180	50	65	76.68	0	0	0.00	0.00		25	Member
HORIZ SAE - 1.75X1.75X0.18	1.22	1.2D + 1.6W	36	58	15.67	1	1	12.43	7.83	5.81	21	Blk Shear
DIAG SAE - 1.75X1.75X0.18	3.65	1.2D + 1.6W 210	50	65	17.56	1	1	12.43	8.77	6.51	56	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	2.68	1.2D + 1.0Di +	0.00	0		
Bot Tension	19.39	0.9D + 1.6W 180	120.40	16	4	3/4 A325
Bot Compression	24.59	1.2D + 1.6W	0.00	0		

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**334.29**	**-36.58**	
	13.28	**00.00**	**120**	**1a**	**12.32**	**-137.80**	**-11.80**	
	13.28	**00.00**	**240**	**1b**	**-12.32**	**-137.80**	**-11.80**	
1.2D + 1.6W 60 deg	**13.28**	**00.00**	**0**	**1**	**-3.81**	**171.90**	**-18.22**	
	13.28	**00.00**	**120**	**1a**	**-17.67**	**171.44**	**5.81**	
	13.28	**00.00**	**240**	**1b**	**-28.56**	**-284.65**	**-16.48**	
1.2D + 1.6W 90 deg	**13.28**	**00.00**	**0**	**1**	**-4.49**	**19.57**	**-1.18**	
	13.28	**00.00**	**120**	**1a**	**-27.92**	**285.06**	**13.56**	
	13.28	**00.00**	**240**	**1b**	**-25.98**	**-245.94**	**-12.38**	
1.2D + 1.6W 120 deg	**13.28**	**00.00**	**0**	**1**	**-4.07**	**-137.80**	**16.57**	
	13.28	**00.00**	**120**	**1a**	**-31.67**	**333.83**	**18.28**	
	13.28	**00.00**	**240**	**1b**	**-16.37**	**-137.34**	**-4.76**	
1.2D + 1.6W 180 deg	**13.28**	**00.00**	**0**	**1**	**0.00**	**-285.11**	**32.99**	
	13.28	**00.00**	**120**	**1a**	**-13.88**	**171.90**	**12.40**	
	13.28	**00.00**	**240**	**1b**	**13.88**	**171.90**	**12.40**	
1.2D + 1.6W 210 deg	**13.28**	**00.00**	**0**	**1**	**2.27**	**-246.47**	**28.70**	
	13.28	**00.00**	**120**	**1a**	**1.21**	**19.84**	**4.47**	
	13.28	**00.00**	**240**	**1b**	**25.71**	**285.33**	**17.39**	
1.2D + 1.6W 240 deg	**13.28**	**00.00**	**0**	**1**	**4.07**	**-137.80**	**16.57**	
	13.28	**00.00**	**120**	**1a**	**16.37**	**-137.34**	**-4.76**	
	13.28	**00.00**	**240**	**1b**	**31.67**	**333.83**	**18.28**	
1.2D + 1.6W 300 deg	**13.28**	**00.00**	**0**	**1**	**3.81**	**171.90**	**-18.22**	
	13.28	**00.00**	**120**	**1a**	**28.56**	**-284.65**	**-16.48**	
	13.28	**00.00**	**240**	**1b**	**17.67**	**171.44**	**5.81**	
1.2D + 1.6W 330 deg	**13.28**	**00.00**	**0**	**1**	**2.22**	**285.59**	**-30.97**	
	13.28	**00.00**	**120**	**1a**	**23.72**	**-246.20**	**-16.30**	
	13.28	**00.00**	**240**	**1b**	**3.25**	**19.30**	**-3.29**	
0.9D + 1.6W Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**328.99**	**-36.26**	
	13.28	**00.00**	**120**	**1a**	**12.59**	**-142.49**	**-11.96**	
	13.28	**00.00**	**240**	**1b**	**-12.59**	**-142.49**	**-11.96**	
0.9D + 1.6W 60 deg	**13.28**	**00.00**	**0**	**1**	**-3.81**	**166.81**	**-17.90**	
	13.28	**00.00**	**120**	**1a**	**-17.40**	**166.35**	**5.65**	
	13.28	**00.00**	**240**	**1b**	**-28.83**	**-289.15**	**-16.64**	
0.9D + 1.6W 90 deg	**13.28**	**00.00**	**0**	**1**	**-4.49**	**14.68**	**-0.86**	
	13.28	**00.00**	**120**	**1a**	**-27.64**	**279.83**	**13.40**	
	13.28	**00.00**	**240**	**1b**	**-26.25**	**-250.49**	**-12.53**	
0.9D + 1.6W 120 deg	**13.28**	**00.00**	**0**	**1**	**-4.07**	**-142.49**	**16.88**	
	13.28	**00.00**	**120**	**1a**	**-31.39**	**328.53**	**18.12**	
	13.28	**00.00**	**240**	**1b**	**-16.65**	**-142.03**	**-4.91**	
0.9D + 1.6W 180 deg	**13.28**	**00.00**	**0**	**1**	**0.00**	**-289.61**	**33.30**	
	13.28	**00.00**	**120**	**1a**	**-13.60**	**166.81**	**12.24**	
	13.28	**00.00**	**240**	**1b**	**13.60**	**166.81**	**12.24**	
0.9D + 1.6W 210 deg	**13.28**	**00.00**	**0**	**1**	**2.27**	**-251.02**	**29.01**	
	13.28	**00.00**	**120**	**1a**	**1.49**	**14.94**	**4.32**	

	13.28	00.00	240	1b	25.43	280.09	17.24
0.9D + 1.6W 240 deg	13.28	00.00	0	1	4.07	-142.49	16.88
	13.28	00.00	120	1a	16.65	-142.03	-4.91
	13.28	00.00	240	1b	31.39	328.53	18.12
0.9D + 1.6W 300 deg	13.28	00.00	0	1	3.81	166.81	-17.90
	13.28	00.00	120	1a	28.83	-289.15	-16.64
	13.28	00.00	240	1b	17.40	166.35	5.65
0.9D + 1.6W 330 deg	13.28	00.00	0	1	2.22	280.36	-30.65
	13.28	00.00	120	1a	23.99	-250.75	-16.46
	13.28	00.00	240	1b	2.98	14.41	-3.45
1.2D + 1.0Di + 1.0Wi Normal	13.28	00.00	0	1	0.00	177.05	-14.10
	13.28	00.00	120	1a	4.60	1.86	-4.53
	13.28	00.00	240	1b	-4.60	1.86	-4.53
1.2D + 1.0Di + 1.0Wi 60 deg	13.28	00.00	0	1	-1.59	118.24	-7.25
	13.28	00.00	120	1a	-7.07	118.12	2.25
	13.28	00.00	240	1b	-11.17	-55.60	-6.45
1.2D + 1.0Di + 1.0Wi 90 deg	13.28	00.00	0	1	-1.85	60.26	-0.54
	13.28	00.00	120	1a	-11.02	160.84	5.30
	13.28	00.00	240	1b	-10.11	-40.32	-4.77
1.2D + 1.0Di + 1.0Wi 120 deg	13.28	00.00	0	1	-1.62	1.76	6.26
	13.28	00.00	120	1a	-12.23	177.14	7.06
	13.28	00.00	240	1b	-6.23	1.87	-1.72
1.2D + 1.0Di + 1.0Wi 180 deg	13.28	00.00	0	1	0.00	-55.51	12.89
	13.28	00.00	120	1a	-5.48	118.14	4.99
	13.28	00.00	240	1b	5.48	118.14	4.99
1.2D + 1.0Di + 1.0Wi 210 deg	13.28	00.00	0	1	0.93	-40.46	11.14
	13.28	00.00	120	1a	0.45	60.32	1.86
	13.28	00.00	240	1b	10.11	160.90	6.89
1.2D + 1.0Di + 1.0Wi 240 deg	13.28	00.00	0	1	1.62	1.76	6.26
	13.28	00.00	120	1a	6.23	1.87	-1.72
	13.28	00.00	240	1b	12.23	177.14	7.06
1.2D + 1.0Di + 1.0Wi 300 deg	13.28	00.00	0	1	1.59	118.24	-7.25
	13.28	00.00	120	1a	11.17	-55.60	-6.45
	13.28	00.00	240	1b	7.07	118.12	2.25
1.2D + 1.0Di + 1.0Wi 330 deg	13.28	00.00	0	1	0.92	160.97	-12.20
	13.28	00.00	120	1a	9.19	-40.39	-6.37
	13.28	00.00	240	1b	1.39	60.19	-1.33
(1.2 + 0.2Sds) * DL + E Normal M1	13.28	00.00	0	1	0.00	35.81	-2.83
	13.28	00.00	120	1a	-0.53	11.85	0.20
	13.28	00.00	240	1b	0.53	11.85	0.20
(1.2 + 0.2Sds) * DL + E Normal M2	13.28	00.00	0	1	0.00	34.93	-2.67
	13.28	00.00	120	1a	-0.59	12.29	0.26
	13.28	00.00	240	1b	0.59	12.29	0.26
(1.2 + 0.2Sds) * DL + E 60 deg M1	13.28	00.00	0	1	-0.10	27.82	-2.07
	13.28	00.00	120	1a	-1.84	27.82	0.95
	13.28	00.00	240	1b	-0.17	3.86	-0.10
(1.2 + 0.2Sds) * DL + E 60 deg M2	13.28	00.00	0	1	-0.07	27.38	-1.99
	13.28	00.00	120	1a	-1.76	27.38	0.94
	13.28	00.00	240	1b	-0.03	4.75	-0.02

(1.2 + 0.2Sds) * DL + E 90 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.11**	**19.84**	**-1.32**
	13.28	**00.00**	**120**	**1a**	**-2.30**	**33.67**	**1.27**
	13.28	**00.00**	**240**	**1b**	**-0.02**	**6.00**	**0.05**
(1.2 + 0.2Sds) * DL + E 90 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.08**	**19.84**	**-1.32**
	13.28	**00.00**	**120**	**1a**	**-2.17**	**32.90**	**1.21**
	13.28	**00.00**	**240**	**1b**	**0.11**	**6.77**	**0.11**
(1.2 + 0.2Sds) * DL + E 120 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.10**	**11.85**	**-0.56**
	13.28	**00.00**	**120**	**1a**	**-2.45**	**35.81**	**1.41**
	13.28	**00.00**	**240**	**1b**	**0.44**	**11.85**	**0.36**
(1.2 + 0.2Sds) * DL + E 120 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.07**	**12.29**	**-0.64**
	13.28	**00.00**	**120**	**1a**	**-2.31**	**34.93**	**1.33**
	13.28	**00.00**	**240**	**1b**	**0.52**	**12.29**	**0.38**
(1.2 + 0.2Sds) * DL + E 180 deg M1	**13.28**	**00.00**	**0**	**1**	**0.00**	**3.86**	**0.20**
	13.28	**00.00**	**120**	**1a**	**-1.75**	**27.82**	**1.12**
	13.28	**00.00**	**240**	**1b**	**1.75**	**27.82**	**1.12**
(1.2 + 0.2Sds) * DL + E 180 deg M2	**13.28**	**00.00**	**0**	**1**	**0.00**	**4.75**	**0.04**
	13.28	**00.00**	**120**	**1a**	**-1.69**	**27.38**	**1.05**
	13.28	**00.00**	**240**	**1b**	**1.69**	**27.38**	**1.05**
(1.2 + 0.2Sds) * DL + E 210 deg M1	**13.28**	**00.00**	**0**	**1**	**0.06**	**6.00**	**0.00**
	13.28	**00.00**	**120**	**1a**	**-1.08**	**19.84**	**0.75**
	13.28	**00.00**	**240**	**1b**	**2.25**	**33.67**	**1.36**
(1.2 + 0.2Sds) * DL + E 210 deg M2	**13.28**	**00.00**	**0**	**1**	**0.04**	**6.77**	**-0.15**
	13.28	**00.00**	**120**	**1a**	**-1.10**	**19.84**	**0.73**
	13.28	**00.00**	**240**	**1b**	**2.13**	**32.90**	**1.28**
(1.2 + 0.2Sds) * DL + E 240 deg M1	**13.28**	**00.00**	**0**	**1**	**0.10**	**11.85**	**-0.56**
	13.28	**00.00**	**120**	**1a**	**-0.44**	**11.85**	**0.36**
	13.28	**00.00**	**240**	**1b**	**2.45**	**35.81**	**1.41**
(1.2 + 0.2Sds) * DL + E 240 deg M2	**13.28**	**00.00**	**0**	**1**	**0.07**	**12.29**	**-0.64**
	13.28	**00.00**	**120**	**1a**	**-0.52**	**12.29**	**0.38**
	13.28	**00.00**	**240**	**1b**	**2.31**	**34.93**	**1.33**
(1.2 + 0.2Sds) * DL + E 300 deg M1	**13.28**	**00.00**	**0**	**1**	**0.10**	**27.82**	**-2.07**
	13.28	**00.00**	**120**	**1a**	**0.17**	**3.86**	**-0.10**
	13.28	**00.00**	**240**	**1b**	**1.84**	**27.82**	**0.95**
(1.2 + 0.2Sds) * DL + E 300 deg M2	**13.28**	**00.00**	**0**	**1**	**0.07**	**27.38**	**-1.99**
	13.28	**00.00**	**120**	**1a**	**0.03**	**4.75**	**-0.02**
	13.28	**00.00**	**240**	**1b**	**1.76**	**27.38**	**0.94**
(1.2 + 0.2Sds) * DL + E 330 deg M1	**13.28**	**00.00**	**0**	**1**	**0.06**	**33.67**	**-2.63**
	13.28	**00.00**	**120**	**1a**	**-0.03**	**6.00**	**-0.05**
	13.28	**00.00**	**240**	**1b**	**1.19**	**19.84**	**0.56**
(1.2 + 0.2Sds) * DL + E 330 deg M2	**13.28**	**00.00**	**0**	**1**	**0.04**	**32.90**	**-2.49**
	13.28	**00.00**	**120**	**1a**	**-0.15**	**6.77**	**0.04**
	13.28	**00.00**	**240**	**1b**	**1.18**	**19.84**	**0.59**
(0.9 - 0.2Sds) * DL + E Normal M1	**13.28**	**00.00**	**0**	**1**	**0.00**	**29.49**	**-2.41**
	13.28	**00.00**	**120**	**1a**	**-0.17**	**5.57**	**-0.01**
	13.28	**00.00**	**240**	**1b**	**0.17**	**5.57**	**-0.01**
(0.9 - 0.2Sds) * DL + E Normal M2	**13.28**	**00.00**	**0**	**1**	**0.00**	**28.60**	**-2.25**
	13.28	**00.00**	**120**	**1a**	**-0.23**	**6.01**	**0.05**
	13.28	**00.00**	**240**	**1b**	**0.23**	**6.01**	**0.05**

(0.9 - 0.2Sds) * DL + E 60 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.10**	**21.51**	**-1.66**
	13.28	**00.00**	**120**	**1a**	**-1.48**	**21.51**	**0.74**
	13.28	**00.00**	**240**	**1b**	**-0.53**	**-2.40**	**-0.31**
(0.9 - 0.2Sds) * DL + E 60 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.07**	**21.07**	**-1.57**
	13.28	**00.00**	**120**	**1a**	**-1.40**	**21.07**	**0.73**
	13.28	**00.00**	**240**	**1b**	**-0.39**	**-1.52**	**-0.23**
(0.9 - 0.2Sds) * DL + E 90 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.11**	**13.54**	**-0.90**
	13.28	**00.00**	**120**	**1a**	**-1.94**	**27.35**	**1.06**
	13.28	**00.00**	**240**	**1b**	**-0.38**	**-0.27**	**-0.16**
(0.9 - 0.2Sds) * DL + E 90 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.08**	**13.54**	**-0.90**
	13.28	**00.00**	**120**	**1a**	**-1.81**	**26.59**	**1.00**
	13.28	**00.00**	**240**	**1b**	**-0.25**	**0.50**	**-0.10**
(0.9 - 0.2Sds) * DL + E 120 deg M1	**13.28**	**00.00**	**0**	**1**	**-0.10**	**5.57**	**-0.14**
	13.28	**00.00**	**120**	**1a**	**-2.09**	**29.49**	**1.21**
	13.28	**00.00**	**240**	**1b**	**0.07**	**5.57**	**0.15**
(0.9 - 0.2Sds) * DL + E 120 deg M2	**13.28**	**00.00**	**0**	**1**	**-0.07**	**6.01**	**-0.22**
	13.28	**00.00**	**120**	**1a**	**-1.95**	**28.60**	**1.12**
	13.28	**00.00**	**240**	**1b**	**0.16**	**6.01**	**0.17**
(0.9 - 0.2Sds) * DL + E 180 deg M1	**13.28**	**00.00**	**0**	**1**	**0.00**	**-2.40**	**0.61**
	13.28	**00.00**	**120**	**1a**	**-1.39**	**21.51**	**0.91**
	13.28	**00.00**	**240**	**1b**	**1.39**	**21.51**	**0.91**
(0.9 - 0.2Sds) * DL + E 180 deg M2	**13.28**	**00.00**	**0**	**1**	**0.00**	**-1.52**	**0.45**
	13.28	**00.00**	**120**	**1a**	**-1.33**	**21.07**	**0.85**
	13.28	**00.00**	**240**	**1b**	**1.33**	**21.07**	**0.85**
(0.9 - 0.2Sds) * DL + E 210 deg M1	**13.28**	**00.00**	**0**	**1**	**0.06**	**-0.27**	**0.41**
	13.28	**00.00**	**120**	**1a**	**-0.72**	**13.54**	**0.55**
	13.28	**00.00**	**240**	**1b**	**1.89**	**27.35**	**1.15**
(0.9 - 0.2Sds) * DL + E 210 deg M2	**13.28**	**00.00**	**0**	**1**	**0.04**	**0.50**	**0.27**
	13.28	**00.00**	**120**	**1a**	**-0.74**	**13.54**	**0.52**
	13.28	**00.00**	**240**	**1b**	**1.77**	**26.59**	**1.07**
(0.9 - 0.2Sds) * DL + E 240 deg M1	**13.28**	**00.00**	**0**	**1**	**0.10**	**5.57**	**-0.14**
	13.28	**00.00**	**120**	**1a**	**-0.07**	**5.57**	**0.15**
	13.28	**00.00**	**240**	**1b**	**2.09**	**29.49**	**1.21**
(0.9 - 0.2Sds) * DL + E 240 deg M2	**13.28**	**00.00**	**0**	**1**	**0.07**	**6.01**	**-0.22**
	13.28	**00.00**	**120**	**1a**	**-0.16**	**6.01**	**0.17**
	13.28	**00.00**	**240**	**1b**	**1.95**	**28.60**	**1.12**
(0.9 - 0.2Sds) * DL + E 300 deg M1	**13.28**	**00.00**	**0**	**1**	**0.10**	**21.51**	**-1.66**
	13.28	**00.00**	**120**	**1a**	**0.53**	**-2.40**	**-0.31**
	13.28	**00.00**	**240**	**1b**	**1.48**	**21.51**	**0.74**
(0.9 - 0.2Sds) * DL + E 300 deg M2	**13.28**	**00.00**	**0**	**1**	**0.07**	**21.07**	**-1.57**
	13.28	**00.00**	**120**	**1a**	**0.39**	**-1.52**	**-0.23**
	13.28	**00.00**	**240**	**1b**	**1.40**	**21.07**	**0.73**
(0.9 - 0.2Sds) * DL + E 330 deg M1	**13.28**	**00.00**	**0**	**1**	**0.06**	**27.35**	**-2.21**
	13.28	**00.00**	**120**	**1a**	**0.33**	**-0.27**	**-0.25**
	13.28	**00.00**	**240**	**1b**	**0.83**	**13.54**	**0.35**
(0.9 - 0.2Sds) * DL + E 330 deg M2	**13.28**	**00.00**	**0**	**1**	**0.04**	**26.59**	**-2.07**
	13.28	**00.00**	**120**	**1a**	**0.22**	**0.50**	**-0.17**
	13.28	**00.00**	**240**	**1b**	**0.82**	**13.54**	**0.38**
1.0D + 1.0W Service Normal	**13.28**	**00.00**	**0**	**1**	**0.00**	**98.25**	**-10.33**

	13.28	00.00	120	1a	2.58	-24.67	-2.72
	13.28	00.00	240	1b	-2.58	-24.67	-2.72
1.0D + 1.0W Service 60 deg	13.28	00.00	0	1	-1.02	56.13	-5.53
	13.28	00.00	120	1a	-5.29	56.01	1.88
	13.28	00.00	240	1b	-6.85	-63.22	-3.96
1.0D + 1.0W Service 90 deg	13.28	00.00	0	1	-1.19	16.30	-1.05
	13.28	00.00	120	1a	-7.99	85.70	3.93
	13.28	00.00	240	1b	-6.18	-53.10	-2.88
1.0D + 1.0W Service 120 deg	13.28	00.00	0	1	-1.07	-24.83	3.61
	13.28	00.00	120	1a	-8.97	98.44	5.18
	13.28	00.00	240	1b	-3.66	-24.71	-0.87
1.0D + 1.0W Service 180 deg	13.28	00.00	0	1	0.00	-63.04	7.89
	13.28	00.00	120	1a	-4.27	55.97	3.63
	13.28	00.00	240	1b	4.27	55.97	3.63
1.0D + 1.0W Service 210 deg	13.28	00.00	0	1	0.60	-53.24	6.79
	13.28	00.00	120	1a	-0.32	16.37	1.55
	13.28	00.00	240	1b	7.40	85.77	4.95
1.0D + 1.0W Service 240 deg	13.28	00.00	0	1	1.07	-24.83	3.61
	13.28	00.00	120	1a	3.66	-24.71	-0.87
	13.28	00.00	240	1b	8.97	98.44	5.18
1.0D + 1.0W Service 300 deg	13.28	00.00	0	1	1.02	56.13	-5.53
	13.28	00.00	120	1a	6.85	-63.22	-3.96
	13.28	00.00	240	1b	5.29	56.01	1.88
1.0D + 1.0W Service 330 deg	13.28	00.00	0	1	0.59	85.84	-8.88
	13.28	00.00	120	1a	5.58	-53.17	-3.91
	13.28	00.00	240	1b	1.50	16.23	-0.50

Max Uplift:	289.61 (kip)	Moment Ice:	2,328.13 (kip-ft)	Moment:	6,268.86 (kip-ft)	1.2D + 1.6W Normal	
Max Down:	334.29 (kip)	Total Down Ice:	180.77 (kip)	Total Down:	58.69 (kip)		
Max Shear:	36.58 (kip)	Total Shear Ice:	23.19 (kip)	Total Shear:	60.17 (kip)		

