Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts
and New York

January 9, 2022

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**
Town of Killingly Town Hall
172 Main Street, Killingly, 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 a pipe-mounted cannister antenna on the roof of the Killingly Town Hall building, a remote radio head ("RRH") attached to the façade of the building and associated equipment located inside the building. The cannister antenna is concealed within a faux smoke stack extending to a height of 67.4 feet above ground level. The facility was approved by the Siting Council in February of 2015 (Petition No. 1132). A copy of the Council's Petition No. 1132 Staff Report is included in Attachment 1.

Cellco now intends to modify its facility by removing the existing antenna and installing a new model cannister antenna in the same location and in the same screening should. Cellco also intends to replace its wall mounted RRH with a new model RRH. 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 Killingly's Chief Elected Official

and Land Use Officer. The Town of Killingly is the owner of the Property.

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

1. The proposed modifications will not result in an increase in the height of the existing antenna. Cellco's new antenna will be installed on the existing pipe mount within the faux smoke stack screening shroud. The RRH will be installed on the façade of the building.

2. The proposed modifications will not involve any change to any of the equipment inside the building 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 antenna will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Cellco's Far Field calculations are included in Attachment 3. The modified facility will not 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 engineer's Structural Analysis Report, the existing mounts and the existing building have adequate capacity to support Cellco's proposed facility modifications. A copy of the engineer's Structural Analysis Report is 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 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:
Mary Calorio, Killingly Town Manager
Ann-Marie Aubrey, Director of Planning & Development
Elizabeth Glidden

ATTACHMENT 1

Petition No. 1132
Cellco Partnership d/b/a Verizon Wireless
172 Main Street, Killingly
Staff Report
February 19, 2015

On January 8, 2015, the Connecticut Siting Council (Council) received a petition from Cellco Partnership d/b/a Verizon Wireless (Cellco) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed installation of a small cell telecommunications facility at 172 Main Street, Killingly. Cellco is currently experiencing coverage gaps in its 2100 MHz service along portions of I-395, Route 12 (Main Street), and in the downtown Danielson area. In addition, the downtown Danielson area has been identified as a data traffic concentration area that contributes to an existing capacity problem. In an effort to resolve this coverage and capacity problem and provide customers with improved wireless services in the area, Cellco proposes to install a small cell facility.

