

January 17, 2024

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification
60 Commerce Street, East Haven, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains an existing wireless telecommunications facility at the above-referenced property address (the “Property”). The facility consists of antennas and remote radio heads (“RRHs”) on an existing tower and related equipment on the ground, near the base of the tower. The existing tower was approved by the Siting Council (the “Council”) in August of 2005 (Petition No. 730). Cellco’s shared use of the tower was approved by the Siting Council in December of 2009 (EM-VER-044-091112). A copy of the Petition No. 730 staff report and Cellco’s EM-VER-044-091112 approval are included in Attachment 1.

Cellco now intends to modify its facility by replacing nine (9) existing antennas with nine (9) new antennas and replacing six (6) RRHs with six (6) new RRHs using Cellco’s existing T-Arm antenna mounting assemblies. A set of project plans showing Cellco’s proposed facility modifications and the new antenna and RRH specifications are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to East Haven’s Chief Elected Official and Land Use Officer. A copy of this letter is being sent to the Property owner.

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

28593666-v1

Melanie A. Bachman, Esq.

January 17, 2024

Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas and RRHs will be installed at the same height on the tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The installation of Cellco's new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation, T-Arms and antenna mounts, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Joseph Carfora, Mayor
Joseph Budrow, Zoning Enforcement Officer
Perrelli Associates, Property Owner
Aleksy Tyurin

ATTACHMENT 1

Petition No. 730
Nextel
East Haven, Connecticut
Staff Report
August 17, 2005

Nextel seeks to replace an existing lattice tower located at the back of building used by a fuel oil dealer. The height of the existing tower, including the whip antenna at the top of the tower, is 70 feet. Nextel's replacement tower would be located a few feet from the existing tower and would also be 70 feet tall. Nextel's antennas would be installed with a centerline of 67 feet and would not extend above 70 feet. Nextel would design the replacement tower to accommodate one additional carrier.

Council member Gerry Heffernan and staff person David Martin met with Nextel representative Tom Flynn at the site on August 17, 2005 to conduct a field review. The building behind which the existing tower is located is in an industrial park near the Tweed-New Haven Airport. There are no residences in sight from the area of the tower, and, given the distance to the nearest residences, it is unlikely that the closest neighbors could have a view of anything more than a few feet of the top of the tower. Even that is unlikely.

Nextel's proposed 800 square foot compound would be located behind the building. It would be completely screened from the industrial park's street by an existing row of 10 to 12-foot tall arbor vitae. Installation of the compound would, in all likelihood, result in a clean up of the back of the building. The compound would include a 12 by 20-foot equipment shelter.

At 70 feet, Nextel's proposed tower would be below any flight path of planes using the airport.

Based upon the conditions observed during the field review, it is unlikely that the scope of the improvements described in this petition would result in any significant adverse environmental impacts.

View of Existing Tower



View of Back of Building Where Compound Will Be Located





STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

December 14, 2009

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-044-091112** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 60 Commerce Street, East Haven, Connecticut.

Dear Attorney Baldwin:

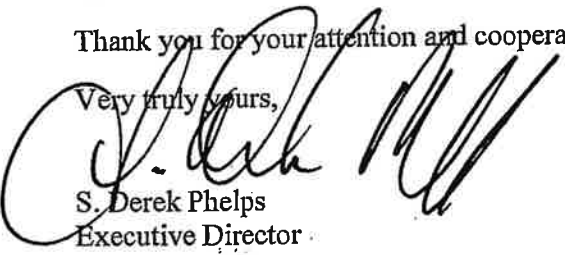
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated November 12, 2009, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,


S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable April Capone Almon, Mayor, Town of East Haven
George Mingione, Zoning Enforcement Officer, Town of East Haven
Thomas J. Regan, Esq., Brown Rudnick LLP

ATTACHMENT 2



20 ALEXANDER DRIVE, 2nd FLOOR
WALLINGFORD, CT 06492

EAST HAVEN COSEY BEACH CT

60 COMMERCE STREET
EAST HAVEN, CT 06512
NEW HAVEN COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS
INSTALLATION ON EXISTING 70'± MONOPOLE

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 1/20/20
ANTENNA MOUNT STRUCTURAL ANALYSIS & DATE: 01/11/20 (BY CHAPPELL ENGINEERING & DESIGN)
ANTENNA SUPPORT STRUCTURE (MONOPOLE) STRUCTURAL ANALYSIS DATE: 02/20/20 (BY SBA)
02/20/20 10:21:24 0000000000000000



20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7238



SBA COMMUNICATIONS CORP
150 RIVERSIDE BLVD, SUITE 100
NEW HAVEN, CT 06511
(203) 281-0700



CHAPPELL ENGINEERING & DESIGN, LLC
150 RIVERSIDE BLVD, SUITE 100
NEW HAVEN, CT 06511
(203) 481-7000
www.chappell-engineering.com



CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
1	01/20/20	ISSUED FOR CONSTRUCTION	ME
2	01/20/20	ISSUED FOR REVIEW	ME

EAST HAVEN
COSEY BEACH CT
60 COMMERCE STREET
EAST HAVEN, CT 06512

VER LOCATION CODE: 000000
VER LOCATION ID: 0000000000
PROJECT ID: 0000000000
PROJECT NAME

TITLE SHEET

SHEET NUMBER
T01

SHEET INDEX

DWG.	DESCRIPTION	REV.
T01	TITLE SHEET	
GN01	GENERAL NOTES	
AS01	SITE PLAN	
AS02	COMPOUND PLAN	
AS03	TOWER ELEVATIONS	
AS04	ANTENNA PLANS & SITE DETAILS	
RF01	RF DATA	
RF02	RF FLOORING DIAGRAM	
RF03	RF COLOR CODE SPECIFICATIONS	
ED01	GROUNDING NOTES & DETAILS	
MM01	ANTENNA MOUNT MODIFICATION DRAWINGS I	
MM02	ANTENNA MOUNT MODIFICATION DRAWINGS II	
MM03	ANTENNA MOUNT MODIFICATION DRAWINGS III	

DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE THE BASIS FOR THE DESIGN. THE DESIGNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PRELIMINARY CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

- THIS IS AN UNLICENSED ANTENNA SUPPORT STRUCTURE INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
- THIS FACILITY DOES NOT NOR WILL IT CONSUME UNRECOVERABLE ENERGY.
- NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

SCOPE OF WORK

- REMOVE:
- 12 ANTENNAS
 - 3 RADIOS (ON TOWER)
 - 1 10' GROUNDING ROD
 - 1 10' GROUNDING BOX
 - 1 10' COAXIAL CABLE
- INSTALL:
- ANTENNA MOUNT REINFORCEMENTS
 - 9 ANTENNAS
 - 3 RADIOS
 - 2 10' GROUNDING RODS
 - 3 DIPLEXERS
 - 1 HYBRID CABLE

VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE I-95 SOUTH, USE THE LEFT 2 LANES TO MERGE ONTO I-95 NORTH TOWARD NEW HAVEN. TAKE EXIT 51 FOR US 1 (FRONTAGE ROAD) TOWARD EAST HAVEN. MERGE ONTO US 1 (FRONTAGE ROAD) AND RIGHT TO CONTINUE ON FRONTAGE ROAD. CONTINUE ONTO SALTONSTALL PRIMARY. TURN RIGHT ONTO COMMERCE STREET. THE SITE IS LOCATED ON THE RIGHT HAND SIDE.

SITE INFORMATION

VER LOCATION CODE: 000000
VER LOCATION ID: 0000000000
PROJECT ID: 0000000000
PROJECT NAME: EAST HAVEN COSEY BEACH CT
SBA SITE NUMBER: 0000000000
SBA SITE NAME: NEW HAVEN TOWER
SBA CLOUD APP NUMBER: 0000000000
MSG LOCATION ID: 0000000000
MSG PROJECT ID: 0000000000
SITE ADDRESS: 60 COMMERCE STREET
EAST HAVEN, CT 06512
PROPERTY OWNER: PERRELL ASSOCIATES, LLC
60 COMMERCE STREET
EAST HAVEN, CT 06512
TOWER OWNER: CHAPPELL ENGINEERING & DESIGN, LLC
150 RIVERSIDE BLVD, SUITE 100
NEW HAVEN, CT 06511
PHONE: 203 481-7000
COUNTY: NEW HAVEN, CT
(U)Z LIGHT INDUSTRIAL DISTRICT 2
MONOPOLE
STRUCTURE HEIGHT: 72'±
GROUND ELEVATION: 10'±
TOTAL ANSL: 82'±
CENTER OF EXISTING MONOPOLE: N 41° 15' 04" E (125.02) (NAD 83)
W 72° 59' 55" E (72.8517) (NAD 83)
CHAPPELL ENGINEERING & DESIGN, LLC
150 RIVERSIDE BLVD, SUITE 100
WALLINGFORD, CT 06492

GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON-JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES. THE ARCHITECT/ENGINEER SHALL BE RESPONSIBLE FOR CORRECTING THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - ELECTRICAL CODE: 2009 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: 2009 INTERNATIONAL STRUCTURAL CODE
 - SAFETY CODE: 2009 INTERNATIONAL SAFETY CODE

AT LEAST 72 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO CALLING STATE AT 811.





25 HAVEN RD, 2ND FLOOR
BRIDGEVILLE, CT 06405
(860) 741-7328



SBA COMMERCIAL LENDING
134 FARMINGTON AVE, SUITE 105
BRIDGEVILLE, CT 06405
(860) 251-2729



CHAPARRAL
ENGINEERING
ASSOCIATES, LLC
134 E. EXETER ST.
MILWAUKEE, WI 53126
(414) 481-7400
www.chaparral-engineering.com



CHECKED BY: JRF
DATE: 1/19/2024

APPROVED BY: JRF

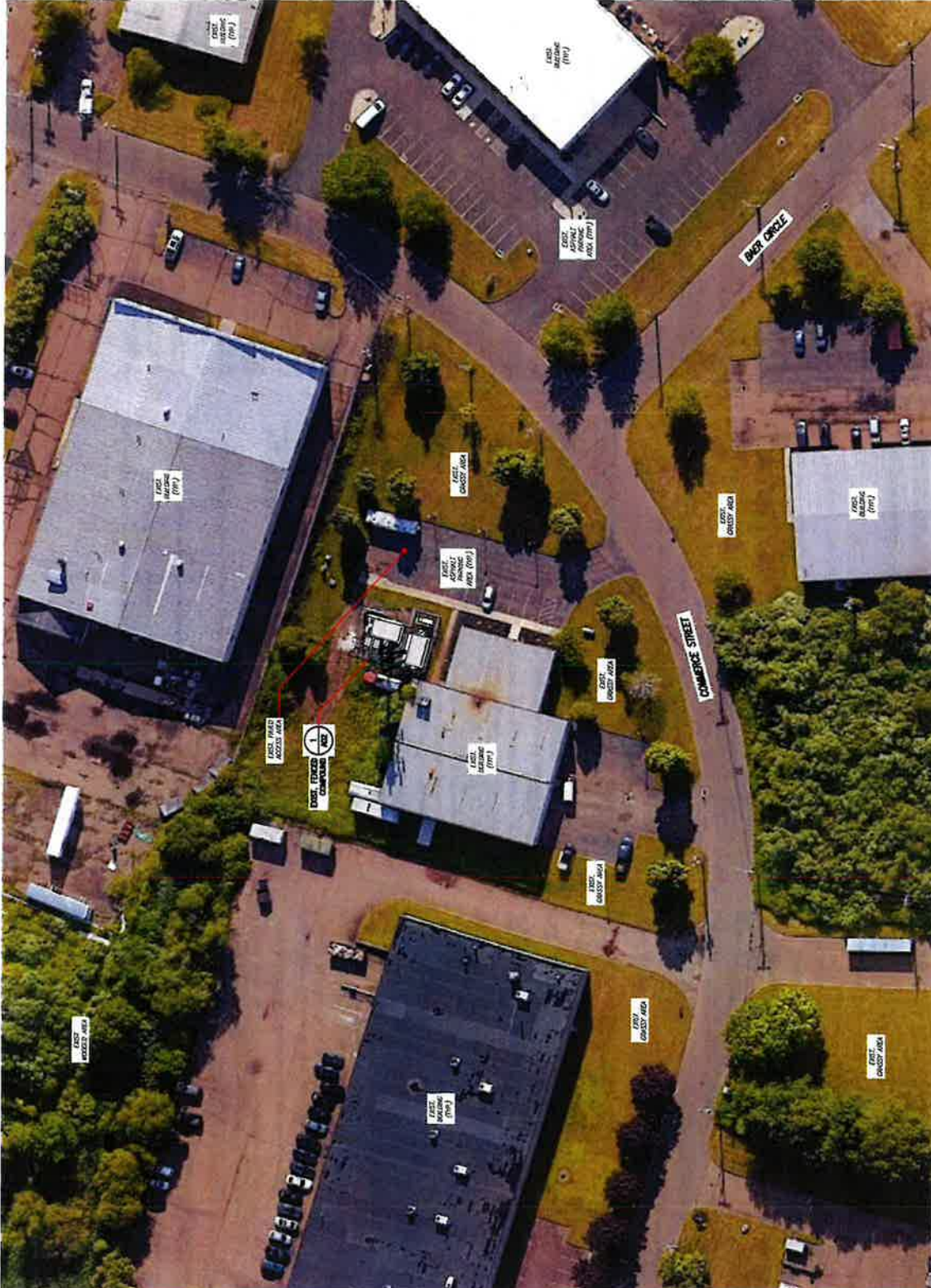
SUBMITTALS	
NO.	DESCRIPTION
1	1. SITE PLAN
2	2. EXISTING AND PROPOSED
3	3. EXISTING AND PROPOSED
4	4. EXISTING AND PROPOSED
5	5. EXISTING AND PROPOSED
6	6. EXISTING AND PROPOSED
7	7. EXISTING AND PROPOSED
8	8. EXISTING AND PROPOSED
9	9. EXISTING AND PROPOSED
10	10. EXISTING AND PROPOSED

EAST HAVEN
COSBY BEACH CT
100 COMMERCE STREET
EAST HAVEN, CT 06424

DATE: 1/19/2024
BY: JRF
PROJECT NO.: 2024-001

SITE PLAN

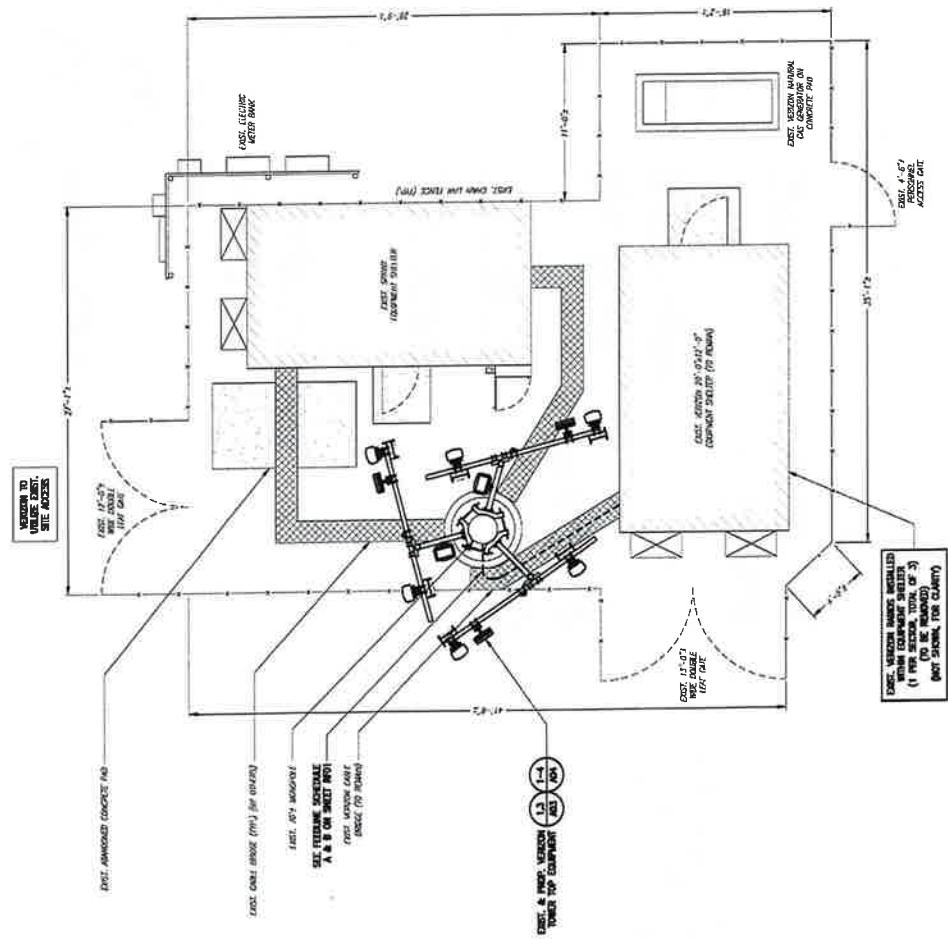
PROJECT NAME:
A01



SPECIAL PRE-CONSTRUCTION WORK NOTE: SBA-PROVIDED TOWER STRUCTURAL ANALYSIS, SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS, GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-RELATED EQUIPMENT PER REQUIREMENTS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL, TOWER-RELATED EQUIPMENT OR RELOCATION.

SPECIAL CONSTRUCTION NOTE: SBA-PROVIDED TOWER STRUCTURAL ANALYSIS, SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS, GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-RELATED EQUIPMENT PER REQUIREMENTS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL, TOWER-RELATED EQUIPMENT OR RELOCATION.

ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIER ENGINEERING & DESIGN (PROJECT #207778344).



COMPOUND PLAN
SCALE: 1/4" = 1'-0"
0 4'-0" 8'-0" 12'-0"

20 LUDLOW RD, 2ND FLOOR
WILMINGTON, CT 06402
(860) 741-7338

SBA COMMUNICATIONS CORP.
125 FLEMING ROAD, SUITE 105
WILMINGTON, CT 06402
(860) 261-4723

CHAPPELL
ENGINEERING
ASSOCIATES, LLC
P.O. BOX 1000
WILMINGTON, CT 06402
(860) 481-7400
www.chappell-engineering.com

STATE OF CONNECTICUT
JAMES R. FITZGERALD
No. 25887
PROFESSIONAL ENGINEER

CHECKED BY: JRF
DATE: 1/1/2024
APPROVED BY: JRF
DATE: 1/1/2024

SUBMITTALS	
REV	DESCRIPTION
1	ISSUED FOR PERMIT
2	ISSUED FOR PERMIT
3	ISSUED FOR PERMIT
4	ISSUED FOR PERMIT
5	ISSUED FOR PERMIT
6	ISSUED FOR PERMIT
7	ISSUED FOR PERMIT
8	ISSUED FOR PERMIT
9	ISSUED FOR PERMIT
10	ISSUED FOR PERMIT

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
001 COMMERCE STREET
EAST HAVEN, CT 06512

VER. LOCATION CODE: 000000
REV. LOCATION CODE: 000000
DATE PROJECT TO: 1/1/2024
SHEET TITLE: COMPOUND PLAN

SHEET NUMBER: **A02**



EMPTY - EMPTY PIPE
(E) - EXISTING
(P) - INSTALL
(F) - FUTURE





DESIGNED BY: JRF
APPROVED BY: JRF

SUBMITTALS	
NO.	DESCRIPTION
1	RFI
2	RFI
3	RFI
4	RFI
5	RFI
6	RFI
7	RFI
8	RFI
9	RFI
10	RFI
11	RFI
12	RFI
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95	RFI
96	RFI
97	RFI
98	RFI
99	RFI
100	RFI

PROJECT NAME: E. AVENUE
EAST HAVEN
COSEY BEACH CT
80 COMMERCE STREET
EAST HAVEN, CT 06612

VIEW LOCATION CODE	000000
VIEW LOCATION ID	00000000
VIEW PROJECT ID	00000000

RFI DATA

RFI01

EXISTING EQUIPMENT CONFIGURATION									
SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	HYBRID CABLE SIZE & QTY
ALPHA	COMPTON JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
BETA	COMPTON JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
GAMMA	COMPTON JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
ALL	RFI 01	1	-	-	-	-	-	-	-

NOTES:
1. "RFI" STANDS FOR "RFI REQUEST".
2. "RFI" STANDS FOR "RFI REQUEST".
3. "RFI" STANDS FOR "RFI REQUEST".
4. INFORMATION IS BASED ON RFI DATED 11/20/24.

FINAL EQUIPMENT CONFIGURATION									
SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	HYBRID CABLE SIZE & QTY
ALPHA	COMPTON JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	0°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
BETA	COMPTON JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	90°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
GAMMA	COMPTON JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	COMPTON JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
	SHOULDER JPH-400-400 ANTENNA	1	250°	55° A2	5W	0°	0°	0%	1/2" COAXIAL CABLE
ALL	RFI 01	1	-	-	-	-	-	-	-

NOTES:
1. "RFI" STANDS FOR "RFI REQUEST".
2. "RFI" STANDS FOR "RFI REQUEST".
3. "RFI" STANDS FOR "RFI REQUEST".
4. INFORMATION IS BASED ON RFI DATED 11/20/24.

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO EXIST: (1) 1/2" COAXIAL CABLE FOR GPS ANTENNA (1) 1/2" COAXIAL CABLE FOR GPS ANTENNA (1) 1/2" COAXIAL CABLE FOR GPS ANTENNA	ROUTED PER STRUCTURAL ANALYSIS
B	EXISTING TO BE EXIST: (1) 1/2" COAXIAL CABLE (1) 1/2" COAXIAL CABLE (1) 1/2" COAXIAL CABLE	ROUTED PER STRUCTURAL ANALYSIS



20 ALDEN DRIVE, 2ND FLOOR
NEW HAVEN, CT 06512
(203) 744-7338



SBA COMMUNICATIONS CORP.
134 PLUMBERS ROAD, SUITE 105
NEW HAVEN, CT 06511
(203) 281-2720



ALL EXECUTIVE OFFICES
1000 WEST MAIN STREET, SUITE 101
NEW HAVEN, CT 06510
(203) 481-7400
www.chapell-engineering.com



CHECKED BY: JMT
APPROVED BY: JMT

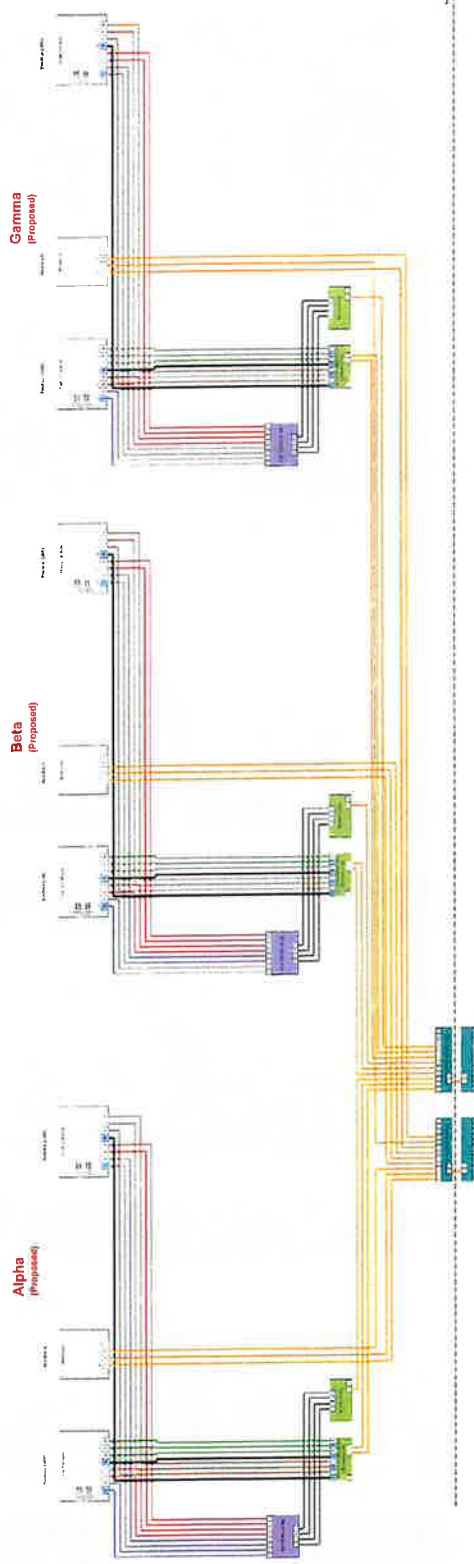
SUBMITTALS	
NO.	DESCRIPTION
1	100% PLAN REVIEW FOR CONSTRUCTION
2	100% PLAN REVIEW FOR BIDDING

PROJECT NAME & ADDRESS
**EAST HAVEN
COSSEY BEACH CT**
60 COMMENCE STREET
EAST HAVEN, CT 06512

YOUR ACCOUNT CODE: 000000
MFG. JOURNAL NO.: 00000000
PLUMBING PROJECT NO.: 00000000

RF PLUMBING DIAGRAM

SHEET NUMBER
RF02

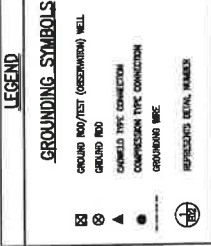
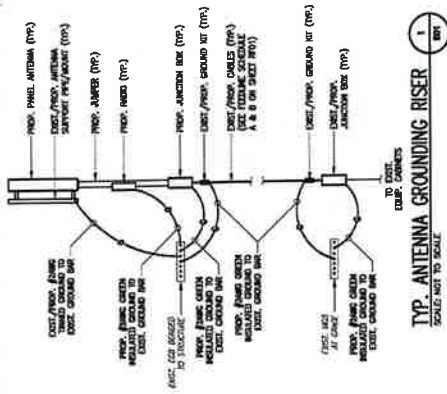


RF PLUMBING DIAGRAM
SCALE: N.T.S.

HYBRID CABLE COLOR CODE SPECIFICATIONS 2 10/03
SCALE N.T.S.

GROUNDING GENERAL NOTES

1. ALL EXTERIOR CONNECTIONS SHALL BE AT MIN. 6" DIA. GALV. STEEL TUBED COLUMNS, UNLESS OTHERWISE NOTED. MINIMUM RISE FROM GROUND SHALL BE 6" (6" MIN).
2. ALL 1/2" DIA. STEEL CONNECTIONS SHALL BE 1/2" DIA. STEEL TUBED COLUMNS, UNLESS OTHERWISE NOTED. MINIMUM RISE FROM GROUND SHALL BE 6" (6" MIN).
3. ALL 1/2" DIA. STEEL CONNECTIONS SHALL BE 1/2" DIA. STEEL TUBED COLUMNS, UNLESS OTHERWISE NOTED. MINIMUM RISE FROM GROUND SHALL BE 6" (6" MIN).
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13. ALL 1/2" DIA. STEEL CONNECTIONS SHALL BE 1/2" DIA. STEEL TUBED COLUMNS, UNLESS OTHERWISE NOTED. MINIMUM RISE FROM GROUND SHALL BE 6" (6" MIN).
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15. ALL 1/2" DIA. STEEL CONNECTIONS SHALL BE 1/2" DIA. STEEL TUBED COLUMNS, UNLESS OTHERWISE NOTED. MINIMUM RISE FROM GROUND SHALL BE 6" (6" MIN).