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
93 mph Normal with No Ice	19.75	0.025	0.0059	0.1546	0.1546
93 mph Normal with No Ice	30.00	0.052	0.0065	0.1565	0.1566
93 mph Normal with No Ice	70.00	0.236	0.0118	0.3404	0.3406
93 mph Normal with No Ice	86.75	0.354	0.0138	0.4441	0.4443
93 mph Normal with No Ice	93.25	0.408	0.0144	0.4853	0.4855
93 mph Normal with No Ice	106.75	0.533	0.0145	0.5546	0.5548
93 mph Normal with No Ice	113.25	0.599	0.0147	0.5883	0.5885
93 mph Normal with No Ice	120.25	0.675	0.0161	0.7171	0.7171
93 mph Normal with No Ice	126.75	0.749	0.0126	0.6576	0.6577
93 mph Normal with No Ice	133.25	0.826	0.0108	0.6903	0.6904
93 mph Normal with No Ice	140.25	0.915	0.0131	0.8680	0.8680
93 mph Normal with No Ice	145.13	0.979	0.0080	0.7577	0.7578
93 mph Normal with No Ice	150.00	1.047	0.0059	0.8316	0.8316
93 mph Normal with No Ice	154.88	1.117	0.0022	0.8180	0.8180
93 mph Normal with No Ice	164.15	1.260	0.0010	0.8675	0.8675
93 mph Normal with No Ice	171.95	1.384	0.0048	0.9442	0.9442
93 mph Normal with No Ice	180.00	1.514	0.0114	1.5087	1.5087
93 mph 60 degree with No Ice	19.75	0.024	0.0087	0.1493	0.1494
93 mph 60 degree with No Ice	30.00	0.050	0.0108	0.1514	0.1514
93 mph 60 degree with No Ice	70.00	0.228	0.0272	0.3299	0.3300
93 mph 60 degree with No Ice	86.75	0.343	0.0368	0.4309	0.4311
93 mph 60 degree with No Ice	93.25	0.396	0.0415	0.4707	0.4708
93 mph 60 degree with No Ice	106.75	0.517	0.0502	0.5385	0.5385
93 mph 60 degree with No Ice	113.25	0.581	0.0544	0.5710	0.5711
93 mph 60 degree with No Ice	120.25	0.655	0.0610	0.6939	0.6954
93 mph 60 degree with No Ice	126.75	0.726	0.0659	0.6403	0.6403
93 mph 60 degree with No Ice	133.25	0.802	0.0725	0.6622	0.6624
93 mph 60 degree with No Ice	140.25	0.888	0.0838	0.8431	0.8462
93 mph 60 degree with No Ice	145.13	0.950	0.0938	0.7337	0.7342
93 mph 60 degree with No Ice	150.00	1.015	0.1087	0.8044	0.8113
93 mph 60 degree with No Ice	154.88	1.083	0.1224	0.7928	0.7950
93 mph 60 degree with No Ice	164.15	1.221	0.1696	0.8380	0.8522
93 mph 60 degree with No Ice	171.95	1.339	0.2240	0.8710	0.8937
93 mph 60 degree with No Ice	180.00	1.462	0.2740	0.8392	0.8809
93 mph 90 degree with No Ice	19.75	0.024	-0.0086	0.1470	0.1471
93 mph 90 degree with No Ice	30.00	0.050	-0.0101	0.1558	0.1562
93 mph 90 degree with No Ice	70.00	0.229	-0.0232	0.3371	0.3379
93 mph 90 degree with No Ice	86.75	0.345	-0.0301	0.4342	0.4352
93 mph 90 degree with No Ice	93.25	0.398	-0.0332	0.4756	0.4767
93 mph 90 degree with No Ice	106.75	0.520	-0.0385	0.5418	0.5431
93 mph 90 degree with No Ice	113.25	0.584	-0.0412	0.5758	0.5773
93 mph 90 degree with No Ice	120.25	0.658	-0.0459	0.6864	0.6868
93 mph 90 degree with No Ice	126.75	0.730	-0.0472	0.6439	0.6456
93 mph 90 degree with No Ice	133.25	0.806	-0.0497	0.6651	0.6669
93 mph 90 degree with No Ice	140.25	0.893	-0.0547	0.8325	0.8329
93 mph 90 degree with No Ice	145.13	0.955	-0.0509	0.7394	0.7412
93 mph 90 degree with No Ice	150.00	1.021	-0.0519	0.8039	0.8043
93 mph 90 degree with No Ice	154.88	1.089	-0.0503	0.7979	0.7995
93 mph 90 degree with No Ice	164.15	1.227	-0.0582	0.8447	0.8467
93 mph 90 degree with No Ice	171.95	1.346	-0.0626	0.8577	0.8600
93 mph 90 degree with No Ice	180.00	1.467	-0.0665	0.4541	0.4553
93 mph 120 degree with No Ice	19.75	0.025	-0.0101	0.1547	0.1547
93 mph 120 degree with No Ice	30.00	0.052	-0.0128	0.1565	0.1565
93 mph 120 degree with No Ice	70.00	0.236	-0.0333	0.3401	0.3402
93 mph 120 degree with No Ice	86.75	0.354	-0.0453	0.4436	0.4437

93 mph 120 degree with No Ice	93.25	0.407	-0.0514	0.4847	0.4848
93 mph 120 degree with No Ice	106.75	0.532	-0.0629	0.5537	0.5540
93 mph 120 degree with No Ice	113.25	0.598	-0.0686	0.5873	0.5875
93 mph 120 degree with No Ice	120.25	0.673	-0.0761	0.7146	0.7150
93 mph 120 degree with No Ice	126.75	0.747	-0.0846	0.6580	0.6583
93 mph 120 degree with No Ice	133.25	0.824	-0.0939	0.6814	0.6817
93 mph 120 degree with No Ice	140.25	0.912	-0.1056	0.8685	0.8694
93 mph 120 degree with No Ice	145.13	0.976	-0.1190	0.7546	0.7560
93 mph 120 degree with No Ice	150.00	1.043	-0.1360	0.8258	0.8287
93 mph 120 degree with No Ice	154.88	1.113	-0.1513	0.8152	0.8191
93 mph 120 degree with No Ice	164.15	1.254	-0.2032	0.8600	0.8837
93 mph 120 degree with No Ice	171.95	1.376	-0.2590	0.8924	0.9292
93 mph 120 degree with No Ice	180.00	1.501	-0.3098	0.8633	0.9172
93 mph 180 degree with No Ice	19.75	0.024	0.0059	0.1493	0.1493
93 mph 180 degree with No Ice	30.00	0.050	0.0064	0.1515	0.1516
93 mph 180 degree with No Ice	70.00	0.229	0.0122	0.3304	0.3306
93 mph 180 degree with No Ice	86.75	0.344	0.0146	0.4317	0.4320
93 mph 180 degree with No Ice	93.25	0.396	0.0152	0.4716	0.4718
93 mph 180 degree with No Ice	106.75	0.518	0.0158	0.5397	0.5399
93 mph 180 degree with No Ice	113.25	0.582	0.0161	0.5725	0.5727
93 mph 180 degree with No Ice	120.25	0.656	0.0183	0.6963	0.6963
93 mph 180 degree with No Ice	126.75	0.728	0.0146	0.6405	0.6407
93 mph 180 degree with No Ice	133.25	0.804	0.0131	0.6722	0.6723
93 mph 180 degree with No Ice	140.25	0.890	0.0169	0.8427	0.8427
93 mph 180 degree with No Ice	145.13	0.953	0.0116	0.7378	0.7378
93 mph 180 degree with No Ice	150.00	1.019	0.0110	0.8101	0.8101
93 mph 180 degree with No Ice	154.88	1.088	0.0077	0.7967	0.7968
93 mph 180 degree with No Ice	164.15	1.226	0.0096	0.8467	0.8468
93 mph 180 degree with No Ice	171.95	1.347	0.0077	0.9224	0.9224
93 mph 180 degree with No Ice	180.00	1.475	0.0070	1.4905	1.4905
93 mph 210 degree with No Ice	19.75	0.024	0.0067	0.1470	0.1471
93 mph 210 degree with No Ice	30.00	0.050	0.0089	0.1564	0.1564
93 mph 210 degree with No Ice	70.00	0.230	0.0243	0.3389	0.3389
93 mph 210 degree with No Ice	86.75	0.346	0.0336	0.4370	0.4370
93 mph 210 degree with No Ice	93.25	0.399	0.0385	0.4788	0.4788
93 mph 210 degree with No Ice	106.75	0.521	0.0479	0.5460	0.5461
93 mph 210 degree with No Ice	113.25	0.586	0.0526	0.5807	0.5807
93 mph 210 degree with No Ice	120.25	0.660	0.0583	0.6884	0.6895
93 mph 210 degree with No Ice	126.75	0.732	0.0662	0.6487	0.6490
93 mph 210 degree with No Ice	133.25	0.808	0.0745	0.6804	0.6808
93 mph 210 degree with No Ice	140.25	0.895	0.0842	0.8314	0.8333
93 mph 210 degree with No Ice	145.13	0.958	0.0988	0.7515	0.7531
93 mph 210 degree with No Ice	150.00	1.025	0.1153	0.8081	0.8146
93 mph 210 degree with No Ice	154.88	1.093	0.1309	0.8144	0.8187
93 mph 210 degree with No Ice	164.15	1.232	0.1792	0.8523	0.8611
93 mph 210 degree with No Ice	171.95	1.354	0.2324	0.9110	0.9402
93 mph 210 degree with No Ice	180.00	1.480	0.2810	1.3195	1.3491
93 mph 240 degree with No Ice	19.75	0.025	0.0101	0.1547	0.1547
93 mph 240 degree with No Ice	30.00	0.052	0.0128	0.1565	0.1565
93 mph 240 degree with No Ice	70.00	0.236	0.0333	0.3401	0.3402
93 mph 240 degree with No Ice	86.75	0.354	0.0453	0.4436	0.4437
93 mph 240 degree with No Ice	93.25	0.407	0.0514	0.4847	0.4848
93 mph 240 degree with No Ice	106.75	0.532	0.0629	0.5537	0.5540
93 mph 240 degree with No Ice	113.25	0.598	0.0686	0.5873	0.5875
93 mph 240 degree with No Ice	120.25	0.673	0.0761	0.7146	0.7150
93 mph 240 degree with No Ice	126.75	0.747	0.0846	0.6580	0.6583
93 mph 240 degree with No Ice	133.25	0.824	0.0939	0.6814	0.6817
93 mph 240 degree with No Ice	140.25	0.912	0.1056	0.8685	0.8694
93 mph 240 degree with No Ice	145.13	0.976	0.1190	0.7546	0.7560
93 mph 240 degree with No Ice	150.00	1.043	0.1360	0.8258	0.8287
93 mph 240 degree with No Ice	154.88	1.113	0.1513	0.8152	0.8191
93 mph 240 degree with No Ice	164.15	1.254	0.2032	0.8600	0.8837

93 mph 240 degree with No Ice	171.95	1.376	0.2590	0.8924	0.9292
93 mph 240 degree with No Ice	180.00	1.501	0.3098	0.8633	0.9172
93 mph 300 degree with No Ice	19.75	0.024	0.0050	0.1493	0.1494
93 mph 300 degree with No Ice	30.00	0.050	0.0051	0.1514	0.1514
93 mph 300 degree with No Ice	70.00	0.228	0.0077	0.3299	0.3300
93 mph 300 degree with No Ice	86.75	0.343	0.0079	0.4309	0.4311
93 mph 300 degree with No Ice	93.25	0.396	0.0074	0.4707	0.4708
93 mph 300 degree with No Ice	106.75	0.517	0.0055	0.5385	0.5385
93 mph 300 degree with No Ice	113.25	0.581	0.0046	0.5710	0.5711
93 mph 300 degree with No Ice	120.25	0.655	0.0055	0.6939	0.6954
93 mph 300 degree with No Ice	126.75	0.726	-0.0006	0.6403	0.6403
93 mph 300 degree with No Ice	133.25	0.802	-0.0052	0.6622	0.6624
93 mph 300 degree with No Ice	140.25	0.888	-0.0078	0.8431	0.8462
93 mph 300 degree with No Ice	145.13	0.950	-0.0273	0.7337	0.7342
93 mph 300 degree with No Ice	150.00	1.015	-0.0417	0.8044	0.8113
93 mph 300 degree with No Ice	154.88	1.083	-0.0589	0.7928	0.7950
93 mph 300 degree with No Ice	164.15	1.221	-0.0958	0.8380	0.8522
93 mph 300 degree with No Ice	171.95	1.339	-0.1427	0.8710	0.8937
93 mph 300 degree with No Ice	180.00	1.462	-0.1856	0.8392	0.8809
93 mph 330 degree with No Ice	19.75	0.024	0.0019	0.1472	0.1472
93 mph 330 degree with No Ice	30.00	0.050	0.0014	0.1560	0.1564
93 mph 330 degree with No Ice	70.00	0.230	-0.0006	0.3376	0.3387
93 mph 330 degree with No Ice	86.75	0.346	-0.0028	0.4349	0.4365
93 mph 330 degree with No Ice	93.25	0.399	-0.0045	0.4764	0.4782
93 mph 330 degree with No Ice	106.75	0.521	-0.0083	0.5429	0.5451
93 mph 330 degree with No Ice	113.25	0.586	-0.0102	0.5772	0.5796
93 mph 330 degree with No Ice	120.25	0.660	-0.0110	0.6898	0.6899
93 mph 330 degree with No Ice	126.75	0.732	-0.0175	0.6439	0.6470
93 mph 330 degree with No Ice	133.25	0.808	-0.0230	0.6748	0.6783
93 mph 330 degree with No Ice	140.25	0.895	-0.0274	0.8336	0.8341
93 mph 330 degree with No Ice	145.13	0.958	-0.0455	0.7432	0.7485
93 mph 330 degree with No Ice	150.00	1.025	-0.0602	0.8124	0.8180
93 mph 330 degree with No Ice	154.88	1.093	-0.0768	0.8015	0.8096
93 mph 330 degree with No Ice	164.15	1.233	-0.1166	0.8537	0.8683
93 mph 330 degree with No Ice	171.95	1.354	-0.1654	0.9113	0.9313
93 mph 330 degree with No Ice	180.00	1.480	-0.2100	1.3145	1.3312
93 mph Normal with No Ice (Reduced DL)	19.75	0.025	0.0059	0.1547	0.1547
93 mph Normal with No Ice (Reduced DL)	30.00	0.052	0.0065	0.1563	0.1565
93 mph Normal with No Ice (Reduced DL)	70.00	0.236	0.0118	0.3399	0.3401
93 mph Normal with No Ice (Reduced DL)	86.75	0.354	0.0138	0.4433	0.4435
93 mph Normal with No Ice (Reduced DL)	93.25	0.407	0.0143	0.4843	0.4845
93 mph Normal with No Ice (Reduced DL)	106.75	0.532	0.0144	0.5535	0.5537
93 mph Normal with No Ice (Reduced DL)	113.25	0.598	0.0147	0.5871	0.5872
93 mph Normal with No Ice (Reduced DL)	120.25	0.674	0.0161	0.7155	0.7155
93 mph Normal with No Ice (Reduced DL)	126.75	0.747	0.0126	0.6562	0.6563
93 mph Normal with No Ice (Reduced DL)	133.25	0.825	0.0108	0.6888	0.6889
93 mph Normal with No Ice (Reduced DL)	140.25	0.913	0.0131	0.8660	0.8660
93 mph Normal with No Ice (Reduced DL)	145.13	0.978	0.0080	0.7560	0.7560
93 mph Normal with No Ice (Reduced DL)	150.00	1.045	0.0059	0.8296	0.8296
93 mph Normal with No Ice (Reduced DL)	154.88	1.115	0.0023	0.8161	0.8161
93 mph Normal with No Ice (Reduced DL)	164.15	1.257	0.0010	0.8656	0.8656
93 mph Normal with No Ice (Reduced DL)	171.95	1.381	0.0048	0.9419	0.9419
93 mph Normal with No Ice (Reduced DL)	180.00	1.511	0.0112	1.5065	1.5065
93 mph 60 deg with No Ice (Reduced DL)	19.75	0.024	0.0087	0.1491	0.1491
93 mph 60 deg with No Ice (Reduced DL)	30.00	0.050	0.0107	0.1511	0.1512
93 mph 60 deg with No Ice (Reduced DL)	70.00	0.228	0.0272	0.3293	0.3294
93 mph 60 deg with No Ice (Reduced DL)	86.75	0.343	0.0368	0.4302	0.4303
93 mph 60 deg with No Ice (Reduced DL)	93.25	0.395	0.0414	0.4699	0.4699
93 mph 60 deg with No Ice (Reduced DL)	106.75	0.516	0.0501	0.5374	0.5375
93 mph 60 deg with No Ice (Reduced DL)	113.25	0.580	0.0543	0.5699	0.5700
93 mph 60 deg with No Ice (Reduced DL)	120.25	0.654	0.0609	0.6925	0.6940
93 mph 60 deg with No Ice (Reduced DL)	126.75	0.725	0.0658	0.6390	0.6390

93 mph 60 deg with No Ice (Reduced DL)	133.25	0.800	0.0723	0.6608	0.6610
93 mph 60 deg with No Ice (Reduced DL)	140.25	0.886	0.0836	0.8411	0.8441
93 mph 60 deg with No Ice (Reduced DL)	145.13	0.948	0.0936	0.7321	0.7326
93 mph 60 deg with No Ice (Reduced DL)	150.00	1.014	0.1084	0.8026	0.8095
93 mph 60 deg with No Ice (Reduced DL)	154.88	1.081	0.1221	0.7910	0.7932
93 mph 60 deg with No Ice (Reduced DL)	164.15	1.218	0.1691	0.8360	0.8502
93 mph 60 deg with No Ice (Reduced DL)	171.95	1.337	0.2234	0.8689	0.8915
93 mph 60 deg with No Ice (Reduced DL)	180.00	1.459	0.2732	0.8377	0.8782
93 mph 90 deg with No Ice (Reduced DL)	19.75	0.024	-0.0086	0.1468	0.1469
93 mph 90 deg with No Ice (Reduced DL)	30.00	0.050	-0.0101	0.1556	0.1560
93 mph 90 deg with No Ice (Reduced DL)	70.00	0.229	-0.0231	0.3365	0.3373
93 mph 90 deg with No Ice (Reduced DL)	86.75	0.345	-0.0300	0.4334	0.4345
93 mph 90 deg with No Ice (Reduced DL)	93.25	0.397	-0.0331	0.4747	0.4759
93 mph 90 deg with No Ice (Reduced DL)	106.75	0.519	-0.0385	0.5407	0.5421
93 mph 90 deg with No Ice (Reduced DL)	113.25	0.583	-0.0411	0.5747	0.5762
93 mph 90 deg with No Ice (Reduced DL)	120.25	0.657	-0.0459	0.6850	0.6853
93 mph 90 deg with No Ice (Reduced DL)	126.75	0.729	-0.0471	0.6425	0.6442
93 mph 90 deg with No Ice (Reduced DL)	133.25	0.805	-0.0496	0.6636	0.6655
93 mph 90 deg with No Ice (Reduced DL)	140.25	0.891	-0.0546	0.8305	0.8310
93 mph 90 deg with No Ice (Reduced DL)	145.13	0.954	-0.0508	0.7378	0.7395
93 mph 90 deg with No Ice (Reduced DL)	150.00	1.019	-0.0518	0.8020	0.8024
93 mph 90 deg with No Ice (Reduced DL)	154.88	1.087	-0.0503	0.7961	0.7977
93 mph 90 deg with No Ice (Reduced DL)	164.15	1.225	-0.0581	0.8427	0.8447
93 mph 90 deg with No Ice (Reduced DL)	171.95	1.343	-0.0624	0.8556	0.8579
93 mph 90 deg with No Ice (Reduced DL)	180.00	1.464	-0.0663	0.4513	0.4526
93 mph 120 deg with No Ice (Reduced DL)	19.75	0.025	-0.0101	0.1547	0.1547
93 mph 120 deg with No Ice (Reduced DL)	30.00	0.052	-0.0128	0.1563	0.1563
93 mph 120 deg with No Ice (Reduced DL)	70.00	0.235	-0.0333	0.3396	0.3397
93 mph 120 deg with No Ice (Reduced DL)	86.75	0.353	-0.0453	0.4428	0.4429
93 mph 120 deg with No Ice (Reduced DL)	93.25	0.407	-0.0513	0.4838	0.4839
93 mph 120 deg with No Ice (Reduced DL)	106.75	0.531	-0.0628	0.5527	0.5529
93 mph 120 deg with No Ice (Reduced DL)	113.25	0.597	-0.0685	0.5861	0.5863
93 mph 120 deg with No Ice (Reduced DL)	120.25	0.672	-0.0760	0.7131	0.7135
93 mph 120 deg with No Ice (Reduced DL)	126.75	0.745	-0.0844	0.6566	0.6569
93 mph 120 deg with No Ice (Reduced DL)	133.25	0.823	-0.0937	0.6799	0.6802
93 mph 120 deg with No Ice (Reduced DL)	140.25	0.911	-0.1054	0.8664	0.8674
93 mph 120 deg with No Ice (Reduced DL)	145.13	0.975	-0.1188	0.7529	0.7542
93 mph 120 deg with No Ice (Reduced DL)	150.00	1.041	-0.1357	0.8238	0.8267
93 mph 120 deg with No Ice (Reduced DL)	154.88	1.111	-0.1510	0.8133	0.8171
93 mph 120 deg with No Ice (Reduced DL)	164.15	1.252	-0.2027	0.8580	0.8817
93 mph 120 deg with No Ice (Reduced DL)	171.95	1.373	-0.2583	0.8902	0.9270
93 mph 120 deg with No Ice (Reduced DL)	180.00	1.498	-0.3090	0.8607	0.9145
93 mph 180 deg with No Ice (Reduced DL)	19.75	0.024	0.0059	0.1491	0.1491
93 mph 180 deg with No Ice (Reduced DL)	30.00	0.050	0.0064	0.1513	0.1514
93 mph 180 deg with No Ice (Reduced DL)	70.00	0.228	0.0122	0.3298	0.3300
93 mph 180 deg with No Ice (Reduced DL)	86.75	0.344	0.0145	0.4309	0.4312
93 mph 180 deg with No Ice (Reduced DL)	93.25	0.396	0.0152	0.4707	0.4710
93 mph 180 deg with No Ice (Reduced DL)	106.75	0.517	0.0157	0.5387	0.5389
93 mph 180 deg with No Ice (Reduced DL)	113.25	0.581	0.0160	0.5713	0.5716
93 mph 180 deg with No Ice (Reduced DL)	120.25	0.655	0.0182	0.6949	0.6949
93 mph 180 deg with No Ice (Reduced DL)	126.75	0.727	0.0146	0.6392	0.6394
93 mph 180 deg with No Ice (Reduced DL)	133.25	0.802	0.0130	0.6708	0.6709
93 mph 180 deg with No Ice (Reduced DL)	140.25	0.889	0.0169	0.8406	0.8406
93 mph 180 deg with No Ice (Reduced DL)	145.13	0.951	0.0116	0.7362	0.7363
93 mph 180 deg with No Ice (Reduced DL)	150.00	1.017	0.0110	0.8083	0.8083
93 mph 180 deg with No Ice (Reduced DL)	154.88	1.086	0.0077	0.7950	0.7950
93 mph 180 deg with No Ice (Reduced DL)	164.15	1.224	0.0096	0.8447	0.8447
93 mph 180 deg with No Ice (Reduced DL)	171.95	1.344	0.0077	0.9202	0.9202
93 mph 180 deg with No Ice (Reduced DL)	180.00	1.472	0.0071	1.4874	1.4874
93 mph 210 deg with No Ice (Reduced DL)	19.75	0.024	0.0067	0.1469	0.1470
93 mph 210 deg with No Ice (Reduced DL)	30.00	0.050	0.0088	0.1562	0.1562
93 mph 210 deg with No Ice (Reduced DL)	70.00	0.229	0.0243	0.3384	0.3384