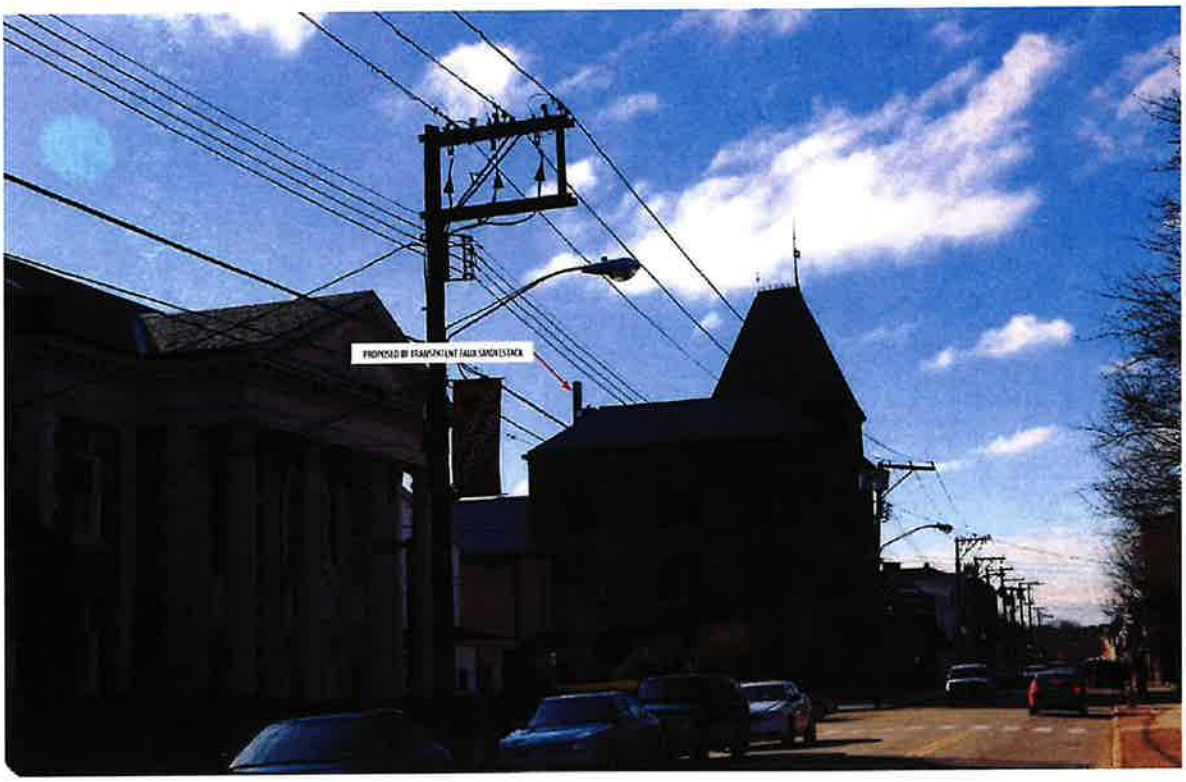
Specifically, Cellco would install a single canister-type antenna at the top of a small mast structure attached to an existing chimney on the Killingly Town Hall building. The mast and antenna would be enclosed by a faux flue pipe made of RF transparent material. The faux flue pipe would extend approximately 6-foot 2-inches taller than the existing chimney and would reach a total height of 67.4 feet above ground level (AGL). The highest part of the roof of the existing building is 82.3 feet AGL with a weathervane extending to 97.1 feet AGL. One remote radio head would attach to an outside wall on the rear of the building. An equipment cabinet would be located inside the building in an equipment room located in the basement. Power and telephone service would be run overhead from an existing pole on the same side of Main Street.

The maximum worst-case power density would be 19.4 percent of the applicable limit. No marking or lighting of the facility is required for the Federal Aviation Administration (FAA), but notice to the FAA would be required.

The visual impact of the project is expected to be negligible as the stealth design is intended to look like a flue pipe from the building's heating system. Furthermore, the existing chimney and proposed faux flue pipe facility are not located on the highest section of the roof and would not be tallest objects on the roof. See the photo-simulation on the next page.

Notice was provided to abutting property owners, the Town of Killingly, as well as the Town of Brooklyn (located within 2,500 feet of the project). No comments have been received to date.