LEGEND	
GROUNDING SYMBOLS	
⊗	GROUND ROD/TEST (CONNECTION) WELL
⊙	GROUND ROD
⊕	GROUNDING TYPE CONNECTION
⊖	GROUNDING WIRE
⊗	REPRESENTS DATA NUMBER
ABBREVIATIONS	
AWG	AMERICAN WIRE GAUGE
BW	BARE COPPER WIRE
CP	CABLE POSITIONING SYSTEM
PCS	PERSONAL COMMUNICATION SYSTEM
RYT	RYTHM
TYP.	TYPICAL
R2S	RADIO DAMPENED STEEL
EXT.	EXTERIOR METALLIC TUBING
INT.	INTERIOR GROUND WIRE (H40)
GEN	GENERATOR
CR	CORROSION
COX	COAXIAL GROUND WIRE EXTERNAL
WGS	WATER GROUND WIRE
PC	POWER GROUND WIRE
ET	ETHERNET WIRE/NO. WIRE



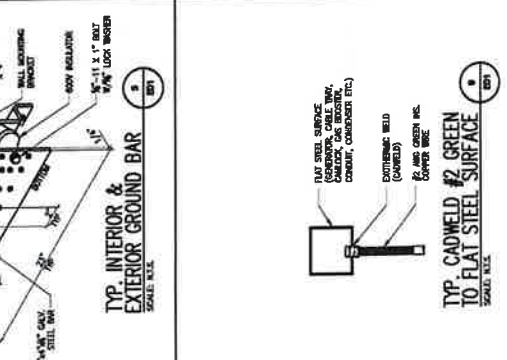
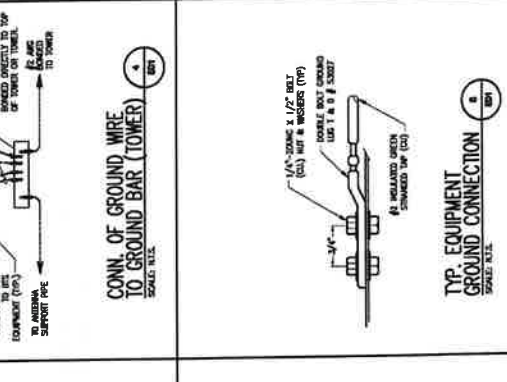
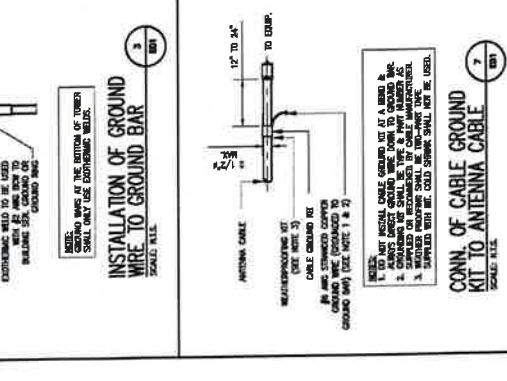
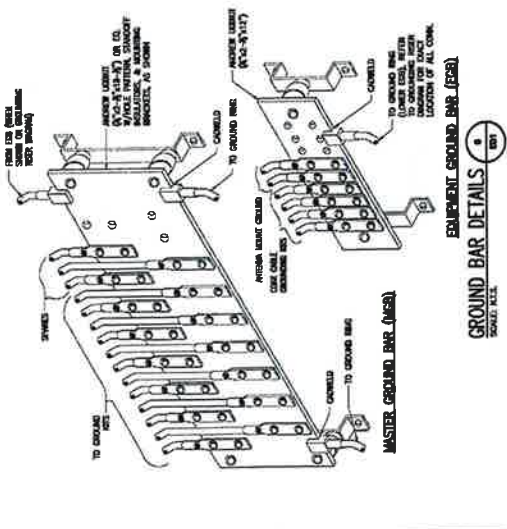
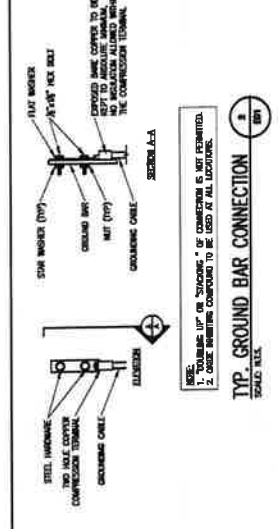
SUBMITTALS	
NO.	DESCRIPTION
1	1. ANTENNA GROUNDING RISER
2	2. INTERIOR & EXTERIOR GROUND BAR
3	3. GROUND WIRE TO GROUND BAR
4	4. EQUIPMENT GROUND CONNECTION
5	5. CABLE GROUND KIT TO ANTENNA CABLE
6	6. GROUND BAR DETAILS

**EAST HAVEN
COSBY BEACH CT**
80 COMMERCIAL STREET
EAST HAVEN, CT 06419

NO. LOCATION CODE	000000
NO. LOCATION CODE	00000000
NO. PROJECT CODE	00000000

**GROUNDING NOTES
& DETAILS**

E01





MOUNT MODIFICATION DRAWINGS
EXISTING 12.5' TALL
TOWER OWNER: SBA TOWER COMMUNICATIONS
TOWER OWNER SITE NUMBER: CT-46147
CARRIER SITE NUMBER: 560350115
RUZE ID: 6627400

66 COMMERCE STREET
EAST HAVEN, CT 06412

NEW HAVEN COUNTY

LATITUDE: 41.25123° N
LONGITUDE: 72.88209° W

DESIGN CRITERIA	
WIND SPEED	100 MPH
WIND DIRECTION	Any
ICE LOAD	0.5" RADIUS
SEISMIC	AS PER FEMA 455
GROUND REACTION	AS PER FEMA 455
FOUNDATION	AS PER FEMA 455
ANCHOR BOLTS	AS PER FEMA 455
CONCRETE	AS PER FEMA 455
STEEL	AS PER FEMA 455
WELDING	AS PER FEMA 455
PAINT	AS PER FEMA 455
FINISH	AS PER FEMA 455

PROJECT INFORMATION	
PROJECT NAME	VERIZON TOWER COMMUNICATIONS
PROJECT NUMBER	CT-46147
PROJECT LOCATION	66 COMMERCE STREET, EAST HAVEN, CT 06412
PROJECT OWNER	SBA TOWER COMMUNICATIONS
PROJECT CONTACT	JOHN J. VERIZONE
PROJECT PHONE	203-350-1150
PROJECT FAX	203-350-1150
PROJECT EMAIL	john.verizone@verizon.com
PROJECT WEBSITE	www.verizon.com

SHEET INDEX	
SHEET NO.	1
SHEET TOTAL	1

UNAPPROVED FOR CONSTRUCTION

BILL OF MATERIALS

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
1	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
2	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
3	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
4	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
5	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
6	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
7	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
8	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
9	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00
10	STEEL TOWER SECTION	1	SECTION	1000.00	1000.00

VERIZONE KITS - APPROVED VENDORS

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	PRICE	TOTAL
1	VERIZONE KIT	1	KIT	1000.00	1000.00
2	VERIZONE KIT	1	KIT	1000.00	1000.00
3	VERIZONE KIT	1	KIT	1000.00	1000.00
4	VERIZONE KIT	1	KIT	1000.00	1000.00
5	VERIZONE KIT	1	KIT	1000.00	1000.00
6	VERIZONE KIT	1	KIT	1000.00	1000.00
7	VERIZONE KIT	1	KIT	1000.00	1000.00
8	VERIZONE KIT	1	KIT	1000.00	1000.00
9	VERIZONE KIT	1	KIT	1000.00	1000.00
10	VERIZONE KIT	1	KIT	1000.00	1000.00



20 HAVEN DRIVE, 2ND FLOOR
EAST HAVEN, CT 06412
(203) 350-1150



SBA COMMUNICATIONS CORP.
124 HAVEN DRIVE, SUITE 125
EAST HAVEN, CT 06412
(203) 350-1150



GRAMPPELL ENGINEERING ASSOCIATES, LLC
124 HAVEN DRIVE, SUITE 125
EAST HAVEN, CT 06412
(203) 350-1150



DESIGNED BY: JVF
APPROVED BY: JVF

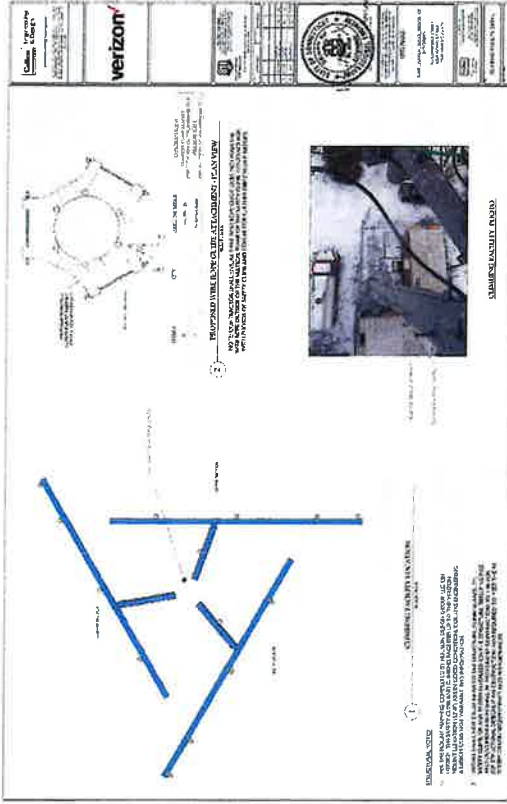
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3	12/14/2010
4	12/14/2010
5	12/14/2010
6	12/14/2010
7	12/14/2010
8	12/14/2010
9	12/14/2010
10	12/14/2010

EAST HAVEN
COSSEY BEACH CT
60 COMMERCE STREET
EAST HAVEN, CT 06412

VERIZONE CODE: 000000
SBA LOCATION ID: 00000000
PROJECT ID: 00000000

MOUNT MODIFICATION DRAWINGS

SHEET NUMBER
MM01



20 ALDEN DRIVE, 2ND FLOOR
HARTFORD, CT 06102
(860) 741-7238

SBA COMMUNICATIONS CORP.
124 PARKSIDE BLVD, SUITE 105
HARTFORD, CT 06101
(860) 251-0720

CHAPPELLE ENGINEERING
111 E. MAIN STREET, SUITE 101
HARTFORD, CT 06102
(860) 482-7100
www.chapelle-engineering.com

DESIGNED BY: JAF
APPROVED BY: JAF

SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	10/20/10	ISSUED FOR CONSTRUCTION	JAF
2	12/20/10	ISSUED FOR BIDDING	JAF

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
80 COMMERCE STREET
EAST HAVEN, CT 06424

VIEW LOCATION CODE: 000000
MODIFICATION CODE: 000000
PAGE NUMBER OF: 000000

MOUNT MODIFICATION DRAWINGS II

MM02

20 ALDEN DRIVE, 2ND FLOOR
HARTFORD, CT 06102
(860) 741-7238

SBA COMMUNICATIONS CORP.
124 PARKSIDE BLVD, SUITE 105
HARTFORD, CT 06101
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1	10/20/10	ISSUED FOR CONSTRUCTION	JAF
2	12/20/10	ISSUED FOR BIDDING	JAF

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
80 COMMERCE STREET
EAST HAVEN, CT 06424

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MOUNT MODIFICATION DRAWINGS II

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	10/20/10	ISSUED FOR CONSTRUCTION	JAF
2	12/20/10	ISSUED FOR BIDDING	JAF

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
80 COMMERCE STREET
EAST HAVEN, CT 06424

VIEW LOCATION CODE: 000000
MODIFICATION CODE: 000000
PAGE NUMBER OF: 000000

MOUNT MODIFICATION DRAWINGS II

MM02

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	10/20/10	ISSUED FOR CONSTRUCTION	JAF
2	12/20/10	ISSUED FOR BIDDING	JAF

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
80 COMMERCE STREET
EAST HAVEN, CT 06424

VIEW LOCATION CODE: 000000
MODIFICATION CODE: 000000
PAGE NUMBER OF: 000000

MOUNT MODIFICATION DRAWINGS II

MM02

20 ALDEN DRIVE, 2ND FLOOR
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(860) 741-7238

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HARTFORD, CT 06101
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HARTFORD, CT 06102
(860) 482-7100
www.chapelle-engineering.com

DESIGNED BY: JAF
APPROVED BY: JAF

SUBMITTALS

NO.	DATE	DESCRIPTION	BY
1	10/20/10	ISSUED FOR CONSTRUCTION	JAF
2	12/20/10	ISSUED FOR BIDDING	JAF

PROJECT NAME & ADDRESS
**EAST HAVEN
COSEY BEACH CT**
80 COMMERCE STREET
EAST HAVEN, CT 06424

VIEW LOCATION CODE: 000000
MODIFICATION CODE: 000000
PAGE NUMBER OF: 000000

MOUNT MODIFICATION DRAWINGS II

MM02



30 KENNEDY DRIVE, 2ND FLOOR
HARTFORD, CT 06102
(860) 741-7423



200 COMMERCIAL COURT
100 FLAMINGO ROAD, SUITE 105
HARTFORD, CT 06105
(860) 271-0725



ALL EXISTING WORK
SHOWN FOR REFERENCE
ONLY. SEE DRAWING FOR
ALL NEW WORK.



DESIGNED BY: [Signature]
DATE: 12/1/11

APPROVED BY: [Signature]
DATE: 12/1/11

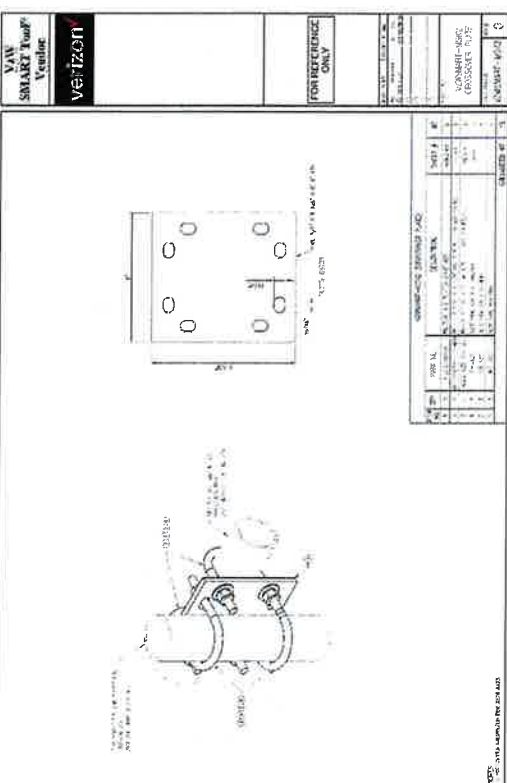
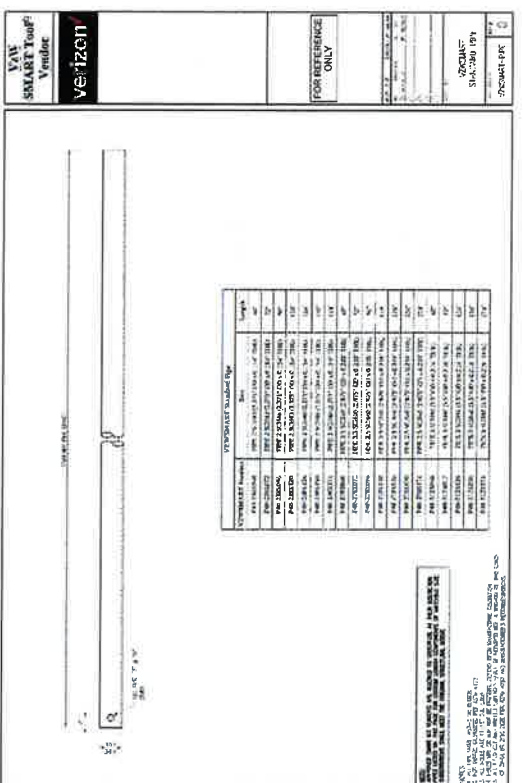
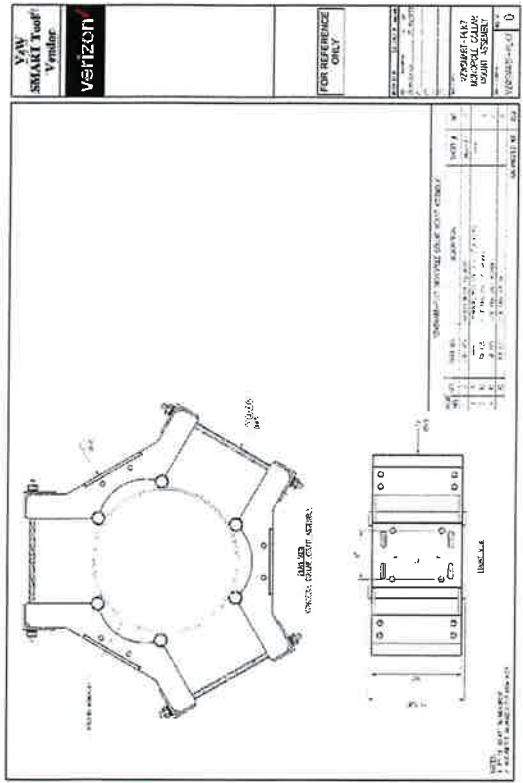
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2	12/1/11	ISSUED FOR CONSTRUCTION	ME

**EAST HAVEN
COSEY BEACH CT**
80 COMMERCIAL STREET
EAST HAVEN, CT 06424

FOR LOCATION CODE: 000000
BAY LOCATION ID: 00000000
PAGE PROJECT ID: 00000000

**MOUNT MODIFICATION
DRAWING 8 II**

MM03



JAHH-65B-R3B



8-port sector antenna, 2x 698–787, 2x 824–894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.28 m ² 3.014 ft ²
Effective Projective Area (EPA), lateral	0.24 m ² 2.583 ft ²
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	4
RF Connector Quantity, total	8

Remote Electrical Tilt (RET) Information, General

RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	2 female 2 male

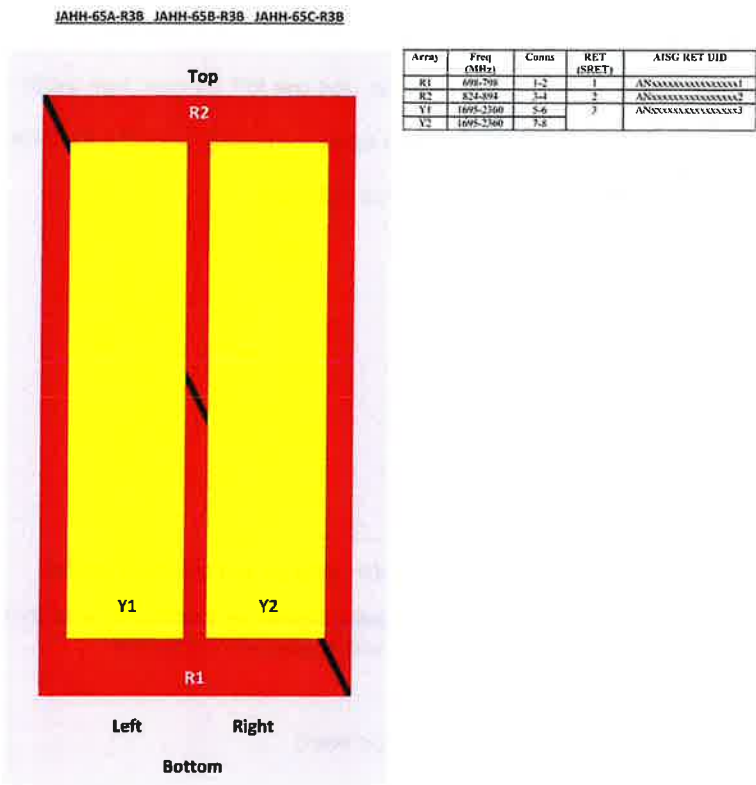
Dimensions

Width	350 mm 13.78 in
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JAHH-65B-R3B

Length	1828 mm 71.969 in
Depth	208 mm 8.189 in

Array Layout



View from the front of the antenna
(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz 698 – 787 MHz 824 – 894 MHz
Polarization	±45°

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Single RET)
Power Consumption, idle state, maximum	2 W

JAHH-65B-R3B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 Port 5
Internal RET	High band (1) Low band (2)

Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR Return loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	200	200	300	300	300	250

Electrical Specifications, BASTA

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2° 14.3 8° 14.3 14° 14.3	2° 15.0 8° 14.9 14° 15.4	0° 17.2 5° 17.6 10° 17.6	0° 17.6 5° 18.2 10° 18.2	0° 17.7 5° 18.3 10° 18.3	0° 17.9 5° 18.7 10° 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24

JAHH-65B-R3B

CPR at Sector, dB	11	12	11	11	11	8
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Mechanical Specifications

Wind Loading at Velocity, frontal	301.0 N @ 150 km/h 67.7 lbf @ 150 km/h
Wind Loading at Velocity, lateral	254.0 N @ 150 km/h 57.1 lbf @ 150 km/h
Wind Loading at Velocity, maximum	143.4 lbf @ 150 km/h 638.0 N @ 150 km/h
Wind Speed, maximum	241 km/h 149.75 mph

Packaging and Weights

Width, packed	456 mm 17.953 in
Depth, packed	357 mm 14.055 in
Length, packed	1975 mm 77.756 in
Net Weight, without mounting kit	29.2 kg 64.375 lb
Weight, gross	42.5 kg 93.696 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted



Included Products

BSAMNT-3	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.
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* Footnotes

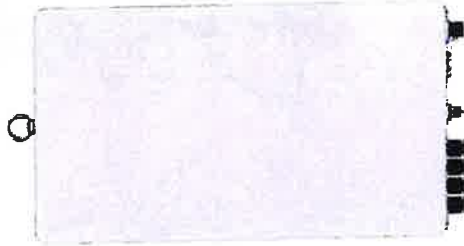
Performance Note	Severe environmental conditions may degrade optimum performance
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C-band 64T64R

Gen 2

SAMSUNG

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



※ Preliminary Design: External appearance and mechanical design can be subject to change

Gen 2. 64T64R C-band MMU Dimensions		
Size (W/H/D)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)	
Weight	26kg (57.3 lb)	

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/DDR
Frequency	3700 ~ 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	200 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dB)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @1Rx, 18.36MHz with 30KHz, 51RBz
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (W/H/D)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)
Volume	41.1L
Weight	26kg (57.3 lb)
Operating Temperature	-40°C ~ 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4.040 ~ 4.050 MHz < -60 dBm /MHz @ above 4.050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4439d-25A



Homepage
samsungnetworks.com

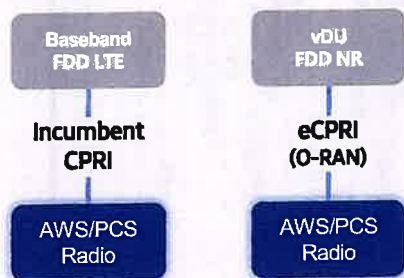


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

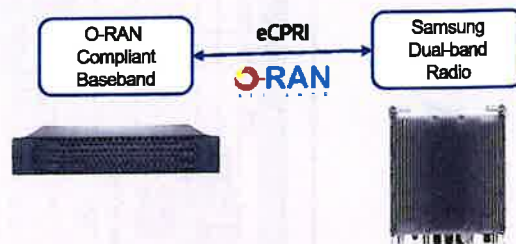
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

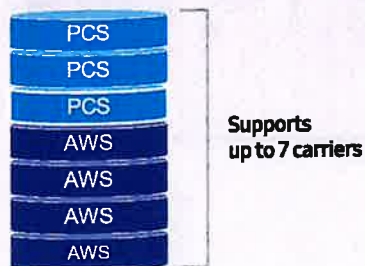
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.



Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

SAMSUNG

Specifications



Item	Specification
Air Interface	LTE, NR(HW resource ready)
Band	Band13 (700MHz) DL: 869~894MHz UL: 824~849MHz 25MHz
Frequency	DL: 746~756MHz UL: 777~787MHz 10MHz
IBW	10MHz
OBW	10MHz
Carrier Bandwidth	LTE/NR 5/10MHz
# of carriers	2C*
Total # of carriers	4C + B13 (SDL) 1C
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector Total : 320W
RF Output Power	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support, (1024QAM with 1~2dB power back-off)
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	1.165 Watt @ 100% RF load, room temperature
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)
Volume	37.5 L
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 FCC 47 CFR 27.53 c), f)
CPRI Cascade	Not supported
Optic Interface	-69 dBm/100 kHz per path @ 896 ~901MHz FCC 47 CFR 22.917
RET & TMA Interface	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)
Bias-T	Not supported
Mounting Options	4 ports (2 ports per band) Pole, wall
NB-IoT	2G8+21B or 41B
PIM Cancellation	2SA+2G8 or 2G8+21B or 4G8
# of antenna port	Support
External Alarm	4
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
CPRI compression	Not Support

* 5MHz supporting in B13(700MHz) depends on 3Gpp std. and UE capability.
External filters in interferer and victim sides for Mexican boarder to support 5MHz service need to be considered
** Finger guard is not needed.

ATTACHMENT 3



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65 Dartmouth Drive
Auburn, NH 03032
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Calculated Radio Frequency Emissions Report



East Haven Cosey Beach

60 Commerce Street, East Haven, CT

January 8, 2024

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 55' on an existing monopole located at 60 Commerce Street in East Haven, CT. The coordinates of the monopole tower are 41° 15' 4.44" N, 72° 52' 55.54" W.

Verizon is proposing the following:

- 1) Install six (6) multi-band antennas, one (1) per sector to support its commercial LTE network.
- 2) Install three (3) C-Band antenna, one (1) per sector.

This report considers the planned antenna configuration for Verizon¹ as well as existing antenna configuration for T-Mobile²³ to derive the resulting % MPE of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment C contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

¹ As referenced to Verizon's Radio Frequency Design Sheet updated 11/02/2023.

² As referenced to the Structural Analysis report in Verizon's Connecticut Siting Council Notice of Exempt Modification – 60 Commerce Street, East Haven, Connecticut, dated 02/16/2022

³ The power and frequency information for T-Mobile was taken directly from the CSC database dated 01/21/2022.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{GRF}^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

$$R = \text{Radial Distance} = \sqrt{H^2 + V^2}$$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Antenna Inventory

Table 1 below outlines Verizon's proposed antenna configuration for the site. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C.

Operator		TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha	700	160	14.5	4509	JAHH-65B-R3B	67	0	6.1	55
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	11327		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	55
	Beta	700	160	14.5	4509	JAHH-65B-R3B	67	0	6.1	55
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	11327		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	55
	Gamma	700	160	14.5	4509	JAHH-65B-R3B	67	0	6.1	55
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	11327		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	55

Table 1: Proposed Antenna Inventory⁴⁵

⁴ Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 11/02/2023.

⁵ Transmit power assumes 0 dB of cable loss.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.

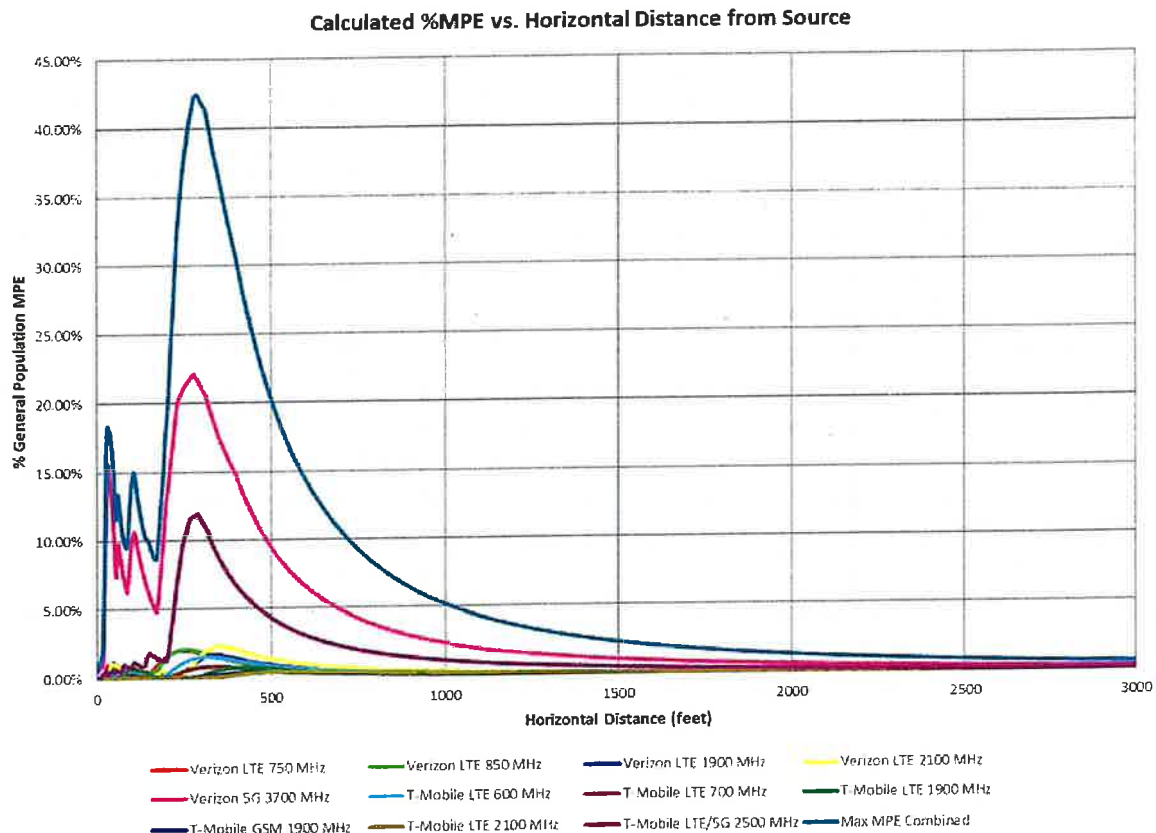


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (42.45% of the General Population limit) is calculated to occur at a horizontal distance of 287 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 800 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 287 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm ²)	Limit (mW/cm ²)	% MPE
T-Mobile GSM 1900 MHz	4	20.0	67.0	287	0.000394	1.000	0.04%
T-Mobile LTE 1900 MHz	2	60.0	67.0	287	0.001068	1.000	0.11%
T-Mobile LTE 2100 MHz	2	60.0	67.0	287	0.000087	1.000	0.01%
T-Mobile LTE 600 MHz	1	120.0	67.0	287	0.005974	0.400	1.49%
T-Mobile LTE 700 MHz	2	30.0	67.0	287	0.003502	0.467	0.75%
T-Mobile LTE/5G 2500 MHz	1	140.0	67.0	287	0.118630	1.000	11.86%
Verizon 5G 3700 MHz	1	320.0	55.0	287	0.217060	1.000	21.71%
Verizon LTE 1900 MHz	1	160.0	55.0	287	0.012427	1.000	1.24%
Verizon LTE 2100 MHz	1	240.0	55.0	287	0.013679	1.000	1.37%
Verizon LTE 750 MHz	1	160.0	55.0	287	0.009408	0.500	1.88%
Verizon LTE 850/5G MHz	1	160.0	55.0	287	0.011259	0.567	1.99%
Total							42.45%

Table 2: Maximum Percent of General Population Exposure Values⁶⁷

⁶ In the case where antenna pattern data was unavailable from the manufacturer, generic antenna pattern was used based on the frequency, bandwidth and gain of the antenna

⁷ The power and frequency information for T-Mobile was taken directly from the CSC database dated 01/21/2022.

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **42.45%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 287 feet away from the site.

7. Statement of Certification

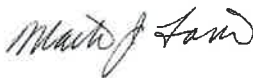
I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Report Prepared By: Ram Acharya
RF Engineer
C Squared Systems, LLC

January 5, 2024

Date



Reviewed/Approved By: Martin Lavin
Senior RF Engineer
C Squared Systems, LLC

January 8, 2024

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁸

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁹

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

⁸ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁹ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

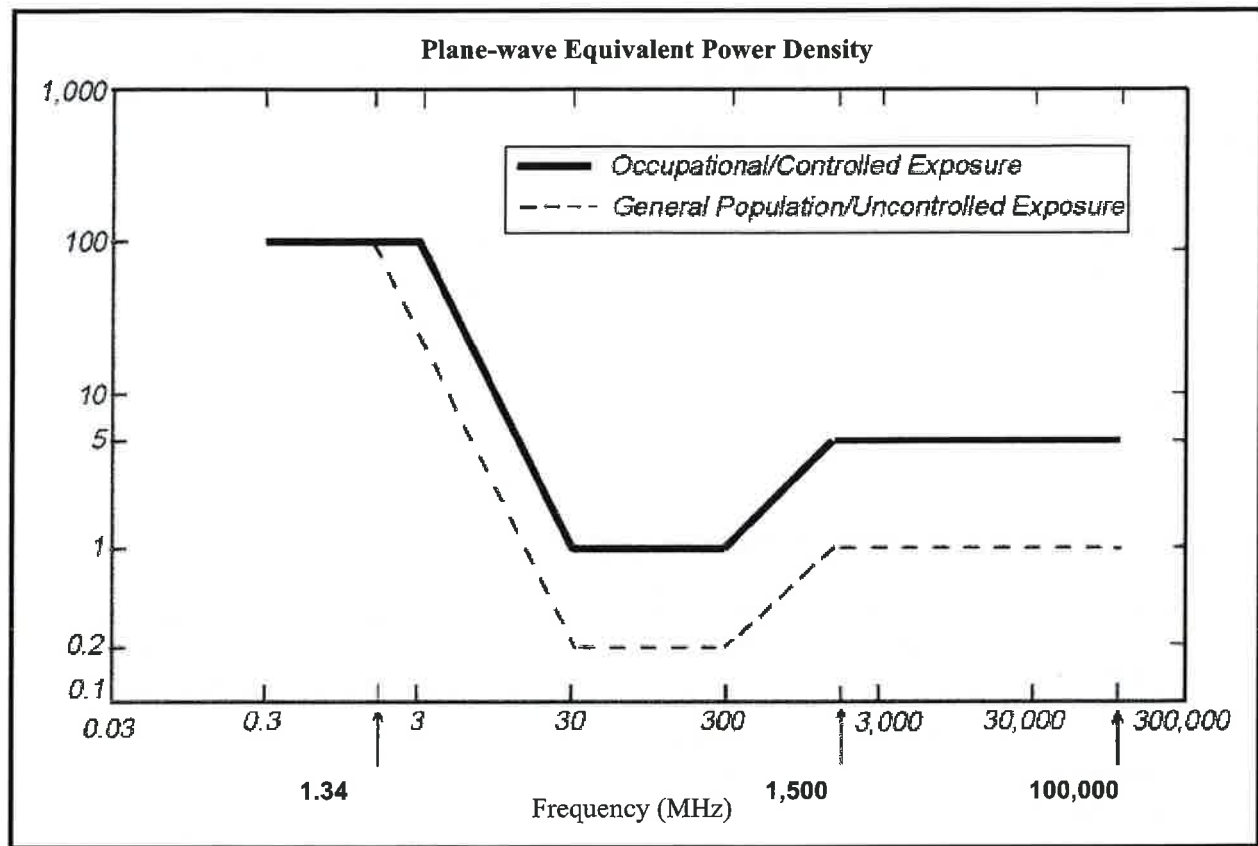
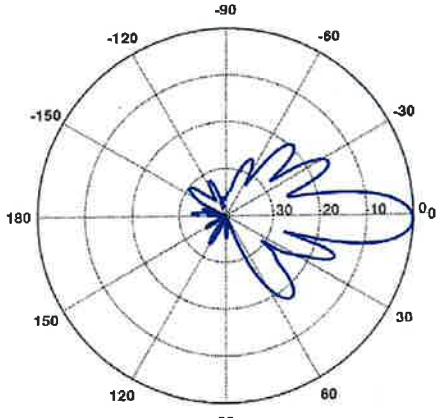
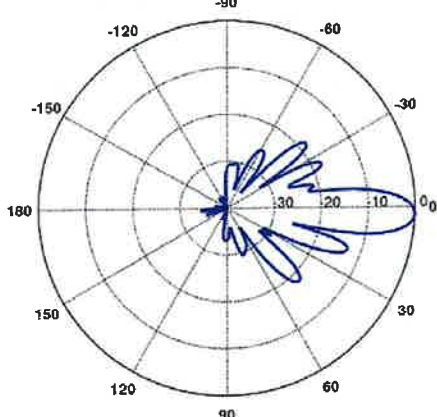