93 mph 210 deg with No Ice (Reduced DL)	86.75	0.346	0.0336	0.4362	0.4362
93 mph 210 deg with No Ice (Reduced DL)	93.25	0.398	0.0384	0.4779	0.4779
93 mph 210 deg with No Ice (Reduced DL)	106.75	0.521	0.0478	0.5450	0.5450
93 mph 210 deg with No Ice (Reduced DL)	113.25	0.585	0.0525	0.5795	0.5796
93 mph 210 deg with No Ice (Reduced DL)	120.25	0.659	0.0581	0.6869	0.6880
93 mph 210 deg with No Ice (Reduced DL)	126.75	0.731	0.0660	0.6474	0.6476
93 mph 210 deg with No Ice (Reduced DL)	133.25	0.807	0.0743	0.6789	0.6794
93 mph 210 deg with No Ice (Reduced DL)	140.25	0.894	0.0840	0.8295	0.8314
93 mph 210 deg with No Ice (Reduced DL)	145.13	0.957	0.0986	0.7498	0.7514
93 mph 210 deg with No Ice (Reduced DL)	150.00	1.023	0.1150	0.8062	0.8128
93 mph 210 deg with No Ice (Reduced DL)	154.88	1.091	0.1306	0.8126	0.8168
93 mph 210 deg with No Ice (Reduced DL)	164.15	1.230	0.1788	0.8503	0.8591
93 mph 210 deg with No Ice (Reduced DL)	171.95	1.351	0.2318	0.9089	0.9380
93 mph 210 deg with No Ice (Reduced DL)	180.00	1.477	0.2803	1.3165	1.3460
93 mph 240 deg with No Ice (Reduced DL)	19.75	0.025	0.0101	0.1547	0.1547
93 mph 240 deg with No Ice (Reduced DL)	30.00	0.052	0.0128	0.1563	0.1563
93 mph 240 deg with No Ice (Reduced DL)	70.00	0.235	0.0333	0.3396	0.3397
93 mph 240 deg with No Ice (Reduced DL)	86.75	0.353	0.0453	0.4428	0.4429
93 mph 240 deg with No Ice (Reduced DL)	93.25	0.407	0.0513	0.4838	0.4839
93 mph 240 deg with No Ice (Reduced DL)	106.75	0.531	0.0628	0.5527	0.5529
93 mph 240 deg with No Ice (Reduced DL)	113.25	0.597	0.0685	0.5861	0.5863
93 mph 240 deg with No Ice (Reduced DL)	120.25	0.672	0.0760	0.7131	0.7135
93 mph 240 deg with No Ice (Reduced DL)	126.75	0.745	0.0844	0.6566	0.6569
93 mph 240 deg with No Ice (Reduced DL)	133.25	0.823	0.0937	0.6799	0.6802
93 mph 240 deg with No Ice (Reduced DL)	140.25	0.911	0.1054	0.8664	0.8674
93 mph 240 deg with No Ice (Reduced DL)	145.13	0.975	0.1188	0.7529	0.7542
93 mph 240 deg with No Ice (Reduced DL)	150.00	1.041	0.1357	0.8238	0.8267
93 mph 240 deg with No Ice (Reduced DL)	154.88	1.111	0.1510	0.8133	0.8171
93 mph 240 deg with No Ice (Reduced DL)	164.15	1.252	0.2027	0.8580	0.8817
93 mph 240 deg with No Ice (Reduced DL)	171.95	1.373	0.2583	0.8902	0.9270
93 mph 240 deg with No Ice (Reduced DL)	180.00	1.498	0.3090	0.8607	0.9145
93 mph 300 deg with No Ice (Reduced DL)	19.75	0.024	0.0050	0.1491	0.1491
93 mph 300 deg with No Ice (Reduced DL)	30.00	0.050	0.0051	0.1511	0.1512
93 mph 300 deg with No Ice (Reduced DL)	70.00	0.228	0.0077	0.3293	0.3294
93 mph 300 deg with No Ice (Reduced DL)	86.75	0.343	0.0079	0.4302	0.4303
93 mph 300 deg with No Ice (Reduced DL)	93.25	0.395	0.0074	0.4699	0.4699
93 mph 300 deg with No Ice (Reduced DL)	106.75	0.516	0.0055	0.5374	0.5375
93 mph 300 deg with No Ice (Reduced DL)	113.25	0.580	0.0046	0.5699	0.5700
93 mph 300 deg with No Ice (Reduced DL)	120.25	0.654	0.0055	0.6925	0.6940
93 mph 300 deg with No Ice (Reduced DL)	126.75	0.725	-0.0005	0.6390	0.6390
93 mph 300 deg with No Ice (Reduced DL)	133.25	0.800	-0.0051	0.6608	0.6610
93 mph 300 deg with No Ice (Reduced DL)	140.25	0.886	-0.0077	0.8411	0.8441
93 mph 300 deg with No Ice (Reduced DL)	145.13	0.948	-0.0272	0.7321	0.7326
93 mph 300 deg with No Ice (Reduced DL)	150.00	1.014	-0.0416	0.8026	0.8095
93 mph 300 deg with No Ice (Reduced DL)	154.88	1.081	-0.0588	0.7910	0.7932
93 mph 300 deg with No Ice (Reduced DL)	164.15	1.218	-0.0955	0.8360	0.8502
93 mph 300 deg with No Ice (Reduced DL)	171.95	1.337	-0.1424	0.8689	0.8915
93 mph 300 deg with No Ice (Reduced DL)	180.00	1.459	-0.1852	0.8377	0.8782
93 mph 330 deg with No Ice (Reduced DL)	19.75	0.024	0.0019	0.1470	0.1470
93 mph 330 deg with No Ice (Reduced DL)	30.00	0.050	0.0014	0.1558	0.1562
93 mph 330 deg with No Ice (Reduced DL)	70.00	0.229	-0.0006	0.3370	0.3381
93 mph 330 deg with No Ice (Reduced DL)	86.75	0.346	-0.0028	0.4342	0.4357
93 mph 330 deg with No Ice (Reduced DL)	93.25	0.398	-0.0044	0.4755	0.4773
93 mph 330 deg with No Ice (Reduced DL)	106.75	0.521	-0.0083	0.5419	0.5441
93 mph 330 deg with No Ice (Reduced DL)	113.25	0.585	-0.0101	0.5761	0.5785
93 mph 330 deg with No Ice (Reduced DL)	120.25	0.659	-0.0110	0.6884	0.6884
93 mph 330 deg with No Ice (Reduced DL)	126.75	0.731	-0.0174	0.6425	0.6456
93 mph 330 deg with No Ice (Reduced DL)	133.25	0.807	-0.0229	0.6734	0.6768
93 mph 330 deg with No Ice (Reduced DL)	140.25	0.894	-0.0273	0.8317	0.8321
93 mph 330 deg with No Ice (Reduced DL)	145.13	0.957	-0.0453	0.7415	0.7469
93 mph 330 deg with No Ice (Reduced DL)	150.00	1.023	-0.0601	0.8106	0.8161
93 mph 330 deg with No Ice (Reduced DL)	154.88	1.091	-0.0766	0.7996	0.8077

93 mph 330 deg with No Ice (Reduced DL)	164.15	1.230	-0.1163	0.8517	0.8663
93 mph 330 deg with No Ice (Reduced DL)	171.95	1.351	-0.1650	0.9091	0.9291
93 mph 330 deg with No Ice (Reduced DL)	180.00	1.477	-0.2096	1.3126	1.3292
50 mph Normal with 0.75 in Radial Ice	19.75	0.010	0.0022	0.0630	0.0630
50 mph Normal with 0.75 in Radial Ice	30.00	0.020	0.0024	0.0603	0.0603
50 mph Normal with 0.75 in Radial Ice	70.00	0.087	0.0041	0.1238	0.1239
50 mph Normal with 0.75 in Radial Ice	86.75	0.131	0.0047	0.1601	0.1602
50 mph Normal with 0.75 in Radial Ice	93.25	0.150	0.0048	0.1753	0.1754
50 mph Normal with 0.75 in Radial Ice	106.75	0.195	0.0046	0.1980	0.1980
50 mph Normal with 0.75 in Radial Ice	113.25	0.218	0.0046	0.2105	0.2105
50 mph Normal with 0.75 in Radial Ice	120.25	0.245	0.0050	0.2541	0.2541
50 mph Normal with 0.75 in Radial Ice	126.75	0.271	0.0034	0.2332	0.2332
50 mph Normal with 0.75 in Radial Ice	133.25	0.299	0.0027	0.2463	0.2463
50 mph Normal with 0.75 in Radial Ice	140.25	0.330	0.0038	0.3042	0.3042
50 mph Normal with 0.75 in Radial Ice	145.13	0.353	0.0024	0.2673	0.2673
50 mph Normal with 0.75 in Radial Ice	150.00	0.377	0.0023	0.2914	0.2914
50 mph Normal with 0.75 in Radial Ice	154.88	0.401	0.0015	0.2867	0.2867
50 mph Normal with 0.75 in Radial Ice	164.15	0.451	0.0022	0.3008	0.3008
50 mph Normal with 0.75 in Radial Ice	171.95	0.494	0.0013	0.3232	0.3232
50 mph Normal with 0.75 in Radial Ice	180.00	0.539	0.0003	0.4469	0.4469
50 mph 60 deg with 0.75 in Radial Ice	19.75	0.010	-0.0028	0.0560	0.0561
50 mph 60 deg with 0.75 in Radial Ice	30.00	0.021	-0.0033	0.0574	0.0574
50 mph 60 deg with 0.75 in Radial Ice	70.00	0.088	-0.0072	0.1228	0.1230
50 mph 60 deg with 0.75 in Radial Ice	86.75	0.131	-0.0093	0.1589	0.1592
50 mph 60 deg with 0.75 in Radial Ice	93.25	0.150	-0.0102	0.1733	0.1735
50 mph 60 deg with 0.75 in Radial Ice	106.75	0.194	-0.0116	0.1962	0.1965
50 mph 60 deg with 0.75 in Radial Ice	113.25	0.218	-0.0124	0.2078	0.2081
50 mph 60 deg with 0.75 in Radial Ice	120.25	0.244	-0.0138	0.2509	0.2510
50 mph 60 deg with 0.75 in Radial Ice	126.75	0.270	-0.0140	0.2315	0.2319
50 mph 60 deg with 0.75 in Radial Ice	133.25	0.298	-0.0147	0.2391	0.2395
50 mph 60 deg with 0.75 in Radial Ice	140.25	0.329	-0.0157	0.3047	0.3050
50 mph 60 deg with 0.75 in Radial Ice	145.13	0.351	0.0152	0.2621	0.2625
50 mph 60 deg with 0.75 in Radial Ice	150.00	0.375	0.0163	0.2879	0.2883
50 mph 60 deg with 0.75 in Radial Ice	154.88	0.399	0.0166	0.2815	0.2817
50 mph 60 deg with 0.75 in Radial Ice	164.15	0.448	0.0211	0.2991	0.2993
50 mph 60 deg with 0.75 in Radial Ice	171.95	0.490	0.0252	0.3102	0.3103
50 mph 60 deg with 0.75 in Radial Ice	180.00	0.534	0.0296	0.3032	0.3046
50 mph 90 deg with 0.75 in Radial Ice	19.75	0.010	-0.0035	0.0607	0.0607
50 mph 90 deg with 0.75 in Radial Ice	30.00	0.021	-0.0041	0.0595	0.0596
50 mph 90 deg with 0.75 in Radial Ice	70.00	0.088	-0.0095	0.1251	0.1255
50 mph 90 deg with 0.75 in Radial Ice	86.75	0.131	-0.0123	0.1596	0.1601
50 mph 90 deg with 0.75 in Radial Ice	93.25	0.150	-0.0137	0.1749	0.1755
50 mph 90 deg with 0.75 in Radial Ice	106.75	0.195	-0.0160	0.1969	0.1976
50 mph 90 deg with 0.75 in Radial Ice	113.25	0.218	-0.0172	0.2095	0.2102
50 mph 90 deg with 0.75 in Radial Ice	120.25	0.245	-0.0191	0.2479	0.2481
50 mph 90 deg with 0.75 in Radial Ice	126.75	0.271	-0.0200	0.2326	0.2335
50 mph 90 deg with 0.75 in Radial Ice	133.25	0.298	-0.0214	0.2396	0.2406
50 mph 90 deg with 0.75 in Radial Ice	140.25	0.329	-0.0231	0.2987	0.2989
50 mph 90 deg with 0.75 in Radial Ice	145.13	0.351	-0.0217	0.2650	0.2659
50 mph 90 deg with 0.75 in Radial Ice	150.00	0.375	-0.0219	0.2874	0.2876
50 mph 90 deg with 0.75 in Radial Ice	154.88	0.399	-0.0213	0.2846	0.2854
50 mph 90 deg with 0.75 in Radial Ice	164.15	0.448	-0.0235	0.2999	0.3009
50 mph 90 deg with 0.75 in Radial Ice	171.95	0.490	-0.0245	0.3067	0.3077
50 mph 90 deg with 0.75 in Radial Ice	180.00	0.534	-0.0253	0.2299	0.2302
50 mph 120 deg with 0.75 in Radial Ice	19.75	0.010	-0.0032	0.0631	0.0631
50 mph 120 deg with 0.75 in Radial Ice	30.00	0.020	-0.0039	0.0603	0.0604
50 mph 120 deg with 0.75 in Radial Ice	70.00	0.087	-0.0093	0.1238	0.1240
50 mph 120 deg with 0.75 in Radial Ice	86.75	0.131	-0.0122	0.1601	0.1603
50 mph 120 deg with 0.75 in Radial Ice	93.25	0.150	-0.0137	0.1753	0.1755
50 mph 120 deg with 0.75 in Radial Ice	106.75	0.195	-0.0162	0.1978	0.1980
50 mph 120 deg with 0.75 in Radial Ice	113.25	0.219	-0.0175	0.2103	0.2105
50 mph 120 deg with 0.75 in Radial Ice	120.25	0.245	-0.0194	0.2540	0.2540

50 mph 120 deg with 0.75 in Radial Ice	126.75	0.272	-0.0208	0.2338	0.2341
50 mph 120 deg with 0.75 in Radial Ice	133.25	0.299	-0.0226	0.2418	0.2419
50 mph 120 deg with 0.75 in Radial Ice	140.25	0.330	-0.0246	0.3057	0.3057
50 mph 120 deg with 0.75 in Radial Ice	145.13	0.353	-0.0246	0.2662	0.2663
50 mph 120 deg with 0.75 in Radial Ice	150.00	0.377	-0.0260	0.2908	0.2908
50 mph 120 deg with 0.75 in Radial Ice	154.88	0.401	-0.0266	0.2856	0.2856
50 mph 120 deg with 0.75 in Radial Ice	164.15	0.450	-0.0319	0.2997	0.3014
50 mph 120 deg with 0.75 in Radial Ice	171.95	0.493	-0.0366	0.3118	0.3140
50 mph 120 deg with 0.75 in Radial Ice	180.00	0.537	-0.0408	0.3020	0.3047
50 mph 180 deg with 0.75 in Radial Ice	19.75	0.010	0.0022	0.0560	0.0561
50 mph 180 deg with 0.75 in Radial Ice	30.00	0.021	0.0023	0.0573	0.0573
50 mph 180 deg with 0.75 in Radial Ice	70.00	0.088	0.0041	0.1228	0.1229
50 mph 180 deg with 0.75 in Radial Ice	86.75	0.131	0.0047	0.1591	0.1592
50 mph 180 deg with 0.75 in Radial Ice	93.25	0.150	0.0048	0.1735	0.1735
50 mph 180 deg with 0.75 in Radial Ice	106.75	0.194	0.0046	0.1965	0.1966
50 mph 180 deg with 0.75 in Radial Ice	113.25	0.218	0.0046	0.2082	0.2082
50 mph 180 deg with 0.75 in Radial Ice	120.25	0.244	0.0050	0.2510	0.2510
50 mph 180 deg with 0.75 in Radial Ice	126.75	0.270	0.0035	0.2311	0.2311
50 mph 180 deg with 0.75 in Radial Ice	133.25	0.297	0.0027	0.2439	0.2439
50 mph 180 deg with 0.75 in Radial Ice	140.25	0.329	0.0039	0.3032	0.3032
50 mph 180 deg with 0.75 in Radial Ice	145.13	0.351	0.0025	0.2636	0.2637
50 mph 180 deg with 0.75 in Radial Ice	150.00	0.375	0.0024	0.2885	0.2885
50 mph 180 deg with 0.75 in Radial Ice	154.88	0.399	0.0016	0.2831	0.2831
50 mph 180 deg with 0.75 in Radial Ice	164.15	0.448	0.0025	0.3002	0.3002
50 mph 180 deg with 0.75 in Radial Ice	171.95	0.490	0.0018	0.3201	0.3201
50 mph 180 deg with 0.75 in Radial Ice	180.00	0.535	0.0013	0.4574	0.4574
50 mph 210 deg with 0.75 in Radial Ice	19.75	0.010	0.0019	0.0608	0.0608
50 mph 210 deg with 0.75 in Radial Ice	30.00	0.021	0.0024	0.0596	0.0597
50 mph 210 deg with 0.75 in Radial Ice	70.00	0.088	0.0058	0.1256	0.1257
50 mph 210 deg with 0.75 in Radial Ice	86.75	0.131	0.0076	0.1603	0.1604
50 mph 210 deg with 0.75 in Radial Ice	93.25	0.150	0.0086	0.1757	0.1758
50 mph 210 deg with 0.75 in Radial Ice	106.75	0.195	0.0103	0.1980	0.1981
50 mph 210 deg with 0.75 in Radial Ice	113.25	0.218	0.0112	0.2107	0.2108
50 mph 210 deg with 0.75 in Radial Ice	120.25	0.245	0.0123	0.2489	0.2489
50 mph 210 deg with 0.75 in Radial Ice	126.75	0.271	0.0134	0.2333	0.2333
50 mph 210 deg with 0.75 in Radial Ice	133.25	0.298	0.0147	0.2457	0.2457
50 mph 210 deg with 0.75 in Radial Ice	140.25	0.330	0.0160	0.2979	0.2983
50 mph 210 deg with 0.75 in Radial Ice	145.13	0.352	0.0166	0.2679	0.2679
50 mph 210 deg with 0.75 in Radial Ice	150.00	0.376	0.0178	0.2890	0.2890
50 mph 210 deg with 0.75 in Radial Ice	154.88	0.400	0.0187	0.2879	0.2879
50 mph 210 deg with 0.75 in Radial Ice	164.15	0.449	0.0232	0.3017	0.3017
50 mph 210 deg with 0.75 in Radial Ice	171.95	0.492	0.0275	0.3179	0.3190
50 mph 210 deg with 0.75 in Radial Ice	180.00	0.537	0.0314	0.4133	0.4145
50 mph 240 deg with 0.75 in Radial Ice	19.75	0.010	0.0032	0.0631	0.0631
50 mph 240 deg with 0.75 in Radial Ice	30.00	0.020	0.0039	0.0603	0.0604
50 mph 240 deg with 0.75 in Radial Ice	70.00	0.087	0.0093	0.1238	0.1240
50 mph 240 deg with 0.75 in Radial Ice	86.75	0.131	0.0122	0.1601	0.1603
50 mph 240 deg with 0.75 in Radial Ice	93.25	0.150	0.0137	0.1753	0.1755
50 mph 240 deg with 0.75 in Radial Ice	106.75	0.195	0.0162	0.1978	0.1980
50 mph 240 deg with 0.75 in Radial Ice	113.25	0.219	0.0175	0.2103	0.2105
50 mph 240 deg with 0.75 in Radial Ice	120.25	0.245	0.0194	0.2540	0.2540
50 mph 240 deg with 0.75 in Radial Ice	126.75	0.272	0.0208	0.2338	0.2341
50 mph 240 deg with 0.75 in Radial Ice	133.25	0.299	0.0226	0.2418	0.2419
50 mph 240 deg with 0.75 in Radial Ice	140.25	0.330	0.0246	0.3057	0.3057
50 mph 240 deg with 0.75 in Radial Ice	145.13	0.353	0.0246	0.2662	0.2663
50 mph 240 deg with 0.75 in Radial Ice	150.00	0.377	0.0260	0.2908	0.2908
50 mph 240 deg with 0.75 in Radial Ice	154.88	0.401	0.0266	0.2856	0.2856
50 mph 240 deg with 0.75 in Radial Ice	164.15	0.450	0.0319	0.2997	0.3014
50 mph 240 deg with 0.75 in Radial Ice	171.95	0.493	0.0366	0.3118	0.3140
50 mph 240 deg with 0.75 in Radial Ice	180.00	0.537	0.0408	0.3020	0.3047
50 mph 300 deg with 0.75 in Radial Ice	19.75	0.010	0.0028	0.0560	0.0561
50 mph 300 deg with 0.75 in Radial Ice	30.00	0.021	0.0033	0.0574	0.0574

50 mph 300 deg with 0.75 in Radial Ice	70.00	0.088	0.0072	0.1228	0.1230
50 mph 300 deg with 0.75 in Radial Ice	86.75	0.131	0.0093	0.1589	0.1592
50 mph 300 deg with 0.75 in Radial Ice	93.25	0.150	0.0102	0.1733	0.1735
50 mph 300 deg with 0.75 in Radial Ice	106.75	0.194	0.0116	0.1962	0.1965
50 mph 300 deg with 0.75 in Radial Ice	113.25	0.218	0.0124	0.2078	0.2081
50 mph 300 deg with 0.75 in Radial Ice	120.25	0.244	0.0138	0.2509	0.2510
50 mph 300 deg with 0.75 in Radial Ice	126.75	0.270	0.0140	0.2315	0.2319
50 mph 300 deg with 0.75 in Radial Ice	133.25	0.298	0.0147	0.2391	0.2395
50 mph 300 deg with 0.75 in Radial Ice	140.25	0.329	0.0157	0.3047	0.3050
50 mph 300 deg with 0.75 in Radial Ice	145.13	0.351	0.0132	0.2621	0.2625
50 mph 300 deg with 0.75 in Radial Ice	150.00	0.375	0.0123	0.2879	0.2883
50 mph 300 deg with 0.75 in Radial Ice	154.88	0.399	0.0106	0.2815	0.2817
50 mph 300 deg with 0.75 in Radial Ice	164.15	0.448	0.0093	0.2991	0.2993
50 mph 300 deg with 0.75 in Radial Ice	171.95	0.490	0.0063	0.3102	0.3103
50 mph 300 deg with 0.75 in Radial Ice	180.00	0.534	0.0036	0.3032	0.3046
50 mph 330 deg with 0.75 in Radial Ice	19.75	0.010	0.0016	0.0607	0.0607
50 mph 330 deg with 0.75 in Radial Ice	30.00	0.021	0.0018	0.0596	0.0597
50 mph 330 deg with 0.75 in Radial Ice	70.00	0.088	0.0038	0.1255	0.1257
50 mph 330 deg with 0.75 in Radial Ice	86.75	0.131	0.0048	0.1601	0.1603
50 mph 330 deg with 0.75 in Radial Ice	93.25	0.150	0.0052	0.1756	0.1758
50 mph 330 deg with 0.75 in Radial Ice	106.75	0.195	0.0058	0.1977	0.1980
50 mph 330 deg with 0.75 in Radial Ice	113.25	0.218	0.0062	0.2105	0.2107
50 mph 330 deg with 0.75 in Radial Ice	120.25	0.245	0.0068	0.2488	0.2489
50 mph 330 deg with 0.75 in Radial Ice	126.75	0.271	0.0067	0.2329	0.2331
50 mph 330 deg with 0.75 in Radial Ice	133.25	0.298	0.0069	0.2453	0.2455
50 mph 330 deg with 0.75 in Radial Ice	140.25	0.330	0.0073	0.2986	0.2986
50 mph 330 deg with 0.75 in Radial Ice	145.13	0.352	0.0053	0.2672	0.2675
50 mph 330 deg with 0.75 in Radial Ice	150.00	0.376	0.0043	0.2889	0.2890
50 mph 330 deg with 0.75 in Radial Ice	154.88	0.400	0.0028	0.2869	0.2872
50 mph 330 deg with 0.75 in Radial Ice	164.15	0.449	0.0007	0.3018	0.3023
50 mph 330 deg with 0.75 in Radial Ice	171.95	0.492	-0.0026	0.3188	0.3188
50 mph 330 deg with 0.75 in Radial Ice	180.00	0.537	-0.0056	0.4046	0.4054
Seismic Normal M1	19.75	0.001	0.0003	0.0071	0.0071
Seismic Normal M1	30.00	0.003	0.0004	0.0079	0.0079
Seismic Normal M1	70.00	0.012	0.0009	0.0185	0.0185
Seismic Normal M1	86.75	0.019	0.0011	0.0246	0.0246
Seismic Normal M1	93.25	0.022	0.0012	0.0272	0.0273
Seismic Normal M1	106.75	0.029	0.0014	0.0316	0.0317
Seismic Normal M1	113.25	0.033	0.0015	0.0338	0.0339
Seismic Normal M1	120.25	0.037	0.0017	0.0413	0.0413
Seismic Normal M1	126.75	0.041	0.0016	0.0386	0.0386
Seismic Normal M1	133.25	0.046	0.0017	0.0406	0.0407
Seismic Normal M1	140.25	0.051	0.0019	0.0522	0.0522
Seismic Normal M1	145.13	0.055	0.0017	0.0456	0.0456
Seismic Normal M1	150.00	0.059	0.0017	0.0506	0.0506
Seismic Normal M1	154.88	0.063	0.0015	0.0494	0.0494
Seismic Normal M1	164.15	0.072	0.0017	0.0523	0.0523
Seismic Normal M1	171.95	0.079	0.0016	0.0556	0.0556
Seismic Normal M1	180.00	0.087	0.0015	0.0574	0.0574
Seismic Normal M2	19.75	0.001	0.0003	0.0064	0.0064
Seismic Normal M2	30.00	0.002	0.0003	0.0074	0.0074
Seismic Normal M2	70.00	0.012	0.0008	0.0181	0.0181
Seismic Normal M2	86.75	0.018	0.0010	0.0244	0.0244
Seismic Normal M2	93.25	0.021	0.0011	0.0272	0.0272
Seismic Normal M2	106.75	0.028	0.0013	0.0326	0.0326
Seismic Normal M2	113.25	0.032	0.0013	0.0351	0.0352
Seismic Normal M2	120.25	0.036	0.0015	0.0426	0.0426
Seismic Normal M2	126.75	0.041	0.0015	0.0416	0.0416
Seismic Normal M2	133.25	0.046	0.0015	0.0441	0.0442
Seismic Normal M2	140.25	0.052	0.0018	0.0582	0.0582
Seismic Normal M2	145.13	0.056	0.0015	0.0519	0.0520
Seismic Normal M2	150.00	0.061	0.0014	0.0589	0.0589