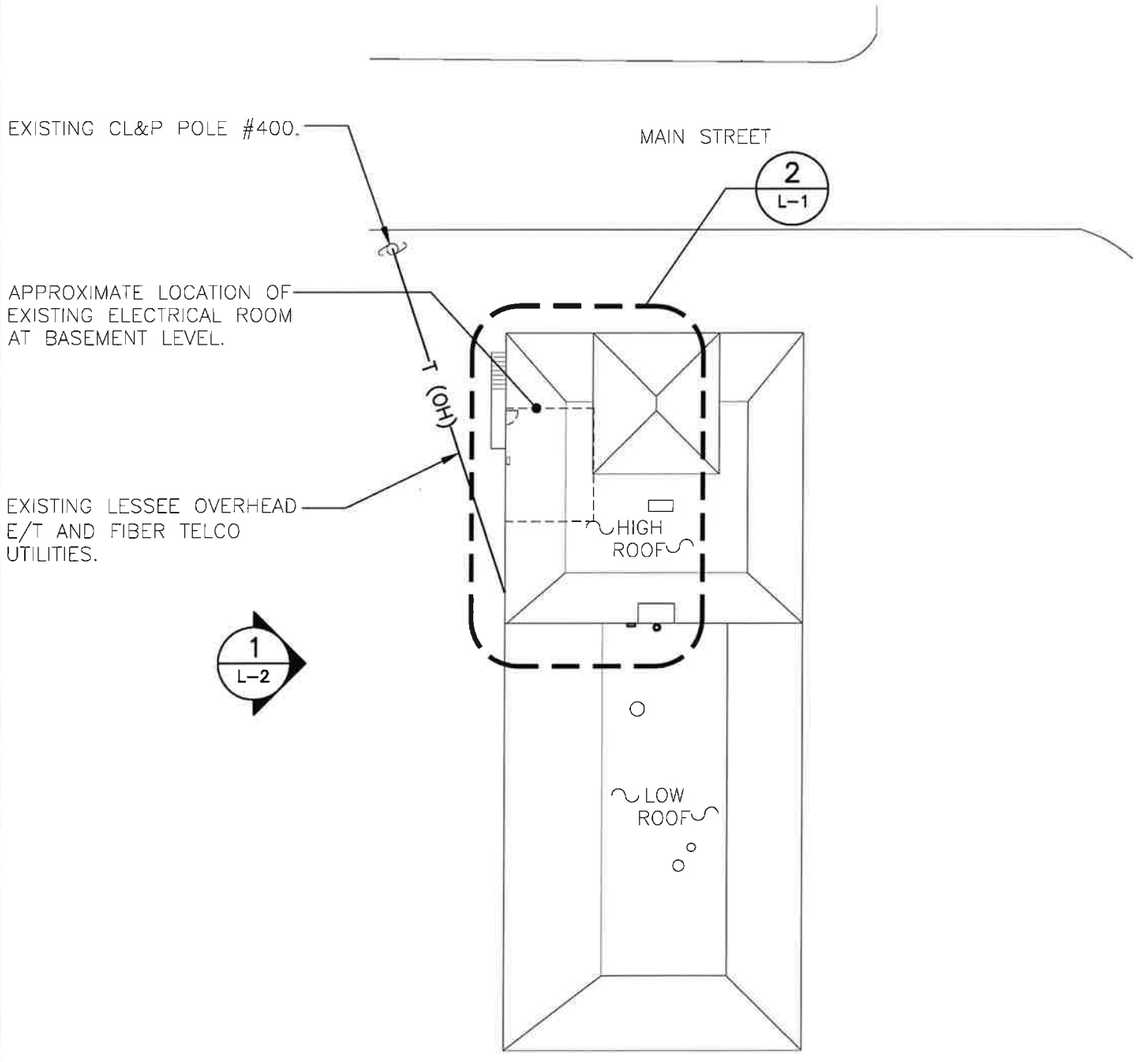
Cellco contends that this proposed project would not have a substantial adverse environmental impact.


PROPOSED BY TRANSMITNET FALSE SMOKESTACK

ATTACHMENT 2

WORK SCOPE NOTE:

THE PROPOSED LESSEE FACILITY UPGRADE TO CONSIST OF THE REPLACEMENT OF A TOTAL OF (1) ANTENNA AND (1) REMOTE RADIO HEAD (RRH), AT THEIR RESPECTIVE EXISTING LOCATIONS, PLUS (1) DIPLEXER ATTACHED TO THE EXISTING RRH MOUNTING MAST.