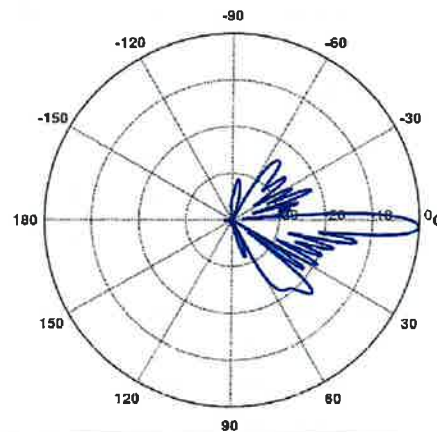
Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

LTE 750 MHz Manufacturer: COMMSCOPE Model #: JAHH-65B-R3B Frequency Band: 698-787 MHz Gain: 14.5 dBi Vertical Beamwidth: 12.4° Horizontal Beamwidth: 67° Polarization: ±45° Dimensions (L x W x D): 72.97" x 13.78" x 8.20"	
LTE 850 MHz Manufacturer: COMMSCOPE Model #: JAHH-65B-R3B Frequency Band: 824-894 MHz Gain: 15.8 dBi Vertical Beamwidth: 10.5° Horizontal Beamwidth: 65° Polarization: ±45° Dimensions (L x W x D): 72.97" x 13.78" x 8.20"	

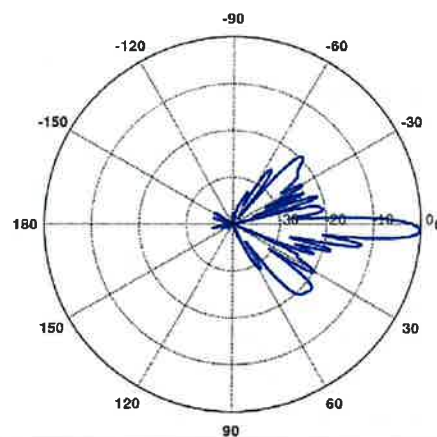
LTE 1900 MHz

Manufacturer: COMMSCOPE
 Model #: JAHH-65B-R3B
 Frequency Band: 1850-1990 MHz
 Gain: 18.4 dBi
 Vertical Beamwidth: 5.2°
 Horizontal Beamwidth: 63°
 Polarization: ±45°
 Dimensions (L x W x D): 72.97" x 13.78" x 8.20"



LTE 2100 MHz

Manufacturer: COMMSCOPE
 Model #: JAHH-65B-R3B
 Frequency Band: 1920-2200 MHz
 Gain: 18.5 dBi
 Vertical Beamwidth: 4.9°
 Horizontal Beamwidth: 65°
 Polarization: ±45°
 Dimensions (L x W x D): 72.97" x 13.78" x 8.20"



ATTACHMENT 4



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sbsite.com

Structural Analysis Report

Client: Verizon

Client Site ID / Name: 5000385115 / East Haven Cosey Beach CT
Application #: 242158, v3

SBA Site ID / Name: CT46147-A / New Haven Tweed

70 ft Monopole

60 Commerce Street
East Haven, Connecticut 06512
Lat: 41.2512, Long: -72.8820

Project number: CT46147-VZW-122123

Analysis Results

Tower	78.0%	Pass
Foundation	45.0%	Pass

Change in tower stress due to mount replacement	N/A
---	-----

Prepared by:

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December 26, 2023



12/26/23

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Coax Layout.....	
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Introduction

The purpose of this report is to summarize the analysis results on the 70 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Valmont, Order No. 18927-06, Dated 02/09/2006
Foundation drawings	Valmont, Order No. 18927-06, Dated 02/09/2006
Geotechnical report	JGI Eastern, Inc., Project No. 05557G, dated 09/27/2005
Carrier MA	Colliers Engineering & Design, Project # 20777634A (Rev. 1), dated 12/11/2023
Modification Drawings	N/A
Latest SA	TES, Project # 120761, dated 12/20/2021

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/NEW HAVEN/East Haven
Governing Codes	ANSI/TIA/EIA 222-H, 2021 IBC, 2022 CSBC
Ultimate Wind Speed (3-Sec gust)	121.0 mph
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.00"
Risk Category	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	11.57 ft.
Seismic Parameter S_s	0.199
Seismic Parameter S_1	0.053

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

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	67.0	3	RFS APX16DWV-16DWVS-E-A20 - Panel	Low Profile Platform w/ Handrail	(3) 1.99" Hybrid - 6x24	T-Mobile Sprint
2		3	RFS APXVAALL24_43-U-NA20 - Panel			
3		3	Ericsson AIR6449 B41 - Panel			
4		3	Ericsson 4480 B71 + B85 - RRU			
5		3	Ericsson 4424 B25 - RRU			
6		3	Ericsson 4460 B25 + B66 - RRU			
7	55.0	3	Antel BXA-80063-6BF w/ Mount Pipe - Panel	(3) T-Arms	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
8		6	Commscope JAHH-65B-R3B - Panel			
-		3	Samsung MT6407-77A - Panel			
-		1	RFS DB-T1-6Z-8AB-OZ - OVP			
-		3	Commscope CBC78T-DS2X/W14F05P50 - Diplexer			
-		3	Samsung LTE AWS/PCS RFV01U-D1A - RRU			
-		3	Samsung LTE 700/850 MHz RFV01UD2A - RRU			
-		1	RFS DB-B1-6C-12AB-OZ - OVP			

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 242158, v3 from Verizon and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
7	55.0	3	Antel BXA-80063-6BF w/ Mount Pipe - Panel	(3) Modified T-Arms	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
8		6	Commscope JAHH-65B-R3B - Panel			
9		3	Samsung MT6413 77A - Panel			
10		3	Commscope CBC78T-DS-43-2X - Diplexer			
11		3	Samsung B2/B66A RRH ORAN (RF4439d-25A) - RRU			
12		3	Samsung B5/B13 RRH ORAN (RF44619-13A) - RRU			
13		2	RFS DB-B1-6C-12AB-OZ - OVP			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	78.0%	44.2%	37.2%
Pass/Fail	Pass	Pass	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	45.0%	Pass

Conclusions

Based on the analysis results, the existing tower and foundation were found to be **sufficient** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

Usage Diagram - Max Ratio 78.01% at 0.0ft

Structure: CT46147-A
Site Name: New Haven Tweed
Height: 70.00 (ft)
Base Elev: 0.000 (ft)

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

12/26/2023

Page: 1



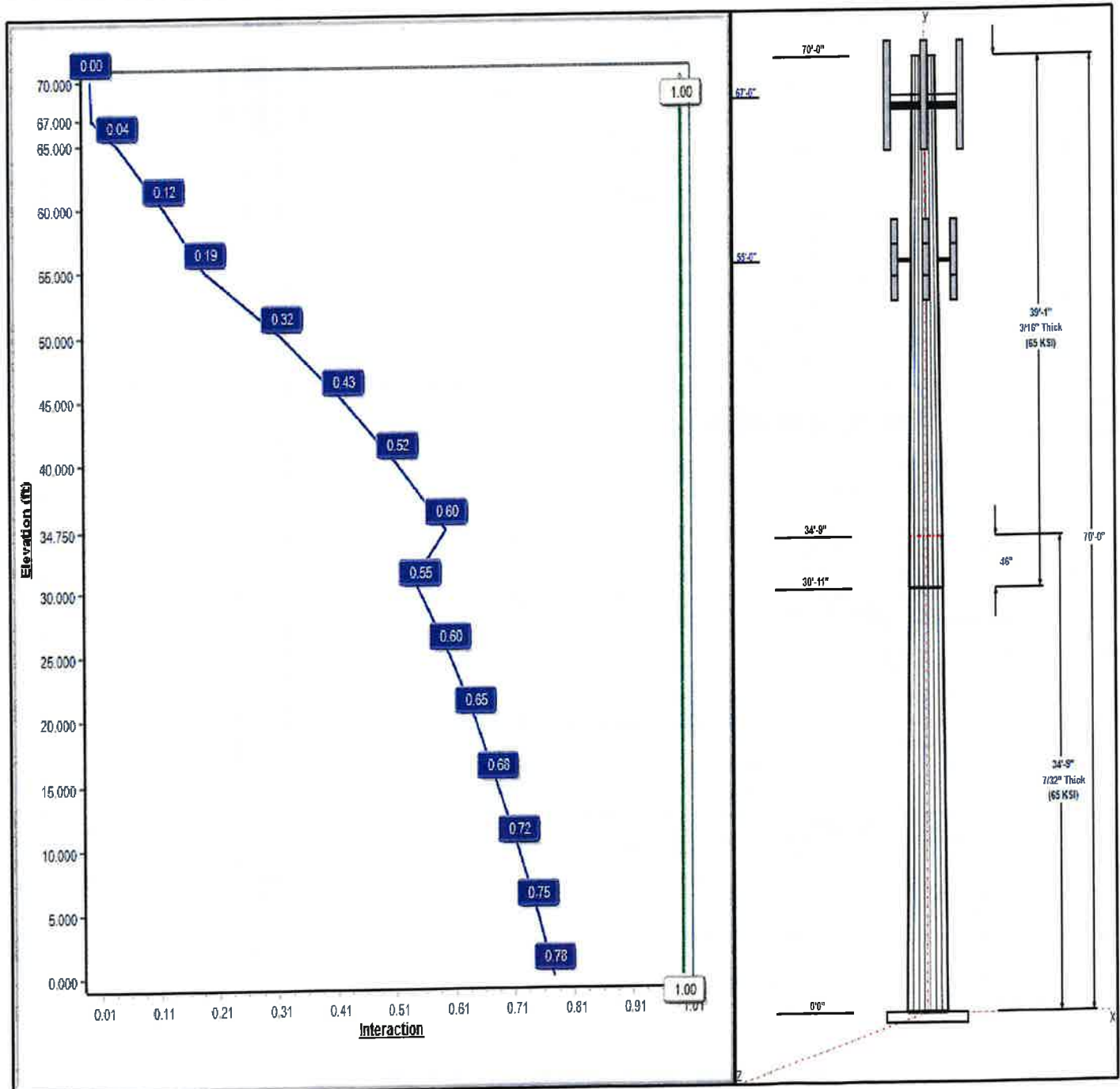
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 121 mph Wind



Iterations: 19

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Structure: CT46147-A

Type: Tapered
Site Name: New Haven Tweed
Height: 70.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.22994

12/26/2023



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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	34.75	24.01	32.00	0.219		0.22994	65
2	39.08	16.28	25.27	0.188	Slip	0.22994	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
67.00	67.00	3	RFS	T-Mobile Sprint
67.00	67.00	3	RFS	T-Mobile Sprint
67.00	67.00	3	Ericsson AIR6449 B41	T-Mobile Sprint
67.00	67.00	3	4480 B71 + B85	T-Mobile Sprint
67.00	67.00	3	Ericsson 4424 B25	T-Mobile Sprint
67.00	67.00	3	4460 B25 + B66	T-Mobile Sprint
67.00	67.00	1	SitePro1 RMQP-4096-HK	T-Mobile Sprint
67.00	67.00	12	Mount Pipes	T-Mobile Sprint
55.00	55.00	12	Mount Pipes	Verizon
55.00	55.00	3	Antel BXA-80063-6BF	Verizon
55.00	55.00	6	Commscope	Verizon
55.00	55.00	3	Samsung MT6413 77A	Verizon
55.00	55.00	3	Commscope	Verizon
55.00	55.00	3	Samsung B2/B66A RRH	Verizon
55.00	55.00	3	Samsung B5/B13 RRH	Verizon
55.00	55.00	2	RFS DB-B1-6C-12AB-0Z	Verizon
55.00	55.00	3	Modified T-Arm	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	70.00	Outside	Safety Cable	
0.00	70.00	Outside	Step bolts (ladder)	
0.00	67.00	Inside	1.99" Hybrid - 6x24	T-Mobile Sprint
0.00	55.00	Inside	1 5/8" Coax	Verizon
0.00	55.00	Inside	1 5/8" Hybrid	Verizon

Anchor Bolts

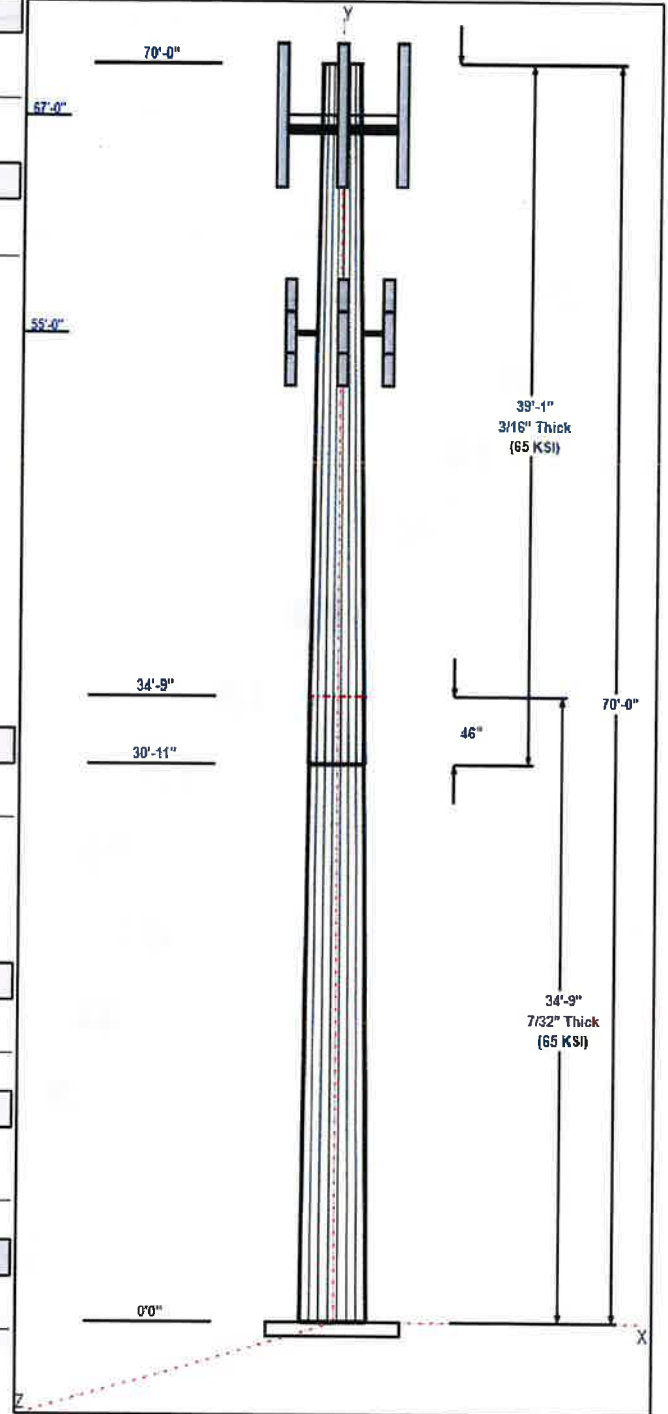
Qty	Specifications	Grade (ksi)	Arrangement
8	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	45.1	60.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 121 mph Wind	715.3	13.1	15.3
0.9D + 1.0W 121 mph Wind	708.8	13.1	11.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	162.7	3.2	7.8
1.2D + 1.0Ev + 1.0Eh	21.4	0.3	15.9
0.9D + 1.0Ev + 1.0Eh	21.2	0.3	12.0
1.0D + 1.0W 60 mph Wind	156.5	2.9	12.8



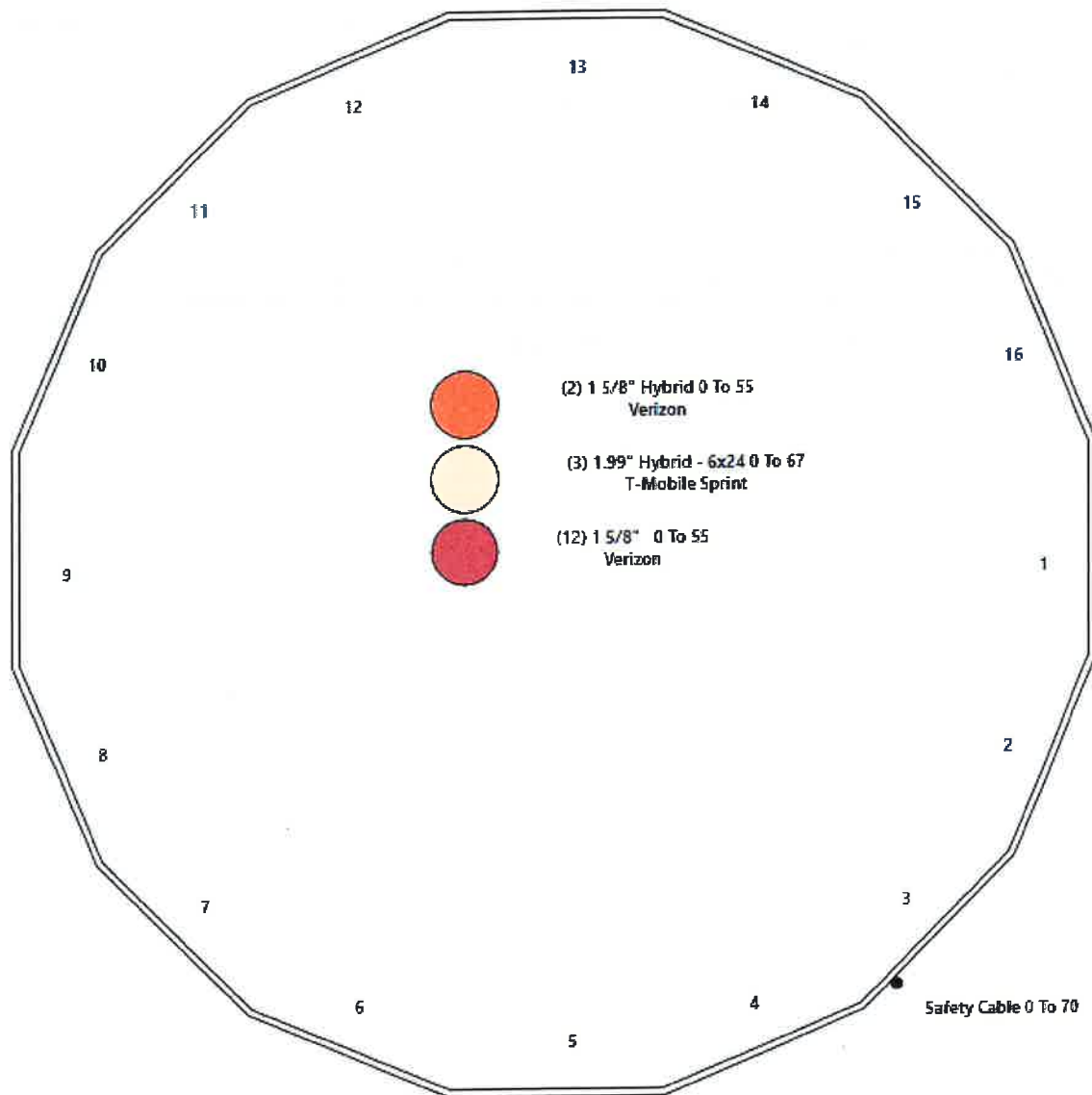
Structure: CT46147-A - Coax Line Placement

Type: Monopole
Site Name: New Haven Tweed
Height: 70.00 (ft)

12/26/2023



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Shaft Properties

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	34.750	0.2190	65		0.00	2,295
2	16	39.083	0.1880	65	Slip	46.00	1,642
Total Shaft Weight:							3,937

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	32.00	0.00	22.20	2833.03	27.47	146.12	24.01	34.75	16.62	1188.39	20.22	109.6	0.229943
2	25.27	30.92	15.04	1195.06	25.14	134.40	16.28	70.00	9.65	315.71	15.63	86.60	0.229943

Load Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 5
	Struct Class: II	



Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	67.00	RFS APX16DWV-16DWVS-E-A20	3	40.70	6.61	0.62	112.70	7.950	0.62	0.00	0.00
2	67.00	RFS APXVAALL24_43-U-NA20	3	128.00	20.24	0.70	372.58	21.392	0.75	0.00	0.00
3	67.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	187.33	6.235	0.75	0.00	0.00
4	67.00	4480 B71 + B85	3	93.00	2.85	0.50	137.24	3.265	0.50	0.00	0.00
5	67.00	Ericsson 4424 B25	3	88.00	2.05	0.50	136.61	2.403	0.50	0.00	0.00
6	67.00	4460 B25 + B66	3	46.30	1.86	0.50	79.79	2.192	0.50	0.00	0.00
7	67.00	SitePro1 RMQP-4096-HK	1	1945.00	34.54	1.00	3448.17	52.336	1.00	0.00	0.00
8	67.00	Mount Pipes	12	30.00	1.24	1.00	49.32	1.772	1.00	0.00	0.00
9	55.00	Mount Pipes	12	30.00	0.81	1.00	48.94	1.151	1.00	0.00	0.00
10	55.00	Antel BXA-80063-6BF	3	19.20	7.26	0.78	117.63	7.978	0.79	0.00	0.00
11	55.00	Commscope JAHH-65B-R3B	6	63.30	9.11	0.83	194.86	9.896	0.84	0.00	0.00
12	55.00	Samsung MT6413 77A	3	57.32	3.79	0.69	112.09	4.267	0.71	0.00	0.00
13	55.00	Commscope CBC78T-DS-43-2X	3	20.70	0.55	0.96	31.41	0.739	0.97	0.00	0.00
14	55.00	Samsung B2/B66A RRH ORAN	3	74.70	1.87	0.84	105.17	2.197	0.85	0.00	0.00
15	55.00	Samsung B5/B13 RRH ORAN	3	79.10	1.87	0.84	109.77	2.197	0.85	0.00	0.00
16	55.00	RFS DB-B1-6C-12AB-0Z	2	44.00	4.80	0.85	113.42	5.311	0.86	0.00	0.00
17	55.00	Modified T-Arm	3	770.70	8.20	1.00	1354.69	12.342	1.00	0.00	0.00
Totals:			69	7,694.96			14,594.37				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	70.00	(1) Safety Cable	0.38	Outside
0.00	70.00	(1) Step bolts (ladder)	0.63	Outside
0.00	67.00	(3) 1.99" Hybrid - 6x24	0.00	Inside
0.00	55.00	(12) 1 5/8" Coax	0.00	Inside
0.00	55.00	(2) 1 5/8" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.2190	32.000	22.203	2833.0	27.47	146.12	71.5	173.7	0.0
5.00		0.2190	30.850	21.399	2536.6	26.43	140.87	72.7	161.3	370.9
10.00		0.2190	29.701	20.596	2261.5	25.39	135.62	73.8	149.4	357.3
15.00		0.2190	28.551	19.793	2007.1	24.34	130.37	75.0	137.9	343.6
20.00		0.2190	27.401	18.990	1772.6	23.30	125.12	76.2	126.9	329.9
25.00		0.2190	26.251	18.187	1557.0	22.25	119.87	77.4	116.3	316.3
30.00		0.2190	25.102	17.383	1359.7	21.21	114.62	78.6	106.3	302.6
30.92	Bot - Section 2	0.2190	24.891	17.236	1325.4	21.02	113.66	78.8	104.5	54.0
34.75	Top - Section 1	0.1880	24.385	14.512	1073.4	24.21	129.71	0.0	0.0	413.5
35.00		0.1880	24.328	14.477	1065.8	24.15	129.40	75.2	85.9	12.3
40.00		0.1880	23.178	13.788	920.7	22.93	123.29	76.6	77.9	240.4
45.00		0.1880	22.029	13.098	789.3	21.72	117.17	78.0	70.3	228.7
50.00		0.1880	20.879	12.409	671.1	20.50	111.06	79.4	63.1	217.0
55.00		0.1880	19.729	11.719	565.3	19.28	104.94	80.8	56.2	205.3
60.00		0.1880	18.579	11.030	471.3	18.07	98.83	82.1	49.8	193.5
65.00		0.1880	17.430	10.340	388.3	16.85	92.71	82.5	43.7	181.8
67.00		0.1880	16.970	10.064	358.1	16.36	90.27	82.5	41.4	69.4
70.00		0.1880	16.280	9.651	315.7	15.63	86.60	82.5	38.0	100.6
										3937.2

Wind Loading - Shaft

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven I weed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 7



Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 19

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	30.253	33.28	303.25	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	30.253	33.28	292.35	0.750	0.000	5.00	13.350	10.01	333.2	0.0	445.1
10.00		1.00	0.85	30.253	33.28	281.46	0.750	0.000	5.00	12.862	9.65	321.0	0.0	428.7
15.00		1.00	0.85	30.253	33.28	270.56	0.750	0.000	5.00	12.373	9.28	308.8	0.0	412.3
20.00		1.00	0.90	32.100	35.31	267.48	0.750	0.000	5.00	11.885	8.91	314.7	0.0	395.9
25.00		1.00	0.95	33.644	37.01	262.34	0.750	0.000	5.00	11.397	8.55	316.3	0.0	379.5
30.00		1.00	0.98	34.960	38.46	255.71	0.750	0.000	5.00	10.908	8.18	314.6	0.0	363.1
30.92 Bot - Section 2		1.00	0.99	35.183	38.70	254.37	0.750	0.000	0.92	1.947	1.46	56.5	0.0	64.8
34.75 Top - Section 1		1.00	1.01	36.059	39.66	248.40	0.750	0.000	3.83	8.086	6.06	240.5	0.0	496.3
35.00		1.00	1.01	36.114	39.72	251.89	0.750	0.000	0.25	0.517	0.39	15.4	0.0	14.8
40.00		1.00	1.04	37.143	40.86	243.38	0.750	0.000	5.00	10.091	7.57	309.2	0.0	288.5
45.00		1.00	1.07	38.076	41.88	234.19	0.750	0.000	5.00	9.603	7.20	301.6	0.0	274.5
50.00		1.00	1.09	38.930	42.82	224.45	0.750	0.000	5.00	9.114	6.84	292.7	0.0	260.4
55.00 Appurtenance(s)		1.00	1.12	39.719	43.69	214.22	0.750	0.000	5.00	8.626	6.47	282.6	0.0	246.3
60.00		1.00	1.14	40.453	44.50	203.60	0.750	0.000	5.00	8.137	6.10	271.6	0.0	232.2
65.00		1.00	1.16	41.140	45.25	192.61	0.750	0.000	5.00	7.649	5.74	259.6	0.0	218.2
67.00 Appurtenance(s)		1.00	1.16	41.404	45.54	188.13	0.750	0.000	2.00	2.923	2.19	99.8	0.0	83.3
70.00		1.00	1.17	41.787	45.97	181.32	0.750	0.000	3.00	4.238	3.18	146.1	0.0	120.8
Totals:									70.00			4,184.6		4,724.6

Discrete Appurtenance Forces

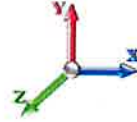
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 19

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	67.00	RFS	3	41.404	45.544	0.46	0.75	9.22	146.52	0.000	0.000	419.96	0.00	0.00
2	67.00	SitePro1 RMQP-4096-HK	1	41.404	45.544	0.75	0.75	25.91	2334.00	0.000	0.000	1179.82	0.00	0.00
3	67.00	4460 B25 + B66	3	41.404	45.544	0.38	0.75	2.09	166.68	0.000	0.000	95.30	0.00	0.00
4	67.00	Ericsson 4424 B25	3	41.404	45.544	0.38	0.75	2.31	316.80	0.000	0.000	105.04	0.00	0.00
5	67.00	4480 B71 + B85	3	41.404	45.544	0.38	0.75	3.21	334.80	0.000	0.000	146.03	0.00	0.00
6	67.00	Ericsson AIR6449 B41	3	41.404	45.544	0.53	0.75	9.03	370.80	0.000	0.000	411.08	0.00	0.00
7	67.00	RFS	3	41.404	45.544	0.52	0.75	31.88	460.80	0.000	0.000	1451.86	0.00	0.00
8	67.00	Mount Pipes	12	41.404	45.544	0.75	0.75	11.16	432.00	0.000	0.000	508.27	0.00	0.00
9	55.00	Mount Pipes	12	39.719	43.691	0.80	0.80	7.78	432.00	0.000	0.000	339.74	0.00	0.00
10	55.00	Modified T-Arm	3	39.719	43.691	1.00	1.00	24.60	2774.52	0.000	0.000	1074.79	0.00	0.00
11	55.00	RFS DB-B1-6C-12AB-0Z	2	39.719	43.691	0.77	0.90	7.34	105.60	0.000	0.000	320.86	0.00	0.00
12	55.00	Samsung B5/B13 RRH	3	39.719	43.691	0.67	0.80	3.77	284.76	0.000	0.000	164.71	0.00	0.00
13	55.00	Samsung B2/B66A RRH	3	39.719	43.691	0.67	0.80	3.77	268.92	0.000	0.000	164.71	0.00	0.00
14	55.00	Commscope	3	39.719	43.691	0.77	0.80	1.27	74.52	0.000	0.000	55.36	0.00	0.00
15	55.00	Samsung MT6413 77A	3	39.719	43.691	0.55	0.80	6.28	206.35	0.000	0.000	274.21	0.00	0.00
16	55.00	Commscope	6	39.719	43.691	0.66	0.80	36.29	455.76	0.000	0.000	1585.72	0.00	0.00
17	55.00	Antel BXA-80063-6BF	3	39.719	43.691	0.62	0.80	13.59	69.12	0.000	0.000	593.79	0.00	0.00
Totals:									9,233.95			8,891.23		

Total Applied Force Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

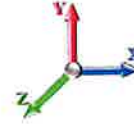


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Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 19

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		333.21	560.86	0.00	0.00
10.00		321.02	544.46	0.00	0.00
15.00		308.83	528.06	0.00	0.00
20.00		314.74	511.66	0.00	0.00
25.00		316.33	495.27	0.00	0.00
30.00		314.62	478.87	0.00	0.00
30.92		56.51	86.01	0.00	0.00
34.75		240.55	585.01	0.00	0.00
35.00		15.41	20.58	0.00	0.00
40.00		309.22	404.30	0.00	0.00
45.00		301.64	390.22	0.00	0.00
50.00		292.72	376.14	0.00	0.00
55.00	(38) attachments	4856.53	5033.62	0.00	0.00
60.00		271.57	259.91	0.00	0.00
65.00		259.61	245.83	0.00	0.00
67.00	(31) attachments	4417.18	4656.79	0.00	0.00
70.00		146.09	125.48	0.00	0.00
Totals:		13,075.78	15,303.06	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

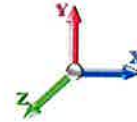


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Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 19

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.032	0.000	30.253	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.032	0.000	30.253	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	30.253	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	30.253	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.034	0.000	30.253	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.034	0.000	30.253	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	32.100	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	32.100	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	33.644	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	33.644	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.039	0.000	34.960	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.039	0.000	34.960	0.00	6.24
30.92	Safety Cable	Yes	0.92	0.000	0.38	0.03	0.00	0.040	0.000	35.183	0.00	0.30
30.92	Step bolts (ladder)	Yes	0.92	0.000	0.63	0.05	0.00	0.040	0.000	35.183	0.00	1.14
34.75	Safety Cable	Yes	3.83	0.000	0.38	0.12	0.00	0.041	0.000	36.059	0.00	1.26
34.75	Step bolts (ladder)	Yes	3.83	0.000	0.63	0.20	0.00	0.041	0.000	36.059	0.00	4.78
35.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.041	0.000	36.114	0.00	0.08
35.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.041	0.000	36.114	0.00	0.31
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	37.143	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	37.143	0.00	6.24
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.044	0.000	38.076	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.044	0.000	38.076	0.00	6.24
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.046	0.000	38.930	0.00	1.64
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.046	0.000	38.930	0.00	6.24
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	39.719	0.00	1.64
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	39.719	0.00	6.24
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.052	0.000	40.453	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.052	0.000	40.453	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.055	0.000	41.140	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.055	0.000	41.140	0.00	6.24
67.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.058	0.000	41.404	0.00	0.66
67.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.058	0.000	41.404	0.00	2.50
70.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.060	0.000	41.787	0.00	0.98
70.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.060	0.000	41.787	0.00	3.74
Totals:											0.0	110.3