Seismic Normal M2	154.88	0.066	0.0012	0.0574	0.0574
Seismic Normal M2	164.15	0.076	0.0016	0.0627	0.0627
Seismic Normal M2	171.95	0.085	0.0015	0.0676	0.0676
Seismic Normal M2	180.00	0.095	0.0014	0.0706	0.0706
Seismic 60 deg M1	19.75	0.001	-0.0003	0.0077	0.0077
Seismic 60 deg M1	30.00	0.002	-0.0004	0.0080	0.0080
Seismic 60 deg M1	70.00	0.012	-0.0009	0.0187	0.0187
Seismic 60 deg M1	86.75	0.019	-0.0011	0.0248	0.0248
Seismic 60 deg M1	93.25	0.022	-0.0012	0.0269	0.0269
Seismic 60 deg M1	106.75	0.029	-0.0014	0.0315	0.0316
Seismic 60 deg M1	113.25	0.032	-0.0015	0.0336	0.0336
Seismic 60 deg M1	120.25	0.037	-0.0016	0.0408	0.0408
Seismic 60 deg M1	126.75	0.041	-0.0016	0.0385	0.0385
Seismic 60 deg M1	133.25	0.046	-0.0016	0.0405	0.0405
Seismic 60 deg M1	140.25	0.051	-0.0019	0.0537	0.0537
Seismic 60 deg M1	145.13	0.055	-0.0016	0.0452	0.0452
Seismic 60 deg M1	150.00	0.059	-0.0016	0.0506	0.0506
Seismic 60 deg M1	154.88	0.063	-0.0015	0.0492	0.0492
Seismic 60 deg M1	164.15	0.072	-0.0017	0.0528	0.0529
Seismic 60 deg M1	171.95	0.079	-0.0016	0.0554	0.0554
Seismic 60 deg M1	180.00	0.087	-0.0015	0.0594	0.0594
Seismic 60 deg M2	19.75	0.001	-0.0003	0.0069	0.0069
Seismic 60 deg M2	30.00	0.002	-0.0003	0.0075	0.0075
Seismic 60 deg M2	70.00	0.011	-0.0008	0.0183	0.0183
Seismic 60 deg M2	86.75	0.018	-0.0010	0.0245	0.0246
Seismic 60 deg M2	93.25	0.021	-0.0011	0.0270	0.0270
Seismic 60 deg M2	106.75	0.028	-0.0013	0.0325	0.0325
Seismic 60 deg M2	113.25	0.032	-0.0013	0.0349	0.0349
Seismic 60 deg M2	120.25	0.036	-0.0015	0.0421	0.0421
Seismic 60 deg M2	126.75	0.041	-0.0015	0.0415	0.0415
Seismic 60 deg M2	133.25	0.046	-0.0015	0.0439	0.0440
Seismic 60 deg M2	140.25	0.052	-0.0018	0.0597	0.0597
Seismic 60 deg M2	145.13	0.056	-0.0014	0.0516	0.0516
Seismic 60 deg M2	150.00	0.061	-0.0014	0.0590	0.0590
Seismic 60 deg M2	154.88	0.066	-0.0011	0.0572	0.0572
Seismic 60 deg M2	164.15	0.076	-0.0015	0.0632	0.0632
Seismic 60 deg M2	171.95	0.085	-0.0014	0.0674	0.0674
Seismic 60 deg M2	180.00	0.095	-0.0014	0.0733	0.0733
Seismic 90 deg M1	19.75	0.001	-0.0004	0.0075	0.0075
Seismic 90 deg M1	30.00	0.003	-0.0005	0.0081	0.0081
Seismic 90 deg M1	70.00	0.012	-0.0010	0.0188	0.0189
Seismic 90 deg M1	86.75	0.019	-0.0013	0.0248	0.0248
Seismic 90 deg M1	93.25	0.022	-0.0014	0.0272	0.0273
Seismic 90 deg M1	106.75	0.029	-0.0016	0.0317	0.0317
Seismic 90 deg M1	113.25	0.032	-0.0017	0.0339	0.0340
Seismic 90 deg M1	120.25	0.037	-0.0019	0.0406	0.0406
Seismic 90 deg M1	126.75	0.041	-0.0018	0.0386	0.0386
Seismic 90 deg M1	133.25	0.046	-0.0019	0.0409	0.0410
Seismic 90 deg M1	140.25	0.051	-0.0022	0.0523	0.0523
Seismic 90 deg M1	145.13	0.055	-0.0019	0.0459	0.0459
Seismic 90 deg M1	150.00	0.059	-0.0019	0.0504	0.0504
Seismic 90 deg M1	154.88	0.063	-0.0017	0.0499	0.0499
Seismic 90 deg M1	164.15	0.072	-0.0019	0.0530	0.0531
Seismic 90 deg M1	171.95	0.079	-0.0018	0.0556	0.0556
Seismic 90 deg M1	180.00	0.087	-0.0017	0.0588	0.0588
Seismic 90 deg M2	19.75	0.001	-0.0003	0.0067	0.0067
Seismic 90 deg M2	30.00	0.002	-0.0004	0.0076	0.0076
Seismic 90 deg M2	70.00	0.012	-0.0009	0.0184	0.0184
Seismic 90 deg M2	86.75	0.018	-0.0011	0.0245	0.0246
Seismic 90 deg M2	93.25	0.021	-0.0012	0.0272	0.0272
Seismic 90 deg M2	106.75	0.028	-0.0014	0.0326	0.0327
Seismic 90 deg M2	113.25	0.032	-0.0015	0.0352	0.0352

Seismic 90 deg M2	120.25	0.036	-0.0017	0.0419	0.0419
Seismic 90 deg M2	126.75	0.041	-0.0017	0.0416	0.0416
Seismic 90 deg M2	133.25	0.046	-0.0017	0.0445	0.0445
Seismic 90 deg M2	140.25	0.052	-0.0021	0.0582	0.0582
Seismic 90 deg M2	145.13	0.056	-0.0017	0.0524	0.0524
Seismic 90 deg M2	150.00	0.061	-0.0016	0.0586	0.0586
Seismic 90 deg M2	154.88	0.066	-0.0013	0.0583	0.0583
Seismic 90 deg M2	164.15	0.076	-0.0018	0.0637	0.0637
Seismic 90 deg M2	171.95	0.085	-0.0017	0.0676	0.0676
Seismic 90 deg M2	180.00	0.095	-0.0016	0.0724	0.0724
Seismic 120 deg M1	19.75	0.001	-0.0003	0.0071	0.0071
Seismic 120 deg M1	30.00	0.003	-0.0004	0.0079	0.0079
Seismic 120 deg M1	70.00	0.012	-0.0009	0.0185	0.0185
Seismic 120 deg M1	86.75	0.019	-0.0011	0.0246	0.0246
Seismic 120 deg M1	93.25	0.022	-0.0012	0.0272	0.0273
Seismic 120 deg M1	106.75	0.029	-0.0014	0.0316	0.0317
Seismic 120 deg M1	113.25	0.033	-0.0015	0.0339	0.0339
Seismic 120 deg M1	120.25	0.037	-0.0016	0.0413	0.0413
Seismic 120 deg M1	126.75	0.041	-0.0016	0.0386	0.0386
Seismic 120 deg M1	133.25	0.046	-0.0016	0.0406	0.0407
Seismic 120 deg M1	140.25	0.051	-0.0019	0.0522	0.0522
Seismic 120 deg M1	145.13	0.055	-0.0016	0.0456	0.0456
Seismic 120 deg M1	150.00	0.059	-0.0016	0.0506	0.0506
Seismic 120 deg M1	154.88	0.063	-0.0015	0.0494	0.0494
Seismic 120 deg M1	164.15	0.072	-0.0017	0.0523	0.0523
Seismic 120 deg M1	171.95	0.079	-0.0016	0.0556	0.0556
Seismic 120 deg M1	180.00	0.087	-0.0015	0.0574	0.0574
Seismic 120 deg M2	19.75	0.001	-0.0003	0.0064	0.0064
Seismic 120 deg M2	30.00	0.002	-0.0003	0.0074	0.0074
Seismic 120 deg M2	70.00	0.012	-0.0008	0.0181	0.0181
Seismic 120 deg M2	86.75	0.018	-0.0010	0.0244	0.0244
Seismic 120 deg M2	93.25	0.021	-0.0011	0.0272	0.0273
Seismic 120 deg M2	106.75	0.028	-0.0013	0.0326	0.0326
Seismic 120 deg M2	113.25	0.032	-0.0013	0.0351	0.0352
Seismic 120 deg M2	120.25	0.036	-0.0015	0.0426	0.0426
Seismic 120 deg M2	126.75	0.041	-0.0015	0.0416	0.0416
Seismic 120 deg M2	133.25	0.046	-0.0015	0.0441	0.0442
Seismic 120 deg M2	140.25	0.052	-0.0018	0.0582	0.0582
Seismic 120 deg M2	145.13	0.056	-0.0014	0.0519	0.0520
Seismic 120 deg M2	150.00	0.061	-0.0014	0.0589	0.0589
Seismic 120 deg M2	154.88	0.066	-0.0011	0.0574	0.0574
Seismic 120 deg M2	164.15	0.076	-0.0015	0.0627	0.0627
Seismic 120 deg M2	171.95	0.085	-0.0014	0.0676	0.0676
Seismic 120 deg M2	180.00	0.095	-0.0014	0.0706	0.0706
Seismic 180 deg M1	19.75	0.001	0.0003	0.0077	0.0077
Seismic 180 deg M1	30.00	0.002	0.0004	0.0080	0.0080
Seismic 180 deg M1	70.00	0.012	0.0009	0.0187	0.0187
Seismic 180 deg M1	86.75	0.019	0.0011	0.0248	0.0248
Seismic 180 deg M1	93.25	0.022	0.0012	0.0269	0.0269
Seismic 180 deg M1	106.75	0.029	0.0014	0.0315	0.0316
Seismic 180 deg M1	113.25	0.032	0.0015	0.0336	0.0336
Seismic 180 deg M1	120.25	0.037	0.0017	0.0408	0.0408
Seismic 180 deg M1	126.75	0.041	0.0016	0.0385	0.0385
Seismic 180 deg M1	133.25	0.046	0.0017	0.0405	0.0405
Seismic 180 deg M1	140.25	0.051	0.0019	0.0537	0.0537
Seismic 180 deg M1	145.13	0.055	0.0017	0.0452	0.0452
Seismic 180 deg M1	150.00	0.059	0.0017	0.0506	0.0506
Seismic 180 deg M1	154.88	0.063	0.0015	0.0492	0.0492
Seismic 180 deg M1	164.15	0.072	0.0017	0.0528	0.0529
Seismic 180 deg M1	171.95	0.079	0.0016	0.0554	0.0554
Seismic 180 deg M1	180.00	0.087	0.0015	0.0594	0.0594
Seismic 180 deg M2	19.75	0.001	0.0003	0.0069	0.0069

Seismic 180 deg M2	30.00	0.002	0.0003	0.0075	0.0075
Seismic 180 deg M2	70.00	0.011	0.0008	0.0183	0.0183
Seismic 180 deg M2	86.75	0.018	0.0010	0.0245	0.0246
Seismic 180 deg M2	93.25	0.021	0.0011	0.0270	0.0270
Seismic 180 deg M2	106.75	0.028	0.0013	0.0325	0.0325
Seismic 180 deg M2	113.25	0.032	0.0013	0.0349	0.0349
Seismic 180 deg M2	120.25	0.036	0.0015	0.0421	0.0421
Seismic 180 deg M2	126.75	0.041	0.0015	0.0415	0.0415
Seismic 180 deg M2	133.25	0.046	0.0015	0.0439	0.0440
Seismic 180 deg M2	140.25	0.052	0.0018	0.0597	0.0597
Seismic 180 deg M2	145.13	0.056	0.0015	0.0516	0.0516
Seismic 180 deg M2	150.00	0.061	0.0014	0.0590	0.0590
Seismic 180 deg M2	154.88	0.066	0.0012	0.0572	0.0572
Seismic 180 deg M2	164.15	0.076	0.0016	0.0632	0.0632
Seismic 180 deg M2	171.95	0.085	0.0015	0.0674	0.0674
Seismic 180 deg M2	180.00	0.095	0.0014	0.0733	0.0733
Seismic 210 deg M1	19.75	0.001	0.0002	0.0075	0.0075
Seismic 210 deg M1	30.00	0.003	0.0002	0.0081	0.0081
Seismic 210 deg M1	70.00	0.012	0.0005	0.0188	0.0189
Seismic 210 deg M1	86.75	0.019	0.0007	0.0248	0.0248
Seismic 210 deg M1	93.25	0.022	0.0007	0.0272	0.0272
Seismic 210 deg M1	106.75	0.029	0.0008	0.0317	0.0317
Seismic 210 deg M1	113.25	0.032	0.0009	0.0339	0.0340
Seismic 210 deg M1	120.25	0.037	0.0010	0.0406	0.0406
Seismic 210 deg M1	126.75	0.041	0.0010	0.0386	0.0386
Seismic 210 deg M1	133.25	0.046	0.0010	0.0409	0.0410
Seismic 210 deg M1	140.25	0.051	0.0012	0.0523	0.0523
Seismic 210 deg M1	145.13	0.055	0.0010	0.0459	0.0459
Seismic 210 deg M1	150.00	0.059	0.0010	0.0504	0.0504
Seismic 210 deg M1	154.88	0.063	0.0009	0.0499	0.0499
Seismic 210 deg M1	164.15	0.072	0.0010	0.0530	0.0531
Seismic 210 deg M1	171.95	0.079	0.0010	0.0556	0.0556
Seismic 210 deg M1	180.00	0.087	0.0009	0.0588	0.0588
Seismic 210 deg M2	19.75	0.001	0.0002	0.0067	0.0067
Seismic 210 deg M2	30.00	0.002	0.0002	0.0075	0.0076
Seismic 210 deg M2	70.00	0.012	0.0005	0.0184	0.0184
Seismic 210 deg M2	86.75	0.018	0.0006	0.0245	0.0246
Seismic 210 deg M2	93.25	0.021	0.0006	0.0272	0.0272
Seismic 210 deg M2	106.75	0.028	0.0008	0.0326	0.0327
Seismic 210 deg M2	113.25	0.032	0.0008	0.0352	0.0352
Seismic 210 deg M2	120.25	0.036	0.0009	0.0419	0.0419
Seismic 210 deg M2	126.75	0.041	0.0009	0.0416	0.0416
Seismic 210 deg M2	133.25	0.046	0.0009	0.0445	0.0445
Seismic 210 deg M2	140.25	0.052	0.0011	0.0582	0.0582
Seismic 210 deg M2	145.13	0.056	0.0009	0.0524	0.0524
Seismic 210 deg M2	150.00	0.061	0.0009	0.0586	0.0586
Seismic 210 deg M2	154.88	0.066	0.0007	0.0582	0.0583
Seismic 210 deg M2	164.15	0.076	0.0010	0.0637	0.0637
Seismic 210 deg M2	171.95	0.085	0.0009	0.0676	0.0676
Seismic 210 deg M2	180.00	0.095	0.0009	0.0724	0.0724
Seismic 240 deg M1	19.75	0.001	0.0003	0.0071	0.0071
Seismic 240 deg M1	30.00	0.003	0.0004	0.0079	0.0079
Seismic 240 deg M1	70.00	0.012	0.0009	0.0185	0.0185
Seismic 240 deg M1	86.75	0.019	0.0011	0.0246	0.0246
Seismic 240 deg M1	93.25	0.022	0.0012	0.0272	0.0273
Seismic 240 deg M1	106.75	0.029	0.0014	0.0316	0.0317
Seismic 240 deg M1	113.25	0.033	0.0015	0.0339	0.0339
Seismic 240 deg M1	120.25	0.037	0.0016	0.0413	0.0413
Seismic 240 deg M1	126.75	0.041	0.0016	0.0386	0.0386
Seismic 240 deg M1	133.25	0.046	0.0016	0.0406	0.0407
Seismic 240 deg M1	140.25	0.051	0.0019	0.0522	0.0522
Seismic 240 deg M1	145.13	0.055	0.0016	0.0456	0.0456

Seismic 240 deg M1	150.00	0.059	0.0016	0.0506	0.0506
Seismic 240 deg M1	154.88	0.063	0.0015	0.0494	0.0494
Seismic 240 deg M1	164.15	0.072	0.0017	0.0523	0.0523
Seismic 240 deg M1	171.95	0.079	0.0016	0.0556	0.0556
Seismic 240 deg M1	180.00	0.087	0.0015	0.0574	0.0574
Seismic 240 deg M2	19.75	0.001	0.0003	0.0064	0.0064
Seismic 240 deg M2	30.00	0.002	0.0003	0.0074	0.0074
Seismic 240 deg M2	70.00	0.012	0.0008	0.0181	0.0181
Seismic 240 deg M2	86.75	0.018	0.0010	0.0244	0.0244
Seismic 240 deg M2	93.25	0.021	0.0011	0.0272	0.0273
Seismic 240 deg M2	106.75	0.028	0.0013	0.0326	0.0326
Seismic 240 deg M2	113.25	0.032	0.0013	0.0351	0.0352
Seismic 240 deg M2	120.25	0.036	0.0015	0.0426	0.0426
Seismic 240 deg M2	126.75	0.041	0.0015	0.0416	0.0416
Seismic 240 deg M2	133.25	0.046	0.0015	0.0441	0.0442
Seismic 240 deg M2	140.25	0.052	0.0018	0.0582	0.0582
Seismic 240 deg M2	145.13	0.056	0.0014	0.0519	0.0520
Seismic 240 deg M2	150.00	0.061	0.0014	0.0589	0.0589
Seismic 240 deg M2	154.88	0.066	0.0011	0.0574	0.0574
Seismic 240 deg M2	164.15	0.076	0.0015	0.0627	0.0627
Seismic 240 deg M2	171.95	0.085	0.0014	0.0676	0.0676
Seismic 240 deg M2	180.00	0.095	0.0014	0.0706	0.0706
Seismic 300 deg M1	19.75	0.001	0.0003	0.0077	0.0077
Seismic 300 deg M1	30.00	0.002	0.0004	0.0080	0.0080
Seismic 300 deg M1	70.00	0.012	0.0009	0.0187	0.0187
Seismic 300 deg M1	86.75	0.019	0.0011	0.0248	0.0248
Seismic 300 deg M1	93.25	0.022	0.0012	0.0269	0.0269
Seismic 300 deg M1	106.75	0.029	0.0014	0.0315	0.0316
Seismic 300 deg M1	113.25	0.032	0.0015	0.0336	0.0336
Seismic 300 deg M1	120.25	0.037	0.0016	0.0408	0.0408
Seismic 300 deg M1	126.75	0.041	0.0016	0.0385	0.0385
Seismic 300 deg M1	133.25	0.046	0.0016	0.0405	0.0405
Seismic 300 deg M1	140.25	0.051	0.0019	0.0537	0.0537
Seismic 300 deg M1	145.13	0.055	0.0016	0.0452	0.0452
Seismic 300 deg M1	150.00	0.059	0.0016	0.0506	0.0506
Seismic 300 deg M1	154.88	0.063	0.0015	0.0492	0.0492
Seismic 300 deg M1	164.15	0.072	0.0017	0.0528	0.0529
Seismic 300 deg M1	171.95	0.079	0.0016	0.0554	0.0554
Seismic 300 deg M1	180.00	0.087	0.0015	0.0594	0.0594
Seismic 300 deg M2	19.75	0.001	0.0003	0.0069	0.0069
Seismic 300 deg M2	30.00	0.002	0.0003	0.0075	0.0075
Seismic 300 deg M2	70.00	0.011	0.0008	0.0183	0.0183
Seismic 300 deg M2	86.75	0.018	0.0010	0.0245	0.0246
Seismic 300 deg M2	93.25	0.021	0.0011	0.0270	0.0270
Seismic 300 deg M2	106.75	0.028	0.0013	0.0325	0.0325
Seismic 300 deg M2	113.25	0.032	0.0013	0.0349	0.0349
Seismic 300 deg M2	120.25	0.036	0.0015	0.0421	0.0421
Seismic 300 deg M2	126.75	0.041	0.0015	0.0415	0.0415
Seismic 300 deg M2	133.25	0.046	0.0015	0.0439	0.0440
Seismic 300 deg M2	140.25	0.052	0.0018	0.0597	0.0597
Seismic 300 deg M2	145.13	0.056	0.0014	0.0516	0.0516
Seismic 300 deg M2	150.00	0.061	0.0014	0.0590	0.0590
Seismic 300 deg M2	154.88	0.066	0.0011	0.0572	0.0572
Seismic 300 deg M2	164.15	0.076	0.0015	0.0632	0.0632
Seismic 300 deg M2	171.95	0.085	0.0014	0.0674	0.0674
Seismic 300 deg M2	180.00	0.095	0.0014	0.0733	0.0733
Seismic 330 deg M1	19.75	0.001	0.0002	0.0075	0.0075
Seismic 330 deg M1	30.00	0.003	0.0002	0.0081	0.0081
Seismic 330 deg M1	70.00	0.012	0.0005	0.0189	0.0189
Seismic 330 deg M1	86.75	0.019	0.0007	0.0248	0.0248
Seismic 330 deg M1	93.25	0.022	0.0007	0.0272	0.0273
Seismic 330 deg M1	106.75	0.029	0.0008	0.0317	0.0317