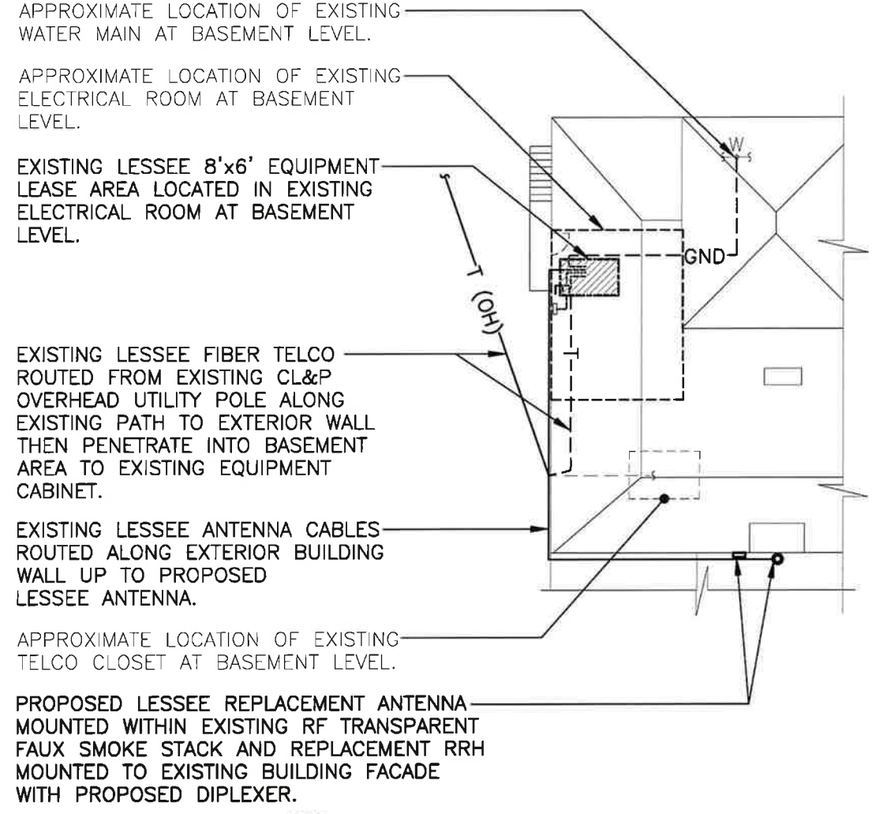


LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

SITE COORDINATES:	LAT.: 41°-48'-20.852" LNG.: 71°-52'-57.264"
GROUND ELEVATION:	234.2'± A.M.S.L.

COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A SURVEY CERTIFICATION AS PREPARED BY MARTINEZ COUCH AND ASSOCIATES, DATED DECEMBER 2, 2014.



1 / L-1 **PARTIAL SITE/ROOF PLAN**
SCALE: 1" = 30'

APPROXIMATE NORTH

30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

2 / L-1 **PARTIAL SITE/ROOF PLAN**
SCALE: 1" = 20'

REV.	DESCRIPTION	DATE	BY
B	LEASE EXHIBIT - REVISED PER CLIENT COMMENTS	06/23/22	DMD
A	LEASE EXHIBIT - ISSUED FOR CLIENT REVIEW	06/11/22	DMD

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

verizon

Cellco Partnership d/b/a Verizon Wireless

DANIELSON SC2 CT

172 MAIN STREET
KILLINGLY, CT 06239

DATE: 06/10/2022
SCALE: AS SHOWN
JOB NO. 22105.07

SHEET NO.
L-1

LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.

1 / L-2 **SOUTHWEST ELEVATION**

SCALE: 1" = 20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

REV.	DESCRIPTION		
A	LEASE EXHIBIT - ISSUED FOR CLIENT REVIEW	DMD	TJL
B	LEASE EXHIBIT - REVISED PER CLIENT COMMENTS	DMD	TJL