Calculated Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven I weed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 11



Load Case: 1.2D + 1.0W 121 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 19

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-15.26	-13.12	0.00	-715.29	0.00	715.29	1428.44	389.65	1028.73	931.07	0.00	0.000	0.000	0.780
5.00	-14.63	-12.88	0.00	-649.68	0.00	649.68	1399.52	375.56	955.65	878.99	0.18	-0.343	0.000	0.751
10.00	-14.01	-12.64	0.00	-585.30	0.00	585.30	1368.89	361.46	885.25	827.26	0.73	-0.689	0.000	0.719
15.00	-13.41	-12.40	0.00	-522.13	0.00	522.13	1336.55	347.37	817.56	775.99	1.64	-1.037	0.000	0.684
20.00	-12.83	-12.15	0.00	-460.13	0.00	460.13	1302.51	333.27	752.55	725.30	2.92	-1.385	0.000	0.646
25.00	-12.27	-11.90	0.00	-399.37	0.00	399.37	1266.75	319.17	690.23	675.31	4.55	-1.730	0.000	0.602
30.00	-11.77	-11.61	0.00	-339.89	0.00	339.89	1229.29	305.08	630.61	626.16	6.55	-2.068	0.000	0.554
30.92	-11.65	-11.58	0.00	-329.25	0.00	329.25	1222.24	302.49	619.97	617.25	6.95	-2.132	0.000	0.544
34.75	-11.05	-11.34	0.00	-284.86	0.00	284.86	981.87	254.68	511.94	486.85	8.77	-2.385	0.000	0.598
35.00	-10.99	-11.36	0.00	-282.03	0.00	282.03	980.43	254.08	509.51	484.98	8.90	-2.402	0.000	0.595
40.00	-10.54	-11.09	0.00	-225.22	0.00	225.22	950.82	241.97	462.14	447.76	11.60	-2.740	0.000	0.516
45.00	-10.11	-10.82	0.00	-169.76	0.00	169.76	919.49	229.87	417.07	411.17	14.64	-3.045	0.000	0.426
50.00	-9.71	-10.55	0.00	-115.65	0.00	115.65	886.46	217.77	374.32	375.36	17.97	-3.303	0.000	0.321
55.00	-4.96	-5.41	0.00	-62.92	0.00	62.92	851.72	205.67	333.87	340.43	21.54	-3.492	0.000	0.191
60.00	-4.71	-5.13	0.00	-35.85	0.00	35.85	815.27	193.57	295.74	306.50	25.26	-3.616	0.000	0.123
65.00	-4.48	-4.86	0.00	-10.18	0.00	10.18	768.23	181.47	259.92	270.58	29.09	-3.686	0.000	0.044
67.00	-0.12	-0.15	0.00	-0.46	0.00	0.46	747.73	176.63	246.24	256.26	30.64	-3.693	0.000	0.002
70.00	0.00	-0.15	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	32.96	-3.694	0.000	0.000

Wind Loading - Shaft

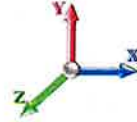
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 12



Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.00

Iterations 19



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	30.253	33.28	303.25	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	30.253	33.28	292.35	0.750	0.000	5.00	13.350	10.01	333.2	0.0	333.8
10.00		1.00	0.85	30.253	33.28	281.46	0.750	0.000	5.00	12.862	9.65	321.0	0.0	321.5
15.00		1.00	0.85	30.253	33.28	270.56	0.750	0.000	5.00	12.373	9.28	308.8	0.0	309.2
20.00		1.00	0.90	32.100	35.31	267.48	0.750	0.000	5.00	11.885	8.91	314.7	0.0	296.9
25.00		1.00	0.95	33.644	37.01	262.34	0.750	0.000	5.00	11.397	8.55	316.3	0.0	284.6
30.00		1.00	0.98	34.960	38.46	255.71	0.750	0.000	5.00	10.908	8.18	314.6	0.0	272.3
30.92 Bot - Section 2		1.00	0.99	35.183	38.70	254.37	0.750	0.000	0.92	1.947	1.46	56.5	0.0	48.6
34.75 Top - Section 1		1.00	1.01	36.059	39.66	248.40	0.750	0.000	3.83	8.086	6.06	240.5	0.0	372.2
35.00		1.00	1.01	36.114	39.72	251.89	0.750	0.000	0.25	0.517	0.39	15.4	0.0	11.1
40.00		1.00	1.04	37.143	40.86	243.38	0.750	0.000	5.00	10.091	7.57	309.2	0.0	216.4
45.00		1.00	1.07	38.076	41.88	234.19	0.750	0.000	5.00	9.603	7.20	301.6	0.0	205.8
50.00		1.00	1.09	38.930	42.82	224.45	0.750	0.000	5.00	9.114	6.84	292.7	0.0	195.3
55.00 Appurtenance(s)		1.00	1.12	39.719	43.69	214.22	0.750	0.000	5.00	8.626	6.47	282.6	0.0	184.7
60.00		1.00	1.14	40.453	44.50	203.60	0.750	0.000	5.00	8.137	6.10	271.6	0.0	174.2
65.00		1.00	1.16	41.140	45.25	192.61	0.750	0.000	5.00	7.649	5.74	259.6	0.0	163.6
67.00 Appurtenance(s)		1.00	1.16	41.404	45.54	188.13	0.750	0.000	2.00	2.923	2.19	99.8	0.0	62.5
70.00		1.00	1.17	41.787	45.97	181.32	0.750	0.000	3.00	4.238	3.18	146.1	0.0	90.6
Totals:									70.00			4,184.6		3,543.5

Discrete Appurtenance Forces

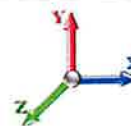
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 13



Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 19

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	67.00	RFS	3	41.404	45.544	0.46	0.75	9.22	109.89	0.000	0.000	419.96	0.00	0.00
2	67.00	SitePro1 RMQP-4096-HK	1	41.404	45.544	0.75	0.75	25.91	1750.50	0.000	0.000	1179.82	0.00	0.00
3	67.00	4460 B25 + B66	3	41.404	45.544	0.38	0.75	2.09	125.01	0.000	0.000	95.30	0.00	0.00
4	67.00	Ericsson 4424 B25	3	41.404	45.544	0.38	0.75	2.31	237.60	0.000	0.000	105.04	0.00	0.00
5	67.00	4480 B71 + B85	3	41.404	45.544	0.38	0.75	3.21	251.10	0.000	0.000	146.03	0.00	0.00
6	67.00	Ericsson AIR6449 B41	3	41.404	45.544	0.53	0.75	9.03	278.10	0.000	0.000	411.08	0.00	0.00
7	67.00	RFS	3	41.404	45.544	0.52	0.75	31.88	345.60	0.000	0.000	1451.86	0.00	0.00
8	67.00	Mount Pipes	12	41.404	45.544	0.75	0.75	11.16	324.00	0.000	0.000	508.27	0.00	0.00
9	55.00	Mount Pipes	12	39.719	43.691	0.80	0.80	7.78	324.00	0.000	0.000	339.74	0.00	0.00
10	55.00	Modified T-Arm	3	39.719	43.691	1.00	1.00	24.60	2080.89	0.000	0.000	1074.79	0.00	0.00
11	55.00	RFS DB-B1-6C-12AB-0Z	2	39.719	43.691	0.77	0.90	7.34	79.20	0.000	0.000	320.86	0.00	0.00
12	55.00	Samsung B5/B13 RRH	3	39.719	43.691	0.67	0.80	3.77	213.57	0.000	0.000	164.71	0.00	0.00
13	55.00	Samsung B2/B66A RRH	3	39.719	43.691	0.67	0.80	3.77	201.69	0.000	0.000	164.71	0.00	0.00
14	55.00	Commscope	3	39.719	43.691	0.77	0.80	1.27	55.89	0.000	0.000	55.36	0.00	0.00
15	55.00	Samsung MT6413 77A	3	39.719	43.691	0.55	0.80	6.28	154.76	0.000	0.000	274.21	0.00	0.00
16	55.00	Commscope	6	39.719	43.691	0.66	0.80	36.29	341.82	0.000	0.000	1585.72	0.00	0.00
17	55.00	Antel BXA-80063-6BF	3	39.719	43.691	0.62	0.80	13.59	51.84	0.000	0.000	593.79	0.00	0.00
Totals:								6,925.46				8,891.23		

Total Applied Force Summary

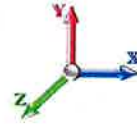
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 14



Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 19

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		333.21	420.65	0.00	0.00
10.00		321.02	408.35	0.00	0.00
15.00		308.83	396.05	0.00	0.00
20.00		314.74	383.75	0.00	0.00
25.00		316.33	371.45	0.00	0.00
30.00		314.62	359.15	0.00	0.00
30.92		56.51	64.51	0.00	0.00
34.75		240.55	438.75	0.00	0.00
35.00		15.41	15.44	0.00	0.00
40.00		309.22	303.22	0.00	0.00
45.00		301.64	292.66	0.00	0.00
50.00		292.72	282.11	0.00	0.00
55.00	(38) attachments	4856.53	3775.21	0.00	0.00
60.00		271.57	194.93	0.00	0.00
65.00		259.61	184.37	0.00	0.00
67.00	(31) attachments	4417.18	3492.59	0.00	0.00
70.00		146.09	94.11	0.00	0.00
Totals:		13,075.78	11,477.30	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT46147-A
Site Name: New Haven I weed
Height: 70.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
Topography: 1
Page: 15



Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 19

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.032	0.000	30.253	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.032	0.000	30.253	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	30.253	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	30.253	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.034	0.000	30.253	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.034	0.000	30.253	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	32.100	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	32.100	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	33.644	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	33.644	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.039	0.000	34.960	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.039	0.000	34.960	0.00	4.68
30.92	Safety Cable	Yes	0.92	0.000	0.38	0.03	0.00	0.040	0.000	35.183	0.00	0.23
30.92	Step bolts (ladder)	Yes	0.92	0.000	0.63	0.05	0.00	0.040	0.000	35.183	0.00	0.86
34.75	Safety Cable	Yes	3.83	0.000	0.38	0.12	0.00	0.041	0.000	36.059	0.00	0.94
34.75	Step bolts (ladder)	Yes	3.83	0.000	0.63	0.20	0.00	0.041	0.000	36.059	0.00	3.59
35.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.041	0.000	36.114	0.00	0.06
35.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.041	0.000	36.114	0.00	0.23
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	37.143	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	37.143	0.00	4.68
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.044	0.000	38.076	0.00	1.23
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.044	0.000	38.076	0.00	4.68
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.046	0.000	38.930	0.00	1.23
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.046	0.000	38.930	0.00	4.68
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	39.719	0.00	1.23
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	39.719	0.00	4.68
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.052	0.000	40.453	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.052	0.000	40.453	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.055	0.000	41.140	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.055	0.000	41.140	0.00	4.68
67.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.058	0.000	41.404	0.00	0.49
67.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.058	0.000	41.404	0.00	1.87
70.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.060	0.000	41.787	0.00	0.74
70.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.060	0.000	41.787	0.00	2.81
Totals:											0.0	82.7

Calculated Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 16



Load Case: 0.9D + 1.0W 121 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 19

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-11.44	-13.11	0.00	-708.83	0.00	708.83	1428.44	389.65	1028.73	931.07	0.00	0.000	0.000	0.770
5.00	-10.94	-12.84	0.00	-643.28	0.00	643.28	1399.52	375.56	955.65	878.99	0.18	-0.339	0.000	0.741
10.00	-10.46	-12.58	0.00	-579.07	0.00	579.07	1368.89	361.46	885.25	827.26	0.72	-0.682	0.000	0.709
15.00	-10.00	-12.33	0.00	-516.18	0.00	516.18	1336.55	347.37	817.56	775.99	1.62	-1.027	0.000	0.674
20.00	-9.55	-12.06	0.00	-454.55	0.00	454.55	1302.51	333.27	752.55	725.30	2.89	-1.371	0.000	0.635
25.00	-9.11	-11.79	0.00	-394.25	0.00	394.25	1266.75	319.17	690.23	675.31	4.51	-1.711	0.000	0.592
30.00	-8.73	-11.49	0.00	-335.32	0.00	335.32	1229.29	305.08	630.61	626.16	6.48	-2.045	0.000	0.544
30.92	-8.63	-11.46	0.00	-324.78	0.00	324.78	1222.24	302.49	619.97	617.25	6.88	-2.108	0.000	0.535
34.75	-8.18	-11.22	0.00	-280.87	0.00	280.87	981.87	254.68	511.94	486.85	8.68	-2.357	0.000	0.587
35.00	-8.13	-11.23	0.00	-278.07	0.00	278.07	980.43	254.08	509.51	484.98	8.80	-2.374	0.000	0.584
40.00	-7.78	-10.95	0.00	-221.93	0.00	221.93	950.82	241.97	462.14	447.76	11.47	-2.707	0.000	0.506
45.00	-7.45	-10.67	0.00	-167.19	0.00	167.19	919.49	229.87	417.07	411.17	14.47	-3.008	0.000	0.417
50.00	-7.14	-10.39	0.00	-113.85	0.00	113.85	886.46	217.77	374.32	375.36	17.76	-3.261	0.000	0.314
55.00	-3.65	-5.33	0.00	-61.91	0.00	61.91	851.72	205.67	333.87	340.43	21.29	-3.448	0.000	0.187
60.00	-3.46	-5.05	0.00	-35.27	0.00	35.27	815.27	193.57	295.74	306.50	24.97	-3.570	0.000	0.120
65.00	-3.29	-4.78	0.00	-10.02	0.00	10.02	768.23	181.47	259.92	270.58	28.75	-3.638	0.000	0.042
67.00	-0.08	-0.15	0.00	-0.46	0.00	0.46	747.73	176.63	246.24	256.26	30.27	-3.646	0.000	0.002
70.00	0.00	-0.15	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	32.56	-3.646	0.000	0.000

Wind Loading - Shaft

Structure: CT46147-A

Code: TIA-222-H

12/26/2023

Site Name: New Haven Tweed

Exposure: C

Height: 70.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 17



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 18

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.166	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.166	5.68	0.00	1.200	0.828	5.00	14.040	16.85	95.7	165.8	610.9
10.00		1.00	0.85	5.166	5.68	0.00	1.200	0.887	5.00	13.601	16.32	92.7	171.6	600.3
15.00		1.00	0.85	5.166	5.68	0.00	1.200	0.924	5.00	13.144	15.77	89.6	172.2	584.5
20.00		1.00	0.90	5.481	6.03	0.00	1.200	0.951	5.00	12.678	15.21	91.7	170.4	566.3
25.00		1.00	0.95	5.745	6.32	0.00	1.200	0.973	5.00	12.207	14.65	92.6	167.3	546.9
30.00		1.00	0.98	5.970	6.57	0.00	1.200	0.991	5.00	11.734	14.08	92.5	163.3	526.4
30.92	Bot - Section 2	1.00	0.99	6.008	6.61	0.00	1.200	0.994	0.92	2.099	2.52	16.6	29.8	94.6
34.75	Top - Section 1	1.00	1.01	6.157	6.77	0.00	1.200	1.005	3.83	8.728	10.47	70.9	123.7	619.9
35.00		1.00	1.01	6.167	6.78	0.00	1.200	1.006	0.25	0.559	0.67	4.6	8.1	22.8
40.00		1.00	1.04	6.342	6.98	0.00	1.200	1.019	5.00	10.941	13.13	91.6	155.9	444.4
45.00		1.00	1.07	6.502	7.15	0.00	1.200	1.032	5.00	10.462	12.55	89.8	150.3	424.8
50.00		1.00	1.09	6.647	7.31	0.00	1.200	1.042	5.00	9.983	11.98	87.6	144.4	404.8
55.00	Appurtenance(s)	1.00	1.12	6.782	7.46	0.00	1.200	1.052	5.00	9.503	11.40	85.1	138.2	384.5
60.00		1.00	1.14	6.907	7.60	0.00	1.200	1.062	5.00	9.022	10.83	82.3	131.7	364.0
65.00		1.00	1.16	7.025	7.73	0.00	1.200	1.070	5.00	8.541	10.25	79.2	125.1	343.2
67.00	Appurtenance(s)	1.00	1.16	7.070	7.78	0.00	1.200	1.073	2.00	3.281	3.94	30.6	48.9	132.3
70.00		1.00	1.17	7.135	7.85	0.00	1.200	1.078	3.00	4.777	5.73	45.0	70.9	191.7
Totals:									70.00			1,238.1		6,862.2

Discrete Appurtenance Forces

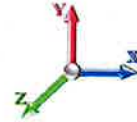
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 18



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 18

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	67.00	RFS	3	7.070	7.777	0.46	0.75	11.09	262.01	0.000	0.000	86.24	0.00	0.00
2	67.00	SitePro1 RMQP-4096-HK	1	7.070	7.777	0.75	0.75	39.25	5782.17	0.000	0.000	305.25	0.00	0.00
3	67.00	4460 B25 + B66	3	7.070	7.777	0.38	0.75	2.47	267.16	0.000	0.000	19.18	0.00	0.00
4	67.00	Ericsson 4424 B25	3	7.070	7.777	0.38	0.75	2.70	462.62	0.000	0.000	21.02	0.00	0.00
5	67.00	4480 B71 + B85	3	7.070	7.777	0.38	0.75	3.67	416.53	0.000	0.000	28.56	0.00	0.00
6	67.00	Ericsson AIR6449 B41	3	7.070	7.777	0.56	0.75	10.52	528.70	0.000	0.000	81.82	0.00	0.00
7	67.00	RFS	3	7.070	7.777	0.56	0.75	36.10	1194.55	0.000	0.000	280.74	0.00	0.00
8	67.00	Mount Pipes	12	7.070	7.777	0.75	0.75	15.95	-40354.1	0.000	0.000	124.05	0.00	0.00
9	55.00	Mount Pipes	12	6.782	7.460	0.80	0.80	11.05	1019.32	0.000	0.000	82.43	0.00	0.00
10	55.00	Modified T-Arm	3	6.782	7.460	1.00	1.00	37.03	-5353.60	0.000	0.000	276.23	0.00	0.00
11	55.00	RFS DB-B1-6C-12AB-0Z	2	6.782	7.460	0.77	0.90	8.22	332.44	0.000	0.000	61.34	0.00	0.00
12	55.00	Samsung B5/B13 RRH	3	6.782	7.460	0.68	0.80	4.48	614.06	0.000	0.000	33.44	0.00	0.00
13	55.00	Samsung B2/B66A RRH	3	6.782	7.460	0.68	0.80	4.48	584.43	0.000	0.000	33.44	0.00	0.00
14	55.00	Commscope	3	6.782	7.460	0.78	0.80	1.72	168.75	0.000	0.000	12.83	0.00	0.00
15	55.00	Samsung MT6413 77A	3	6.782	7.460	0.57	0.80	7.27	542.63	0.000	0.000	54.24	0.00	0.00
16	55.00	Commscope	6	6.782	7.460	0.67	0.80	39.90	925.90	0.000	0.000	297.68	0.00	0.00
17	55.00	Antel BXA-80063-6BF	3	6.782	7.460	0.63	0.80	15.13	248.91	0.000	0.000	112.85	0.00	0.00
Totals:									-32,357.6					
									0			1,911.36		

Total Applied Force Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 19



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 18

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		95.74	738.49	0.00	0.00
10.00		92.75	729.34	0.00	0.00
15.00		89.63	714.49	0.00	0.00
20.00		91.72	697.08	0.00	0.00
25.00		92.57	678.17	0.00	0.00
30.00		92.46	658.26	0.00	0.00
30.92		16.64	118.77	0.00	0.00
34.75		70.94	721.29	0.00	0.00
35.00		4.55	29.46	0.00	0.00
40.00		91.59	577.06	0.00	0.00
45.00		89.79	557.75	0.00	0.00
50.00		87.59	538.08	0.00	0.00
55.00	(38) attachments	1049.56	-399.06	0.00	0.00
60.00		82.26	409.76	0.00	0.00
65.00		79.20	389.27	0.00	0.00
67.00	(31) attachments	977.48	-31289.73	0.00	0.00
70.00		44.99	207.58	0.00	0.00
	Totals:	3,149.46	-23,923.96	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT46147-A

Code: TIA-222-H

12/26/2023

Site Name: New Haven Tweed

Exposure: C

Height: 70.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 20



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 18

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.85	0.00	0.032	0.000	5.166	0.00	7.09
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.95	0.00	0.032	0.000	5.166	0.00	12.60
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.90	0.00	0.033	0.000	5.166	0.00	7.80
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.00	0.00	0.033	0.000	5.166	0.00	13.37
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.93	0.00	0.034	0.000	5.166	0.00	8.26
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.03	0.00	0.034	0.000	5.166	0.00	13.87
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.95	0.00	0.035	0.000	5.481	0.00	8.61
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.06	0.00	0.035	0.000	5.481	0.00	14.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.97	0.00	0.037	0.000	5.745	0.00	8.89
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.07	0.00	0.037	0.000	5.745	0.00	14.55
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.98	0.00	0.039	0.000	5.970	0.00	9.13
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.09	0.00	0.039	0.000	5.970	0.00	14.80
30.92	Safety Cable	Yes	0.92	0.000	0.38	0.18	0.00	0.040	0.000	6.008	0.00	1.68
30.92	Step bolts (ladder)	Yes	0.92	0.000	0.63	0.20	0.00	0.040	0.000	6.008	0.00	2.72
34.75	Safety Cable	Yes	3.83	0.000	0.38	0.76	0.00	0.041	0.000	6.157	0.00	7.16
34.75	Step bolts (ladder)	Yes	3.83	0.000	0.63	0.84	0.00	0.041	0.000	6.157	0.00	11.51
35.00	Safety Cable	Yes	0.25	0.000	0.38	0.05	0.00	0.041	0.000	6.167	0.00	0.47
35.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.06	0.00	0.041	0.000	6.167	0.00	0.75
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.01	0.00	0.042	0.000	6.342	0.00	9.53
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.11	0.00	0.042	0.000	6.342	0.00	15.23
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.02	0.00	0.044	0.000	6.502	0.00	9.70
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.12	0.00	0.044	0.000	6.502	0.00	15.41
50.00	Safety Cable	Yes	5.00	0.000	0.38	1.03	0.00	0.046	0.000	6.647	0.00	9.85
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.13	0.00	0.046	0.000	6.647	0.00	15.57
55.00	Safety Cable	Yes	5.00	0.000	0.38	1.04	0.00	0.049	0.000	6.782	0.00	10.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.14	0.00	0.049	0.000	6.782	0.00	15.73
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.04	0.00	0.052	0.000	6.907	0.00	10.13
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.15	0.00	0.052	0.000	6.907	0.00	15.87
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.05	0.00	0.055	0.000	7.025	0.00	10.25
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.15	0.00	0.055	0.000	7.025	0.00	16.00
67.00	Safety Cable	Yes	2.00	0.000	0.38	0.42	0.00	0.058	0.000	7.070	0.00	4.12
67.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.46	0.00	0.058	0.000	7.070	0.00	6.42
70.00	Safety Cable	Yes	3.00	0.000	0.38	0.63	0.00	0.060	0.000	7.135	0.00	6.22
70.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.70	0.00	0.060	0.000	7.135	0.00	9.67
Totals:											0.0	337.2

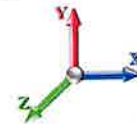
Calculated Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 21



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 18

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-7.76	-3.15	0.00	-162.66	0.00	162.66	1428.44	389.65	1028.73	931.07	0.00	0.000	0.000	0.180
5.00	-7.02	-3.07	0.00	-146.89	0.00	146.89	1399.52	375.56	955.65	878.99	0.04	-0.078	0.000	0.172
10.00	-6.29	-2.98	0.00	-131.55	0.00	131.55	1368.89	361.46	885.25	827.26	0.17	-0.156	0.000	0.164
15.00	-5.57	-2.90	0.00	-116.63	0.00	116.63	1336.55	347.37	817.56	775.99	0.37	-0.234	0.000	0.155
20.00	-4.87	-2.81	0.00	-102.15	0.00	102.15	1302.51	333.27	752.55	725.30	0.66	-0.311	0.000	0.145
25.00	-4.19	-2.72	0.00	-88.10	0.00	88.10	1266.75	319.17	690.23	675.31	1.03	-0.388	0.000	0.134
30.00	-3.53	-2.62	0.00	-74.51	0.00	74.51	1229.29	305.08	630.61	626.16	1.47	-0.462	0.000	0.122
30.92	-3.41	-2.61	0.00	-72.11	0.00	72.11	1222.24	302.49	619.97	617.25	1.56	-0.476	0.000	0.120
34.75	-2.69	-2.53	0.00	-62.11	0.00	62.11	981.87	254.68	511.94	486.85	1.97	-0.531	0.000	0.130
35.00	-2.65	-2.53	0.00	-61.48	0.00	61.48	980.43	254.08	509.51	484.98	2.00	-0.535	0.000	0.130
40.00	-2.08	-2.43	0.00	-48.83	0.00	48.83	950.82	241.97	462.14	447.76	2.60	-0.609	0.000	0.111
45.00	-1.52	-2.34	0.00	-36.66	0.00	36.66	919.49	229.87	417.07	411.17	3.27	-0.675	0.000	0.091
50.00	-0.98	-2.25	0.00	-24.96	0.00	24.96	886.46	217.77	374.32	375.36	4.01	-0.730	0.000	0.068
55.00	-0.99	-1.20	0.00	-13.73	0.00	13.73	851.72	205.67	333.87	340.43	4.80	-0.771	0.000	0.042
60.00	-0.58	-1.11	0.00	-7.74	0.00	7.74	815.27	193.57	295.74	306.50	5.62	-0.798	0.000	0.026
65.00	-0.19	-1.03	0.00	-2.19	0.00	2.19	768.23	181.47	259.92	270.58	6.47	-0.813	0.000	0.008
67.00	-0.21	-0.05	0.00	-0.14	0.00	0.14	747.73	176.63	246.24	256.26	6.81	-0.815	0.000	0.001
70.00	0.00	-0.04	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	7.32	-0.815	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Sds 0.21

Iterations 17

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

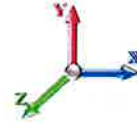
Sd1 0.08

Ss 0.20

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.51

SA 0.04

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	H _z (lb)	Vertical Ev (lb)	Lateral Fs (lb)	
						R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		486.68	2.50	20.66	0.02	
10.00		473.01	7.50	20.08	0.11	
15.00		459.35	12.50	19.50	0.26	
20.00		445.68	17.50	18.92	0.44	
25.00		432.01	22.50	18.34	0.65	
30.00		418.35	27.50	17.76	0.86	
30.92	Bot - Section 2	75.21	30.46	3.19	0.05	
34.75	Top - Section 1	502.30	32.83	21.32	1.61	
35.00		18.12	34.88	0.77	0.01	
40.00		356.21	37.50	15.12	1.12	
45.00		344.48	42.50	14.62	1.31	
50.00		332.74	47.50	14.13	1.50	
55.00	Appurtenance(s)	4213.9	52.50	178.90	142.52	
60.00		221.20	57.50	9.39	1.03	
65.00		209.47	62.50	8.89	1.08	
67.00	Appurtenance(s)	3882.5	66.00	164.83	183.68	
70.00		105.36	68.50	4.47	0.39	
Totals:		12,976.6		550.9	336.6	
					Total Wind:	13,075.8

Calculated Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 23



Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Sds 0.21

Iterations 17

Dead Load Factor 1.20 **Seismic Load Factor** 1.00 **Sd1** 0.08

Ss 0.20

S1 0.05

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.51 **SA** 0.04 **Seismic Importance Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-15.85	-0.34	0.00	-21.41	0.00	21.41	1428.44	389.65	1028.73	931.07	0.00	0.00	0.00	0.034
5.00	-15.27	-0.34	0.00	-19.72	0.00	19.72	1399.52	375.56	955.65	878.99	0.01	-0.01	-0.01	0.033
10.00	-14.71	-0.34	0.00	-18.01	0.00	18.01	1368.89	361.46	885.25	827.26	0.02	-0.02	-0.02	0.033
15.00	-14.16	-0.35	0.00	-16.30	0.00	16.30	1336.55	347.37	817.56	775.99	0.05	-0.03	-0.03	0.032
20.00	-13.63	-0.35	0.00	-14.57	0.00	14.57	1302.51	333.27	752.55	725.30	0.09	-0.04	-0.04	0.031
25.00	-13.12	-0.35	0.00	-12.84	0.00	12.84	1266.75	319.17	690.23	675.31	0.14	-0.05	-0.05	0.029
30.00	-12.62	-0.35	0.00	-11.09	0.00	11.09	1229.29	305.08	630.61	626.16	0.20	-0.06	-0.06	0.028
30.92	-12.53	-0.35	0.00	-10.77	0.00	10.77	1222.24	302.49	619.97	617.25	0.21	-0.07	-0.07	0.028
34.75	-11.92	-0.35	0.00	-9.43	0.00	9.43	981.87	254.68	511.94	486.85	0.27	-0.07	-0.07	0.032
35.00	-11.90	-0.35	0.00	-9.35	0.00	9.35	980.43	254.08	509.51	484.98	0.28	-0.08	-0.08	0.031
40.00	-11.48	-0.35	0.00	-7.60	0.00	7.60	950.82	241.97	462.14	447.76	0.36	-0.09	-0.09	0.029
45.00	-11.08	-0.35	0.00	-5.85	0.00	5.85	919.49	229.87	417.07	411.17	0.46	-0.10	-0.10	0.026
50.00	-10.69	-0.35	0.00	-4.10	0.00	4.10	886.46	217.77	374.32	375.36	0.56	-0.11	-0.11	0.023
55.00	-5.48	-0.20	0.00	-2.36	0.00	2.36	851.72	205.67	333.87	340.43	0.68	-0.11	-0.11	0.013
60.00	-5.21	-0.20	0.00	-1.37	0.00	1.37	815.27	193.57	295.74	306.50	0.80	-0.12	-0.12	0.011
65.00	-4.95	-0.19	0.00	-0.39	0.00	0.39	768.23	181.47	259.92	270.58	0.93	-0.12	-0.12	0.008
67.00	-0.13	0.00	0.00	0.00	0.00	0.00	747.73	176.63	246.24	256.26	0.98	-0.12	-0.12	0.000
70.00	0.00	0.00	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	1.05	-0.12	-0.12	0.000

Seismic Segment Forces (Factored)

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Sds 0.21

Iterations 17

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

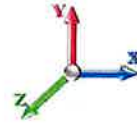
Sd1 0.08

Ss 0.20

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.51

SA 0.04

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	H _z (lb)	Vertical Ev (lb)	Lateral Fs (lb)	
0.00		0.00	0.00	0.00	0.00	
5.00		457.74	2.50	19.43	0.02	
10.00		444.07	7.50	18.85	0.10	
15.00		430.41	12.50	18.27	0.23	
20.00		416.74	17.50	17.69	0.40	
25.00		403.07	22.50	17.11	0.58	
30.00		389.41	27.50	16.53	0.77	
30.92	Bot - Section 2	69.91	30.46	2.97	0.05	
34.75	Top - Section 1	480.11	32.83	20.38	1.50	
35.00		16.67	34.88	0.71	0.01	
40.00		327.27	37.50	13.89	0.98	
45.00		315.54	42.50	13.40	1.14	
50.00		303.80	47.50	12.90	1.29	
55.00	Appurtenance(s)	4185.0	52.50	177.67	142.10	
60.00		214.28	57.50	9.10	0.98	
65.00		202.55	62.50	8.60	1.03	
67.00	Appurtenance(s)	3879.7	66.00	164.71	185.09	
70.00		104.17	68.50	4.42	0.38	
Totals:		12,640.5		536.6	336.6	
					Total Wind:	13,075.8

R: 1.50

Calculated Forces

Structure: CT46147-A
Site Name: New Haven Tweed
Height: 70.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

12/26/2023

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Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Dead Load Factor 0.90