Seismic 330 deg M1	113.25	0.032	0.0009	0.0339	0.0340
Seismic 330 deg M1	120.25	0.037	0.0010	0.0406	0.0406
Seismic 330 deg M1	126.75	0.041	0.0010	0.0386	0.0386
Seismic 330 deg M1	133.25	0.046	0.0010	0.0409	0.0410
Seismic 330 deg M1	140.25	0.051	0.0011	0.0523	0.0523
Seismic 330 deg M1	145.13	0.055	0.0010	0.0459	0.0459
Seismic 330 deg M1	150.00	0.059	0.0010	0.0504	0.0504
Seismic 330 deg M1	154.88	0.063	0.0009	0.0499	0.0499
Seismic 330 deg M1	164.15	0.072	0.0010	0.0530	0.0531
Seismic 330 deg M1	171.95	0.079	0.0009	0.0556	0.0556
Seismic 330 deg M1	180.00	0.087	0.0009	0.0588	0.0588
Seismic 330 deg M2	19.75	0.001	0.0002	0.0067	0.0067
Seismic 330 deg M2	30.00	0.002	0.0002	0.0076	0.0076
Seismic 330 deg M2	70.00	0.012	0.0005	0.0184	0.0184
Seismic 330 deg M2	86.75	0.018	0.0006	0.0245	0.0246
Seismic 330 deg M2	93.25	0.021	0.0006	0.0272	0.0272
Seismic 330 deg M2	106.75	0.028	0.0008	0.0326	0.0327
Seismic 330 deg M2	113.25	0.032	0.0008	0.0352	0.0352
Seismic 330 deg M2	120.25	0.036	0.0009	0.0419	0.0419
Seismic 330 deg M2	126.75	0.041	0.0009	0.0416	0.0416
Seismic 330 deg M2	133.25	0.046	0.0009	0.0445	0.0445
Seismic 330 deg M2	140.25	0.052	0.0011	0.0582	0.0582
Seismic 330 deg M2	145.13	0.056	0.0009	0.0524	0.0524
Seismic 330 deg M2	150.00	0.061	0.0009	0.0586	0.0586
Seismic 330 deg M2	154.88	0.066	0.0007	0.0583	0.0583
Seismic 330 deg M2	164.15	0.076	0.0010	0.0637	0.0637
Seismic 330 deg M2	171.95	0.085	0.0009	0.0676	0.0676
Seismic 330 deg M2	180.00	0.095	0.0008	0.0724	0.0724
Seismic (Reduced DL) Normal M1	19.75	0.001	0.0003	0.0069	0.0069
Seismic (Reduced DL) Normal M1	30.00	0.003	0.0004	0.0079	0.0079
Seismic (Reduced DL) Normal M1	70.00	0.012	0.0009	0.0185	0.0185
Seismic (Reduced DL) Normal M1	86.75	0.019	0.0011	0.0246	0.0246
Seismic (Reduced DL) Normal M1	93.25	0.022	0.0012	0.0271	0.0271
Seismic (Reduced DL) Normal M1	106.75	0.029	0.0014	0.0315	0.0316
Seismic (Reduced DL) Normal M1	113.25	0.032	0.0015	0.0337	0.0338
Seismic (Reduced DL) Normal M1	120.25	0.037	0.0017	0.0411	0.0411
Seismic (Reduced DL) Normal M1	126.75	0.041	0.0016	0.0384	0.0385
Seismic (Reduced DL) Normal M1	133.25	0.046	0.0017	0.0405	0.0405
Seismic (Reduced DL) Normal M1	140.25	0.051	0.0019	0.0523	0.0523
Seismic (Reduced DL) Normal M1	145.13	0.055	0.0017	0.0454	0.0454
Seismic (Reduced DL) Normal M1	150.00	0.059	0.0017	0.0504	0.0504
Seismic (Reduced DL) Normal M1	154.88	0.063	0.0015	0.0492	0.0493
Seismic (Reduced DL) Normal M1	164.15	0.072	0.0017	0.0522	0.0522
Seismic (Reduced DL) Normal M1	171.95	0.079	0.0016	0.0553	0.0553
Seismic (Reduced DL) Normal M1	180.00	0.087	0.0015	0.0570	0.0570
Seismic (Reduced DL) Normal M2	19.75	0.001	0.0003	0.0063	0.0063
Seismic (Reduced DL) Normal M2	30.00	0.002	0.0003	0.0074	0.0074
Seismic (Reduced DL) Normal M2	70.00	0.012	0.0008	0.0181	0.0181
Seismic (Reduced DL) Normal M2	86.75	0.018	0.0010	0.0244	0.0244
Seismic (Reduced DL) Normal M2	93.25	0.021	0.0011	0.0271	0.0271
Seismic (Reduced DL) Normal M2	106.75	0.028	0.0013	0.0325	0.0325
Seismic (Reduced DL) Normal M2	113.25	0.032	0.0013	0.0350	0.0350
Seismic (Reduced DL) Normal M2	120.25	0.036	0.0015	0.0425	0.0425
Seismic (Reduced DL) Normal M2	126.75	0.041	0.0015	0.0414	0.0415
Seismic (Reduced DL) Normal M2	133.25	0.046	0.0015	0.0440	0.0440
Seismic (Reduced DL) Normal M2	140.25	0.052	0.0018	0.0583	0.0583
Seismic (Reduced DL) Normal M2	145.13	0.056	0.0015	0.0517	0.0518
Seismic (Reduced DL) Normal M2	150.00	0.061	0.0014	0.0588	0.0588
Seismic (Reduced DL) Normal M2	154.88	0.066	0.0012	0.0572	0.0572
Seismic (Reduced DL) Normal M2	164.15	0.076	0.0016	0.0626	0.0626
Seismic (Reduced DL) Normal M2	171.95	0.085	0.0015	0.0673	0.0673
Seismic (Reduced DL) Normal M2	180.00	0.094	0.0014	0.0708	0.0708

Seismic (Reduced DL) 60 deg M1	19.75	0.001	-0.0003	0.0074	0.0074
Seismic (Reduced DL) 60 deg M1	30.00	0.002	-0.0004	0.0080	0.0080
Seismic (Reduced DL) 60 deg M1	70.00	0.012	-0.0009	0.0186	0.0186
Seismic (Reduced DL) 60 deg M1	86.75	0.019	-0.0011	0.0247	0.0247
Seismic (Reduced DL) 60 deg M1	93.25	0.022	-0.0012	0.0269	0.0269
Seismic (Reduced DL) 60 deg M1	106.75	0.029	-0.0014	0.0315	0.0315
Seismic (Reduced DL) 60 deg M1	113.25	0.032	-0.0015	0.0336	0.0336
Seismic (Reduced DL) 60 deg M1	120.25	0.037	-0.0016	0.0408	0.0408
Seismic (Reduced DL) 60 deg M1	126.75	0.041	-0.0016	0.0384	0.0384
Seismic (Reduced DL) 60 deg M1	133.25	0.046	-0.0016	0.0404	0.0404
Seismic (Reduced DL) 60 deg M1	140.25	0.051	-0.0019	0.0533	0.0533
Seismic (Reduced DL) 60 deg M1	145.13	0.055	-0.0016	0.0452	0.0452
Seismic (Reduced DL) 60 deg M1	150.00	0.059	-0.0016	0.0505	0.0505
Seismic (Reduced DL) 60 deg M1	154.88	0.063	-0.0015	0.0491	0.0491
Seismic (Reduced DL) 60 deg M1	164.15	0.072	-0.0017	0.0526	0.0526
Seismic (Reduced DL) 60 deg M1	171.95	0.079	-0.0016	0.0552	0.0552
Seismic (Reduced DL) 60 deg M1	180.00	0.087	-0.0015	0.0588	0.0588
Seismic (Reduced DL) 60 deg M2	19.75	0.001	-0.0003	0.0067	0.0067
Seismic (Reduced DL) 60 deg M2	30.00	0.002	-0.0003	0.0075	0.0075
Seismic (Reduced DL) 60 deg M2	70.00	0.011	-0.0008	0.0182	0.0182
Seismic (Reduced DL) 60 deg M2	86.75	0.018	-0.0010	0.0245	0.0245
Seismic (Reduced DL) 60 deg M2	93.25	0.021	-0.0011	0.0269	0.0269
Seismic (Reduced DL) 60 deg M2	106.75	0.028	-0.0012	0.0324	0.0324
Seismic (Reduced DL) 60 deg M2	113.25	0.032	-0.0013	0.0348	0.0349
Seismic (Reduced DL) 60 deg M2	120.25	0.036	-0.0015	0.0421	0.0421
Seismic (Reduced DL) 60 deg M2	126.75	0.041	-0.0015	0.0414	0.0414
Seismic (Reduced DL) 60 deg M2	133.25	0.046	-0.0015	0.0439	0.0439
Seismic (Reduced DL) 60 deg M2	140.25	0.051	-0.0018	0.0593	0.0593
Seismic (Reduced DL) 60 deg M2	145.13	0.056	-0.0014	0.0515	0.0515
Seismic (Reduced DL) 60 deg M2	150.00	0.060	-0.0014	0.0588	0.0588
Seismic (Reduced DL) 60 deg M2	154.88	0.065	-0.0011	0.0571	0.0571
Seismic (Reduced DL) 60 deg M2	164.15	0.076	-0.0015	0.0630	0.0630
Seismic (Reduced DL) 60 deg M2	171.95	0.085	-0.0014	0.0672	0.0672
Seismic (Reduced DL) 60 deg M2	180.00	0.094	-0.0014	0.0727	0.0727
Seismic (Reduced DL) 90 deg M1	19.75	0.001	-0.0004	0.0073	0.0073
Seismic (Reduced DL) 90 deg M1	30.00	0.003	-0.0004	0.0081	0.0081
Seismic (Reduced DL) 90 deg M1	70.00	0.012	-0.0010	0.0188	0.0188
Seismic (Reduced DL) 90 deg M1	86.75	0.019	-0.0013	0.0247	0.0248
Seismic (Reduced DL) 90 deg M1	93.25	0.022	-0.0014	0.0272	0.0272
Seismic (Reduced DL) 90 deg M1	106.75	0.029	-0.0016	0.0316	0.0316
Seismic (Reduced DL) 90 deg M1	113.25	0.032	-0.0017	0.0338	0.0339
Seismic (Reduced DL) 90 deg M1	120.25	0.037	-0.0019	0.0404	0.0404
Seismic (Reduced DL) 90 deg M1	126.75	0.041	-0.0018	0.0385	0.0385
Seismic (Reduced DL) 90 deg M1	133.25	0.046	-0.0019	0.0408	0.0409
Seismic (Reduced DL) 90 deg M1	140.25	0.051	-0.0022	0.0520	0.0520
Seismic (Reduced DL) 90 deg M1	145.13	0.055	-0.0019	0.0458	0.0458
Seismic (Reduced DL) 90 deg M1	150.00	0.059	-0.0019	0.0502	0.0502
Seismic (Reduced DL) 90 deg M1	154.88	0.063	-0.0017	0.0498	0.0498
Seismic (Reduced DL) 90 deg M1	164.15	0.072	-0.0019	0.0529	0.0529
Seismic (Reduced DL) 90 deg M1	171.95	0.079	-0.0018	0.0553	0.0553
Seismic (Reduced DL) 90 deg M1	180.00	0.087	-0.0017	0.0582	0.0582
Seismic (Reduced DL) 90 deg M2	19.75	0.001	-0.0003	0.0065	0.0066
Seismic (Reduced DL) 90 deg M2	30.00	0.002	-0.0004	0.0075	0.0075
Seismic (Reduced DL) 90 deg M2	70.00	0.012	-0.0009	0.0183	0.0183
Seismic (Reduced DL) 90 deg M2	86.75	0.018	-0.0011	0.0245	0.0245
Seismic (Reduced DL) 90 deg M2	93.25	0.021	-0.0012	0.0271	0.0271
Seismic (Reduced DL) 90 deg M2	106.75	0.028	-0.0014	0.0326	0.0326
Seismic (Reduced DL) 90 deg M2	113.25	0.032	-0.0015	0.0351	0.0351
Seismic (Reduced DL) 90 deg M2	120.25	0.036	-0.0017	0.0417	0.0417
Seismic (Reduced DL) 90 deg M2	126.75	0.041	-0.0017	0.0415	0.0415
Seismic (Reduced DL) 90 deg M2	133.25	0.046	-0.0017	0.0443	0.0444
Seismic (Reduced DL) 90 deg M2	140.25	0.052	-0.0021	0.0578	0.0578

Seismic (Reduced DL) 90 deg M2	145.13	0.056	-0.0017	0.0523	0.0523
Seismic (Reduced DL) 90 deg M2	150.00	0.061	-0.0016	0.0584	0.0584
Seismic (Reduced DL) 90 deg M2	154.88	0.066	-0.0013	0.0581	0.0581
Seismic (Reduced DL) 90 deg M2	164.15	0.076	-0.0017	0.0635	0.0635
Seismic (Reduced DL) 90 deg M2	171.95	0.085	-0.0016	0.0673	0.0673
Seismic (Reduced DL) 90 deg M2	180.00	0.094	-0.0016	0.0718	0.0718
Seismic (Reduced DL) 120 deg M1	19.75	0.001	-0.0003	0.0069	0.0069
Seismic (Reduced DL) 120 deg M1	30.00	0.003	-0.0004	0.0079	0.0079
Seismic (Reduced DL) 120 deg M1	70.00	0.012	-0.0009	0.0185	0.0185
Seismic (Reduced DL) 120 deg M1	86.75	0.019	-0.0011	0.0246	0.0246
Seismic (Reduced DL) 120 deg M1	93.25	0.022	-0.0012	0.0271	0.0271
Seismic (Reduced DL) 120 deg M1	106.75	0.029	-0.0014	0.0315	0.0316
Seismic (Reduced DL) 120 deg M1	113.25	0.032	-0.0015	0.0337	0.0338
Seismic (Reduced DL) 120 deg M1	120.25	0.037	-0.0016	0.0411	0.0411
Seismic (Reduced DL) 120 deg M1	126.75	0.041	-0.0016	0.0384	0.0385
Seismic (Reduced DL) 120 deg M1	133.25	0.046	-0.0016	0.0405	0.0405
Seismic (Reduced DL) 120 deg M1	140.25	0.051	-0.0019	0.0523	0.0523
Seismic (Reduced DL) 120 deg M1	145.13	0.055	-0.0016	0.0454	0.0454
Seismic (Reduced DL) 120 deg M1	150.00	0.059	-0.0016	0.0504	0.0504
Seismic (Reduced DL) 120 deg M1	154.88	0.063	-0.0015	0.0492	0.0493
Seismic (Reduced DL) 120 deg M1	164.15	0.072	-0.0017	0.0522	0.0522
Seismic (Reduced DL) 120 deg M1	171.95	0.079	-0.0016	0.0553	0.0553
Seismic (Reduced DL) 120 deg M1	180.00	0.087	-0.0015	0.0570	0.0570
Seismic (Reduced DL) 120 deg M2	19.75	0.001	-0.0003	0.0063	0.0063
Seismic (Reduced DL) 120 deg M2	30.00	0.002	-0.0003	0.0074	0.0074
Seismic (Reduced DL) 120 deg M2	70.00	0.012	-0.0008	0.0181	0.0181
Seismic (Reduced DL) 120 deg M2	86.75	0.018	-0.0010	0.0244	0.0244
Seismic (Reduced DL) 120 deg M2	93.25	0.021	-0.0011	0.0271	0.0271
Seismic (Reduced DL) 120 deg M2	106.75	0.028	-0.0012	0.0325	0.0325
Seismic (Reduced DL) 120 deg M2	113.25	0.032	-0.0013	0.0350	0.0350
Seismic (Reduced DL) 120 deg M2	120.25	0.036	-0.0015	0.0424	0.0424
Seismic (Reduced DL) 120 deg M2	126.75	0.041	-0.0015	0.0414	0.0415
Seismic (Reduced DL) 120 deg M2	133.25	0.046	-0.0015	0.0440	0.0440
Seismic (Reduced DL) 120 deg M2	140.25	0.052	-0.0018	0.0583	0.0583
Seismic (Reduced DL) 120 deg M2	145.13	0.056	-0.0014	0.0518	0.0518
Seismic (Reduced DL) 120 deg M2	150.00	0.061	-0.0014	0.0588	0.0588
Seismic (Reduced DL) 120 deg M2	154.88	0.066	-0.0011	0.0572	0.0572
Seismic (Reduced DL) 120 deg M2	164.15	0.076	-0.0015	0.0626	0.0626
Seismic (Reduced DL) 120 deg M2	171.95	0.085	-0.0014	0.0673	0.0673
Seismic (Reduced DL) 120 deg M2	180.00	0.094	-0.0014	0.0708	0.0708
Seismic (Reduced DL) 180 deg M1	19.75	0.001	0.0003	0.0074	0.0074
Seismic (Reduced DL) 180 deg M1	30.00	0.002	0.0004	0.0080	0.0080
Seismic (Reduced DL) 180 deg M1	70.00	0.012	0.0009	0.0186	0.0186
Seismic (Reduced DL) 180 deg M1	86.75	0.019	0.0011	0.0247	0.0247
Seismic (Reduced DL) 180 deg M1	93.25	0.022	0.0012	0.0269	0.0269
Seismic (Reduced DL) 180 deg M1	106.75	0.029	0.0014	0.0315	0.0315
Seismic (Reduced DL) 180 deg M1	113.25	0.032	0.0015	0.0335	0.0336
Seismic (Reduced DL) 180 deg M1	120.25	0.037	0.0017	0.0408	0.0408
Seismic (Reduced DL) 180 deg M1	126.75	0.041	0.0016	0.0384	0.0384
Seismic (Reduced DL) 180 deg M1	133.25	0.046	0.0017	0.0404	0.0404
Seismic (Reduced DL) 180 deg M1	140.25	0.051	0.0019	0.0533	0.0533
Seismic (Reduced DL) 180 deg M1	145.13	0.055	0.0017	0.0451	0.0452
Seismic (Reduced DL) 180 deg M1	150.00	0.059	0.0017	0.0505	0.0505
Seismic (Reduced DL) 180 deg M1	154.88	0.063	0.0015	0.0491	0.0491
Seismic (Reduced DL) 180 deg M1	164.15	0.072	0.0017	0.0526	0.0526
Seismic (Reduced DL) 180 deg M1	171.95	0.079	0.0016	0.0552	0.0552
Seismic (Reduced DL) 180 deg M1	180.00	0.087	0.0015	0.0588	0.0588
Seismic (Reduced DL) 180 deg M2	19.75	0.001	0.0003	0.0067	0.0067
Seismic (Reduced DL) 180 deg M2	30.00	0.002	0.0003	0.0075	0.0075
Seismic (Reduced DL) 180 deg M2	70.00	0.011	0.0008	0.0182	0.0182
Seismic (Reduced DL) 180 deg M2	86.75	0.018	0.0010	0.0245	0.0245
Seismic (Reduced DL) 180 deg M2	93.25	0.021	0.0011	0.0269	0.0269

Seismic (Reduced DL) 180 deg M2	106.75	0.028	0.0013	0.0324	0.0324
Seismic (Reduced DL) 180 deg M2	113.25	0.032	0.0013	0.0348	0.0349
Seismic (Reduced DL) 180 deg M2	120.25	0.036	0.0015	0.0421	0.0421
Seismic (Reduced DL) 180 deg M2	126.75	0.041	0.0015	0.0414	0.0414
Seismic (Reduced DL) 180 deg M2	133.25	0.046	0.0015	0.0439	0.0439
Seismic (Reduced DL) 180 deg M2	140.25	0.051	0.0018	0.0593	0.0593
Seismic (Reduced DL) 180 deg M2	145.13	0.056	0.0015	0.0515	0.0515
Seismic (Reduced DL) 180 deg M2	150.00	0.060	0.0014	0.0588	0.0588
Seismic (Reduced DL) 180 deg M2	154.88	0.065	0.0012	0.0571	0.0571
Seismic (Reduced DL) 180 deg M2	164.15	0.076	0.0016	0.0630	0.0630
Seismic (Reduced DL) 180 deg M2	171.95	0.085	0.0015	0.0672	0.0672
Seismic (Reduced DL) 180 deg M2	180.00	0.094	0.0014	0.0727	0.0727
Seismic (Reduced DL) 210 deg M1	19.75	0.001	0.0002	0.0073	0.0073
Seismic (Reduced DL) 210 deg M1	30.00	0.003	0.0002	0.0081	0.0081
Seismic (Reduced DL) 210 deg M1	70.00	0.012	0.0005	0.0188	0.0188
Seismic (Reduced DL) 210 deg M1	86.75	0.019	0.0007	0.0247	0.0248
Seismic (Reduced DL) 210 deg M1	93.25	0.022	0.0007	0.0271	0.0272
Seismic (Reduced DL) 210 deg M1	106.75	0.029	0.0008	0.0316	0.0316
Seismic (Reduced DL) 210 deg M1	113.25	0.032	0.0009	0.0338	0.0339
Seismic (Reduced DL) 210 deg M1	120.25	0.037	0.0010	0.0404	0.0404
Seismic (Reduced DL) 210 deg M1	126.75	0.041	0.0010	0.0385	0.0385
Seismic (Reduced DL) 210 deg M1	133.25	0.046	0.0010	0.0408	0.0409
Seismic (Reduced DL) 210 deg M1	140.25	0.051	0.0011	0.0520	0.0520
Seismic (Reduced DL) 210 deg M1	145.13	0.055	0.0010	0.0458	0.0458
Seismic (Reduced DL) 210 deg M1	150.00	0.059	0.0010	0.0502	0.0502
Seismic (Reduced DL) 210 deg M1	154.88	0.063	0.0009	0.0498	0.0498
Seismic (Reduced DL) 210 deg M1	164.15	0.072	0.0010	0.0529	0.0529
Seismic (Reduced DL) 210 deg M1	171.95	0.079	0.0009	0.0553	0.0553
Seismic (Reduced DL) 210 deg M1	180.00	0.087	0.0009	0.0582	0.0583
Seismic (Reduced DL) 210 deg M2	19.75	0.001	0.0002	0.0065	0.0066
Seismic (Reduced DL) 210 deg M2	30.00	0.002	0.0002	0.0075	0.0075
Seismic (Reduced DL) 210 deg M2	70.00	0.012	0.0005	0.0183	0.0183
Seismic (Reduced DL) 210 deg M2	86.75	0.018	0.0006	0.0245	0.0245
Seismic (Reduced DL) 210 deg M2	93.25	0.021	0.0006	0.0271	0.0271
Seismic (Reduced DL) 210 deg M2	106.75	0.028	0.0008	0.0326	0.0326
Seismic (Reduced DL) 210 deg M2	113.25	0.032	0.0008	0.0351	0.0351
Seismic (Reduced DL) 210 deg M2	120.25	0.036	0.0009	0.0417	0.0417
Seismic (Reduced DL) 210 deg M2	126.75	0.041	0.0009	0.0415	0.0415
Seismic (Reduced DL) 210 deg M2	133.25	0.046	0.0009	0.0443	0.0444
Seismic (Reduced DL) 210 deg M2	140.25	0.052	0.0011	0.0578	0.0578
Seismic (Reduced DL) 210 deg M2	145.13	0.056	0.0009	0.0523	0.0523
Seismic (Reduced DL) 210 deg M2	150.00	0.061	0.0009	0.0584	0.0584
Seismic (Reduced DL) 210 deg M2	154.88	0.066	0.0007	0.0581	0.0581
Seismic (Reduced DL) 210 deg M2	164.15	0.076	0.0010	0.0635	0.0635
Seismic (Reduced DL) 210 deg M2	171.95	0.085	0.0009	0.0673	0.0673
Seismic (Reduced DL) 210 deg M2	180.00	0.094	0.0008	0.0718	0.0718
Seismic (Reduced DL) 240 deg M1	19.75	0.001	0.0003	0.0069	0.0069
Seismic (Reduced DL) 240 deg M1	30.00	0.003	0.0004	0.0079	0.0079
Seismic (Reduced DL) 240 deg M1	70.00	0.012	0.0009	0.0185	0.0185
Seismic (Reduced DL) 240 deg M1	86.75	0.019	0.0011	0.0246	0.0246
Seismic (Reduced DL) 240 deg M1	93.25	0.022	0.0012	0.0271	0.0271
Seismic (Reduced DL) 240 deg M1	106.75	0.029	0.0014	0.0315	0.0316
Seismic (Reduced DL) 240 deg M1	113.25	0.032	0.0015	0.0337	0.0338
Seismic (Reduced DL) 240 deg M1	120.25	0.037	0.0016	0.0411	0.0411
Seismic (Reduced DL) 240 deg M1	126.75	0.041	0.0016	0.0384	0.0385
Seismic (Reduced DL) 240 deg M1	133.25	0.046	0.0016	0.0405	0.0405
Seismic (Reduced DL) 240 deg M1	140.25	0.051	0.0019	0.0523	0.0523
Seismic (Reduced DL) 240 deg M1	145.13	0.055	0.0016	0.0454	0.0454
Seismic (Reduced DL) 240 deg M1	150.00	0.059	0.0016	0.0504	0.0504
Seismic (Reduced DL) 240 deg M1	154.88	0.063	0.0015	0.0492	0.0493
Seismic (Reduced DL) 240 deg M1	164.15	0.072	0.0017	0.0522	0.0522
Seismic (Reduced DL) 240 deg M1	171.95	0.079	0.0016	0.0553	0.0553