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

DANIELSON SC2 CT

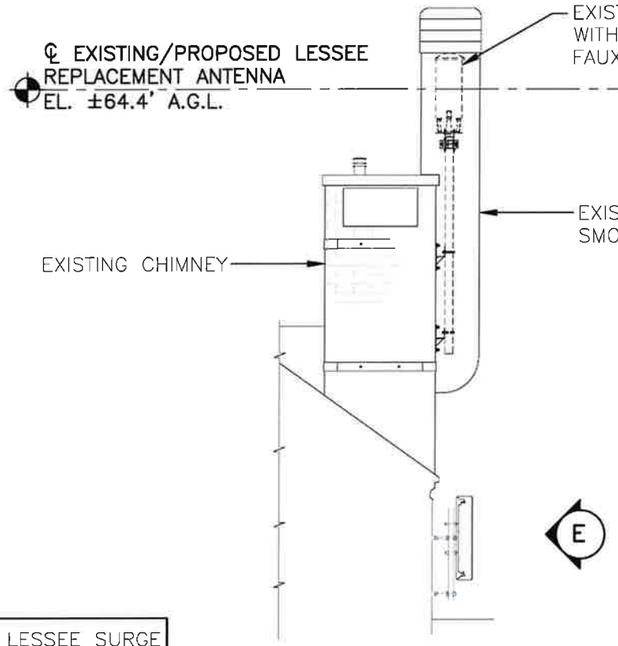
172 MAIN STREET
KILLINGLY, CT 06239

DATE: 08/10/2022
SCALE: AS SHOWN
JOB NO. 22105.07

SHEET NO.
L-2

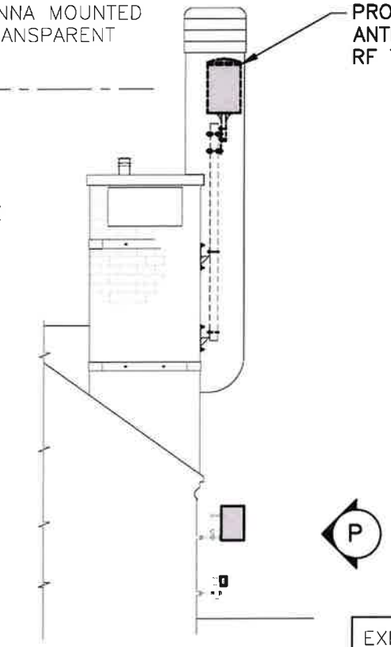
LEASE EXHIBIT

THIS LEASE PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATION FACILITY. THE SITE LAYOUT WILL BE FINALIZED UPON COMPLETION OF SITE SURVEY AND FACILITY DESIGN.



EXISTING LESSEE SURGE ARRESTOR NOT SHOWN FOR CLARITY

EXISTING CONDITION

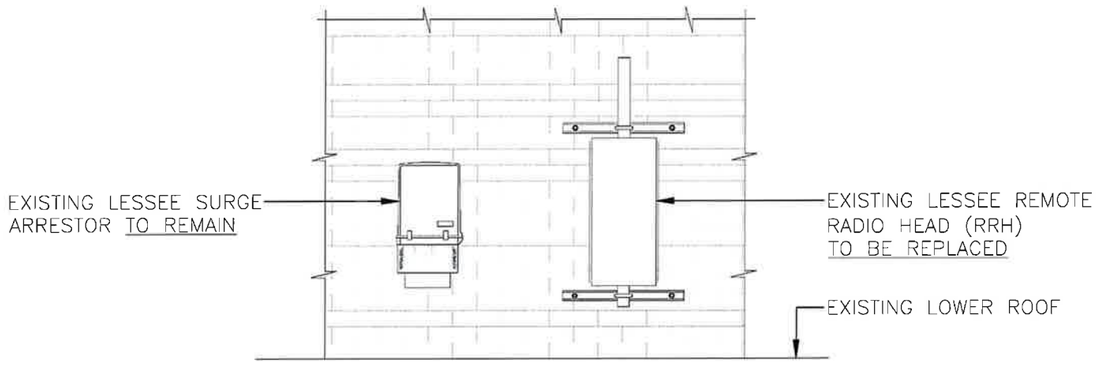


EXISTING LESSEE SURGE ARRESTOR NOT SHOWN FOR CLARITY

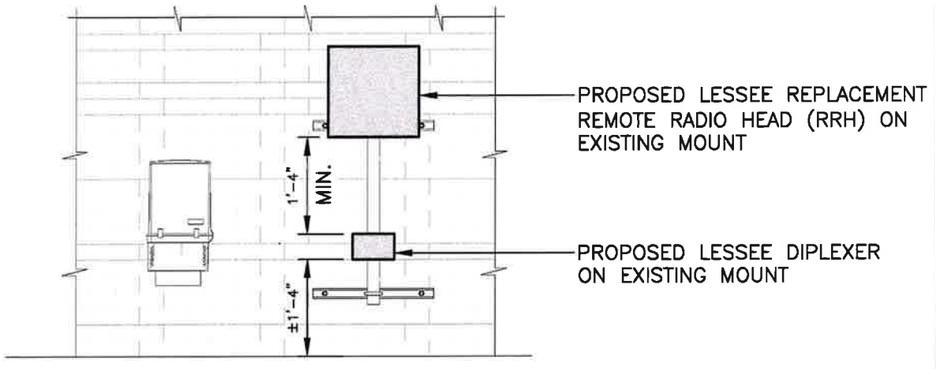
PROPOSED CONDITION

1 / L-3 PARTIAL BUILDING ELEVATIONS

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



EXISTING CONDITION ("E")