Wind Load Factor 0.00

Seismic Load Factor 1.00

Structure Frequency (f1) 0.51

Sds 0.21

Sd1 0.08

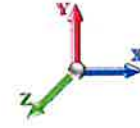
SA 0.04

Seismic Importance Factor 1.00

Iterations 17

Ss 0.20

S1 0.05



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-12.01	-0.34	0.00	-21.23	0.00	21.23	1428.44	389.65	1028.73	931.07	0.00	0.00	0.00	0.031
5.00	-11.57	-0.34	0.00	-19.55	0.00	19.55	1399.52	375.56	955.65	878.99	0.01	-0.01	-0.01	0.031
10.00	-11.15	-0.34	0.00	-17.85	0.00	17.85	1368.89	361.46	885.25	827.26	0.02	-0.02	-0.02	0.030
15.00	-10.73	-0.34	0.00	-16.14	0.00	16.14	1336.55	347.37	817.58	775.99	0.05	-0.03	-0.03	0.029
20.00	-10.33	-0.34	0.00	-14.42	0.00	14.42	1302.51	333.27	752.55	725.30	0.09	-0.04	-0.04	0.028
25.00	-9.94	-0.35	0.00	-12.70	0.00	12.70	1266.75	319.17	690.23	675.31	0.14	-0.05	-0.05	0.027
30.00	-9.57	-0.35	0.00	-10.98	0.00	10.98	1229.29	305.08	630.61	626.16	0.20	-0.06	-0.06	0.025
30.92	-9.50	-0.35	0.00	-10.66	0.00	10.66	1222.24	302.49	619.97	617.25	0.21	-0.07	-0.07	0.025
34.75	-9.04	-0.34	0.00	-9.33	0.00	9.33	981.87	254.68	511.94	486.85	0.27	-0.07	-0.07	0.028
35.00	-9.02	-0.35	0.00	-9.25	0.00	9.25	980.43	254.08	509.51	484.98	0.27	-0.07	-0.07	0.028
40.00	-8.71	-0.35	0.00	-7.52	0.00	7.52	950.82	241.97	462.14	447.76	0.36	-0.09	-0.09	0.026
45.00	-8.40	-0.35	0.00	-5.79	0.00	5.79	919.49	229.87	417.07	411.17	0.45	-0.10	-0.10	0.023
50.00	-8.11	-0.34	0.00	-4.06	0.00	4.06	886.46	217.77	374.32	375.36	0.56	-0.11	-0.11	0.020
55.00	-4.15	-0.20	0.00	-2.34	0.00	2.34	851.72	205.67	333.87	340.43	0.67	-0.11	-0.11	0.012
60.00	-3.95	-0.19	0.00	-1.36	0.00	1.36	815.27	193.57	295.74	306.50	0.79	-0.12	-0.12	0.009
65.00	-3.76	-0.19	0.00	-0.39	0.00	0.39	768.23	181.47	259.92	270.58	0.92	-0.12	-0.12	0.006
67.00	-0.10	0.00	0.00	0.00	0.00	0.00	747.73	176.63	246.24	256.26	0.97	-0.12	-0.12	0.000
70.00	0.00	0.00	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	1.04	-0.12	-0.12	0.000

Wind Loading - Shaft

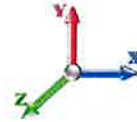
Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.656	7.32	150.37	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.656	7.32	144.97	0.750	0.000	5.00	13.350	10.01	73.3	0.0	370.9
10.00		1.00	0.85	6.656	7.32	139.57	0.750	0.000	5.00	12.862	9.65	70.6	0.0	357.3
15.00		1.00	0.85	6.656	7.32	134.16	0.750	0.000	5.00	12.373	9.28	67.9	0.0	343.6
20.00		1.00	0.90	7.062	7.77	132.63	0.750	0.000	5.00	11.885	8.91	69.2	0.0	329.9
25.00		1.00	0.95	7.402	8.14	130.09	0.750	0.000	5.00	11.397	8.55	69.6	0.0	316.3
30.00		1.00	0.98	7.691	8.46	126.80	0.750	0.000	5.00	10.908	8.18	69.2	0.0	302.6
30.92 Bot - Section 2		1.00	0.99	7.740	8.51	126.13	0.750	0.000	0.92	1.947	1.46	12.4	0.0	54.0
34.75 Top - Section 1		1.00	1.01	7.933	8.73	123.17	0.750	0.000	3.83	8.086	6.06	52.9	0.0	413.5
35.00		1.00	1.01	7.945	8.74	124.90	0.750	0.000	0.25	0.517	0.39	3.4	0.0	12.3
40.00		1.00	1.04	8.172	8.99	120.68	0.750	0.000	5.00	10.091	7.57	68.0	0.0	240.4
45.00		1.00	1.07	8.377	9.21	116.13	0.750	0.000	5.00	9.603	7.20	66.4	0.0	228.7
50.00		1.00	1.09	8.565	9.42	111.30	0.750	0.000	5.00	9.114	6.84	64.4	0.0	217.0
55.00 Appurtenance(s)		1.00	1.12	8.738	9.61	106.23	0.750	0.000	5.00	8.626	6.47	62.2	0.0	205.3
60.00		1.00	1.14	8.900	9.79	100.96	0.750	0.000	5.00	8.137	6.10	59.7	0.0	193.5
65.00		1.00	1.16	9.051	9.96	95.51	0.750	0.000	5.00	7.649	5.74	57.1	0.0	181.8
67.00 Appurtenance(s)		1.00	1.16	9.109	10.02	93.29	0.750	0.000	2.00	2.923	2.19	22.0	0.0	69.4
70.00		1.00	1.17	9.193	10.11	89.91	0.750	0.000	3.00	4.238	3.18	32.1	0.0	100.6
								Totals:	70.00			920.6		
														3,937.2

Discrete Appurtenance Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	67.00	RFS	3	9.109	10.020	0.46	0.75	9.22	122.10	0.000	0.000	92.39	0.00	0.00
2	67.00	SitePro1 RMQP-4096-HK	1	9.109	10.020	0.75	0.75	25.91	1945.00	0.000	0.000	259.56	0.00	0.00
3	67.00	4460 B25 + B66	3	9.109	10.020	0.38	0.75	2.09	138.90	0.000	0.000	20.97	0.00	0.00
4	67.00	Ericsson 4424 B25	3	9.109	10.020	0.38	0.75	2.31	264.00	0.000	0.000	23.11	0.00	0.00
5	67.00	4480 B71 + B85	3	9.109	10.020	0.38	0.75	3.21	279.00	0.000	0.000	32.13	0.00	0.00
6	67.00	Ericsson AIR6449 B41	3	9.109	10.020	0.53	0.75	9.03	309.00	0.000	0.000	90.44	0.00	0.00
7	67.00	RFS	3	9.109	10.020	0.52	0.75	31.88	384.00	0.000	0.000	319.41	0.00	0.00
8	67.00	Mount Pipes	12	9.109	10.020	0.75	0.75	11.16	360.00	0.000	0.000	111.82	0.00	0.00
9	55.00	Mount Pipes	12	8.738	9.612	0.80	0.80	7.78	360.00	0.000	0.000	74.74	0.00	0.00
10	55.00	Modified T-Arm	3	8.738	9.612	1.00	1.00	24.60	2312.10	0.000	0.000	236.46	0.00	0.00
11	55.00	RFS DB-B1-6C-12AB-0Z	2	8.738	9.612	0.77	0.90	7.34	88.00	0.000	0.000	70.59	0.00	0.00
12	55.00	Samsung B5/B13 RRH	3	8.738	9.612	0.67	0.80	3.77	237.30	0.000	0.000	36.24	0.00	0.00
13	55.00	Samsung B2/B66A RRH	3	8.738	9.612	0.67	0.80	3.77	224.10	0.000	0.000	36.24	0.00	0.00
14	55.00	Commscope	3	8.738	9.612	0.77	0.80	1.27	62.10	0.000	0.000	12.18	0.00	0.00
15	55.00	Samsung MT6413 77A	3	8.738	9.612	0.55	0.80	6.28	171.96	0.000	0.000	60.33	0.00	0.00
16	55.00	Commscope	6	8.738	9.612	0.66	0.80	36.29	379.80	0.000	0.000	348.86	0.00	0.00
17	55.00	Antel BXA-80063-6BF	3	8.738	9.612	0.62	0.80	13.59	57.60	0.000	0.000	130.63	0.00	0.00
Totals:									7,694.96			1,956.09		

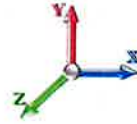
Total Applied Force Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 28



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		73.31	467.38	0.00	0.00
10.00		70.62	453.72	0.00	0.00
15.00		67.94	440.05	0.00	0.00
20.00		69.24	426.39	0.00	0.00
25.00		69.59	412.72	0.00	0.00
30.00		69.22	399.06	0.00	0.00
30.92		12.43	71.68	0.00	0.00
34.75		52.92	487.51	0.00	0.00
35.00		3.39	17.15	0.00	0.00
40.00		68.03	336.91	0.00	0.00
45.00		66.36	325.18	0.00	0.00
50.00		64.40	313.45	0.00	0.00
55.00	(38) attachments	1068.45	4194.68	0.00	0.00
60.00		59.75	216.59	0.00	0.00
65.00		57.11	204.86	0.00	0.00
67.00	(31) attachments	971.79	3880.66	0.00	0.00
70.00		32.14	104.57	0.00	0.00
Totals:		2,876.70	12,752.55	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT46147-A
Site Name: New Haven I weed
Height: 70.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II
Topography: 1
Page: 29



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 18

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.032	0.000	6.656	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.032	0.000	6.656	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	6.656	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	6.656	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.034	0.000	6.656	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.034	0.000	6.656	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	7.062	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	7.062	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	7.402	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	7.402	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.039	0.000	7.691	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.039	0.000	7.691	0.00	5.20
30.92	Safety Cable	Yes	0.92	0.000	0.38	0.03	0.00	0.040	0.000	7.740	0.00	0.25
30.92	Step bolts (ladder)	Yes	0.92	0.000	0.63	0.05	0.00	0.040	0.000	7.740	0.00	0.95
34.75	Safety Cable	Yes	3.83	0.000	0.38	0.12	0.00	0.041	0.000	7.933	0.00	1.05
34.75	Step bolts (ladder)	Yes	3.83	0.000	0.63	0.20	0.00	0.041	0.000	7.933	0.00	3.99
35.00	Safety Cable	Yes	0.25	0.000	0.38	0.01	0.00	0.041	0.000	7.945	0.00	0.07
35.00	Step bolts (ladder)	Yes	0.25	0.000	0.63	0.01	0.00	0.041	0.000	7.945	0.00	0.26
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	8.172	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	8.172	0.00	5.20
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.044	0.000	8.377	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.044	0.000	8.377	0.00	5.20
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.046	0.000	8.565	0.00	1.37
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.046	0.000	8.565	0.00	5.20
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	8.738	0.00	1.37
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	8.738	0.00	5.20
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.052	0.000	8.900	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.052	0.000	8.900	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.055	0.000	9.051	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.055	0.000	9.051	0.00	5.20
67.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.058	0.000	9.109	0.00	0.55
67.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.058	0.000	9.109	0.00	2.08
70.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.060	0.000	9.193	0.00	0.82
70.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.060	0.000	9.193	0.00	3.12
Totals:											0.0	91.9

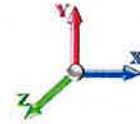
Calculated Forces

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 30



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-12.75	-2.88	0.00	-156.52	0.00	156.52	1428.44	389.65	1028.73	931.07	0.00	0.000	0.000	0.177
5.00	-12.28	-2.83	0.00	-142.09	0.00	142.09	1399.52	375.56	955.65	878.99	0.04	-0.075	0.000	0.170
10.00	-11.82	-2.77	0.00	-127.95	0.00	127.95	1368.89	361.46	885.25	827.26	0.16	-0.151	0.000	0.163
15.00	-11.38	-2.72	0.00	-114.10	0.00	114.10	1336.55	347.37	817.56	775.99	0.36	-0.227	0.000	0.156
20.00	-10.95	-2.66	0.00	-100.51	0.00	100.51	1302.51	333.27	752.55	725.30	0.64	-0.303	0.000	0.147
25.00	-10.53	-2.60	0.00	-87.21	0.00	87.21	1266.75	319.17	690.23	675.31	1.00	-0.378	0.000	0.138
30.00	-10.13	-2.54	0.00	-74.19	0.00	74.19	1229.29	305.08	630.61	626.16	1.43	-0.452	0.000	0.127
30.92	-10.06	-2.53	0.00	-71.87	0.00	71.87	1222.24	302.49	619.97	617.25	1.52	-0.466	0.000	0.125
34.75	-9.57	-2.48	0.00	-62.17	0.00	62.17	981.87	254.68	511.94	486.85	1.92	-0.521	0.000	0.138
35.00	-9.55	-2.48	0.00	-61.55	0.00	61.55	980.43	254.08	509.51	484.98	1.94	-0.525	0.000	0.137
40.00	-9.21	-2.42	0.00	-49.14	0.00	49.14	950.82	241.97	462.14	447.76	2.54	-0.599	0.000	0.120
45.00	-8.89	-2.36	0.00	-37.03	0.00	37.03	919.49	229.87	417.07	411.17	3.20	-0.665	0.000	0.100
50.00	-8.57	-2.30	0.00	-25.22	0.00	25.22	886.46	217.77	374.32	375.36	3.93	-0.721	0.000	0.077
55.00	-4.39	-1.18	0.00	-13.72	0.00	13.72	851.72	205.67	333.87	340.43	4.71	-0.763	0.000	0.045
60.00	-4.17	-1.12	0.00	-7.82	0.00	7.82	815.27	193.57	295.74	306.50	5.52	-0.790	0.000	0.031
65.00	-3.97	-1.06	0.00	-2.22	0.00	2.22	768.23	181.47	259.92	270.58	6.36	-0.805	0.000	0.013
67.00	-0.10	-0.03	0.00	-0.10	0.00	0.10	747.73	176.63	246.24	256.26	6.70	-0.806	0.000	0.001
70.00	0.00	-0.03	0.00	0.00	0.00	0.00	717.00	169.37	226.41	235.52	7.20	-0.807	0.000	0.000

Final Analysis Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 121 mph Wind	13.1	0.00	15.26	0.00	0.00	715.29
0.9D + 1.0W 121 mph Wind	13.1	0.00	11.44	0.00	0.00	708.83
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.2	0.00	7.76	0.00	0.00	162.66
1.2D + 1.0Ev + 1.0Eh	0.3	0.00	15.85	0.00	0.00	21.41
0.9D + 1.0Ev + 1.0Eh	0.3	0.00	12.01	0.00	0.00	21.23
1.0D + 1.0W 60 mph Wind	2.9	0.00	12.75	0.00	0.00	156.52

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 121 mph Wind	-15.26	-13.12	0.00	-715.29	0.00	-715.29	1428.44	389.65	1028.73	931.07	0.00	0.780
0.9D + 1.0W 121 mph Wind	-11.44	-13.11	0.00	-708.83	0.00	-708.83	1428.44	389.65	1028.73	931.07	0.00	0.770
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-7.76	-3.15	0.00	-162.66	0.00	-162.66	1428.44	389.65	1028.73	931.07	0.00	0.180
1.2D + 1.0Ev + 1.0Eh	-15.85	-0.34	0.00	-21.41	0.00	-21.41	1428.44	389.65	1028.73	931.07	0.00	0.034
0.9D + 1.0Ev + 1.0Eh	-12.01	-0.34	0.00	-21.23	0.00	-21.23	1428.44	389.65	1028.73	931.07	0.00	0.031
1.0D + 1.0W 60 mph Wind	-12.75	-2.88	0.00	-156.52	0.00	-156.52	1428.44	389.65	1028.73	931.07	0.00	0.177

Base Plate Summary

Structure: CT46147-A	Code: TIA-222-H	12/26/2023
Site Name: New Haven Tweed	Exposure: C	
Height: 70.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 32



Reactions		Base Plate		Anchor Bolts	
Original Design		Yield (ksi):	60.00	Bolt Circle:	39.13
Moment (kip-ft):	723.00	Width (in):	45.13	Number Bolts:	8.00
Axial (kip):	10.29	Style:	Round	Bolt Type:	2.25" 18J
Shear (kip):	12.98	Polygon Sides:	0.00	Bolt Diameter (in):	2.25
Analysis (1.2D + 1.0W)		Clip Length (in):	0.00	Yield (ksi):	75.00
Moment (kip-ft):	715.29	Effective Len (in):	19.98	Ultimate (ksi):	100.00
Axial (kip):	15.26	Moment (kip-in):	397.81	Arrangement:	Radial
Shear (kip):	13.12	Allow Stress (ksi):	81.00	Cluster Dist (in):	0.00
		Applied Stress (ksi):	29.97	Start Angle (deg):	0.00
		Stress Ratio:	0.37	Compression	
				Force (kip):	111.59
				Allowable (kip):	268.39
				Ratio:	0.42
				Tension	
				Force (kip):	107.77
				Allowable (kip):	243.75
				Ratio:	0.44

Check Soil Capacities:

Allowable Foundation Overturning Resistance (kips-ft.):	6276.6	>	Design Factored Moment (kips-ft):	1026	Usage	0.16	OK!
Factor of Safety of Passive Soil Resistance against Moment:	6.12	OK!					

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	1730.0	>	Design Factored Moment (Mu, K-Ft):	772.4	0.45 OK!
Calculated Shear Capacity (Kips):	470.8	>	Design Factored Shear (Kips):	81.8	0.17 OK!
Calculated Tension Capacity (Tn, Kips):	810.5	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	4972	>	Design Factored Axial Load (Pu Kips):	15.3	0.00 OK!
Moment & Axial Strength Combination:	0.45	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			



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Antenna Mount Analysis Report

Mount ReAnalysis-VZW

SMART Tool Project #: 10218951
Colliers Engineering & Design Project #: 20777634 (Rev. 2)

January 11, 2024

Site Information

Site ID: 5000385115-VZW
East_Haven_Cosey_Beach_CT
Site Name: East_Haven_Cosey_Beach_CT
Carrier Name: Verizon Wireless
Address: 60 Commerce Street
East Haven, Connecticut 06512
New Haven County
Latitude: 41.251233°
Longitude: -72.882094°

Structure Information

Tower Type: 70-Ft Monopole
Mount Type: 12.50-Ft T-Arm

FUZE ID # 16227600

Analysis Results

T-Arm: Unstable (Fail)

Report Prepared By: Gianna Argentina



Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS Site ID: 628868, dated November 2, 2023
Mount Mapping Report	Hudson Design Group LLC., Site ID: 469123, dated January 27, 2021

Analysis Criteria:

Codes and Standards: ANSI/TIA-222-H
2022 Connecticut State Building Code (CSBC), Effective October 1, 2022

Wind Parameters: Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 125 mph
Ice Wind Speed (3-sec. Gust): 50 mph
Design Ice Thickness: 1.00 in
Risk Category: II
Exposure Category: C
Topographic Category: 1
Topographic Feature Considered: N/A
Topographic Method: N/A
Ground Elevation Factor, K_e : 1.000

Seismic Parameters: S_s : 0.200 g
 S_1 : 0.053 g

Maintenance Parameters: Wind Speed (3-sec. Gust): 30 mph
Maintenance Live Load, L_v : 250 lbs.
Maintenance Live Load, L_m : 500 lbs.

Analysis Software: RISA-3D (V17)

Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
53.00	55.00	6	Commscope	JAHH-65B-R3B	Added
		3	Samsung	MT6413-77A	
		3	Commscope	CBC78T-DS-43-2X	
		2	RFS	DB-B1-6C-12AB-0Z	
		3	Samsung	RF4461d-13A	
		3	Samsung	RF4439d-25A	
		3	Amphenol	BXA-80063-6BF	Retained

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:

- | | |
|--------------------------------------|---------------------|
| ○ Channel, Solid Round, Angle, Plate | ASTM A36 (Gr. 36) |
| ○ HSS (Rectangular) | ASTM 500 (Gr. B-46) |
| ○ Pipe | ASTM A53 (Gr. B-35) |
| ○ Threaded Rod | F1554 (Gr. 36) |
| ○ Bolts | ASTM A325 |

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.

Analysis Results:

Component	Utilization %	Pass/Fail
Antenna Pipe	Unstable	Fail
Face Horizontal	Unstable	Fail
Standoff Vertical	Unstable	Fail
Standoff Horizontal	Unstable	Fail
Connection Check	Unstable	Fail

Structure Rating – (Controlling Utilization of all Components)	Unstable
--	----------

Recommendation:

The existing mounts are **INSUFFICIENT** for the final loading. The following modification will be required prior to any installation:

- Re-Tension existing safety climb wire rope.
- Install safety wire climb clip.
- Install equipment pipe on standoff horizontal.
- Install new face horizontal in all sectors.
- Install new T-Arm kit in all sectors.

If the modifications listed above are installed, the maximum structure rating will be **66.2%**. Please note that this modification and structure rating are based on preliminary calculations and are for reference only. A final modification packet (including design drawings) can be provided under a separate scope of work. Separate modification design fees will apply.

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

Attachments:

1. Mount Photos
2. Cost Estimate
3. Mount Mapping Report (for reference only)
4. Analysis Calculations
5. Antenna Placement Diagrams

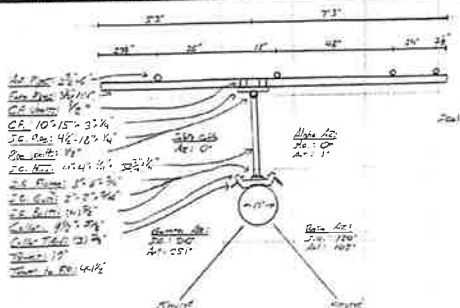




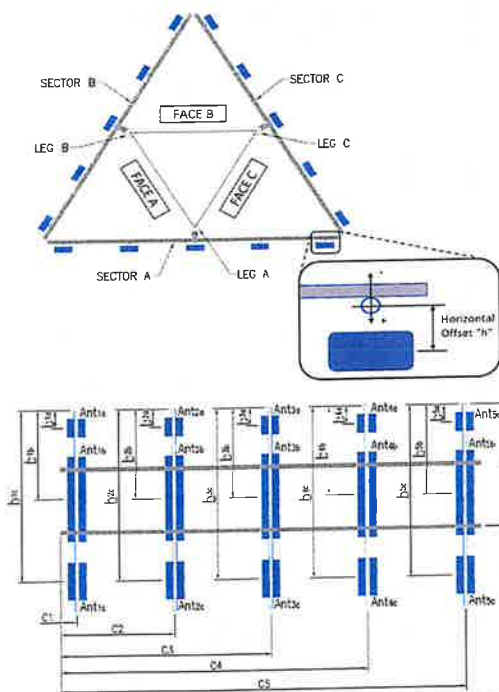
FCC

Tower Owner:	SBA	Mapping Date:	1/27/2021
Site Name:	East Haven Casey Beach CT (VZW)	Tower Type:	Monopole
Site Number or ID:	469123	Tower Height (Ft.):	70' (est.)
Mapping Contractor:	Hudson Design Group LLC	Mount Elevation (Ft.):	55.9

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Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."
A1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50	C1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50
A2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	C2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00
A3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	C3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00
A4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00	C4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00
A5				C5			
A6				C6			
B1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50	D1			
B2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	D2			
B3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	D3			
B4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00	D4			
B5				D5			
B6				D6			
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.):							8
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.):							
Please enter additional information or comments below.							
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. [in.]:			
				17			



Antenna Layout (Looking Out From Tower)

[illegible]

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B										
Sector A:	0.00	Deg	Leg A:		Deg	Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		57.4	30.00	8.00		17		
Sector B:	120.00	Deg	Leg B:		Deg	Ant _{1b}	BXA 171063-8BF-EDIN	6.00	4.00	48.00		58.9	12.00	7.00	120.00	17		
Sector C:	240.00	Deg	Leg C:		Deg	Ant _{1c}												
Sector D:		Deg	Leg D:		Deg	Ant _{2a}												
Climbing Facility Information								Ant _{2b}	BXA 70063/6CF-EDIN	11.00	5.00	71.00		56.9	36.00	10.50	120.00	18
								Ant _{2c}										
Location:	0 degrees	Deg	Other			Ant _{3a}	BXA 185063/8CF-EDIN	6.00	4.00	48.00		56.9	36.00	6.00	120.00	19		
Climbing Facility	Corrosion Type:	Good condition.				Ant _{3b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			19		
	Access:	Climbing path was unobstructed.				Ant _{3c}												
	Condition:	Good condition.				Ant _{4a}	BXA 80063-6BF-EDIN	11.50	5.00	72.00		56.9	36.00	9.00	105.00	20		
								Ant _{4b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			19
								Ant _{4c}										
								Ant _{5a}										
								Ant _{5b}										
								Ant _{5c}										
								Ant on Standoff										
								Ant on Standoff										
								Ant on Tower										
								Ant on Tower										
								Sector C										
								Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		57.4	30.00	8.00		29
								Ant _{1b}	BXA 171063-8BF-EDIN	6.00	4.00	48.00		58.9	12.00	7.00	240.00	29
								Ant _{1c}										
								Ant _{2a}										
								Ant _{2b}	BXA 70063/6CF-EDIN	11.00	5.00	71.00		56.9	36.00	10.50	240.00	30
								Ant _{2c}										
								Ant _{3a}	BXA 185063/8CF-EDIN	6.00	4.00	48.00		56.9	36.00	6.00	240.00	31
								Ant _{3b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			31
								Ant _{3c}										
								Ant _{4a}	BXA 80063-6BF-EDIN	11.50	5.00	72.00		56.9	36.00	9.00	240.00	32
								Ant _{4b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			31
								Ant _{4c}										
								Ant _{5a}										
								Ant _{5b}										
								Ant _{5c}										
								Ant on Standoff										
								Ant on Standoff										
								Ant on Tower										
								Ant on Tower										
								Sector D										
								Ant _{1a}										
								Ant _{1b}										
								Ant _{1c}										
								Ant _{2a}										
								Ant _{2b}										
								Ant _{2c}										
								Ant _{3a}										
								Ant _{3b}										
								Ant _{3c}										
								Ant _{4a}										
								Ant _{4b}										
								Ant _{4c}										
								Ant _{5a}										
								Ant _{5b}										
								Ant _{5c}										
								Ant on Standoff										
								Ant on Standoff										
								Ant on Tower										
								Ant on Tower										

DETAILS FROM TOP OF ANTENNA PLATFORM WOULD BE LOCATED TOP OF ANTENNA OF CARRIER ABOVE (DATA F. 1

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1	(12) 1-5/8" COAX (1) 1-1/2" HYBRID	
2		
3	SAFETY CLIMB HAS EXCESSIVE SLACK	40
4		
5		
6		
7		
8		

Mapping Notes

1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions

1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	SBA	Mapping Date:	1/27/2021
Site Name:	East Haven Cossey Beach CT (VZW)	Tower Type:	Monopole
Site Number or ID:	469123	Tower Height (Ft.):	70' (est.)
Mapping Contractor:	HUDSON DESIGN GROUP LLC	Mount Elevation (Ft.):	55.9

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Please Insert Sketches of the Antenna Mount

DATE: 1-27-21

Project Name: Maser Mapping

Project No.: East Haven Cossey Beach CT

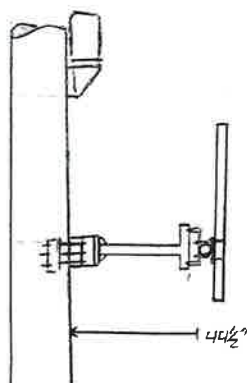
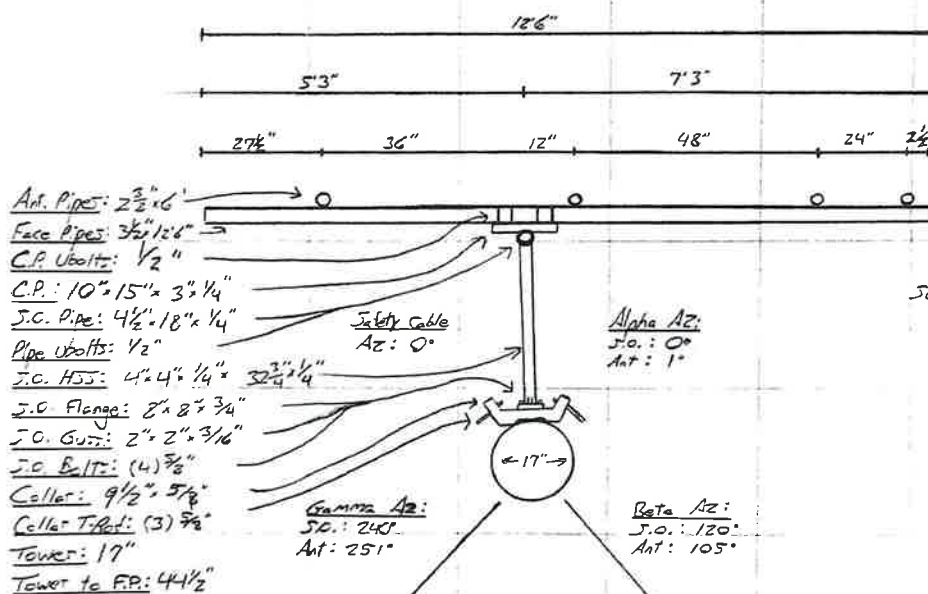
Design By: TJTB Chk'd By: _____ Page ____ of ____