Seismic (Reduced DL) 240 deg M1	180.00	0.087	0.0015	0.0570	0.0570
Seismic (Reduced DL) 240 deg M2	19.75	0.001	0.0003	0.0063	0.0063
Seismic (Reduced DL) 240 deg M2	30.00	0.002	0.0003	0.0074	0.0074
Seismic (Reduced DL) 240 deg M2	70.00	0.012	0.0008	0.0181	0.0181
Seismic (Reduced DL) 240 deg M2	86.75	0.018	0.0010	0.0244	0.0244
Seismic (Reduced DL) 240 deg M2	93.25	0.021	0.0011	0.0271	0.0271
Seismic (Reduced DL) 240 deg M2	106.75	0.028	0.0012	0.0325	0.0325
Seismic (Reduced DL) 240 deg M2	113.25	0.032	0.0013	0.0350	0.0350
Seismic (Reduced DL) 240 deg M2	120.25	0.036	0.0015	0.0424	0.0424
Seismic (Reduced DL) 240 deg M2	126.75	0.041	0.0015	0.0414	0.0415
Seismic (Reduced DL) 240 deg M2	133.25	0.046	0.0015	0.0440	0.0440
Seismic (Reduced DL) 240 deg M2	140.25	0.052	0.0018	0.0583	0.0583
Seismic (Reduced DL) 240 deg M2	145.13	0.056	0.0014	0.0518	0.0518
Seismic (Reduced DL) 240 deg M2	150.00	0.061	0.0014	0.0588	0.0588
Seismic (Reduced DL) 240 deg M2	154.88	0.066	0.0011	0.0572	0.0572
Seismic (Reduced DL) 240 deg M2	164.15	0.076	0.0015	0.0626	0.0626
Seismic (Reduced DL) 240 deg M2	171.95	0.085	0.0014	0.0673	0.0673
Seismic (Reduced DL) 240 deg M2	180.00	0.094	0.0014	0.0708	0.0708
Seismic (Reduced DL) 300 deg M1	19.75	0.001	0.0003	0.0074	0.0074
Seismic (Reduced DL) 300 deg M1	30.00	0.002	0.0004	0.0080	0.0080
Seismic (Reduced DL) 300 deg M1	70.00	0.012	0.0009	0.0186	0.0186
Seismic (Reduced DL) 300 deg M1	86.75	0.019	0.0011	0.0247	0.0247
Seismic (Reduced DL) 300 deg M1	93.25	0.022	0.0012	0.0269	0.0269
Seismic (Reduced DL) 300 deg M1	106.75	0.029	0.0014	0.0315	0.0315
Seismic (Reduced DL) 300 deg M1	113.25	0.032	0.0015	0.0336	0.0336
Seismic (Reduced DL) 300 deg M1	120.25	0.037	0.0016	0.0408	0.0408
Seismic (Reduced DL) 300 deg M1	126.75	0.041	0.0016	0.0384	0.0384
Seismic (Reduced DL) 300 deg M1	133.25	0.046	0.0016	0.0404	0.0404
Seismic (Reduced DL) 300 deg M1	140.25	0.051	0.0019	0.0533	0.0533
Seismic (Reduced DL) 300 deg M1	145.13	0.055	0.0016	0.0452	0.0452
Seismic (Reduced DL) 300 deg M1	150.00	0.059	0.0016	0.0505	0.0505
Seismic (Reduced DL) 300 deg M1	154.88	0.063	0.0015	0.0491	0.0491
Seismic (Reduced DL) 300 deg M1	164.15	0.072	0.0017	0.0526	0.0526
Seismic (Reduced DL) 300 deg M1	171.95	0.079	0.0016	0.0552	0.0552
Seismic (Reduced DL) 300 deg M1	180.00	0.087	0.0015	0.0588	0.0588
Seismic (Reduced DL) 300 deg M2	19.75	0.001	0.0003	0.0067	0.0067
Seismic (Reduced DL) 300 deg M2	30.00	0.002	0.0003	0.0075	0.0075
Seismic (Reduced DL) 300 deg M2	70.00	0.011	0.0008	0.0182	0.0182
Seismic (Reduced DL) 300 deg M2	86.75	0.018	0.0010	0.0245	0.0245
Seismic (Reduced DL) 300 deg M2	93.25	0.021	0.0011	0.0269	0.0269
Seismic (Reduced DL) 300 deg M2	106.75	0.028	0.0012	0.0324	0.0324
Seismic (Reduced DL) 300 deg M2	113.25	0.032	0.0013	0.0348	0.0349
Seismic (Reduced DL) 300 deg M2	120.25	0.036	0.0015	0.0421	0.0421
Seismic (Reduced DL) 300 deg M2	126.75	0.041	0.0015	0.0414	0.0414
Seismic (Reduced DL) 300 deg M2	133.25	0.046	0.0015	0.0439	0.0439
Seismic (Reduced DL) 300 deg M2	140.25	0.051	0.0018	0.0593	0.0593
Seismic (Reduced DL) 300 deg M2	145.13	0.056	0.0014	0.0515	0.0515
Seismic (Reduced DL) 300 deg M2	150.00	0.060	0.0014	0.0588	0.0588
Seismic (Reduced DL) 300 deg M2	154.88	0.065	0.0011	0.0571	0.0571
Seismic (Reduced DL) 300 deg M2	164.15	0.076	0.0015	0.0630	0.0630
Seismic (Reduced DL) 300 deg M2	171.95	0.085	0.0014	0.0672	0.0672
Seismic (Reduced DL) 300 deg M2	180.00	0.094	0.0014	0.0727	0.0727
Seismic (Reduced DL) 330 deg M1	19.75	0.001	0.0002	0.0073	0.0073
Seismic (Reduced DL) 330 deg M1	30.00	0.003	0.0002	0.0081	0.0081
Seismic (Reduced DL) 330 deg M1	70.00	0.012	0.0005	0.0188	0.0188
Seismic (Reduced DL) 330 deg M1	86.75	0.019	0.0007	0.0247	0.0248
Seismic (Reduced DL) 330 deg M1	93.25	0.022	0.0007	0.0272	0.0272
Seismic (Reduced DL) 330 deg M1	106.75	0.029	0.0008	0.0316	0.0316
Seismic (Reduced DL) 330 deg M1	113.25	0.032	0.0009	0.0338	0.0339
Seismic (Reduced DL) 330 deg M1	120.25	0.037	0.0010	0.0404	0.0404
Seismic (Reduced DL) 330 deg M1	126.75	0.041	0.0010	0.0385	0.0385
Seismic (Reduced DL) 330 deg M1	133.25	0.046	0.0010	0.0408	0.0409

Seismic (Reduced DL) 330 deg M1	140.25	0.051	0.0011	0.0520	0.0520
Seismic (Reduced DL) 330 deg M1	145.13	0.055	0.0010	0.0458	0.0458
Seismic (Reduced DL) 330 deg M1	150.00	0.059	0.0010	0.0502	0.0502
Seismic (Reduced DL) 330 deg M1	154.88	0.063	0.0009	0.0498	0.0498
Seismic (Reduced DL) 330 deg M1	164.15	0.072	0.0010	0.0529	0.0529
Seismic (Reduced DL) 330 deg M1	171.95	0.079	0.0009	0.0553	0.0553
Seismic (Reduced DL) 330 deg M1	180.00	0.087	0.0009	0.0582	0.0583
Seismic (Reduced DL) 330 deg M2	19.75	0.001	0.0002	0.0065	0.0066
Seismic (Reduced DL) 330 deg M2	30.00	0.002	0.0002	0.0075	0.0075
Seismic (Reduced DL) 330 deg M2	70.00	0.012	0.0005	0.0183	0.0183
Seismic (Reduced DL) 330 deg M2	86.75	0.018	0.0006	0.0245	0.0245
Seismic (Reduced DL) 330 deg M2	93.25	0.021	0.0006	0.0271	0.0271
Seismic (Reduced DL) 330 deg M2	106.75	0.028	0.0008	0.0326	0.0326
Seismic (Reduced DL) 330 deg M2	113.25	0.032	0.0008	0.0351	0.0351
Seismic (Reduced DL) 330 deg M2	120.25	0.036	0.0009	0.0417	0.0418
Seismic (Reduced DL) 330 deg M2	126.75	0.041	0.0009	0.0415	0.0415
Seismic (Reduced DL) 330 deg M2	133.25	0.046	0.0009	0.0443	0.0444
Seismic (Reduced DL) 330 deg M2	140.25	0.052	0.0011	0.0578	0.0578
Seismic (Reduced DL) 330 deg M2	145.13	0.056	0.0009	0.0523	0.0523
Seismic (Reduced DL) 330 deg M2	150.00	0.061	0.0009	0.0584	0.0584
Seismic (Reduced DL) 330 deg M2	154.88	0.066	0.0007	0.0581	0.0581
Seismic (Reduced DL) 330 deg M2	164.15	0.076	0.0010	0.0635	0.0635
Seismic (Reduced DL) 330 deg M2	171.95	0.085	0.0009	0.0673	0.0673
Seismic (Reduced DL) 330 deg M2	180.00	0.094	0.0008	0.0718	0.0718
Serviceability - 60 mph Wind Normal	19.75	0.007	0.0016	0.0400	0.0400
Serviceability - 60 mph Wind Normal	30.00	0.014	0.0018	0.0407	0.0408
Serviceability - 60 mph Wind Normal	70.00	0.062	0.0033	0.0883	0.0884
Serviceability - 60 mph Wind Normal	86.75	0.092	0.0040	0.1152	0.1153
Serviceability - 60 mph Wind Normal	93.25	0.106	0.0042	0.1260	0.1261
Serviceability - 60 mph Wind Normal	106.75	0.139	0.0043	0.1439	0.1439
Serviceability - 60 mph Wind Normal	113.25	0.156	0.0044	0.1526	0.1527
Serviceability - 60 mph Wind Normal	120.25	0.175	0.0049	0.1858	0.1858
Serviceability - 60 mph Wind Normal	126.75	0.195	0.0040	0.1705	0.1705
Serviceability - 60 mph Wind Normal	133.25	0.215	0.0037	0.1789	0.1790
Serviceability - 60 mph Wind Normal	140.25	0.238	0.0045	0.2243	0.2243
Serviceability - 60 mph Wind Normal	145.13	0.254	0.0032	0.1964	0.1964
Serviceability - 60 mph Wind Normal	150.00	0.272	0.0029	0.2154	0.2154
Serviceability - 60 mph Wind Normal	154.88	0.290	0.0021	0.2119	0.2119
Serviceability - 60 mph Wind Normal	164.15	0.327	0.0022	0.2245	0.2245
Serviceability - 60 mph Wind Normal	171.95	0.359	0.0012	0.2446	0.2446
Serviceability - 60 mph Wind Normal	180.00	0.393	0.0001	0.3899	0.3899
Serviceability - 60 mph Wind 60 deg	19.75	0.006	0.0018	0.0396	0.0396
Serviceability - 60 mph Wind 60 deg	30.00	0.013	0.0021	0.0396	0.0396
Serviceability - 60 mph Wind 60 deg	70.00	0.059	0.0047	0.0860	0.0861
Serviceability - 60 mph Wind 60 deg	86.75	0.090	0.0060	0.1122	0.1123
Serviceability - 60 mph Wind 60 deg	93.25	0.103	0.0066	0.1224	0.1225
Serviceability - 60 mph Wind 60 deg	106.75	0.135	0.0076	0.1400	0.1401
Serviceability - 60 mph Wind 60 deg	113.25	0.151	0.0081	0.1483	0.1485
Serviceability - 60 mph Wind 60 deg	120.25	0.171	0.0091	0.1807	0.1808
Serviceability - 60 mph Wind 60 deg	126.75	0.189	0.0091	0.1662	0.1664
Serviceability - 60 mph Wind 60 deg	133.25	0.209	0.0095	0.1719	0.1721
Serviceability - 60 mph Wind 60 deg	140.25	0.231	0.0109	0.2198	0.2199
Serviceability - 60 mph Wind 60 deg	145.13	0.248	0.0107	0.1901	0.1902
Serviceability - 60 mph Wind 60 deg	150.00	0.265	0.0115	0.2092	0.2095
Serviceability - 60 mph Wind 60 deg	154.88	0.282	0.0118	0.2050	0.2051
Serviceability - 60 mph Wind 60 deg	164.15	0.318	0.0153	0.2183	0.2183
Serviceability - 60 mph Wind 60 deg	171.95	0.349	0.0185	0.2265	0.2265
Serviceability - 60 mph Wind 60 deg	180.00	0.381	0.0224	0.2171	0.2182
Serviceability - 60 mph Wind 90 deg	19.75	0.006	-0.0022	0.0389	0.0389
Serviceability - 60 mph Wind 90 deg	30.00	0.013	-0.0026	0.0407	0.0408
Serviceability - 60 mph Wind 90 deg	70.00	0.060	-0.0059	0.0879	0.0881
Serviceability - 60 mph Wind 90 deg	86.75	0.090	-0.0077	0.1132	0.1135

Serviceability - 60 mph Wind 90 deg	93.25	0.104	-0.0085	0.1240	0.1243
Serviceability - 60 mph Wind 90 deg	106.75	0.136	-0.0098	0.1412	0.1415
Serviceability - 60 mph Wind 90 deg	113.25	0.152	-0.0105	0.1500	0.1504
Serviceability - 60 mph Wind 90 deg	120.25	0.172	-0.0117	0.1787	0.1788
Serviceability - 60 mph Wind 90 deg	126.75	0.191	-0.0119	0.1677	0.1681
Serviceability - 60 mph Wind 90 deg	133.25	0.210	-0.0125	0.1732	0.1737
Serviceability - 60 mph Wind 90 deg	140.25	0.233	-0.0138	0.2163	0.2164
Serviceability - 60 mph Wind 90 deg	145.13	0.249	-0.0127	0.1925	0.1929
Serviceability - 60 mph Wind 90 deg	150.00	0.266	-0.0129	0.2093	0.2093
Serviceability - 60 mph Wind 90 deg	154.88	0.284	-0.0124	0.2077	0.2081
Serviceability - 60 mph Wind 90 deg	164.15	0.320	-0.0142	0.2198	0.2203
Serviceability - 60 mph Wind 90 deg	171.95	0.351	-0.0152	0.2232	0.2237
Serviceability - 60 mph Wind 90 deg	180.00	0.382	-0.0162	0.1192	0.1195
Serviceability - 60 mph Wind 120 deg	19.75	0.007	-0.0021	0.0401	0.0401
Serviceability - 60 mph Wind 120 deg	30.00	0.014	-0.0026	0.0408	0.0409
Serviceability - 60 mph Wind 120 deg	70.00	0.062	-0.0061	0.0885	0.0886
Serviceability - 60 mph Wind 120 deg	86.75	0.092	-0.0080	0.1154	0.1155
Serviceability - 60 mph Wind 120 deg	93.25	0.106	-0.0089	0.1263	0.1263
Serviceability - 60 mph Wind 120 deg	106.75	0.139	-0.0105	0.1440	0.1441
Serviceability - 60 mph Wind 120 deg	113.25	0.156	-0.0113	0.1528	0.1529
Serviceability - 60 mph Wind 120 deg	120.25	0.176	-0.0126	0.1860	0.1861
Serviceability - 60 mph Wind 120 deg	126.75	0.195	-0.0133	0.1710	0.1711
Serviceability - 60 mph Wind 120 deg	133.25	0.215	-0.0143	0.1770	0.1771
Serviceability - 60 mph Wind 120 deg	140.25	0.238	-0.0159	0.2255	0.2255
Serviceability - 60 mph Wind 120 deg	145.13	0.255	-0.0161	0.1959	0.1959
Serviceability - 60 mph Wind 120 deg	150.00	0.272	-0.0173	0.2150	0.2150
Serviceability - 60 mph Wind 120 deg	154.88	0.290	-0.0179	0.2112	0.2112
Serviceability - 60 mph Wind 120 deg	164.15	0.327	-0.0226	0.2235	0.2247
Serviceability - 60 mph Wind 120 deg	171.95	0.359	-0.0269	0.2321	0.2337
Serviceability - 60 mph Wind 120 deg	180.00	0.391	-0.0309	0.2238	0.2259
Serviceability - 60 mph Wind 180 deg	19.75	0.006	0.0015	0.0395	0.0395
Serviceability - 60 mph Wind 180 deg	30.00	0.013	0.0017	0.0395	0.0395
Serviceability - 60 mph Wind 180 deg	70.00	0.059	0.0032	0.0859	0.0860
Serviceability - 60 mph Wind 180 deg	86.75	0.089	0.0039	0.1121	0.1122
Serviceability - 60 mph Wind 180 deg	93.25	0.103	0.0040	0.1223	0.1223
Serviceability - 60 mph Wind 180 deg	106.75	0.135	0.0042	0.1399	0.1400
Serviceability - 60 mph Wind 180 deg	113.25	0.151	0.0043	0.1483	0.1484
Serviceability - 60 mph Wind 180 deg	120.25	0.170	0.0048	0.1805	0.1805
Serviceability - 60 mph Wind 180 deg	126.75	0.189	0.0039	0.1659	0.1659
Serviceability - 60 mph Wind 180 deg	133.25	0.209	0.0035	0.1741	0.1741
Serviceability - 60 mph Wind 180 deg	140.25	0.231	0.0044	0.2186	0.2186
Serviceability - 60 mph Wind 180 deg	145.13	0.247	0.0032	0.1909	0.1909
Serviceability - 60 mph Wind 180 deg	150.00	0.264	0.0029	0.2097	0.2097
Serviceability - 60 mph Wind 180 deg	154.88	0.282	0.0021	0.2061	0.2061
Serviceability - 60 mph Wind 180 deg	164.15	0.318	0.0024	0.2193	0.2193
Serviceability - 60 mph Wind 180 deg	171.95	0.349	0.0016	0.2386	0.2386
Serviceability - 60 mph Wind 180 deg	180.00	0.382	0.0009	0.3876	0.3876
Serviceability - 60 mph Wind 210 deg	19.75	0.006	0.0013	0.0389	0.0390
Serviceability - 60 mph Wind 210 deg	30.00	0.013	0.0015	0.0408	0.0409
Serviceability - 60 mph Wind 210 deg	70.00	0.060	0.0037	0.0883	0.0883
Serviceability - 60 mph Wind 210 deg	86.75	0.090	0.0050	0.1137	0.1138
Serviceability - 60 mph Wind 210 deg	93.25	0.104	0.0055	0.1246	0.1246
Serviceability - 60 mph Wind 210 deg	106.75	0.136	0.0066	0.1420	0.1420
Serviceability - 60 mph Wind 210 deg	113.25	0.153	0.0072	0.1509	0.1510
Serviceability - 60 mph Wind 210 deg	120.25	0.172	0.0080	0.1794	0.1795
Serviceability - 60 mph Wind 210 deg	126.75	0.191	0.0086	0.1684	0.1685
Serviceability - 60 mph Wind 210 deg	133.25	0.211	0.0093	0.1766	0.1766
Serviceability - 60 mph Wind 210 deg	140.25	0.233	0.0104	0.2163	0.2164
Serviceability - 60 mph Wind 210 deg	145.13	0.250	0.0108	0.1948	0.1948
Serviceability - 60 mph Wind 210 deg	150.00	0.267	0.0119	0.2108	0.2109
Serviceability - 60 mph Wind 210 deg	154.88	0.285	0.0127	0.2107	0.2107
Serviceability - 60 mph Wind 210 deg	164.15	0.321	0.0165	0.2219	0.2219

Serviceability - 60 mph Wind 210 deg	171.95	0.353	0.0203	0.2369	0.2377
Serviceability - 60 mph Wind 210 deg	180.00	0.386	0.0239	0.3433	0.3441
Serviceability - 60 mph Wind 240 deg	19.75	0.007	0.0021	0.0401	0.0401
Serviceability - 60 mph Wind 240 deg	30.00	0.014	0.0026	0.0408	0.0409
Serviceability - 60 mph Wind 240 deg	70.00	0.062	0.0061	0.0885	0.0886
Serviceability - 60 mph Wind 240 deg	86.75	0.092	0.0080	0.1154	0.1155
Serviceability - 60 mph Wind 240 deg	93.25	0.106	0.0089	0.1263	0.1263
Serviceability - 60 mph Wind 240 deg	106.75	0.139	0.0105	0.1440	0.1441
Serviceability - 60 mph Wind 240 deg	113.25	0.156	0.0113	0.1528	0.1529
Serviceability - 60 mph Wind 240 deg	120.25	0.176	0.0126	0.1860	0.1861
Serviceability - 60 mph Wind 240 deg	126.75	0.195	0.0133	0.1710	0.1711
Serviceability - 60 mph Wind 240 deg	133.25	0.215	0.0143	0.1770	0.1771
Serviceability - 60 mph Wind 240 deg	140.25	0.238	0.0159	0.2255	0.2255
Serviceability - 60 mph Wind 240 deg	145.13	0.255	0.0161	0.1959	0.1959
Serviceability - 60 mph Wind 240 deg	150.00	0.272	0.0173	0.2150	0.2150
Serviceability - 60 mph Wind 240 deg	154.88	0.290	0.0179	0.2112	0.2112
Serviceability - 60 mph Wind 240 deg	164.15	0.327	0.0226	0.2235	0.2247
Serviceability - 60 mph Wind 240 deg	171.95	0.359	0.0269	0.2321	0.2337
Serviceability - 60 mph Wind 240 deg	180.00	0.391	0.0309	0.2238	0.2259
Serviceability - 60 mph Wind 300 deg	19.75	0.006	0.0018	0.0396	0.0396
Serviceability - 60 mph Wind 300 deg	30.00	0.013	0.0020	0.0396	0.0396
Serviceability - 60 mph Wind 300 deg	70.00	0.059	0.0044	0.0860	0.0861
Serviceability - 60 mph Wind 300 deg	86.75	0.090	0.0056	0.1122	0.1123
Serviceability - 60 mph Wind 300 deg	93.25	0.103	0.0061	0.1224	0.1225
Serviceability - 60 mph Wind 300 deg	106.75	0.135	0.0068	0.1400	0.1401
Serviceability - 60 mph Wind 300 deg	113.25	0.151	0.0072	0.1483	0.1485
Serviceability - 60 mph Wind 300 deg	120.25	0.171	0.0081	0.1807	0.1808
Serviceability - 60 mph Wind 300 deg	126.75	0.189	0.0079	0.1662	0.1664
Serviceability - 60 mph Wind 300 deg	133.25	0.209	0.0080	0.1719	0.1721
Serviceability - 60 mph Wind 300 deg	140.25	0.231	0.0087	0.2198	0.2199
Serviceability - 60 mph Wind 300 deg	145.13	0.248	0.0067	0.1901	0.1902
Serviceability - 60 mph Wind 300 deg	150.00	0.265	0.0059	0.2092	0.2095
Serviceability - 60 mph Wind 300 deg	154.88	0.282	0.0045	0.2050	0.2051
Serviceability - 60 mph Wind 300 deg	164.15	0.318	0.0034	0.2183	0.2183
Serviceability - 60 mph Wind 300 deg	171.95	0.349	0.0010	0.2265	0.2265
Serviceability - 60 mph Wind 300 deg	180.00	0.381	-0.0012	0.2171	0.2182
Serviceability - 60 mph Wind 330 deg	19.75	0.006	0.0010	0.0390	0.0390
Serviceability - 60 mph Wind 330 deg	30.00	0.013	0.0011	0.0408	0.0409
Serviceability - 60 mph Wind 330 deg	70.00	0.060	0.0022	0.0882	0.0883
Serviceability - 60 mph Wind 330 deg	86.75	0.090	0.0028	0.1136	0.1138
Serviceability - 60 mph Wind 330 deg	93.25	0.104	0.0030	0.1244	0.1246
Serviceability - 60 mph Wind 330 deg	106.75	0.136	0.0033	0.1418	0.1420
Serviceability - 60 mph Wind 330 deg	113.25	0.153	0.0034	0.1507	0.1509
Serviceability - 60 mph Wind 330 deg	120.25	0.172	0.0038	0.1794	0.1795
Serviceability - 60 mph Wind 330 deg	126.75	0.191	0.0035	0.1682	0.1684
Serviceability - 60 mph Wind 330 deg	133.25	0.211	0.0034	0.1763	0.1765
Serviceability - 60 mph Wind 330 deg	140.25	0.233	0.0036	0.2165	0.2166
Serviceability - 60 mph Wind 330 deg	145.13	0.250	0.0021	0.1943	0.1945
Serviceability - 60 mph Wind 330 deg	150.00	0.267	0.0012	0.2109	0.2110
Serviceability - 60 mph Wind 330 deg	154.88	0.285	-0.0001	0.2099	0.2101
Serviceability - 60 mph Wind 330 deg	164.15	0.321	-0.0019	0.2220	0.2224
Serviceability - 60 mph Wind 330 deg	171.95	0.353	-0.0047	0.2371	0.2371
Serviceability - 60 mph Wind 330 deg	180.00	0.386	-0.0073	0.3397	0.3398