PROPOSED CONDITION ("P")

2 / L-3 PARTIAL BUILDING ELEVATIONS

SCALE: 1/2" = 1'- 0"

REV.	DESCRIPTION		
B	08/23/22	DMD	T/L LEASE EXHIBIT – REVISED PER CLIENT COMMENTS
A	08/11/22	DMD	T/L LEASE EXHIBIT – ISSUED FOR CLIENT REVIEW

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

DANIELSON SC2 CT

172 MAIN STREET
KILLINGLY, CT 06239

DATE: 08/10/2022
SCALE: AS SHOWN
JOB NO. 22105.07

SHEET NO.
L-3

Amphenol ANTENNA SOLUTIONS

696-960 / 1695-2700 / 1695-2700 MHz

CUUD120X06Fxyz0

TRI BAND | BROAD-BEAM 120°, HEART-SHAPE | CANISTER ANTENNA | X-POL | FIXED TILT | 610 MM (24.0 IN)

Features

- Broad-Beam 120°, Heart-Shape configuration with 6 connectors
- Ideal for Small Cell / DAS applications
- Available with 4.3-10 *or* 7/16-DIN connectors
- Four unique mounting options
- Available for order with a grey, brown or black radome

Connector Description

The antenna has 6 connectors located at the bottom.

Low Band	R1	696-960 MHz	(2x) 4.3-10 *or* 7/16-DIN Female
Mid Band #1	Y1	1695-2700 MHz	(2x) 4.3-10 *or* 7/16-DIN Female
Mid Band #2	Y2	1695-2700 MHz	(2x) 4.3-10 *or* 7/16-DIN Female

Electrical Characteristics

	R1		Y1 Y2			
Frequency Bands (MHz)	696-960 MHz		(2x) 1695-2700 MHz			
	696-806	806-960	1695-1880	1850-1990	1920-2180	2200-2700
Polarization	±45°		±45°			
Horizontal Beamwidth	130°	120°	130°	125°	120°	115°
Vertical Beamwidth	45°	36°	19°	18°	16°	21°
Gain	6.5 dBi	7.1 dBi	10.9 dBi	11.1 dBi	11.3 dBi	11.6 dBi
Electrical Downtilt (°)	(x) 0, 5		(y) 0, 6			
Impedance	50Ω		50Ω			
VSWR	≤ 1.5:1		≤ 1.5:1			
Upper Sidelobe Suppression	N/A		> 15 dB			
Front-to-Back Ratio	> 11 dB		> 13 dB			
Isolation Between Ports	20 dB		28 dB			
IM3 (2x20W carrier)	< -153 dBc		< -153 dBc			
Input Power	(2x) 500 W		(4x) 300 W			
Diplexed	No					
Number of Sectors, Sector Spacing and/or Pattern Shape	1 Sector, Heart-Shape					
Lightning Protection	Direct Ground					