TOM: 54'9" to Pad + 12" ASL

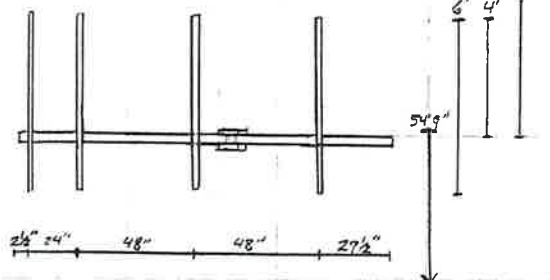
Q: 55'6" Avg to Pad

Lines: (12) $1\frac{1}{4}"$ C > Inside
(1) $1\frac{1}{2}"$ H

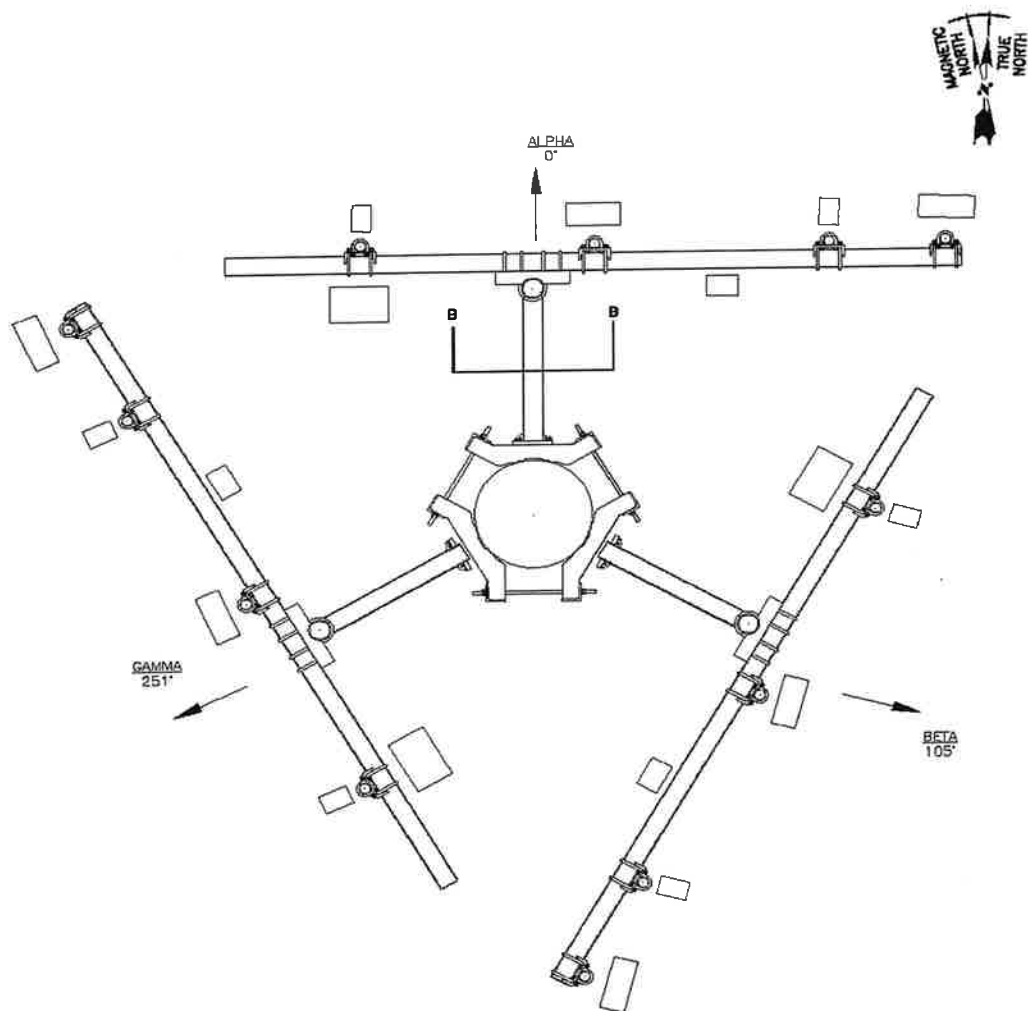
270° + 90°
180°



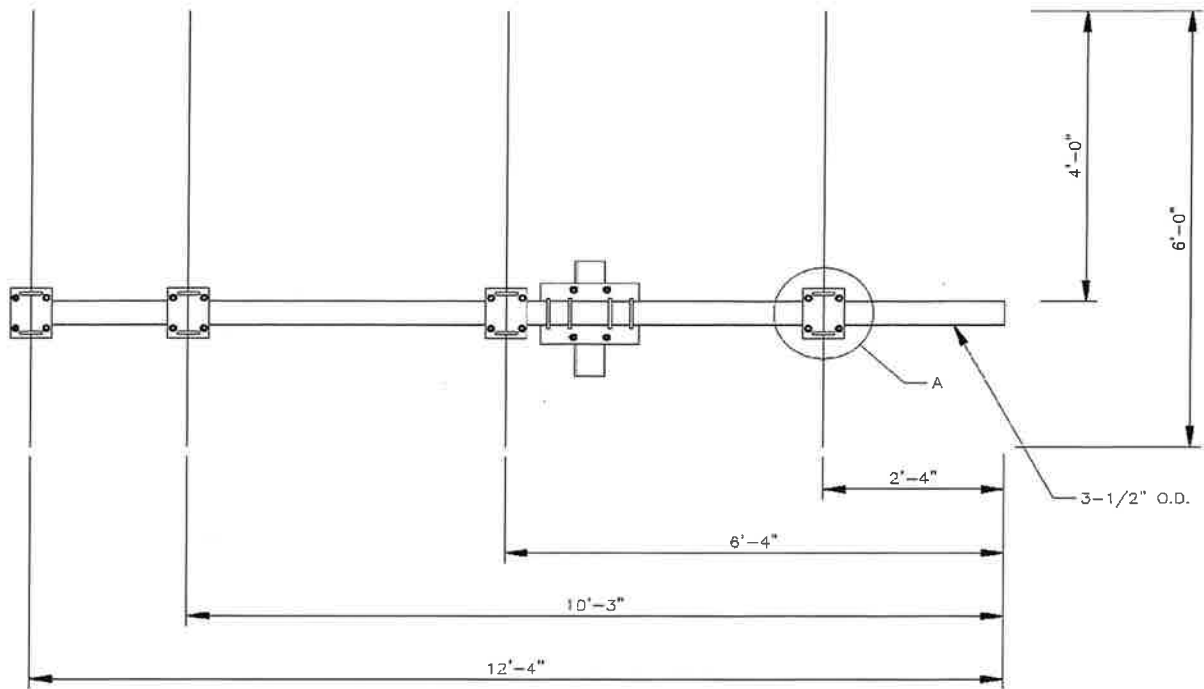
Scale = 1/8"



Please Insert Sketches of the Antenna Mount, cont'd



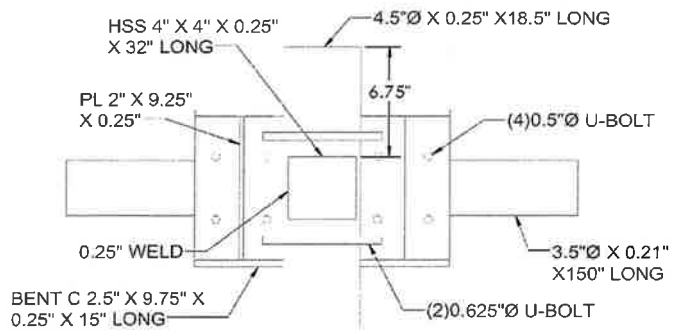
Please Insert Sketches of the Antenna Mount, cont'd



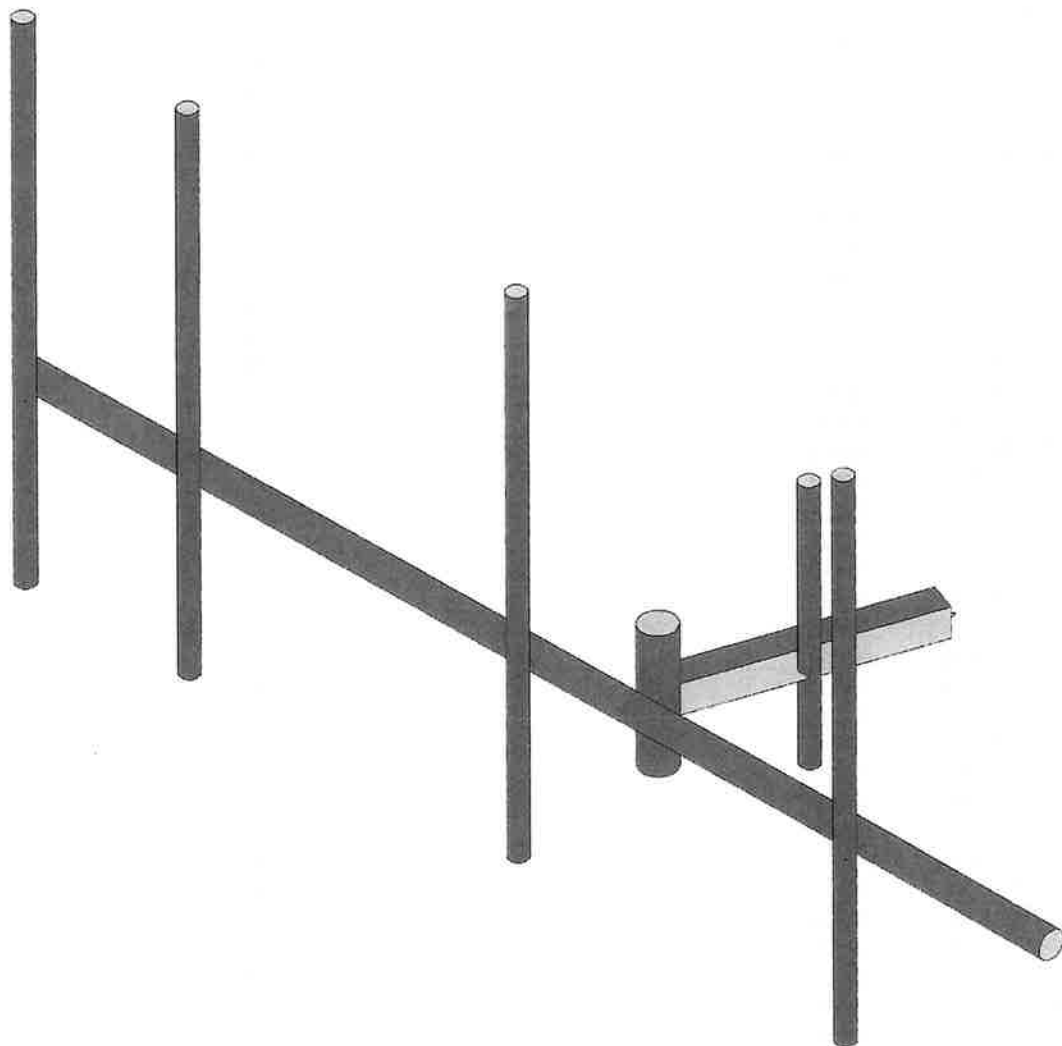
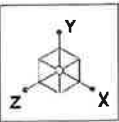
C 2.5" X 6.25" X 0.31"
X 8.25" LONG

0.5"Ø
U-BOLT

DETAIL A



SECTION B-B



Envelope Only Solution

--

SK - 1
Jan 11, 2024 at 9:29 AM
5000385115-VZW_MT_LOT_A_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					36		
2	Antenna Di	None					36		
3	Antenna Wo (0 Deg)	None					36		
4	Antenna Wo (30 Deg)	None					36		
5	Antenna Wo (60 Deg)	None					36		
6	Antenna Wo (90 Deg)	None					36		
7	Antenna Wo (120 Deg)	None					36		
8	Antenna Wo (150 Deg)	None					36		
9	Antenna Wo (180 Deg)	None					36		
10	Antenna Wo (210 Deg)	None					36		
11	Antenna Wo (240 Deg)	None					36		
12	Antenna Wo (270 Deg)	None					36		
13	Antenna Wo (300 Deg)	None					36		
14	Antenna Wo (330 Deg)	None					36		
15	Antenna Wi (0 Deg)	None					36		
16	Antenna Wi (30 Deg)	None					36		
17	Antenna Wi (60 Deg)	None					36		
18	Antenna Wi (90 Deg)	None					36		
19	Antenna Wi (120 Deg)	None					36		
20	Antenna Wi (150 Deg)	None					36		
21	Antenna Wi (180 Deg)	None					36		
22	Antenna Wi (210 Deg)	None					36		
23	Antenna Wi (240 Deg)	None					36		
24	Antenna Wi (270 Deg)	None					36		
25	Antenna Wi (300 Deg)	None					36		
26	Antenna Wi (330 Deg)	None					36		
27	Antenna Wm (0 Deg)	None					36		
28	Antenna Wm (30 Deg)	None					36		
29	Antenna Wm (60 Deg)	None					36		
30	Antenna Wm (90 Deg)	None					36		
31	Antenna Wm (120 De..	None					36		
32	Antenna Wm (150 De..	None					36		
33	Antenna Wm (180 De..	None					36		
34	Antenna Wm (210 De..	None					36		
35	Antenna Wm (240 De..	None					36		
36	Antenna Wm (270 De..	None					36		
37	Antenna Wm (300 De..	None					36		
38	Antenna Wm (330 De..	None					36		
39	Structure D	None		-1					
40	Structure Di	None						8	
41	Structure Wo (0 Deg)	None						16	
42	Structure Wo (30 Deg)	None						16	
43	Structure Wo (60 Deg)	None						16	
44	Structure Wo (90 Deg)	None						16	
45	Structure Wo (120 D..	None						16	
46	Structure Wo (150 D..	None						16	
47	Structure Wo (180 D..	None						16	
48	Structure Wo (210 D..	None						16	
49	Structure Wo (240 D..	None						16	
50	Structure Wo (270 D..	None						16	

Basic Load Cases (Continued)

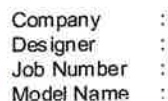
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
51	Structure Wo (300 D...	None						16	
52	Structure Wo (330 D...	None						16	
53	Structure Wi (0 Deg)	None						16	
54	Structure Wi (30 Deg)	None						16	
55	Structure Wi (60 Deg)	None						16	
56	Structure Wi (90 Deg)	None						16	
57	Structure Wi (120 De...	None						16	
58	Structure Wi (150 De...	None						16	
59	Structure Wi (180 De...	None						16	
60	Structure Wi (210 De...	None						16	
61	Structure Wi (240 De...	None						16	
62	Structure Wi (270 De...	None						16	
63	Structure Wi (300 De...	None						16	
64	Structure Wi (330 De...	None						16	
65	Structure Wm (0 Deg)	None						16	
66	Structure Wm (30 D...	None						16	
67	Structure Wm (60 D...	None						16	
68	Structure Wm (90 D...	None						16	
69	Structure Wm (120 ...	None						16	
70	Structure Wm (150 ...	None						16	
71	Structure Wm (180 ...	None						16	
72	Structure Wm (210 ...	None						16	
73	Structure Wm (240 ...	None						16	
74	Structure Wm (270 ...	None						16	
75	Structure Wm (300 ...	None						16	
76	Structure Wm (330 ...	None						16	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	Antenna Ev	None					36		
82	Antenna Eh (0 Deg)	None					24		
83	Antenna Eh (90 Deg)	None					24		
84	Structure Ev	ELY		-.043					
85	Structure Eh (0 Deg)	ELZ			-.107				
86	Structure Eh (90 Deg)	ELX	.107						

Load Combinations

	Description	So...	P...	S...	B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac...
1	1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1			
2	1.2D+1.0Wo (30 Deg)	Yes	Y		1	1.2	39	1.2	4	1	42	1			
3	1.2D+1.0Wo (60 Deg)	Yes	Y		1	1.2	39	1.2	5	1	43	1			
4	1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1			
5	1.2D+1.0Wo (120 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1			
6	1.2D+1.0Wo (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1			
7	1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1			
8	1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1			
9	1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1			
10	1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1			
11	1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1			

Load Combinations (Continued)

	Description	So...	P...	S...	B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...	Fac..B...
12	1.2D+1.0Wo (330 Deg)	Yes	Y			1	1.2	39	1.2	14	1	52	1			
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y			1	1.2	39	1.2	2	1	40	1	15	1	53
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y			1	1.2	39	1.2	2	1	40	1	16	1	54
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y			1	1.2	39	1.2	2	1	40	1	17	1	55
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y			1	1.2	39	1.2	2	1	40	1	18	1	56
17	1.2D + 1.0Di + 1.0Wi (120 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	19	1	57
18	1.2D + 1.0Di + 1.0Wi (150 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	20	1	58
19	1.2D + 1.0Di + 1.0Wi (180 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	21	1	59
20	1.2D + 1.0Di + 1.0Wi (210 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	22	1	60
21	1.2D + 1.0Di + 1.0Wi (240 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	23	1	61
22	1.2D + 1.0Di + 1.0Wi (270 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	24	1	62
23	1.2D + 1.0Di + 1.0Wi (300 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	25	1	63
24	1.2D + 1.0Di + 1.0Wi (330 D...	Yes	Y			1	1.2	39	1.2	2	1	40	1	26	1	64
25	1.2D + 1.5Lm1 + 1.0Wm (0 ...	Yes	Y			1	1.2	39	1.2	77	1.5	27	1	65	1	
26	1.2D + 1.5Lm1 + 1.0Wm (30 ...	Yes	Y			1	1.2	39	1.2	77	1.5	28	1	66	1	
27	1.2D + 1.5Lm1 + 1.0Wm (60 ...	Yes	Y			1	1.2	39	1.2	77	1.5	29	1	67	1	
28	1.2D + 1.5Lm1 + 1.0Wm (90 ...	Yes	Y			1	1.2	39	1.2	77	1.5	30	1	68	1	
29	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y			1	1.2	39	1.2	77	1.5	31	1	69	1	
30	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y			1	1.2	39	1.2	77	1.5	32	1	70	1	
31	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y			1	1.2	39	1.2	77	1.5	33	1	71	1	
32	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y			1	1.2	39	1.2	77	1.5	34	1	72	1	
33	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y			1	1.2	39	1.2	77	1.5	35	1	73	1	
34	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y			1	1.2	39	1.2	77	1.5	36	1	74	1	
35	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y			1	1.2	39	1.2	77	1.5	37	1	75	1	
36	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y			1	1.2	39	1.2	77	1.5	38	1	76	1	
37	1.2D + 1.5Lm2 + 1.0Wm (0 ...	Yes	Y			1	1.2	39	1.2	78	1.5	27	1	65	1	
38	1.2D + 1.5Lm2 + 1.0Wm (30 ...	Yes	Y			1	1.2	39	1.2	78	1.5	28	1	66	1	
39	1.2D + 1.5Lm2 + 1.0Wm (60 ...	Yes	Y			1	1.2	39	1.2	78	1.5	29	1	67	1	
40	1.2D + 1.5Lm2 + 1.0Wm (90 ...	Yes	Y			1	1.2	39	1.2	78	1.5	30	1	68	1	
41	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y			1	1.2	39	1.2	78	1.5	31	1	69	1	
42	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y			1	1.2	39	1.2	78	1.5	32	1	70	1	
43	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y			1	1.2	39	1.2	78	1.5	33	1	71	1	
44	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y			1	1.2	39	1.2	78	1.5	34	1	72	1	
45	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y			1	1.2	39	1.2	78	1.5	35	1	73	1	
46	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y			1	1.2	39	1.2	78	1.5	36	1	74	1	
47	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y			1	1.2	39	1.2	78	1.5	37	1	75	1	
48	1.2D + 1.5Lm2 + 1.0Wm (33...	Yes	Y			1	1.2	39	1.2	78	1.5	38	1	76	1	
49	1.2D + 1.5Lv1	Yes	Y			1	1.2	39	1.2	79	1.5					
50	1.2D + 1.5Lv2	Yes	Y			1	1.2	39	1.2	80	1.5					
51	1.4D	Yes	Y			1	1.4	39	1.4							
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	1	83
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	.866	83
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	.5	83
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82		83
56	1.2D + 1.0Ev + 1.0Eh (120 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-.5	83
57	1.2D + 1.0Ev + 1.0Eh (150 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-.866	83
58	1.2D + 1.0Ev + 1.0Eh (180 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-1	83
59	1.2D + 1.0Ev + 1.0Eh (210 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-.866	83
60	1.2D + 1.0Ev + 1.0Eh (240 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-.5	83
61	1.2D + 1.0Ev + 1.0Eh (270 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	-1	83
62	1.2D + 1.0Ev + 1.0Eh (300 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	.5	83
63	1.2D + 1.0Ev + 1.0Eh (330 D...	Yes	Y			1	1.2	39	1.2	81	1	E...	1	82	.866	83



Jan 11, 2024
9:29 AM
Checked By: _____

[illegible]

	Label	Shape	Type	Design Li...	Material	Design R... A [in2]	Iyy [in4]	Izz [in4]	J [in4]	
1	Antenna Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
3	Standoff Vertical	PIPE 4.0	Column	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
4	Standoff	HSS4X4X4	Beam	SquareT...	A500 Gr. B 46	Typical	3.37	7.8	7.8	12.8

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt	
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
5	A500 Gr. B 42	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4			RIGID	None	None	RIGID	Typical
2	M3	N1	N3			Standoff	Beam	SquareTube	A500 Gr. ...	Typical
3	M4	N6	N5			Standoff Vertical	Column	Pipe	A53 Gr. B	Typical
4	FACE	N8	N7			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
5	MP1A	N17	N20			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
6	MP3A	N16	N19			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
7	MP4A	N15	N18			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
8	LIVE2	N9	N12			RIGID	None	None	RIGID	Typical
9	LM2	N10	N13			RIGID	None	None	RIGID	Typical
10	LM1	N11	N14			RIGID	None	None	RIGID	Typical
11	M11A	N20A	N21			RIGID	None	None	RIGID	Typical
12	OVP	N22	N23			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
13	MP2A	N26	N27			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
14	M14	N24	N25			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1	OOOXXO					Yes	** NA **			None
2	M3						Yes	Default			None
3	M4						Yes	** NA **			None
4	FACE						Yes				None
5	MP1A						Yes	** NA **			None
6	MP3A						Yes	** NA **			None
7	MP4A						Yes	** NA **			None
8	LIVE2						Yes	** NA **			None
9	LM2						Yes	** NA **			None
10	LM1						Yes	** NA **			None
11	M11A						Yes	** NA **			None
12	OVP						Yes	** NA **			None
13	MP2A						Yes	** NA **			None
14	M14						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-31.65	1
2	MP1A	My	-.016	1
3	MP1A	Mz	0	1
4	MP1A	Y	-31.65	5
5	MP1A	My	-.016	5
6	MP1A	Mz	0	5
7	MP3A	Y	-31.65	1
8	MP3A	My	-.016	1
9	MP3A	Mz	0	1
10	MP3A	Y	-31.65	5
11	MP3A	My	-.016	5
12	MP3A	Mz	0	5
13	MP2A	Y	-28.65	2
14	MP2A	My	-.014	2
15	MP2A	Mz	0	2
16	MP2A	Y	-28.65	4
17	MP2A	My	-.014	4
18	MP2A	Mz	0	4
19	MP1A	Y	-20.8	5
20	MP1A	My	.007	5
21	MP1A	Mz	0	5
22	OVP	Y	-32	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-79.1	2
26	MP1A	My	.026	2
27	MP1A	Mz	0	2
28	MP3A	Y	-74.7	2
29	MP3A	My	.025	2
30	MP3A	Mz	0	2
31	MP4A	Y	-9.6	1
32	MP4A	My	-.005	1

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mz	0	1
34	MP4A	Y	-9.6	5
35	MP4A	My	-.005	5
36	MP4A	Mz	0	5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	Y	-63.008	1
2	MP1A	My	-.032	1
3	MP1A	Mz	0	1
4	MP1A	Y	-63.008	5
5	MP1A	My	-.032	5
6	MP1A	Mz	0	5
7	MP3A	Y	-63.008	1
8	MP3A	My	-.032	1
9	MP3A	Mz	0	1
10	MP3A	Y	-63.008	5
11	MP3A	My	-.032	5
12	MP3A	Mz	0	5
13	MP2A	Y	-26.757	2
14	MP2A	My	-.013	2
15	MP2A	Mz	0	2
16	MP2A	Y	-26.757	4
17	MP2A	My	-.013	4
18	MP2A	Mz	0	4
19	MP1A	Y	-9.522	5
20	MP1A	My	.003	5
21	MP1A	Mz	0	5
22	OVP	Y	-68.356	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-40.743	2
26	MP1A	My	.014	2
27	MP1A	Mz	0	2
28	MP3A	Y	-40.312	2
29	MP3A	My	.013	2
30	MP3A	Mz	0	2
31	MP4A	Y	-45.32	1
32	MP4A	My	-.023	1
33	MP4A	Mz	0	1
34	MP4A	Y	-45.32	5
35	MP4A	My	-.023	5
36	MP4A	Mz	0	5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	1
2	MP1A	Z	-172.421	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-172.421	5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-172.421	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-172.421	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-59.808	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-59.808	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-14.006	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-143.463	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-70.785	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-58.672	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-137.407	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-137.407	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	78.813	1
2	MP1A	Z	-136.509	1
3	MP1A	Mx	-.039	1
4	MP1A	X	78.813	5
5	MP1A	Z	-136.509	5
6	MP1A	Mx	-.039	5
7	MP3A	X	78.813	1
8	MP3A	Z	-136.509	1
9	MP3A	Mx	-.039	1
10	MP3A	X	78.813	5
11	MP3A	Z	-136.509	5
12	MP3A	Mx	-.039	5
13	MP2A	X	25.054	2
14	MP2A	Z	-43.395	2
15	MP2A	Mx	-.013	2
16	MP2A	X	25.054	4
17	MP2A	Z	-43.395	4

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP2A	Mx	-.013	4
19	MP1A	X	6.463	5
20	MP1A	Z	-11.195	5
21	MP1A	Mx	.002	5
22	OVP	X	65.669	.5
23	OVP	Z	-113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	32.577	2
26	MP1A	Z	-56.426	2
27	MP1A	Mx	.011	2
28	MP3A	X	26.923	2
29	MP3A	Z	-46.632	2
30	MP3A	Mx	.009	2
31	MP4A	X	61.074	1
32	MP4A	Z	-105.783	1
33	MP4A	Mx	-.031	1
34	MP4A	X	61.074	5
35	MP4A	Z	-105.783	5
36	MP4A	Mx	-.031	5

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	110.884	1
2	MP1A	Z	-64.019	1
3	MP1A	Mx	-.055	1
4	MP1A	X	110.884	5
5	MP1A	Z	-64.019	5
6	MP1A	Mx	-.055	5
7	MP3A	X	110.884	1
8	MP3A	Z	-64.019	1
9	MP3A	Mx	-.055	1
10	MP3A	X	110.884	5
11	MP3A	Z	-64.019	5
12	MP3A	Mx	-.055	5
13	MP2A	X	26.594	2
14	MP2A	Z	-15.354	2
15	MP2A	Mx	-.013	2
16	MP2A	X	26.594	4
17	MP2A	Z	-15.354	4
18	MP2A	Mx	-.013	4
19	MP1A	X	9.326	5
20	MP1A	Z	-5.385	5
21	MP1A	Mx	.003	5
22	OVP	X	92.74	.5
23	OVP	Z	-53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	46.673	2
26	MP1A	Z	-26.947	2
27	MP1A	Mx	.016	2
28	MP3A	X	38.273	2
29	MP3A	Z	-22.097	2

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
30	MP3A	Mx	.013	2
31	MP4A	X	79.353	1
32	MP4A	Z	-45.814	1
33	MP4A	Mx	-.04	1
34	MP4A	X	79.353	5
35	MP4A	Z	-45.814	5
36	MP4A	Mx	-.04	5

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	113.244	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.057	1
4	MP1A	X	113.244	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.057	5
7	MP3A	X	113.244	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.057	1
10	MP3A	X	113.244	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.057	5
13	MP2A	X	21.008	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.011	2
16	MP2A	X	21.008	4
17	MP2A	Z	0	4
18	MP2A	Mx	-.011	4
19	MP1A	X	9.69	5
20	MP1A	Z	0	5
21	MP1A	Mx	.003	5
22	OVP	X	94.961	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	48.263	2
26	MP1A	Z	0	2
27	MP1A	Mx	.016	2
28	MP3A	X	39.367	2
29	MP3A	Z	0	2
30	MP3A	Mx	.013	2
31	MP4A	X	76.369	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.038	1
34	MP4A	X	76.369	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.038	5

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	110.884	1
2	MP1A	Z	64.019	1

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
3	MP1A	Mx	-.055	1
4	MP1A	X	110.884	5
5	MP1A	Z	64.019	5
6	MP1A	Mx	-.055	5
7	MP3A	X	110.884	1
8	MP3A	Z	64.019	1
9	MP3A	Mx	-.055	1
10	MP3A	X	110.884	5
11	MP3A	Z	64.019	5
12	MP3A	Mx	-.055	5
13	MP2A	X	26.594	2
14	MP2A	Z	15.354	2
15	MP2A	Mx	-.013	2
16	MP2A	X	26.594	4
17	MP2A	Z	15.354	4
18	MP2A	Mx	-.013	4
19	MP1A	X	9.326	5
20	MP1A	Z	5.385	5
21	MP1A	Mx	.003	5
22	OVP	X	92.74	.5
23	OVP	Z	53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	46.673	2
26	MP1A	Z	26.947	2
27	MP1A	Mx	.016	2
28	MP3A	X	38.273	2
29	MP3A	Z	22.097	2
30	MP3A	Mx	.013	2
31	MP4A	X	79.353	1
32	MP4A	Z	45.814	1
33	MP4A	Mx	-.04	1
34	MP4A	X	79.353	5
35	MP4A	Z	45.814	5
36	MP4A	Mx	-.04	5

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	78.813	1
2	MP1A	Z	136.509	1
3	MP1A	Mx	-.039	1
4	MP1A	X	78.813	5
5	MP1A	Z	136.509	5
6	MP1A	Mx	-.039	5
7	MP3A	X	78.813	1
8	MP3A	Z	136.509	1
9	MP3A	Mx	-.039	1
10	MP3A	X	78.813	5
11	MP3A	Z	136.509	5
12	MP3A	Mx	-.039	5
13	MP2A	X	25.054	2
14	MP2A	Z	43.395	2

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
15	MP2A	Mx	-.013	2
16	MP2A	X	25.054	4
17	MP2A	Z	43.395	4
18	MP2A	Mx	-.013	4
19	MP1A	X	6.463	5
20	MP1A	Z	11.195	5
21	MP1A	Mx	.002	5
22	OVP	X	65.669	.5
23	OVP	Z	113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	32.577	2
26	MP1A	Z	56.426	2
27	MP1A	Mx	.011	2
28	MP3A	X	26.923	2
29	MP3A	Z	46.632	2
30	MP3A	Mx	.009	2
31	MP4A	X	61.074	1
32	MP4A	Z	105.783	1
33	MP4A	Mx	-.031	1
34	MP4A	X	61.074	5
35	MP4A	Z	105.783	5
36	MP4A	Mx	-.031	5

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	1
2	MP1A	Z	172.421	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	172.421	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	172.421	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	172.421	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	59.808	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	59.808	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	14.006	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	143.463	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	70.785	2

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	58.672	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	137.407	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	137.407	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-78.813	1
2	MP1A	Z	136.509	1
3	MP1A	Mx	.039	1
4	MP1A	X	-78.813	5
5	MP1A	Z	136.509	5
6	MP1A	Mx	.039	5
7	MP3A	X	-78.813	1
8	MP3A	Z	136.509	1
9	MP3A	Mx	.039	1
10	MP3A	X	-78.813	5
11	MP3A	Z	136.509	5
12	MP3A	Mx	.039	5
13	MP2A	X	-25.054	2
14	MP2A	Z	43.395	2
15	MP2A	Mx	.013	2
16	MP2A	X	-25.054	4
17	MP2A	Z	43.395	4
18	MP2A	Mx	.013	4
19	MP1A	X	-6.463	5
20	MP1A	Z	11.195	5
21	MP1A	Mx	-.002	5
22	OVP	X	-65.669	.5
23	OVP	Z	113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	-32.577	2
26	MP1A	Z	56.426	2
27	MP1A	Mx	-.011	2
28	MP3A	X	-26.923	2
29	MP3A	Z	46.632	2
30	MP3A	Mx	-.009	2
31	MP4A	X	-61.074	1
32	MP4A	Z	105.783	1
33	MP4A	Mx	.031	1
34	MP4A	X	-61.074	5
35	MP4A	Z	105.783	5
36	MP4A	Mx	.031	5

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP1A	X	-110.884	1
2	MP1A	Z	64.019	1
3	MP1A	Mx	.055	1
4	MP1A	X	-110.884	5
5	MP1A	Z	64.019	5
6	MP1A	Mx	.055	5
7	MP3A	X	-110.884	1
8	MP3A	Z	64.019	1
9	MP3A	Mx	.055	1
10	MP3A	X	-110.884	5
11	MP3A	Z	64.019	5
12	MP3A	Mx	.055	5
13	MP2A	X	-26.594	2
14	MP2A	Z	15.354	2
15	MP2A	Mx	.013	2
16	MP2A	X	-26.594	4
17	MP2A	Z	15.354	4
18	MP2A	Mx	.013	4
19	MP1A	X	-9.326	5
20	MP1A	Z	5.385	5
21	MP1A	Mx	-.003	5
22	OVP	X	-92.74	.5
23	OVP	Z	53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	-46.673	2
26	MP1A	Z	26.947	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-38.273	2
29	MP3A	Z	22.097	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-79.353	1
32	MP4A	Z	45.814	1
33	MP4A	Mx	.04	1
34	MP4A	X	-79.353	5
35	MP4A	Z	45.814	5
36	MP4A	Mx	.04	5

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP1A	X	-113.244	1
2	MP1A	Z	0	1
3	MP1A	Mx	.057	1
4	MP1A	X	-113.244	5
5	MP1A	Z	0	5
6	MP1A	Mx	.057	5
7	MP3A	X	-113.244	1
8	MP3A	Z	0	1
9	MP3A	Mx	.057	1
10	MP3A	X	-113.244	5
11	MP3A	Z	0	5
12	MP3A	Mx	.057	5