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2152
FA#: 10035092

Redding
Old Redding Road
West Redding, CT 06896

February 28, 2018

Centerline Communications Project Number: 950012-036

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**5.83 %**

February 28, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT2152 – Redding**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **Old Redding Road, West Redding, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

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

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	2	40
LTE	1900 MHz (PCS)	4	40
LTE	2300 MHz (WCS)	4	30
UMTS	850 MHz	1	30

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	CCI HPA-65R-BUU-H6	180
A	2	Quintel QS66512-2	180
A	3	Powerwave 7770	180
B	1	CCI HPA-65R-BUU-H6	180
B	2	Quintel QS66512-2	180
B	3	Powerwave 7770	180
C	1	CCI HPA-65R-BUU-H6	180
C	2	CCI TPA-65R-LCUUUU-H8	180
C	3	Powerwave 7770	180

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	240	6,030.01	0.89
Antenna A2	Quintel QS66512-2	2300 MHz (WCS)	14.85	4	120	3,665.91	0.44
Antenna A3	Powerwave 7770	850 MHz	11.4	1	30	414.12	0.09
						Sector A Composite MPE%	**1.41**
Antenna B1	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	240	6,030.01	0.89
Antenna B2	Quintel QS66512-2	2300 MHz (WCS)	14.85	4	120	3,665.91	0.44
Antenna B3	Powerwave 7770	850 MHz	11.4	1	30	414.12	0.09
						Sector B Composite MPE%	**1.41**
Antenna C1	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	6	240	6,030.01	0.89
Antenna C2	CCI TPA-65R-LCUUUU-H8	2300 MHz (WCS)	14.45	4	120	3,343.35	0.40
Antenna C3	Powerwave 7770	850 MHz	11.4	1	30	414.12	0.09
						Sector C Composite MPE%	**1.37**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, the sectors with the largest calculated MPE% are Sectors A & B. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**1.41 %**
Verizon Wireless	1.29 %
T-Mobile	2.24 %
Sprint	0.55 %
Nextel	0.23 %
State Police	0.00 %
DMV	0.00 %
CMED	0.00 %
FBI	0.11 %
Site Total MPE %:	**5.83 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	1.41 %
AT&T Sector B Total:	1.41 %
AT&T Sector C Total:	1.37 %
Site Total:	5.83 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, the sectors with the largest calculated MPE% are Sectors A & B. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

AT&T _ Frequency Band / Technology Max Power Values (Sectors A & B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 700 MHz LTE	2	626.70	180	1.49	700 MHz	467	0.32%
AT&T 1900 MHz (PCS) LTE	4	1,194.15	180	5.67	1900 MHz (PCS)	1000	0.57%
AT&T 2300 MHz (WCS) LTE	4	916.48	180	4.35	2300 MHz (WCS)	1000	0.44%
AT&T 850 MHz UMTS	1	414.12	180	0.49	850 MHz	567	0.09%
						Total:	**1.41 %**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	1.41 %
Sector B:	1.41 %
Sector C:	1.37 %
AT&T Maximum Total (per sector):	1.41 %
Site Total:	5.83 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.83 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

100 OLD REDDING RD

Location	100 OLD REDDING RD	**Mblu**	35/ / 46/ C/
Acct#	3546C	**Owner**	KAUFMAN ROBERT J
Assessment	$268,400	**Appraisal**	$383,500
PID	100605	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$23,500	$360,000	$383,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$16,400	$252,000	$268,400

Owner of Record

Owner	KAUFMAN ROBERT J	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	100 OLD REDDING RD REDDING, CT 06896	**Book & Page**	117/ 510
		Sale Date	06/15/1983
		Instrument	XX

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
KAUFMAN ROBERT J	$0		117/ 510	XX	06/15/1983

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**

Style	Colonial
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms	
Full Bathrooms	
Half Bathrooms	
Total Xtra Fixtrs	
Total Rooms	
Bath Style:	
Kitchen Style:	
Fireplaces	
Whirlpool Tubs	
Fin Bsmt Area	
Fin Bsmt Qual	
Bsmt Garages	

Building Photo

(http://images.vgsi.com/photos/ReddingCTPhotos//default.jpg)

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	435
Description	Cell Site Vac Lnd
Zone	R-2
Neighborhood	
Alt Land Appr	No

Land Line Valuation

Size (Acres)	0
Frontage	
Depth	
Assessed Value	$252,000
Appraised Value	$360,000

Category

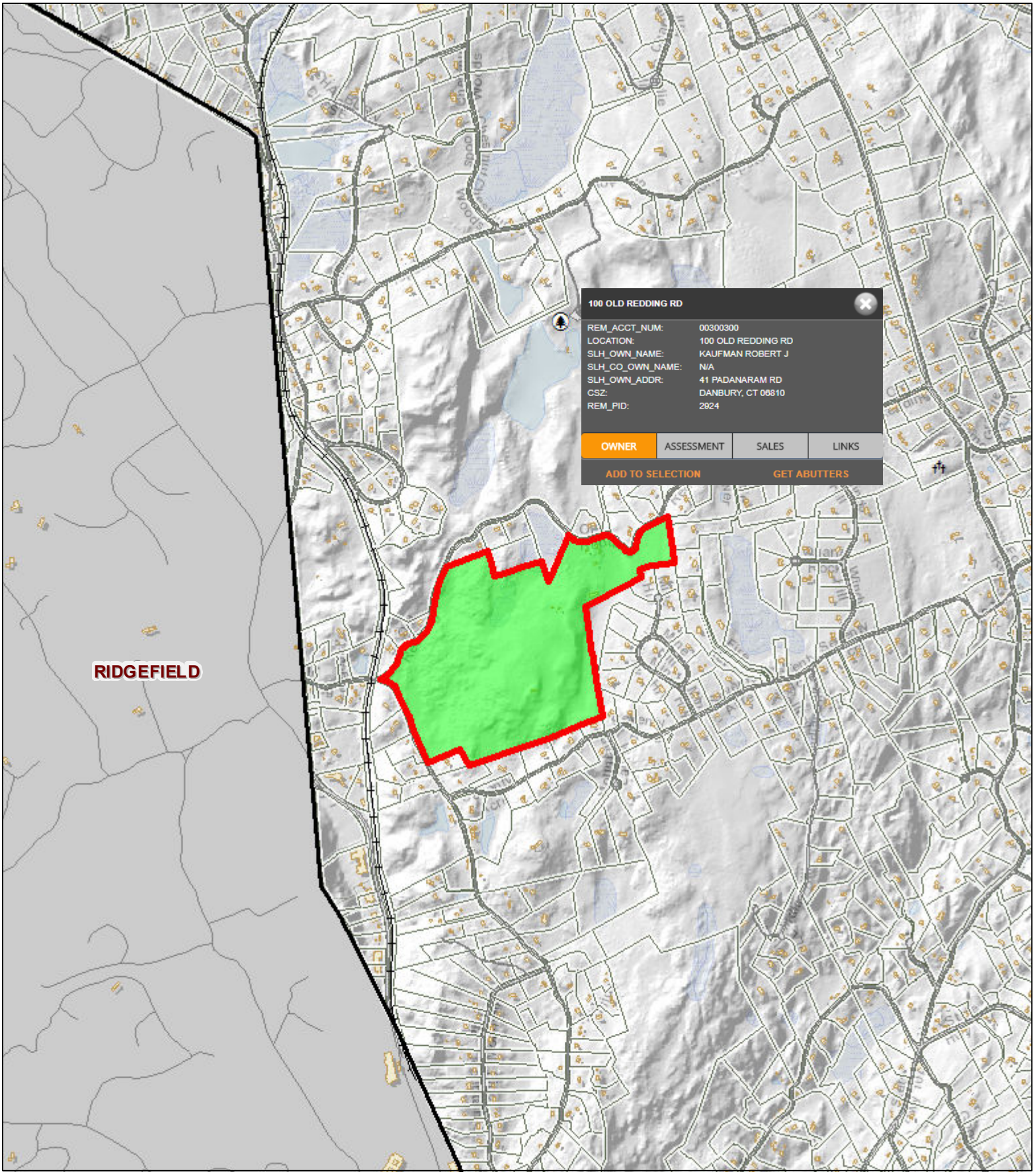
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed	BR	Brick/Frame	1080 S.F.	$15,700	1
SHD1	Shed	FR	Frame	600 S.F.	$4,900	1
SHD1	Shed	BR	Brick/Frame	200 S.F.	$2,900	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$23,500	$360,000	$383,500
2015	$23,500	$360,000	$383,500
2014	$23,500	$360,000	$383,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$16,400	$252,000	$268,400
2015	$16,400	$252,000	$268,400
2014	$16,400	$252,000	$268,400



100 Old Redding Road

N
W E
S

0 550 1,100 2,200 Feet

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE TOWER:
- NEW PROPOSED AT&T LTE ANTENNA (HPA-65R-BUU-H8) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T LTE ANTENNA (QS66512-2) @ POS. 3 (TYP. OF 1 FOR ALPHA & BETA SECTOR, TOTAL OF 2).
- NEW AT&T LTE ANTENNA (TPA-65R-LCUUUU-H8) @ POS. 3 (TOTAL OF 1 FOR GAMMA SECTOR).
- NEW AT&T RRUS-32 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW SURGE ARRESTOR DC6-48-60-18-8F (TOTAL OF 1) WITH (2) DC POWER CABLES, (1) FIBER RUN, AND (1) ALARM CABLE.
- COAX JUMPERS (2) PER SECTOR, FROM EACH RRU (TOTAL OF 6).
- FIBER JUMPERS (3) PER SECTOR, FROM THE SQUID TO EACH RRU (TOTAL OF 9).
- NEW LOW BAND COMBINERS (DBC0061F1V51-2) (TYP. OF 2 PER SECTOR, TOTAL OF 6).

ITEMS TO BE MOUNTED @ EXISTING EQUIPMENT SHELTER:
- PROPOSED COAX PORT AS REQUIRED.
- PROPOSED (6) LOW BAND COMBINERS (DBC0061F1V51-2) TO REPLACE (6) DIPLEXERS.
- PROPOSED FIBER MANAGEMENT BOX ON ICE BRIDE POST.
- INSTALL (1) FIBER TRAY IN LTE RACK (GROUNDING ISOLATION REQUIRED) V.I.F.
- REPLACE EXISTING DC6 WITH DC12 AND RELOCATE TO LOWER PART OF LTE RACK.
- REPLACE EXISTING BBU WITH 5216 AND ADD (1) XMU.
- INSTALL INSTALL (1) 48V CONVERTER SHELF WITH (4) CONVERTER MODULES, (6) 30A BREAKERS FOR 2C/3C RADIOS, & (1) 25A BREAKER FOR BBU.
- INSTALL (2) 150A BREAKERS IN EXISTING POWER PLANT.

ITEMS TO REMAIN:
- (3) ANTENNAS, (3) RRU'S, (1) SURGE ARRESTOR, (6) TMAS, (12) COAX, (2) DC POWER CABLES, & (1) FIBER RUN.

ITEMS TO BE REMOVED:
- (6) ANTENNAS, & (6) TMA'S.

FA:	10035092
SITE OWNER:	AMERICAN TOWER CORPORATION
SITE ADDRESS:	OLD REDDING ROAD WEST REDDING, CT 06896
LATITUDE:	41.287075° N 41° 17' 13.47" N
LONGITUDE:	73.438166° W 73° 26' 17.40" W
TYPE OF SITE:	LATTICE TOWER, INDOOR EQUIPMENT
TOWER HEIGHT:	182'± A.G.L
RAD CENTER:	180'± A.G.L
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA PLANS & ELEVATION	1
A-3	DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1
G-1	GROUNDING DETAILS	1

AMERICAN TOWER SITE #: 302522
AMERICAN TOWER SITE NAME: REDDING

SITE NUMBER: CT2152

SITE NAME: REDDING

PROJECT: LTE 2C/3C 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MI, TURN LEFT ONTO CAPITOL BLVD. 0.3 MI, TURN LEFT ONTO WEST ST. 0.3 MI, MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN. 9.1 MI, MERGE ONTO I-691 W VIA EXIT 18 TOWARD MERIDEN / WATERBURY. 7.9 MI, MERGE ONTO I-84 W VIA EXIT 1 ON THE LEFT TOWARD WATERBURY / DANBURY. 37.1 MI, KEEP LEFT TO TAKE US-7 S VIA EXIT 3 TOWARD NORWALK. 7.7 MI, TURN LEFT ONTO OLD REDDING RD. 63.0 MI, OLD REDDING RD. WEST REDDING, CT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OR RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
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TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

SITE NUMBER: CT2152
SITE NAME: REDDING
ATC SITE #: 302522
OLD REDDING ROAD
WEST REDDING, CT 06896
FAIRFIELD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	01/23/18	ISSUED FOR REVIEW	ET	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

STATE OF CONNECTICUT · DEREK J. CREASER · No. 28355 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

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

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
    BUILDING CODE: IBC 2012 WITH 2016 CT BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

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

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

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

    EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT2152
SITE NAME: REDDING
ATC SITE #: 302522
OLD REDDING ROAD
WEST REDDING, CT 06896
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	01/23/18	ISSUED FOR REVIEW	ET	AT	DJC

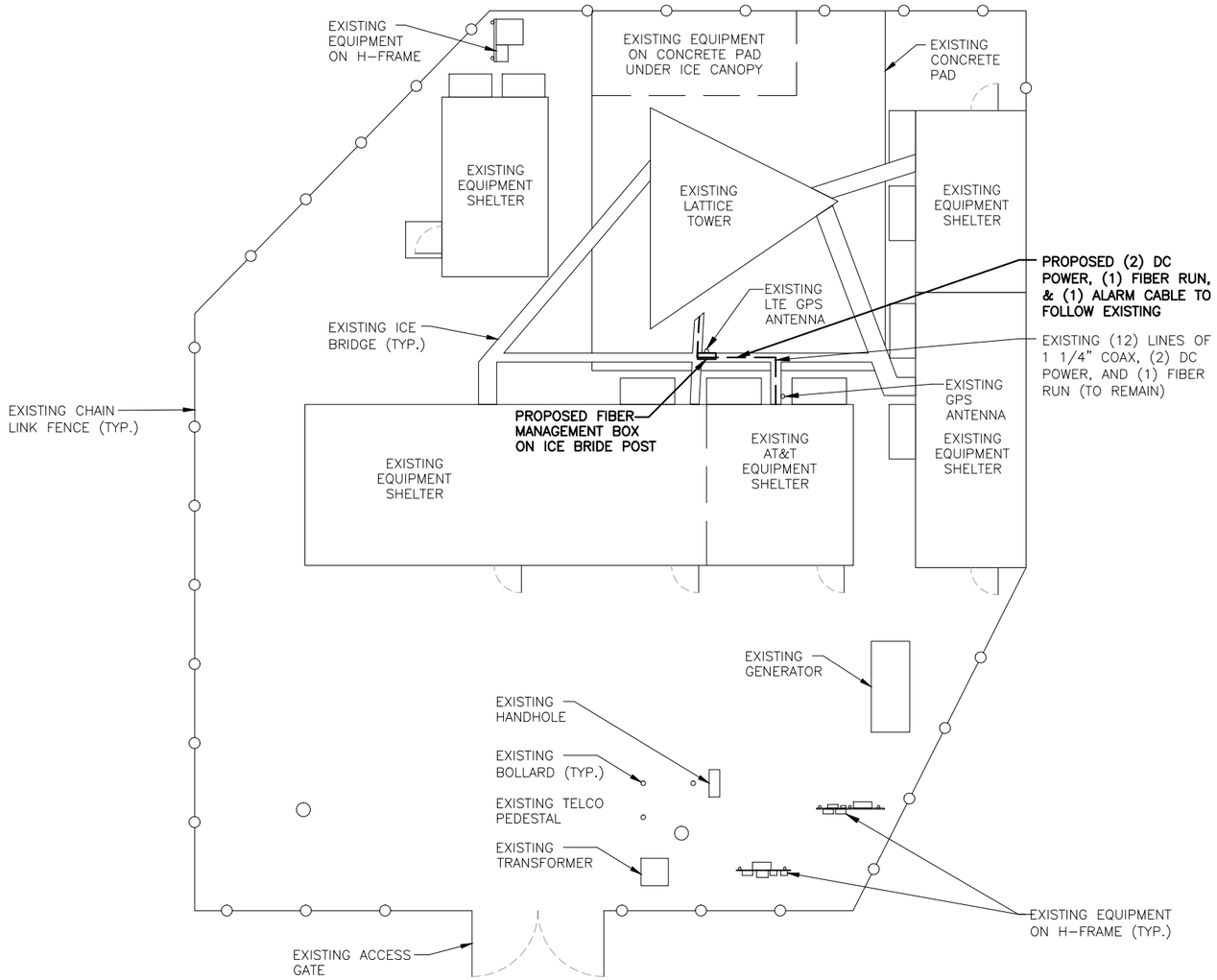
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

STATE OF CONNECTICUT · DEREK J. CREASER · NO. 28351 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	GN-1	1



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

NOTE:

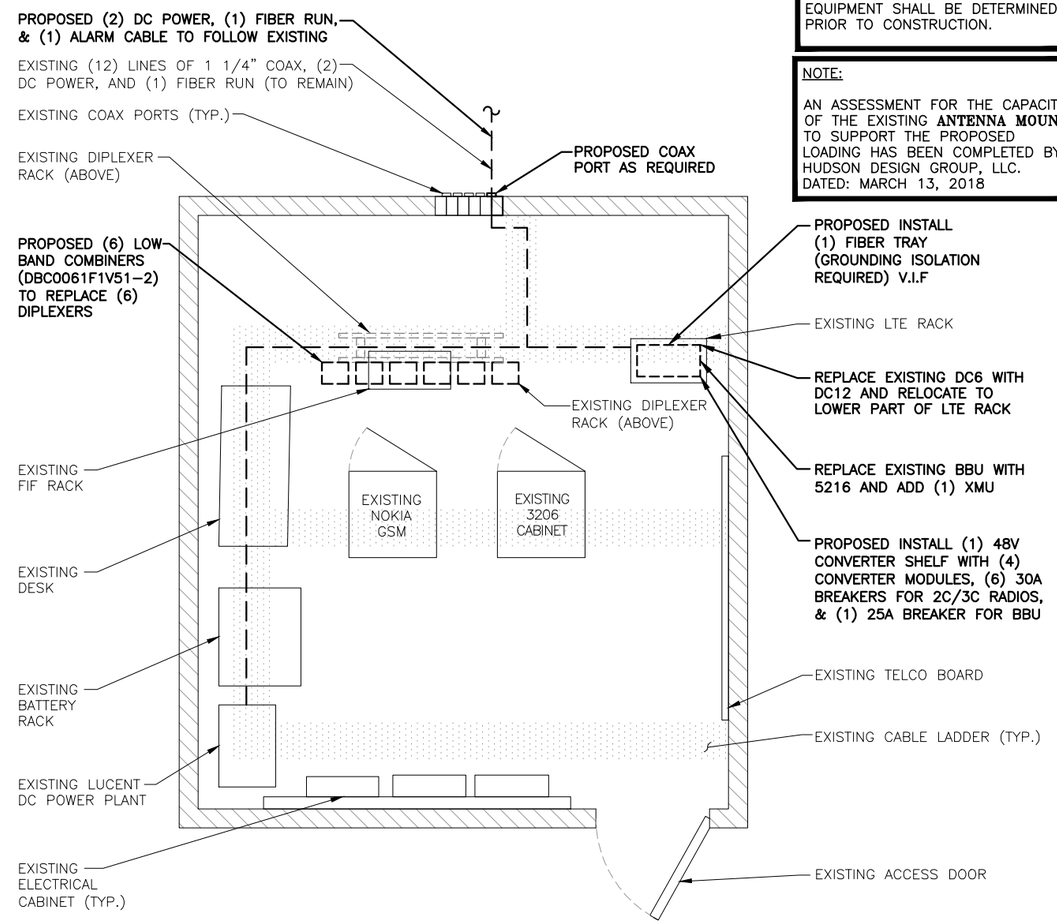
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

AN ASSESSMENT FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MARCH 13, 2018



POWER PANEL NOTE:

1. ADD (2) 150A BREAKERS IN EXISTING POWER PLANT

COMPOUND PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

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FAX: (978) 336-5586

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95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT2152
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OLD REDDING ROAD
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FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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A	01/23/18	ISSUED FOR REVIEW	ET	AT	DJC

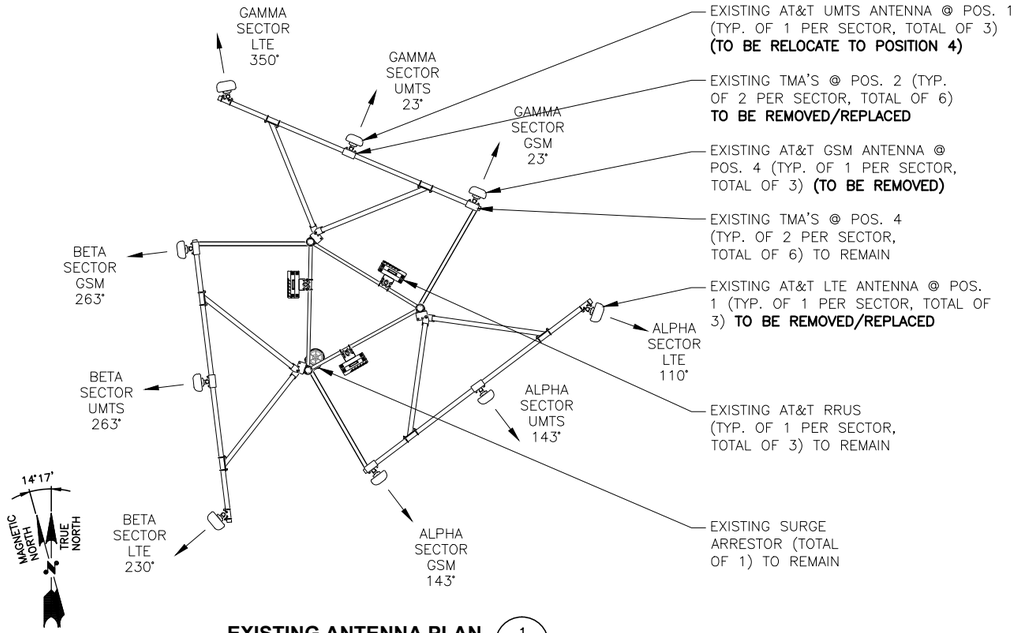
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