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP2A	X	-21.008	2
14	MP2A	Z	0	2
15	MP2A	Mx	.011	2
16	MP2A	X	-21.008	4
17	MP2A	Z	0	4
18	MP2A	Mx	.011	4
19	MP1A	X	-9.69	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.003	5
22	OVP	X	-94.961	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-48.263	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-39.367	2
29	MP3A	Z	0	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-76.369	1
32	MP4A	Z	0	1
33	MP4A	Mx	.038	1
34	MP4A	X	-76.369	5
35	MP4A	Z	0	5
36	MP4A	Mx	.038	5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-110.884	1
2	MP1A	Z	-64.019	1
3	MP1A	Mx	.055	1
4	MP1A	X	-110.884	5
5	MP1A	Z	-64.019	5
6	MP1A	Mx	.055	5
7	MP3A	X	-110.884	1
8	MP3A	Z	-64.019	1
9	MP3A	Mx	.055	1
10	MP3A	X	-110.884	5
11	MP3A	Z	-64.019	5
12	MP3A	Mx	.055	5
13	MP2A	X	-26.594	2
14	MP2A	Z	-15.354	2
15	MP2A	Mx	.013	2
16	MP2A	X	-26.594	4
17	MP2A	Z	-15.354	4
18	MP2A	Mx	.013	4
19	MP1A	X	-9.326	5
20	MP1A	Z	-5.385	5
21	MP1A	Mx	-.003	5
22	OVP	X	-92.74	.5
23	OVP	Z	-53.543	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	-46.673	2
26	MP1A	Z	-26.947	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-38.273	2
29	MP3A	Z	-22.097	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-79.353	1
32	MP4A	Z	-45.814	1
33	MP4A	Mx	.04	1
34	MP4A	X	-79.353	5
35	MP4A	Z	-45.814	5
36	MP4A	Mx	.04	5

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-78.813	1
2	MP1A	Z	-136.509	1
3	MP1A	Mx	.039	1
4	MP1A	X	-78.813	5
5	MP1A	Z	-136.509	5
6	MP1A	Mx	.039	5
7	MP3A	X	-78.813	1
8	MP3A	Z	-136.509	1
9	MP3A	Mx	.039	1
10	MP3A	X	-78.813	5
11	MP3A	Z	-136.509	5
12	MP3A	Mx	.039	5
13	MP2A	X	-25.054	2
14	MP2A	Z	-43.395	2
15	MP2A	Mx	.013	2
16	MP2A	X	-25.054	4
17	MP2A	Z	-43.395	4
18	MP2A	Mx	.013	4
19	MP1A	X	-6.463	5
20	MP1A	Z	-11.195	5
21	MP1A	Mx	-.002	5
22	OVP	X	-65.669	.5
23	OVP	Z	-113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	-32.577	2
26	MP1A	Z	-56.426	2
27	MP1A	Mx	-.011	2
28	MP3A	X	-26.923	2
29	MP3A	Z	-46.632	2
30	MP3A	Mx	-.009	2
31	MP4A	X	-61.074	1
32	MP4A	Z	-105.783	1
33	MP4A	Mx	.031	1
34	MP4A	X	-61.074	5
35	MP4A	Z	-105.783	5
36	MP4A	Mx	.031	5

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	1
2	MP1A	Z	-29.98	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-29.98	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-29.98	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-29.98	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-12.968	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-12.968	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-3.179	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-25.783	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-13.338	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-13.338	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-24.166	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-24.166	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	13.79	1
2	MP1A	Z	-23.886	1
3	MP1A	Mx	-.007	1
4	MP1A	X	13.79	5
5	MP1A	Z	-23.886	5
6	MP1A	Mx	-.007	5
7	MP3A	X	13.79	1
8	MP3A	Z	-23.886	1
9	MP3A	Mx	-.007	1
10	MP3A	X	13.79	5
11	MP3A	Z	-23.886	5
12	MP3A	Mx	-.007	5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb, k-ft]	Location[ft, %]
13	MP2A	X	5.541	2
14	MP2A	Z	-9.598	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.541	4
17	MP2A	Z	-9.598	4
18	MP2A	Mx	-.003	4
19	MP1A	X	1.489	5
20	MP1A	Z	-2.579	5
21	MP1A	Mx	.000496	5
22	OVP	X	11.865	.5
23	OVP	Z	-20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	6.178	2
26	MP1A	Z	-10.7	2
27	MP1A	Mx	.002	2
28	MP3A	X	6.157	2
29	MP3A	Z	-10.664	2
30	MP3A	Mx	.002	2
31	MP4A	X	10.841	1
32	MP4A	Z	-18.777	1
33	MP4A	Mx	-.005	1
34	MP4A	X	10.841	5
35	MP4A	Z	-18.777	5
36	MP4A	Mx	-.005	5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb, k-ft]	Location[ft, %]
1	MP1A	X	19.73	1
2	MP1A	Z	-11.391	1
3	MP1A	Mx	-.01	1
4	MP1A	X	19.73	5
5	MP1A	Z	-11.391	5
6	MP1A	Mx	-.01	5
7	MP3A	X	19.73	1
8	MP3A	Z	-11.391	1
9	MP3A	Mx	-.01	1
10	MP3A	X	19.73	5
11	MP3A	Z	-11.391	5
12	MP3A	Mx	-.01	5
13	MP2A	X	6.334	2
14	MP2A	Z	-3.657	2
15	MP2A	Mx	-.003	2
16	MP2A	X	6.334	4
17	MP2A	Z	-3.657	4
18	MP2A	Mx	-.003	4
19	MP1A	X	2.229	5
20	MP1A	Z	-1.287	5
21	MP1A	Mx	.000743	5
22	OVP	X	16.997	.5
23	OVP	Z	-9.813	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	8.998	2
26	MP1A	Z	-5.195	2
27	MP1A	Mx	.003	2
28	MP3A	X	8.892	2
29	MP3A	Z	-5.134	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.473	1
32	MP4A	Z	-8.356	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.473	5
35	MP4A	Z	-8.356	5
36	MP4A	Mx	-.007	5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	20.382	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.01	1
4	MP1A	X	20.382	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.01	5
7	MP3A	X	20.382	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.01	1
10	MP3A	X	20.382	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.01	5
13	MP2A	X	5.429	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.429	4
17	MP2A	Z	0	4
18	MP2A	Mx	-.003	4
19	MP1A	X	2.371	5
20	MP1A	Z	0	5
21	MP1A	Mx	.00079	5
22	OVP	X	17.574	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	9.407	2
26	MP1A	Z	0	2
27	MP1A	Mx	.003	2
28	MP3A	X	9.244	2
29	MP3A	Z	0	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.228	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.228	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.007	5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	19.73	1
2	MP1A	Z	11.391	1
3	MP1A	Mx	-.01	1
4	MP1A	X	19.73	5
5	MP1A	Z	11.391	5
6	MP1A	Mx	-.01	5
7	MP3A	X	19.73	1
8	MP3A	Z	11.391	1
9	MP3A	Mx	-.01	1
10	MP3A	X	19.73	5
11	MP3A	Z	11.391	5
12	MP3A	Mx	-.01	5
13	MP2A	X	6.334	2
14	MP2A	Z	3.657	2
15	MP2A	Mx	-.003	2
16	MP2A	X	6.334	4
17	MP2A	Z	3.657	4
18	MP2A	Mx	-.003	4
19	MP1A	X	2.229	5
20	MP1A	Z	1.287	5
21	MP1A	Mx	.000743	5
22	OVP	X	16.997	.5
23	OVP	Z	9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	8.998	2
26	MP1A	Z	5.195	2
27	MP1A	Mx	.003	2
28	MP3A	X	8.892	2
29	MP3A	Z	5.134	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.473	1
32	MP4A	Z	8.356	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.473	5
35	MP4A	Z	8.356	5
36	MP4A	Mx	-.007	5

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	13.79	1
2	MP1A	Z	23.886	1
3	MP1A	Mx	-.007	1
4	MP1A	X	13.79	5
5	MP1A	Z	23.886	5
6	MP1A	Mx	-.007	5
7	MP3A	X	13.79	1
8	MP3A	Z	23.886	1
9	MP3A	Mx	-.007	1
10	MP3A	X	13.79	5
11	MP3A	Z	23.886	5
12	MP3A	Mx	-.007	5

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP2A	X	5.541	2
14	MP2A	Z	9.598	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.541	4
17	MP2A	Z	9.598	4
18	MP2A	Mx	-.003	4
19	MP1A	X	1.489	5
20	MP1A	Z	2.579	5
21	MP1A	Mx	.000496	5
22	OVP	X	11.865	.5
23	OVP	Z	20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	6.178	2
26	MP1A	Z	10.7	2
27	MP1A	Mx	.002	2
28	MP3A	X	6.157	2
29	MP3A	Z	10.664	2
30	MP3A	Mx	.002	2
31	MP4A	X	10.841	1
32	MP4A	Z	18.777	1
33	MP4A	Mx	-.005	1
34	MP4A	X	10.841	5
35	MP4A	Z	18.777	5
36	MP4A	Mx	-.005	5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1
2	MP1A	Z	29.98	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	29.98	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	29.98	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	29.98	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	12.968	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	12.968	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	3.179	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	25.783	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP1A	X	0	2
26	MP1A	Z	13.338	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	13.338	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	24.166	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	24.166	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-13.79	1
2	MP1A	Z	23.886	1
3	MP1A	Mx	.007	1
4	MP1A	X	-13.79	5
5	MP1A	Z	23.886	5
6	MP1A	Mx	.007	5
7	MP3A	X	-13.79	1
8	MP3A	Z	23.886	1
9	MP3A	Mx	.007	1
10	MP3A	X	-13.79	5
11	MP3A	Z	23.886	5
12	MP3A	Mx	.007	5
13	MP2A	X	-5.541	2
14	MP2A	Z	9.598	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.541	4
17	MP2A	Z	9.598	4
18	MP2A	Mx	.003	4
19	MP1A	X	-1.489	5
20	MP1A	Z	2.579	5
21	MP1A	Mx	-.000496	5
22	OVP	X	-11.865	.5
23	OVP	Z	20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	-6.178	2
26	MP1A	Z	10.7	2
27	MP1A	Mx	-.002	2
28	MP3A	X	-6.157	2
29	MP3A	Z	10.664	2
30	MP3A	Mx	-.002	2
31	MP4A	X	-10.841	1
32	MP4A	Z	18.777	1
33	MP4A	Mx	.005	1
34	MP4A	X	-10.841	5
35	MP4A	Z	18.777	5
36	MP4A	Mx	.005	5

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-19.73	1
2	MP1A	Z	11.391	1
3	MP1A	Mx	.01	1
4	MP1A	X	-19.73	5
5	MP1A	Z	11.391	5
6	MP1A	Mx	.01	5
7	MP3A	X	-19.73	1
8	MP3A	Z	11.391	1
9	MP3A	Mx	.01	1
10	MP3A	X	-19.73	5
11	MP3A	Z	11.391	5
12	MP3A	Mx	.01	5
13	MP2A	X	-6.334	2
14	MP2A	Z	3.657	2
15	MP2A	Mx	.003	2
16	MP2A	X	-6.334	4
17	MP2A	Z	3.657	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.229	5
20	MP1A	Z	1.287	5
21	MP1A	Mx	-.000743	5
22	OVP	X	-16.997	5
23	OVP	Z	9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	-8.998	2
26	MP1A	Z	5.195	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-8.892	2
29	MP3A	Z	5.134	2
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.473	1
32	MP4A	Z	8.356	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.473	5
35	MP4A	Z	8.356	5
36	MP4A	Mx	.007	5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-20.382	1
2	MP1A	Z	0	1
3	MP1A	Mx	.01	1
4	MP1A	X	-20.382	5
5	MP1A	Z	0	5
6	MP1A	Mx	.01	5
7	MP3A	X	-20.382	1
8	MP3A	Z	0	1
9	MP3A	Mx	.01	1
10	MP3A	X	-20.382	5
11	MP3A	Z	0	5
12	MP3A	Mx	.01	5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP2A	X	-5.429	2
14	MP2A	Z	0	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.429	4
17	MP2A	Z	0	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.371	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.00079	5
22	OVP	X	-17.574	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-9.407	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-9.244	2
29	MP3A	Z	0	2
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.228	1
32	MP4A	Z	0	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.228	5
35	MP4A	Z	0	5
36	MP4A	Mx	.007	5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-19.73	1
2	MP1A	Z	-11.391	1
3	MP1A	Mx	.01	1
4	MP1A	X	-19.73	5
5	MP1A	Z	-11.391	5
6	MP1A	Mx	.01	5
7	MP3A	X	-19.73	1
8	MP3A	Z	-11.391	1
9	MP3A	Mx	.01	1
10	MP3A	X	-19.73	5
11	MP3A	Z	-11.391	5
12	MP3A	Mx	.01	5
13	MP2A	X	-6.334	2
14	MP2A	Z	-3.657	2
15	MP2A	Mx	.003	2
16	MP2A	X	-6.334	4
17	MP2A	Z	-3.657	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.229	5
20	MP1A	Z	-1.287	5
21	MP1A	Mx	-.000743	5
22	OVP	X	-16.997	.5
23	OVP	Z	-9.813	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	-8.998	2
26	MP1A	Z	-5.195	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-8.892	2
29	MP3A	Z	-5.134	2
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.473	1
32	MP4A	Z	-8.356	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.473	5
35	MP4A	Z	-8.356	5
36	MP4A	Mx	.007	5

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-13.79	1
2	MP1A	Z	-23.886	1
3	MP1A	Mx	.007	1
4	MP1A	X	-13.79	5
5	MP1A	Z	-23.886	5
6	MP1A	Mx	.007	5
7	MP3A	X	-13.79	1
8	MP3A	Z	-23.886	1
9	MP3A	Mx	.007	1
10	MP3A	X	-13.79	5
11	MP3A	Z	-23.886	5
12	MP3A	Mx	.007	5
13	MP2A	X	-5.541	2
14	MP2A	Z	-9.598	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.541	4
17	MP2A	Z	-9.598	4
18	MP2A	Mx	.003	4
19	MP1A	X	-1.489	5
20	MP1A	Z	-2.579	5
21	MP1A	Mx	-.000496	5
22	OVP	X	-11.865	.5
23	OVP	Z	-20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	-6.178	2
26	MP1A	Z	-10.7	2
27	MP1A	Mx	-.002	2
28	MP3A	X	-6.157	2
29	MP3A	Z	-10.664	2
30	MP3A	Mx	-.002	2
31	MP4A	X	-10.841	1
32	MP4A	Z	-18.777	1
33	MP4A	Mx	.005	1
34	MP4A	X	-10.841	5
35	MP4A	Z	-18.777	5
36	MP4A	Mx	.005	5

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	1
2	MP1A	Z	-9.931	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-9.931	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-9.931	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-9.931	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-3.445	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-3.445	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-.807	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-8.263	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-4.077	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-3.38	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-7.915	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-7.915	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	4.54	1
2	MP1A	Z	-7.863	1
3	MP1A	Mx	-.002	1
4	MP1A	X	4.54	5
5	MP1A	Z	-7.863	5
6	MP1A	Mx	-.002	5
7	MP3A	X	4.54	1
8	MP3A	Z	-7.863	1
9	MP3A	Mx	-.002	1
10	MP3A	X	4.54	5
11	MP3A	Z	-7.863	5
12	MP3A	Mx	-.002	5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP2A	X	1.443	2
14	MP2A	Z	-2.5	2
15	MP2A	Mx	-.000722	2
16	MP2A	X	1.443	4
17	MP2A	Z	-2.5	4
18	MP2A	Mx	-.000722	4
19	MP1A	X	.372	5
20	MP1A	Z	-.645	5
21	MP1A	Mx	.000124	5
22	OVP	X	3.783	.5
23	OVP	Z	-6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	1.876	2
26	MP1A	Z	-3.25	2
27	MP1A	Mx	.000625	2
28	MP3A	X	1.551	2
29	MP3A	Z	-2.686	2
30	MP3A	Mx	.000517	2
31	MP4A	X	3.518	1
32	MP4A	Z	-6.093	1
33	MP4A	Mx	-.002	1
34	MP4A	X	3.518	5
35	MP4A	Z	-6.093	5
36	MP4A	Mx	-.002	5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	6.387	1
2	MP1A	Z	-3.688	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.387	5
5	MP1A	Z	-3.688	5
6	MP1A	Mx	-.003	5
7	MP3A	X	6.387	1
8	MP3A	Z	-3.688	1
9	MP3A	Mx	-.003	1
10	MP3A	X	6.387	5
11	MP3A	Z	-3.688	5
12	MP3A	Mx	-.003	5
13	MP2A	X	1.532	2
14	MP2A	Z	-.884	2
15	MP2A	Mx	-.000766	2
16	MP2A	X	1.532	4
17	MP2A	Z	-.884	4
18	MP2A	Mx	-.000766	4
19	MP1A	X	.537	5
20	MP1A	Z	-.31	5
21	MP1A	Mx	.000179	5
22	OVP	X	5.342	.5
23	OVP	Z	-3.084	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	2.688	2
26	MP1A	Z	-1.552	2
27	MP1A	Mx	.000896	2
28	MP3A	X	2.205	2
29	MP3A	Z	-1.273	2
30	MP3A	Mx	.000735	2
31	MP4A	X	4.571	1
32	MP4A	Z	-2.639	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.571	5
35	MP4A	Z	-2.639	5
36	MP4A	Mx	-.002	5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	6.523	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.523	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.003	5
7	MP3A	X	6.523	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.003	1
10	MP3A	X	6.523	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.003	5
13	MP2A	X	1.21	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.000605	2
16	MP2A	X	1.21	4
17	MP2A	Z	0	4
18	MP2A	Mx	-.000605	4
19	MP1A	X	.558	5
20	MP1A	Z	0	5
21	MP1A	Mx	.000186	5
22	OVP	X	5.47	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	2.78	2
26	MP1A	Z	0	2
27	MP1A	Mx	.000927	2
28	MP3A	X	2.268	2
29	MP3A	Z	0	2
30	MP3A	Mx	.000756	2
31	MP4A	X	4.399	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.399	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.002	5

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	6.387	1
2	MP1A	Z	3.688	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.387	5
5	MP1A	Z	3.688	5
6	MP1A	Mx	-.003	5
7	MP3A	X	6.387	1
8	MP3A	Z	3.688	1
9	MP3A	Mx	-.003	1
10	MP3A	X	6.387	5
11	MP3A	Z	3.688	5
12	MP3A	Mx	-.003	5
13	MP2A	X	1.532	2
14	MP2A	Z	.884	2
15	MP2A	Mx	-.000766	2
16	MP2A	X	1.532	4
17	MP2A	Z	.884	4
18	MP2A	Mx	-.000766	4
19	MP1A	X	.537	5
20	MP1A	Z	.31	5
21	MP1A	Mx	.000179	5
22	OVP	X	5.342	.5
23	OVP	Z	3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	2.688	2
26	MP1A	Z	1.552	2
27	MP1A	Mx	.000896	2
28	MP3A	X	2.205	2
29	MP3A	Z	1.273	2
30	MP3A	Mx	.000735	2
31	MP4A	X	4.571	1
32	MP4A	Z	2.639	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.571	5
35	MP4A	Z	2.639	5
36	MP4A	Mx	-.002	5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	4.54	1
2	MP1A	Z	7.863	1
3	MP1A	Mx	-.002	1
4	MP1A	X	4.54	5
5	MP1A	Z	7.863	5
6	MP1A	Mx	-.002	5
7	MP3A	X	4.54	1
8	MP3A	Z	7.863	1
9	MP3A	Mx	-.002	1
10	MP3A	X	4.54	5
11	MP3A	Z	7.863	5
12	MP3A	Mx	-.002	5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP2A	X	1.443	2
14	MP2A	Z	2.5	2
15	MP2A	Mx	-.000722	2
16	MP2A	X	1.443	4
17	MP2A	Z	2.5	4
18	MP2A	Mx	-.000722	4
19	MP1A	X	.372	5
20	MP1A	Z	.645	5
21	MP1A	Mx	.000124	5
22	OVP	X	3.783	.5
23	OVP	Z	6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	1.876	2
26	MP1A	Z	3.25	2
27	MP1A	Mx	.000625	2
28	MP3A	X	1.551	2
29	MP3A	Z	2.686	2
30	MP3A	Mx	.000517	2
31	MP4A	X	3.518	1
32	MP4A	Z	6.093	1
33	MP4A	Mx	-.002	1
34	MP4A	X	3.518	5
35	MP4A	Z	6.093	5
36	MP4A	Mx	-.002	5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	1
2	MP1A	Z	9.931	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	9.931	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	9.931	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	9.931	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	3.445	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	3.445	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	.807	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	8.263	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	0	2
26	MP1A	Z	4.077	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	3.38	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	7.915	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	7.915	5
36	MP4A	Mx	0	5

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-4.54	1
2	MP1A	Z	7.863	1
3	MP1A	Mx	.002	1
4	MP1A	X	-4.54	5
5	MP1A	Z	7.863	5
6	MP1A	Mx	.002	5
7	MP3A	X	-4.54	1
8	MP3A	Z	7.863	1
9	MP3A	Mx	.002	1
10	MP3A	X	-4.54	5
11	MP3A	Z	7.863	5
12	MP3A	Mx	.002	5
13	MP2A	X	-1.443	2
14	MP2A	Z	2.5	2
15	MP2A	Mx	.000722	2
16	MP2A	X	-1.443	4
17	MP2A	Z	2.5	4
18	MP2A	Mx	.000722	4
19	MP1A	X	-.372	5
20	MP1A	Z	.645	5
21	MP1A	Mx	-.000124	5
22	OVP	X	-3.783	.5
23	OVP	Z	6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	-1.876	2
26	MP1A	Z	3.25	2
27	MP1A	Mx	-.000625	2
28	MP3A	X	-1.551	2
29	MP3A	Z	2.686	2
30	MP3A	Mx	-.000517	2
31	MP4A	X	-3.518	1
32	MP4A	Z	6.093	1
33	MP4A	Mx	.002	1
34	MP4A	X	-3.518	5
35	MP4A	Z	6.093	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-6.387	1
2	MP1A	Z	3.688	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.387	5
5	MP1A	Z	3.688	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.387	1
8	MP3A	Z	3.688	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.387	5
11	MP3A	Z	3.688	5
12	MP3A	Mx	.003	5
13	MP2A	X	-1.532	2
14	MP2A	Z	.884	2
15	MP2A	Mx	.000766	2
16	MP2A	X	-1.532	4
17	MP2A	Z	.884	4
18	MP2A	Mx	.000766	4
19	MP1A	X	-.537	5
20	MP1A	Z	.31	5
21	MP1A	Mx	-.000179	5
22	OVP	X	-5.342	.5
23	OVP	Z	3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	-2.688	2
26	MP1A	Z	1.552	2
27	MP1A	Mx	-.000896	2
28	MP3A	X	-2.205	2
29	MP3A	Z	1.273	2
30	MP3A	Mx	-.000735	2
31	MP4A	X	-4.571	1
32	MP4A	Z	2.639	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.571	5
35	MP4A	Z	2.639	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-6.523	1
2	MP1A	Z	0	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.523	5
5	MP1A	Z	0	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.523	1
8	MP3A	Z	0	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.523	5
11	MP3A	Z	0	5
12	MP3A	Mx	.003	5

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
13	MP2A	X	-1.21	2
14	MP2A	Z	0	2
15	MP2A	Mx	.000605	2
16	MP2A	X	-1.21	4
17	MP2A	Z	0	4
18	MP2A	Mx	.000605	4
19	MP1A	X	-.558	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.000186	5
22	OVP	X	-5.47	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-2.78	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.000927	2
28	MP3A	X	-2.268	2
29	MP3A	Z	0	2
30	MP3A	Mx	-.000756	2
31	MP4A	X	-4.399	1
32	MP4A	Z	0	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.399	5
35	MP4A	Z	0	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-6.387	1
2	MP1A	Z	-3.688	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.387	5
5	MP1A	Z	-3.688	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.387	1
8	MP3A	Z	-3.688	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.387	5
11	MP3A	Z	-3.688	5
12	MP3A	Mx	.003	5
13	MP2A	X	-1.532	2
14	MP2A	Z	-.884	2
15	MP2A	Mx	.000766	2
16	MP2A	X	-1.532	4
17	MP2A	Z	-.884	4
18	MP2A	Mx	.000766	4
19	MP1A	X	-.537	5
20	MP1A	Z	-.31	5
21	MP1A	Mx	-.000179	5
22	OVP	X	-5.342	.5
23	OVP	Z	-3.084	.5
24	OVP	Mx	0	.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
25	MP1A	X	-2.688	2
26	MP1A	Z	-1.552	2
27	MP1A	Mx	-.000896	2
28	MP3A	X	-2.205	2
29	MP3A	Z	-1.273	2
30	MP3A	Mx	-.000735	2
31	MP4A	X	-4.571	1
32	MP4A	Z	-2.639	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.571	5
35	MP4A	Z	-2.639	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-4.54	1
2	MP1A	Z	-7.863	1
3	MP1A	Mx	.002	1
4	MP1A	X	-4.54	5
5	MP1A	Z	-7.863	5
6	MP1A	Mx	.002	5
7	MP3A	X	-4.54	1
8	MP3A	Z	-7.863	1
9	MP3A	Mx	.002	1
10	MP3A	X	-4.54	5
11	MP3A	Z	-7.863	5
12	MP3A	Mx	.002	5
13	MP2A	X	-1.443	2
14	MP2A	Z	-2.5	2
15	MP2A	Mx	.000722	2
16	MP2A	X	-1.443	4
17	MP2A	Z	-2.5	4
18	MP2A	Mx	.000722	4
19	MP1A	X	-.372	5
20	MP1A	Z	-.645	5
21	MP1A	Mx	-.000124	5
22	OVP	X	-3.783	.5
23	OVP	Z	-6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	-1.876	2
26	MP1A	Z	-3.25	2
27	MP1A	Mx	-.000625	2
28	MP3A	X	-1.551	2
29	MP3A	Z	-2.686	2
30	MP3A	Mx	-.000517	2
31	MP4A	X	-3.518	1
32	MP4A	Z	-6.093	1
33	MP4A	Mx	.002	1
34	MP4A	X	-3.518	5
35	MP4A	Z	-6.093	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LM2	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LM1	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	FACE	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	FACE	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-1.35	1
2	MP1A	My	-.000675	1
3	MP1A	Mz	0	1
4	MP1A	Y	-1.35	5
5	MP1A	My	-.000675	5
6	MP1A	Mz	0	5
7	MP3A	Y	-1.35	1
8	MP3A	My	-.000675	1
9	MP3A	Mz	0	1
10	MP3A	Y	-1.35	5
11	MP3A	My	-.000675	5
12	MP3A	Mz	0	5
13	MP2A	Y	-1.222	2
14	MP2A	My	-.000611	2
15	MP2A	Mz	0	2
16	MP2A	Y	-1.222	4
17	MP2A	My	-.000611	4
18	MP2A	Mz	0	4
19	MP1A	Y	-.887	5
20	MP1A	My	.000296	5
21	MP1A	Mz	0	5
22	OVP	Y	-1.365	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-3.375	2
26	MP1A	My	.001	2
27	MP1A	Mz	0	2
28	MP3A	Y	-3.187	2
29	MP3A	My	.001	2
30	MP3A	Mz	0	2
31	MP4A	Y	-.41	1
32	MP4A	My	-.000205	1
33	MP4A	Mz	0	1
34	MP4A	Y	-.41	5

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
35	MP4A	My	-.000205	5
36	MP4A	Mz	0	5

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-3.376	1
2	MP1A	Mx	0	1
3	MP1A	Z	-3.376	5
4	MP1A	Mx	0	5
5	MP3A	Z	-3.376	1
6	MP3A	Mx	0	1
7	MP3A	Z	-3.376	5
8	MP3A	Mx	0	5
9	MP2A	Z	-3.056	2
10	MP2A	Mx	0	2
11	MP2A	Z	-3.056	4
12	MP2A	Mx	0	4
13	MP1A	Z	-2.219	5
14	MP1A	Mx	0	5
15	OVP	Z	-3.413	.5
16	OVP	Mx	0	.5
17	MP1A	Z	-8.437	2
18	MP1A	Mx	0	2
19	MP3A	Z	-7.968	2
20	MP3A	Mx	0	2
21	MP4A	Z	-1.024	1
22	MP4A	Mx	0	1
23	MP4A	Z	-1.024	5
24	MP4A	Mx	0	5

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	3.376	1
2	MP1A	Mx	-.002	1
3	MP1A	X	3.376	5
4	MP1A	Mx	-.002	5
5	MP3A	X	3.376	1
6	MP3A	Mx	-.002	1
7	MP3A	X	3.376	5
8	MP3A	Mx	-.002	5
9	MP2A	X	3.056	2
10	MP2A	Mx	-.002	2
11	MP2A	X	3.056	4
12	MP2A	Mx	-.002	4
13	MP1A	X	2.219	5
14	MP1A	Mx	.00074	5
15	OVP	X	3.413	.5
16	OVP	Mx	0	.5
17	MP1A	X	8.437	2
18	MP1A	Mx	.003	2
19	MP3A	X	7.968	2

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP3A	Mx	.003	2
21	MP4A	X	1.024	1
22	MP4A	Mx	-.000512	1
23	MP4A	X	1.024	5
24	MP4A	Mx	-.000512	5

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Joint Reactions (By Combination)

LC		Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N1	-.003	765.442	1792.327	-.471	1.562	-1.591
2	1	N4	NC	NC	NC	NC	LOCKED	NC
3	1	Totals:	-.003	765.442	1792.327			
4	1	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
5	2	N1	-807.643	765.439	1398.968	-.839	-.77	-.786
6	2	N4	NC	NC	NC	NC	LOCKED	NC
7	2	Totals:	-807.643	765.439	1398.968			
8	2	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
9	3	N1	-1107.771	765.438	639.603	-1.588	-2.15	-.444
10	3	N4	NC	NC	NC	NC	LOCKED	NC
11	3	Totals:	-1107.771	765.438	639.603			
12	3	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
13	4	N1	-1119.92	765.437	-.013	-2.256	-2.701	-.411
14	4	N4	NC	NC	NC	NC	LOCKED	NC
15	4	Totals:	-1119.92	765.437	-.013			
16	4	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
17	5	N1	-1123.094	765.437	-648.477	-2.921	-3.268	-.442
18	5	N4	NC	NC	NC	NC	LOCKED	NC
19	5	Totals:	-1123.094	765.437	-648.477			
20	5	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
21	6	N1	-816.487	765.438	-1414.312	-3.656	-3.207	-.781
22	6	N4	NC	NC	NC	NC	LOCKED	NC
23	6	Totals:	-816.487	765.438	-1414.312			
24	6	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
25	7	N1	.003	765.441	-1792.326	-4.012	-1.552	-1.583
26	7	N4	NC	NC	NC	NC	LOCKED	NC
27	7	Totals:	.003	765.441	-1792.326			
28	7	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
29	8	N1	807.643	765.444	-1398.966	-3.648	.765	-2.373
30	8	N4	NC	NC	NC	NC	LOCKED	NC
31	8	Totals:	807.643	765.444	-1398.966			
32	8	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
33	9	N1	1107.771	765.446	-639.602	-2.913	2.143	-2.703
34	9	N4	NC	NC	NC	NC	LOCKED	NC
35	9	Totals:	1107.771	765.446	-639.602			
36	9	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
37	10	N1	1119.92	765.446	.013	-2.251	2.698	-2.736

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
38	10	N4	NC	NC	NC	NC	LOCKED	NC
39	10	Totals:	1119.92	765.446	.013			
40	10	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
41	11	N1	1123.094	765.446	648.475	-1.586	3.27	-2.706
42	11	N4	NC	NC	NC	NC	LOCKED	NC
43	11	Totals:	1123.094	765.446	648.475			
44	11	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
45	12	N1	816.487	765.445	1414.31	-.84	3.22	-2.38
46	12	N4	NC	NC	NC	NC	LOCKED	NC
47	12	Totals:	816.487	765.445	1414.31			
48	12	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
49	13	N1	0	1545.916	368.767	-4.311	.321	-3.696
50	13	N4	NC	NC	NC	NC	LOCKED	NC
51	13	Totals:	0	1545.916	368.767			
52	13	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
53	14	N1	-167.43	1545.915	290.019	-4.38	-.159	-3.54
54	14	N4	NC	NC	NC	NC	LOCKED	NC
55	14	Totals:	-167.43	1545.915	290.019			
56	14	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
57	15	N1	-235.152	1545.915	135.771	-4.525	-.456	-3.466
58	15	N4	NC	NC	NC	NC	LOCKED	NC
59	15	Totals:	-235.152	1545.915	135.771			
60	15	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
61	16	N1	-242.072	1545.915	-.003	-4.663	-.583	-3.454
62	16	N4	NC	NC	NC	NC	LOCKED	NC
63	16	Totals:	-242.072	1545.915	-.003			
64	16	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
65	17	N1	-238.984	1545.915	-137.989	-4.801	-.695	-3.465
66	17	N4	NC	NC	NC	NC	LOCKED	NC
67	17	Totals:	-238.984	1545.915	-137.989			
68	17	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
69	18	N1	-169.642	1545.915	-293.855	-4.944	-.668	-3.537
70	18	N4	NC	NC	NC	NC	LOCKED	NC
71	18	Totals:	-169.642	1545.915	-293.855			
72	18	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
73	19	N1	0	1545.915	-368.767	-5.012	-.321	-3.692
74	19	N4	NC	NC	NC	NC	LOCKED	NC
75	19	Totals:	0	1545.915	-368.767			
76	19	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
77	20	N1	167.43	1545.916	-290.018	-4.942	.159	-3.847
78	20	N4	NC	NC	NC	NC	LOCKED	NC
79	20	Totals:	167.43	1545.916	-290.018			
80	20	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
81	21	N1	235.152	1545.916	-135.771	-4.798	.456	-3.92
82	21	N4	NC	NC	NC	NC	LOCKED	NC
83	21	Totals:	235.152	1545.916	-135.771			
84	21	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
85	22	N1	242.072	1545.916	.003	-4.661	.583	-3.933
86	22	N4	NC	NC	NC	NC	LOCKED	NC
87	22	Totals:	242.072	1545.916	.003			
88	22	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
89	23	N1	238.984	1545.916	137.989	-4.523	.696	-3.922

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
90	23	N4	NC	NC	NC	NC	LOCKED	NC
91	23	Totals:	238.984	1545.916	137.989			
92	23	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
93	24	N1	169.642	1545.916	293.855	-4.379	.669	-3.85
94	24	N4	NC	NC	NC	NC	LOCKED	NC
95	24	Totals:	169.642	1545.916	293.855			
96	24	COG (ft):	X: -1.329	Y: .98	Z: 2.948			
97	25	N1	0	1515.457	103.237	-4.313	.09	-6.171
98	25	N4	NC	NC	NC	NC	LOCKED	NC
99	25	Totals:	0	1515.457	103.237			
100	25	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
101	26	N1	-46.522	1515.457	80.582	-4.334	-.044	-6.128
102	26	N4	NC	NC	NC	NC	LOCKED	NC
103	26	Totals:	-46.522	1515.457	80.582			
104	26	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
105	27	N1	-63.809	1515.457	36.842	-4.376	-.124	-6.11
106	27	N4	NC	NC	NC	NC	LOCKED	NC
107	27	Totals:	-63.809	1515.457	36.842			
108	27	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
109	28	N1	-64.509	1515.457	0	-4.414	-.156	-6.108
110	28	N4	NC	NC	NC	NC	LOCKED	NC
111	28	Totals:	-64.509	1515.457	0			
112	28	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
113	29	N1	-64.692	1515.457	-37.354	-4.452	-.188	-6.109
114	29	N4	NC	NC	NC	NC	LOCKED	NC
115	29	Totals:	-64.692	1515.457	-37.354			
116	29	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
117	30	N1	-47.031	1515.457	-81.466	-4.494	-.185	-6.127
118	30	N4	NC	NC	NC	NC	LOCKED	NC
119	30	Totals:	-47.031	1515.457	-81.466			
120	30	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
121	31	N1	0	1515.457	-103.237	-4.515	-.09	-6.17
122	31	N4	NC	NC	NC	NC	LOCKED	NC
123	31	Totals:	0	1515.457	-103.237			
124	31	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
125	32	N1	46.522	1515.457	-80.582	-4.494	.044	-6.213
126	32	N4	NC	NC	NC	NC	LOCKED	NC
127	32	Totals:	46.522	1515.457	-80.582			
128	32	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
129	33	N1	63.809	1515.457	-36.842	-4.451	.124	-6.231
130	33	N4	NC	NC	NC	NC	LOCKED	NC
131	33	Totals:	63.809	1515.457	-36.842			
132	33	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
133	34	N1	64.509	1515.457	0	-4.413	.155	-6.233
134	34	N4	NC	NC	NC	NC	LOCKED	NC
135	34	Totals:	64.509	1515.457	0			
136	34	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
137	35	N1	64.692	1515.457	37.354	-4.376	.188	-6.232
138	35	N4	NC	NC	NC	NC	LOCKED	NC
139	35	Totals:	64.692	1515.457	37.354			
140	35	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
141	36	N1	47.031	1515.457	81.466	-4.333	.185	-6.214

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
142 36	N4	NC	NC	NC	NC	LOCKED	NC
143 36	Totals:	47.031	1515.457	81.466			
144 36	COG (ft):	X: -3.013	Y: .496	Z: 2.957			
145 37	N1	0	1515.437	103.237	-4.313	.09	-.153
146 37	N4	NC	NC	NC	NC	LOCKED	NC
147 37	Totals:	0	1515.437	103.237			
148 37	COG (ft):	X: .947	Y: .496	Z: 2.957			
149 38	N1	-46.522	1515.437	80.582	-4.334	-.044	-.106
150 38	N4	NC	NC	NC	NC	LOCKED	NC
151 38	Totals:	-46.522	1515.437	80.582			
152 38	COG (ft):	X: .947	Y: .496	Z: 2.957			
153 39	N1	-63.809	1515.437	36.842	-4.376	-.124	-.087
154 39	N4	NC	NC	NC	NC	LOCKED	NC
155 39	Totals:	-63.809	1515.437	36.842			
156 39	COG (ft):	X: .947	Y: .496	Z: 2.957			
157 40	N1	-64.509	1515.437	0	-4.415	-.156	-.085
158 40	N4	NC	NC	NC	NC	LOCKED	NC
159 40	Totals:	-64.509	1515.437	0			
160 40	COG (ft):	X: .947	Y: .496	Z: 2.957			
161 41	N1	-64.692	1515.437	-37.354	-4.453	-.188	-.087
162 41	N4	NC	NC	NC	NC	LOCKED	NC
163 41	Totals:	-64.692	1515.437	-37.354			
164 41	COG (ft):	X: .947	Y: .496	Z: 2.957			
165 42	N1	-47.031	1515.437	-81.466	-4.495	-.185	-.106
166 42	N4	NC	NC	NC	NC	LOCKED	NC
167 42	Totals:	-47.031	1515.437	-81.466			
168 42	COG (ft):	X: .947	Y: .496	Z: 2.957			
169 43	N1	0	1515.437	-103.237	-4.516	-.09	-.152
170 43	N4	NC	NC	NC	NC	LOCKED	NC
171 43	Totals:	0	1515.437	-103.237			
172 43	COG (ft):	X: .947	Y: .496	Z: 2.957			
173 44	N1	46.522	1515.437	-80.582	-4.495	.044	-.198
174 44	N4	NC	NC	NC	NC	LOCKED	NC
175 44	Totals:	46.522	1515.437	-80.582			
176 44	COG (ft):	X: .947	Y: .496	Z: 2.957			
177 45	N1	63.809	1515.437	-36.842	-4.452	.124	-.218
178 45	N4	NC	NC	NC	NC	LOCKED	NC
179 45	Totals:	63.809	1515.437	-36.842			
180 45	COG (ft):	X: .947	Y: .496	Z: 2.957			
181 46	N1	64.509	1515.437	0	-4.414	.155	-.219
182 46	N4	NC	NC	NC	NC	LOCKED	NC
183 46	Totals:	64.509	1515.437	0			
184 46	COG (ft):	X: .947	Y: .496	Z: 2.957			
185 47	N1	64.692	1515.437	37.354	-4.376	.188	-.218
186 47	N4	NC	NC	NC	NC	LOCKED	NC
187 47	Totals:	64.692	1515.437	37.354			
188 47	COG (ft):	X: .947	Y: .496	Z: 2.957			
189 48	N1	47.031	1515.437	81.466	-4.334	.185	-.199
190 48	N4	NC	NC	NC	NC	LOCKED	NC
191 48	Totals:	47.031	1515.437	81.466			
192 48	COG (ft):	X: .947	Y: .496	Z: 2.957			
193 49	N1	0	1140.443	0	-3.334	0	-2.359

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
194	49	N4	NC	NC	NC	NC	LOCKED	NC
195	49	Totals:	0	1140.443	0			
196	49	COG (ft):	X: -1.017	Y: .659	Z: 2.956			
197	50	N1	0	1140.437	0	-3.334	0	-.009
198	50	N4	NC	NC	NC	NC	LOCKED	NC
199	50	Totals:	0	1140.437	0			
200	50	COG (ft):	X: 1.039	Y: .659	Z: 2.956			
201	51	N1	0	893.015	0	-2.63	0	-1.856
202	51	N4	NC	NC	NC	NC	LOCKED	NC
203	51	Totals:	0	893.015	0			
204	51	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
205	52	N1	0	792.657	68.042	-2.268	.059	-1.647
206	52	N4	NC	NC	NC	NC	LOCKED	NC
207	52	Totals:	0	792.657	68.042			
208	52	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
209	53	N1	-34.019	792.657	58.924	-2.277	-.032	-1.614
210	53	N4	NC	NC	NC	NC	LOCKED	NC
211	53	Totals:	-34.019	792.657	58.924			
212	53	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
213	54	N1	-58.922	792.657	34.021	-2.301	-.113	-1.59
214	54	N4	NC	NC	NC	NC	LOCKED	NC
215	54	Totals:	-58.922	792.657	34.021			
216	54	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
217	55	N1	-68.039	792.657	0	-2.335	-.165	-1.581
218	55	N4	NC	NC	NC	NC	LOCKED	NC
219	55	Totals:	-68.039	792.657	0			
220	55	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
221	56	N1	-58.922	792.657	-34.022	-2.368	-.172	-1.59
222	56	N4	NC	NC	NC	NC	LOCKED	NC
223	56	Totals:	-58.922	792.657	-34.022			
224	56	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
225	57	N1	-34.019	792.657	-58.925	-2.392	-.133	-1.614
226	57	N4	NC	NC	NC	NC	LOCKED	NC
227	57	Totals:	-34.019	792.657	-58.925			
228	57	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
229	58	N1	0	792.657	-68.042	-2.401	-.059	-1.647
230	58	N4	NC	NC	NC	NC	LOCKED	NC
231	58	Totals:	0	792.657	-68.042			
232	58	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
233	59	N1	34.019	792.658	-58.924	-2.392	.032	-1.68
234	59	N4	NC	NC	NC	NC	LOCKED	NC
235	59	Totals:	34.019	792.658	-58.924			
236	59	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
237	60	N1	58.922	792.658	-34.021	-2.368	.113	-1.704
238	60	N4	NC	NC	NC	NC	LOCKED	NC
239	60	Totals:	58.922	792.658	-34.021			
240	60	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
241	61	N1	68.039	792.658	0	-2.334	.165	-1.713
242	61	N4	NC	NC	NC	NC	LOCKED	NC
243	61	Totals:	68.039	792.658	0			
244	61	COG (ft):	X: -1.025	Y: .982	Z: 2.955			
245	62	N1	58.922	792.658	34.022	-2.301	.172	-1.704

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
246	62	N4	NC	NC	NC	LOCKED	NC
247	62	Totals:	58.922	792.658	34.022		
248	62	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
249	63	N1	34.019	792.658	58.925	-2.277	.133
250	63	N4	NC	NC	NC	LOCKED	NC
251	63	Totals:	34.019	792.658	58.925		
252	63	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
253	64	N1	0	546.865	68.042	-1.543	.059
254	64	N4	NC	NC	NC	LOCKED	NC
255	64	Totals:	0	546.865	68.042		
256	64	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
257	65	N1	-34.019	546.865	58.924	-1.552	-.032
258	65	N4	NC	NC	NC	LOCKED	NC
259	65	Totals:	-34.019	546.865	58.924		
260	65	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
261	66	N1	-58.922	546.865	34.021	-1.577	-.113
262	66	N4	NC	NC	NC	LOCKED	NC
263	66	Totals:	-58.922	546.865	34.021		
264	66	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
265	67	N1	-68.039	546.865	0	-1.61	-.165
266	67	N4	NC	NC	NC	LOCKED	NC
267	67	Totals:	-68.039	546.865	0		
268	67	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
269	68	N1	-58.922	546.865	-34.022	-1.644	-.172
270	68	N4	NC	NC	NC	LOCKED	NC
271	68	Totals:	-58.922	546.865	-34.022		
272	68	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
273	69	N1	-34.019	546.865	-58.925	-1.668	-.133
274	69	N4	NC	NC	NC	LOCKED	NC
275	69	Totals:	-34.019	546.865	-58.925		
276	69	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
277	70	N1	0	546.865	-68.042	-1.677	-.059
278	70	N4	NC	NC	NC	LOCKED	NC
279	70	Totals:	0	546.865	-68.042		
280	70	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
281	71	N1	34.019	546.866	-58.924	-1.668	.032
282	71	N4	NC	NC	NC	LOCKED	NC
283	71	Totals:	34.019	546.866	-58.924		
284	71	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
285	72	N1	58.922	546.866	-34.021	-1.643	.113
286	72	N4	NC	NC	NC	LOCKED	NC
287	72	Totals:	58.922	546.866	-34.021		
288	72	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
289	73	N1	68.039	546.866	0	-1.61	.165
290	73	N4	NC	NC	NC	LOCKED	NC
291	73	Totals:	68.039	546.866	0		
292	73	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
293	74	N1	58.922	546.866	34.022	-1.577	.172
294	74	N4	NC	NC	NC	LOCKED	NC
295	74	Totals:	58.922	546.866	34.022		
296	74	COG (ft):	X: -1.025	Y: .982	Z: 2.955		
297	75	N1	34.019	546.866	58.925	-1.552	.133

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
298	75	N4	NC	NC	NC	NC	LOCKED	NC
299	75	Totals:	34.019	546.866	58.925			
300	75	COG (ft):	X: -1.025	Y: .982	Z: 2.955			

Structure: 5000385115-VZW - East_Haven_Cosey_Beach_CT

Sector: A

1/11/2024

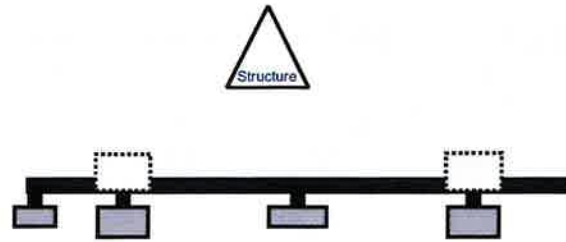
Structure Type: Monopole

10218951

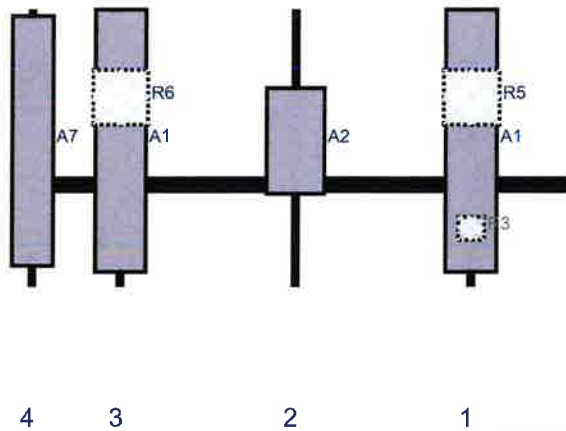


Mount Elev: 53.00

Page: 1



Plan View



Front View - Looking at Structure

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	JAHH-65B-R3B	72	13.8	122.5	1	a	Front	36	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	122.5	1	a	Behind	60	0	Added	
R5	RF4461d-13A	15	15	122.5	1	a	Behind	24	0	Added	
A2	MT6413-77A	28.9	15.8	74.5	2	a	Front	36	0	Added	
A1	JAHH-65B-R3B	72	13.8	26.5	3	a	Front	36	0	Added	
R6	RF4439d-25A	15	15	26.5	3	a	Behind	24	0	Added	
A7	BXA-80063-6BF	68.6	11.2	2.5	4	a	Front	36	0	Retained	01/27/2021
OVP	DB-B1-6C-12AB-0Z	28.9	15.7		Member					Added	

Sector: B

1/11/2024

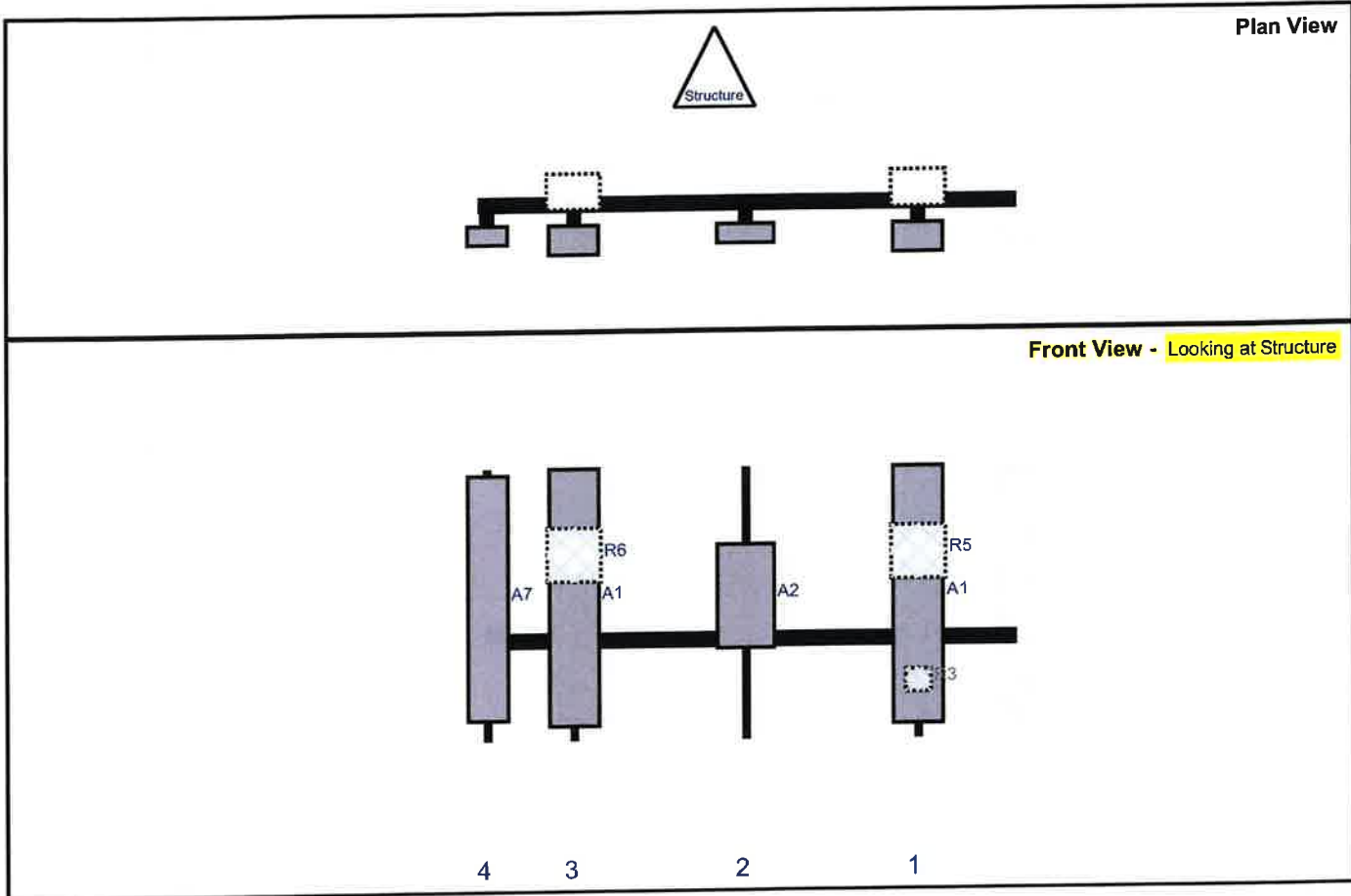
Structure Type: Monopole

10218951



Mount Elev: 53.00

Page: 2



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	JAHH-65B-R3B	72	13.8	122.5	1	a	Front	36	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	122.5	1	a	Behind	60	0	Added	
R5	RF4461d-13A	15	15	122.5	1	a	Behind	24	0	Added	
A2	MT6413-77A	28.9	15.8	74.5	2	a	Front	36	0	Added	
A1	JAHH-65B-R3B	72	13.8	26.5	3	a	Front	36	0	Added	
R6	RF4439d-25A	15	15	26.5	3	a	Behind	24	0	Added	
A7	BXA-80063-6BF	68.6	11.2	2.5	4	a	Front	36	0	Retained	01/27/2021

Structure: 5000385115-VZW - East_Haven_Cosey_Beach_CT

Sector: C

1/11/2024

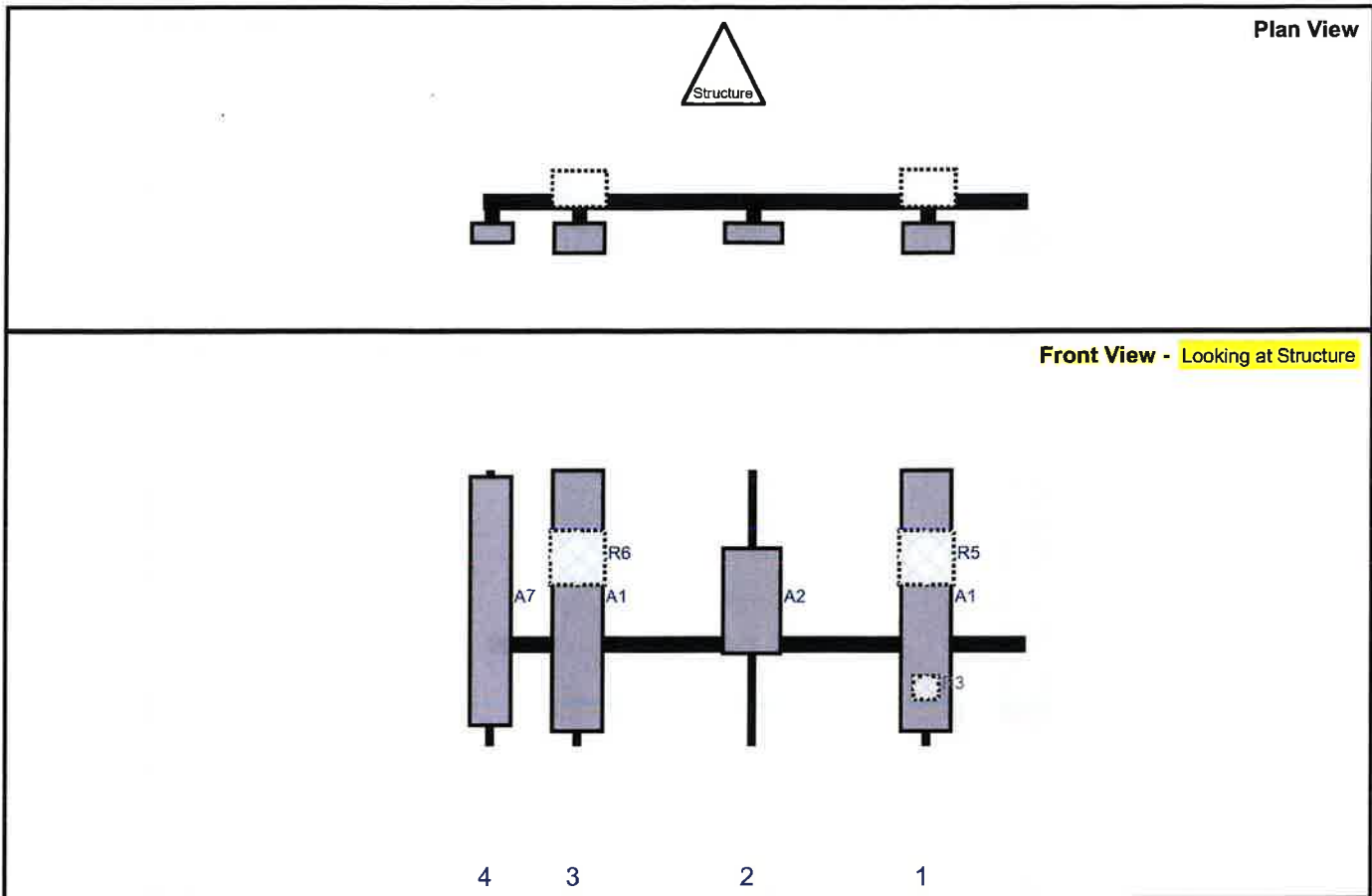
Structure Type: Monopole

10218951



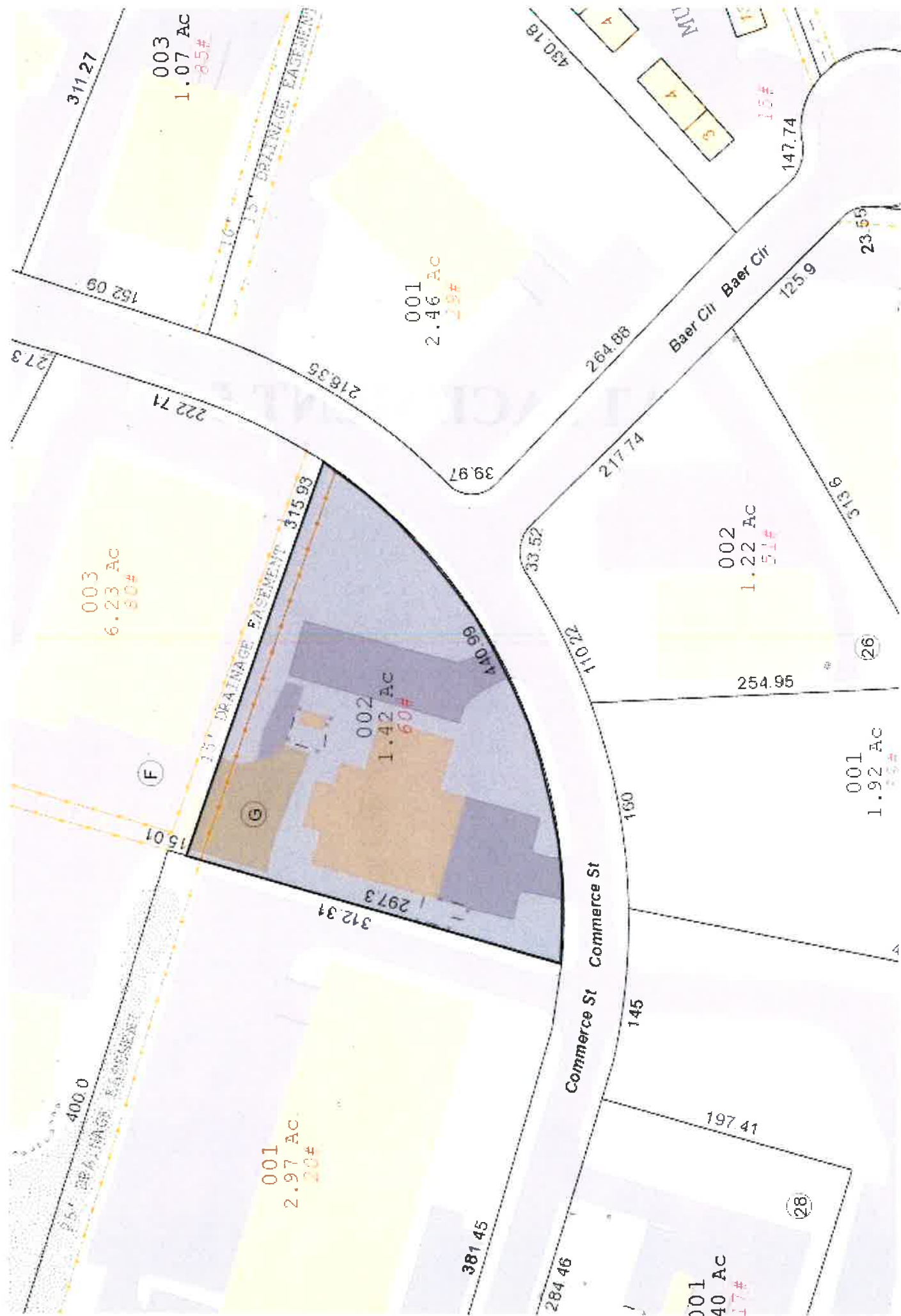
Mount Elev: 53.00

Page: 3



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	JAHH-65B-R3B	72	13.8	122.5	1	a	Front	36	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	122.5	1	a	Behind	60	0	Added	
R5	RF4461d-13A	15	15	122.5	1	a	Behind	24	0	Added	
A2	MT6413-77A	28.9	15.8	74.5	2	a	Front	36	0	Added	
A1	JAHH-65B-R3B	72	13.8	26.5	3	a	Front	36	0	Added	
R6	RF4439d-25A	15	15	26.5	3	a	Behind	24	0	Added	
A7	BXA-80063-6BF	68.6	11.2	2.5	4	a	Front	36	0	Retained	01/27/2021

ATTACHMENT 5





Town of East Haven, CT

Property Listing Report

Map Block Lot

060 0610 002

Building # 1

Unique Identifier

P0294950

Property Information

Property Location	60 COMMERCE ST
Mailing Address	60 COMMERCE ST EAST HAVEN CT 06512
Land Use	Commercial Garage
Zoning Code	LI-2
Neighborhood	IS1

Owner	PERRELLI ASSOCIATES LLC
Co-Owner	
Book / Page	1267/0276
Land Class	Commercial
Census Tract	1801000
Acreage	1.42

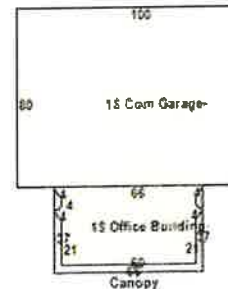
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	568973	398280
Outbuildings	42490	29740
Land	166800	116760
Total	778263	544780

Utility Information

Electric	No
Gas	No
Sewer	Yes
Public Water	Yes
Well	No



Primary Construction Details

Year Built	1989
Building Desc.	Commercial
Building Style	
Stories	1
Exterior Walls	Metal
Exterior Walls 2	Concrete Block
Interior Walls	
Interior Walls 2	
Interior Floors 1	Carpet
Interior Floors 2	

Heating Fuel	Oil
Heating Type	FHA
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	10
Total Rooms	0
Bath Style	NA
Kitchen Style	
Occupancy	0

Livable Area (ft)	10199
Building Use	Commercial
Building Condition	Average
Frame Type	Average
Building Grade	5
Fireplaces	0
Wood Stoves	0
Attic Access	
Roof Style	
Roof Cover	

Bsmt Area	0
Fin Bsmt Area	0
Fin Bsmt Quality	
Bsmt Access	
Bsmt Gar	0
Bsmt Sump Pump	No

Report Created On

1/21/2022

ATTACHMENT 6



Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103		TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here <i>Postmark with Date of Receipt.</i>			
Postmaster, per (name of receiving employee)		3					
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airift
1.		Joseph Carfora, Mayor Town of East Haven 250 Main Street East Haven, CT 06512					
2.		Joseph Budrow, Zoning Enforcement Officer Town of East Haven 250 Main Street East Haven, CT 06512					
3.		Perrelli Associates LLC 60 Commerce Street East Haven, CT 06512					
4.							
5.							
6.							