STATE OF CONNECTICUT
DEREK J. CREASER
No. 25051
LICENSED PROFESSIONAL ENGINEER

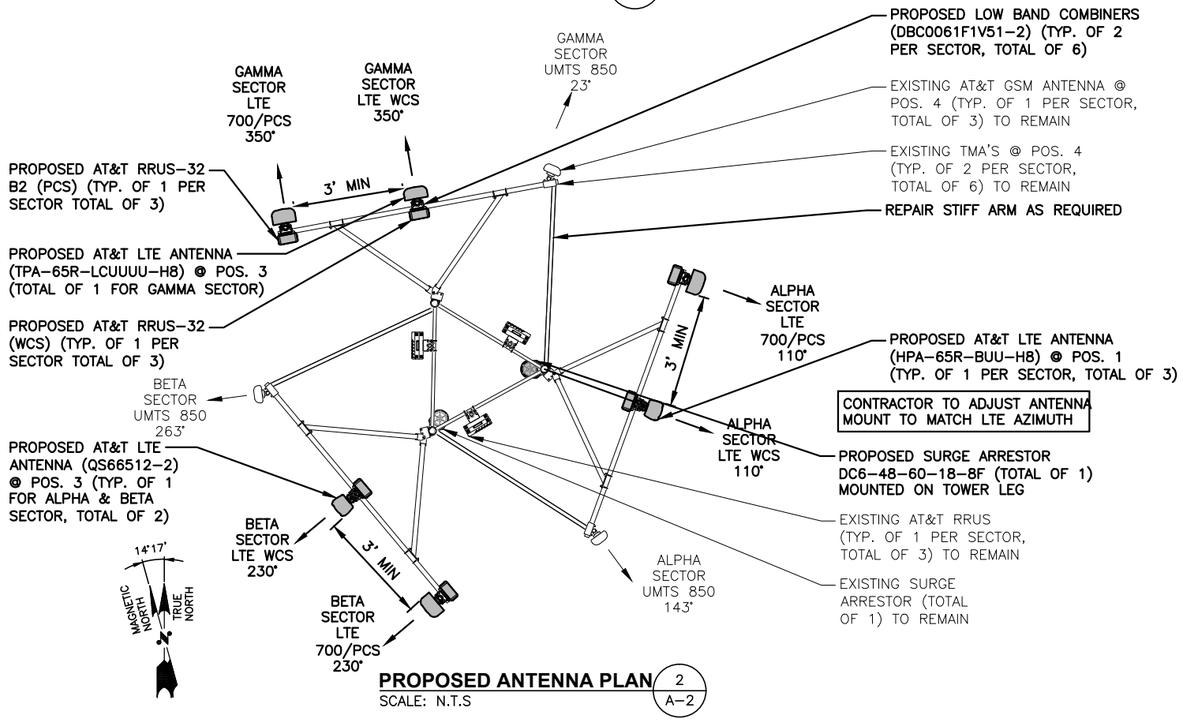
AT&T

COMPOUND & EQUIPMENT PLANS (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	A-1	1



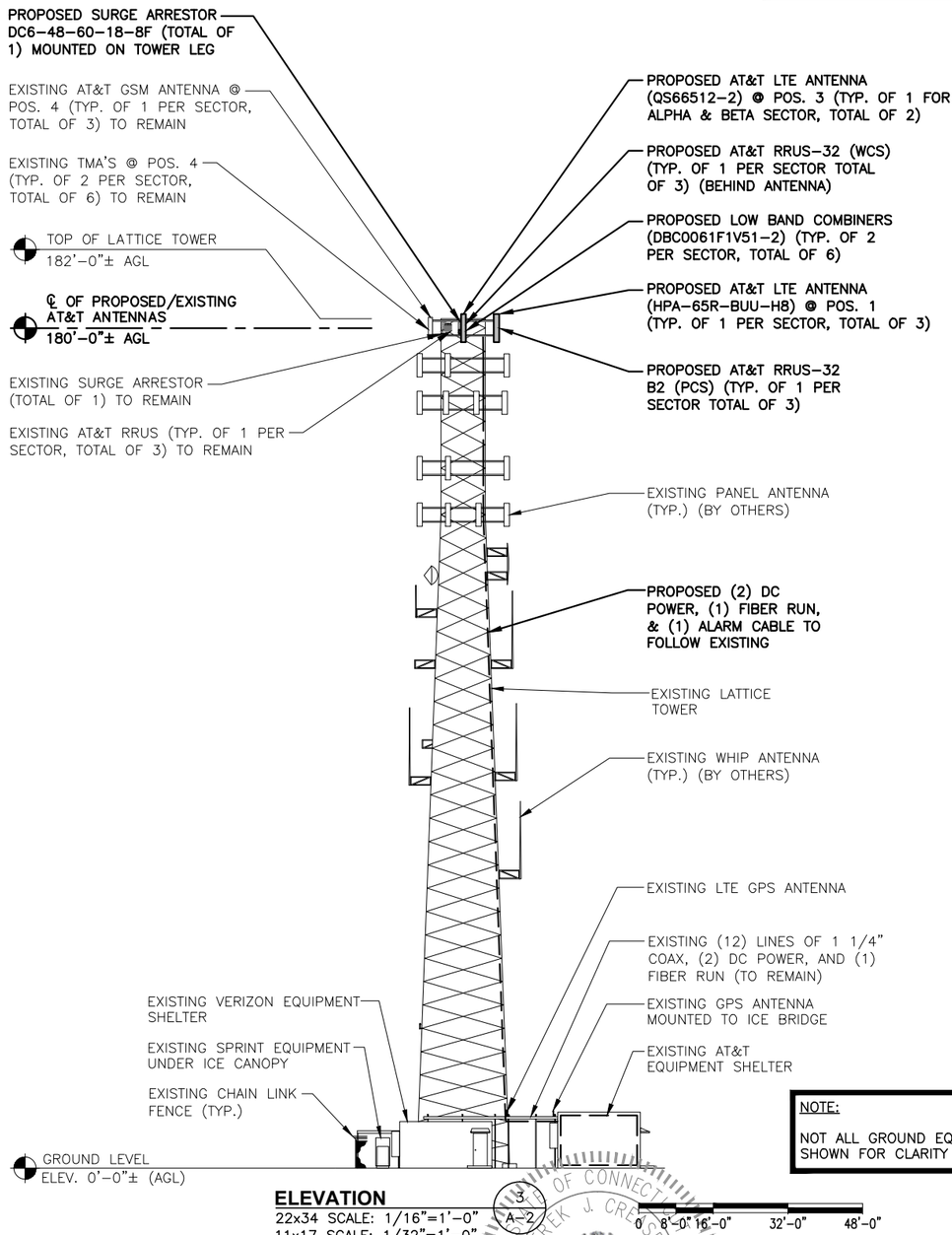
EXISTING ANTENNA PLAN 1 / A-2
SCALE: N.T.S



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

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



ELEVATION 3 / A-2
22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"
0 8'-0" 16'-0" 32'-0" 48'-0"

NOTE:
NOT ALL GROUND EQUIPMENT SHOWN FOR CLARITY

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A	01/23/18	ISSUED FOR REVIEW	ET	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

STATE OF CONNECTICUT — DEREK J. CRESSER — No. 28554 — LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA PLANS & ELEVATION (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	A-2	1

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

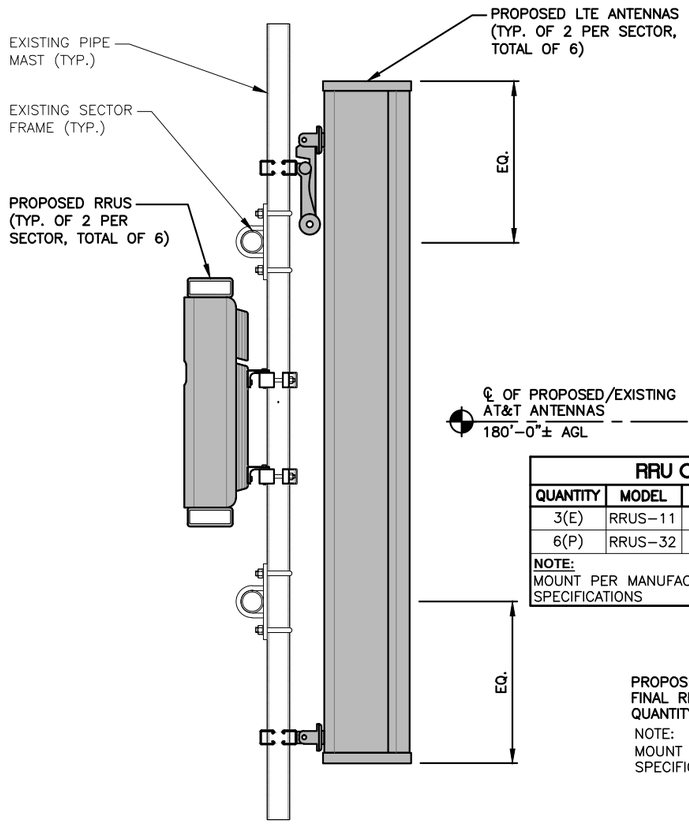
FINAL ANTENNA SCHEDULE

SECTOR	BAND	ANTENNA		SIZE (INCHES) (L X W X D)	RAD CENTER	AZIMUTH	TMA'S/COMBINERS		RRU'S		SIZE (INCHES) (L X W X D)	COAX JUMPERS	FIBER JUMPERS	COAX
ALPHA	LTE 700/PCS	PROPOSED	HPA-65R-BUU-H8	72X14.8X9	180'-0"±	110°	–	–	EXISTING PROPOSED	RRUS-11 (700) RRUS-32 B2 (PCS)	– 27.2X12.1X7.0	1* –	2** –	–
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE WCS	PROPOSED	QS66512-2	72X12X9.6	180'-0"±	110°	PROPOSED PROPOSED	DBC0061F1V51-2 DBC0061F1V51-2	PROPOSED	RRUS-32 (WCS)	27.2X12.1X7.0	1*	1*	(2)1-5/8"
	UMTS 850	EXISTING	7770	55X11X5	180'-0"±	143°	EXISTING EXISTING	LGP 21401 LGP 21401	–	–	–	–	–	(2)1-5/8"
BETA	LTE 700/PCS	PROPOSED	HPA-65R-BUU-H8	72X14.8X9	180'-0"±	230°	–	–	EXISTING PROPOSED	RRUS-11 (700) RRUS-32 B2 (PCS)	– 27.2X12.1X7.0	1* –	2** –	–
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE WCS	PROPOSED	QS66512-2	72X12X9.6	180'-0"±	230°	PROPOSED PROPOSED	DBC0061F1V51-2 DBC0061F1V51-2	PROPOSED	RRUS-32 (WCS)	27.2X12.1X7.0	1*	1*	(2)1-5/8"
	UMTS 850	EXISTING	7770	55X11X5	180'-0"±	263°	EXISTING EXISTING	LGP 21401 LGP 21401	–	–	–	–	–	(2)1-5/8"
GAMMA	LTE 700/PCS	PROPOSED	HPA-65R-BUU-H8	72X14.8X9	180'-0"±	350°	–	–	EXISTING PROPOSED	RRUS-11 (700) RRUS-32 B2 (PCS)	– 27.2X12.1X7.0	1* –	2** –	–
	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	LTE WCS	PROPOSED	TPA-65R-LCUUUU-H8	72X14.8X7.4	180'-0"±	350°	PROPOSED PROPOSED	DBC0061F1V51-2 DBC0061F1V51-2	PROPOSED	RRUS-32 (WCS)	27.2X12.1X7.0	1*	1*	(2)1-5/8"
	UMTS 850	EXISTING	7770	55X11X5	180'-0"±	23°	EXISTING EXISTING	LGP 21401 LGP 21401	–	–	–	–	–	(2)1-5/8"

FINAL ANTENNA CONFIGURATION TABLE (1 / A-3)

*COAX JUMPER NOTE:
COAX JUMPERS (2) PER SECTOR, FROM EACH RRU (TOTAL OF 6)

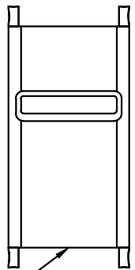
**FIBER JUMPER NOTE:
FIBER JUMPERS (3) PER SECTOR, FROM THE SQUID TO EACH RRU (TOTAL OF 9).



PROPOSED RRUS MOUNTING DETAIL (2 / A-3)
SCALE: N.T.S

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-11	19.7"	17.0"	7.2"
6(P)	RRUS-32	27.2"	12.1"	7.0"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS



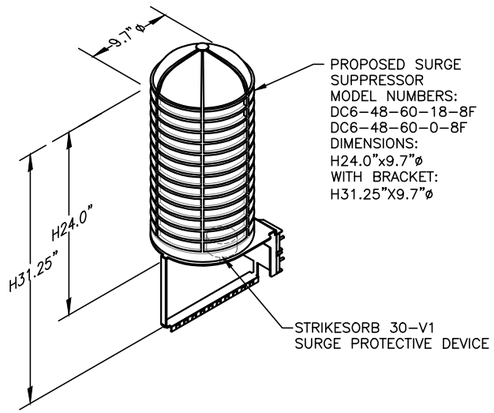
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

NOTE:

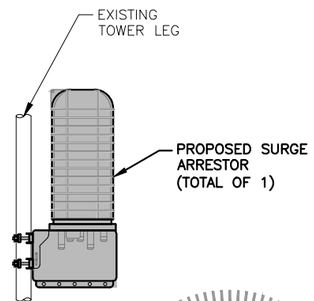
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

PROPOSED RRUS DETAIL (3 / A-3)
SCALE: N.T.S



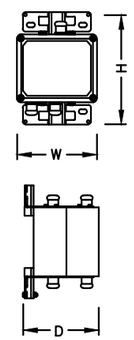
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (4 / A-3)
SCALE: N.T.S



SURGE SUPPRESSOR MOUNTING DETAIL (5 / A-3)
SCALE: N.T.S

COMBINER DIMENSIONS	
MODEL #	DBC0061F1V51-2
MANUF.	KAELUS
HEIGHT	10.24"
WIDTH	7.98"
DEPTH	7.65"



PROPOSED COMBINER (6 / A-3)
SCALE: N.T.S

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CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT2152
SITE NAME: REDDING
ATC SITE #: 302522
OLD REDDING ROAD
WEST REDDING, CT 06896
FAIRFIELD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	01/23/18	ISSUED FOR REVIEW	ET	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SG

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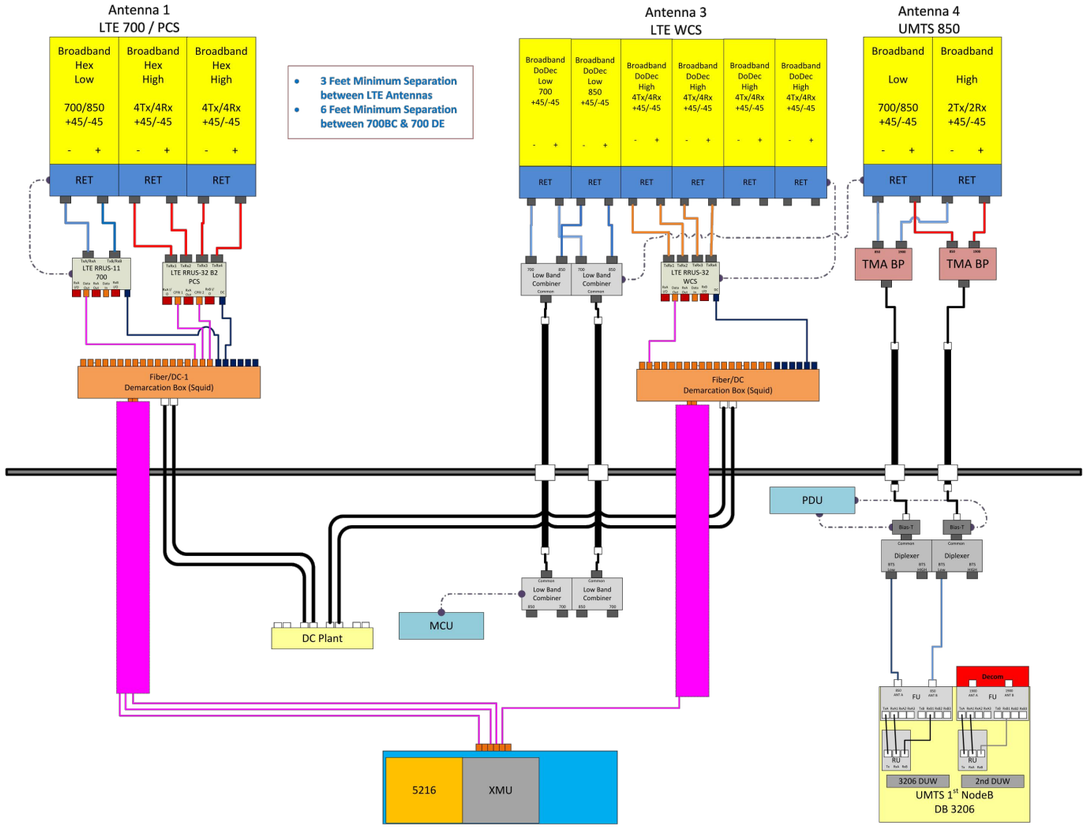
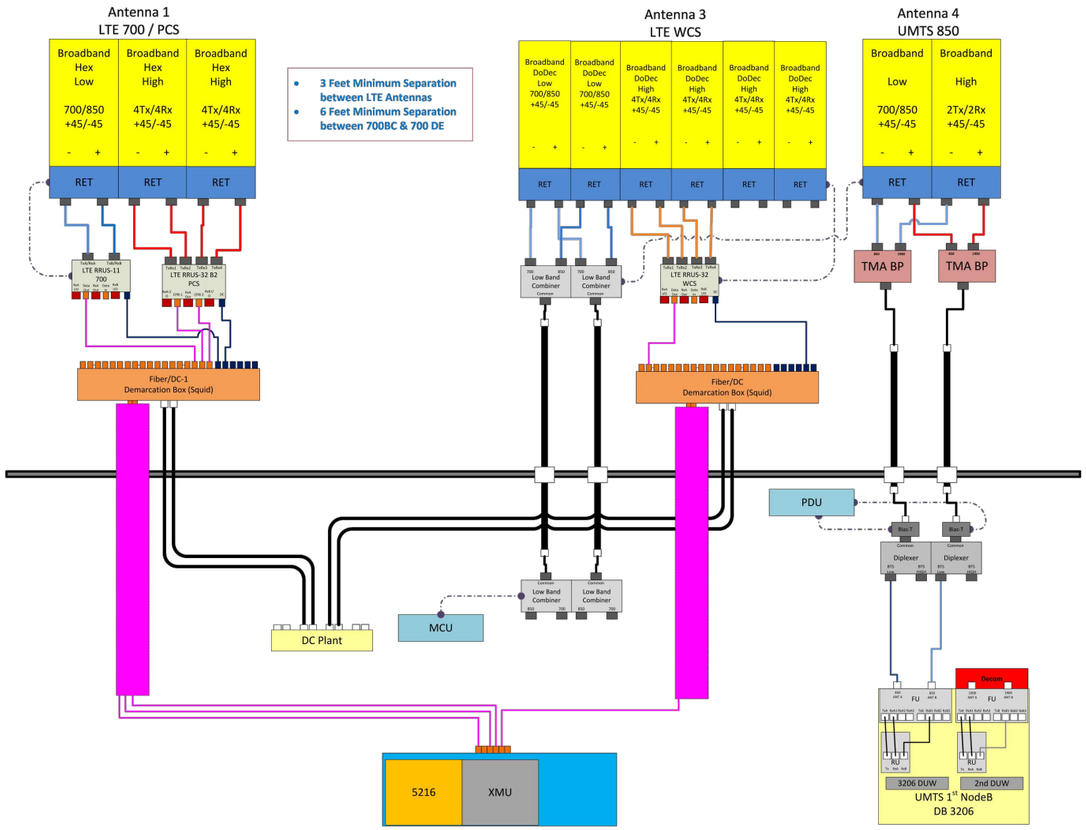
DETAILS
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	A-3	1



ALPHA & BETA SECTORS



GAMMA SECTOR

RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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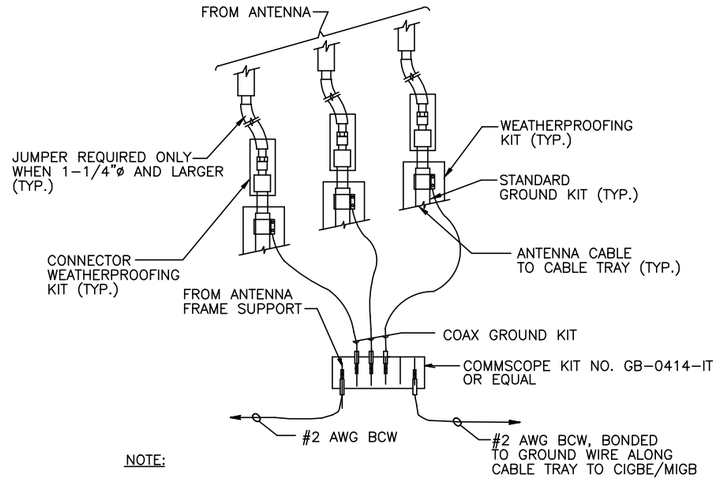
RF PLUMBING DIAGRAM
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	RF–1	1



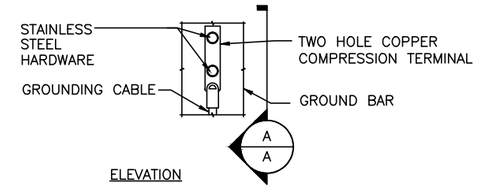
NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

1 / G-1



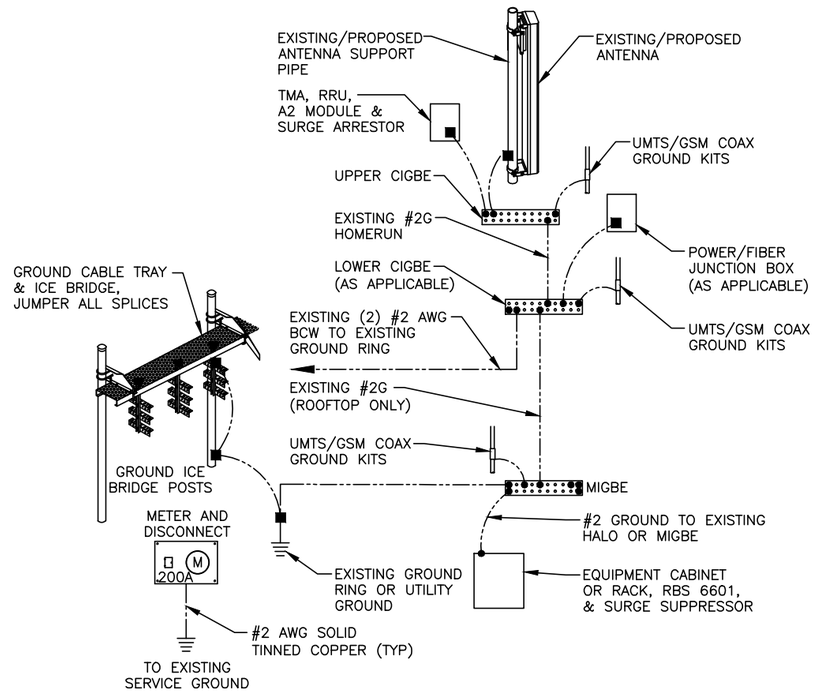
NOTE:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1

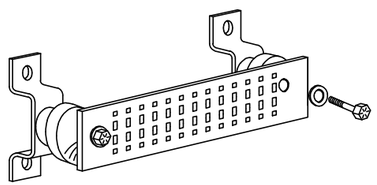
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR - DETAIL

SCALE: N.T.S

4 / G-1

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GROUNDING DETAILS
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT2152	G-1	1