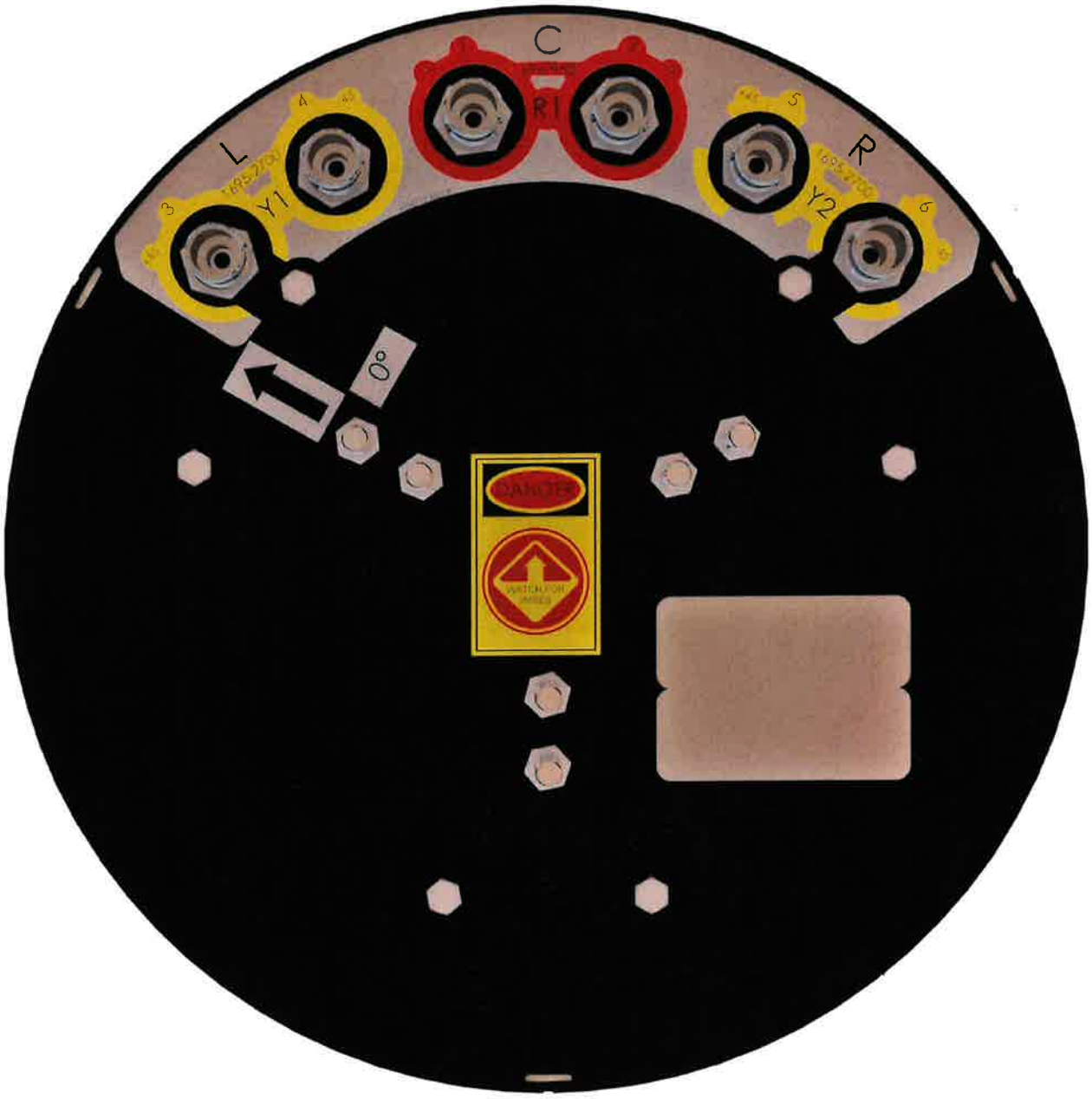
Mechanical Characteristics

Antenna Dimensions (Height x Diameter)	610 x 371	mm	24.0 x 14.6	in
Weight without Mounting Bracket Kit	13	kg	28	lbs
Antenna Volume	0.07	m^3	2.3	ft^3
Survival Wind Speed	241	km/hr	150	mph
Wind Area	0.22	m^2	2.4	ft^2
Wind Load (160 km/hr or 100 mph)	191	N	43	lbf

CUUD120X06Fxyz0

TRI BAND | BROAD-BEAM 120°, HEART-SHAPE | CANISTER ANTENNA | X-POL | FIXED TILT | 610 MM (24.0 IN)

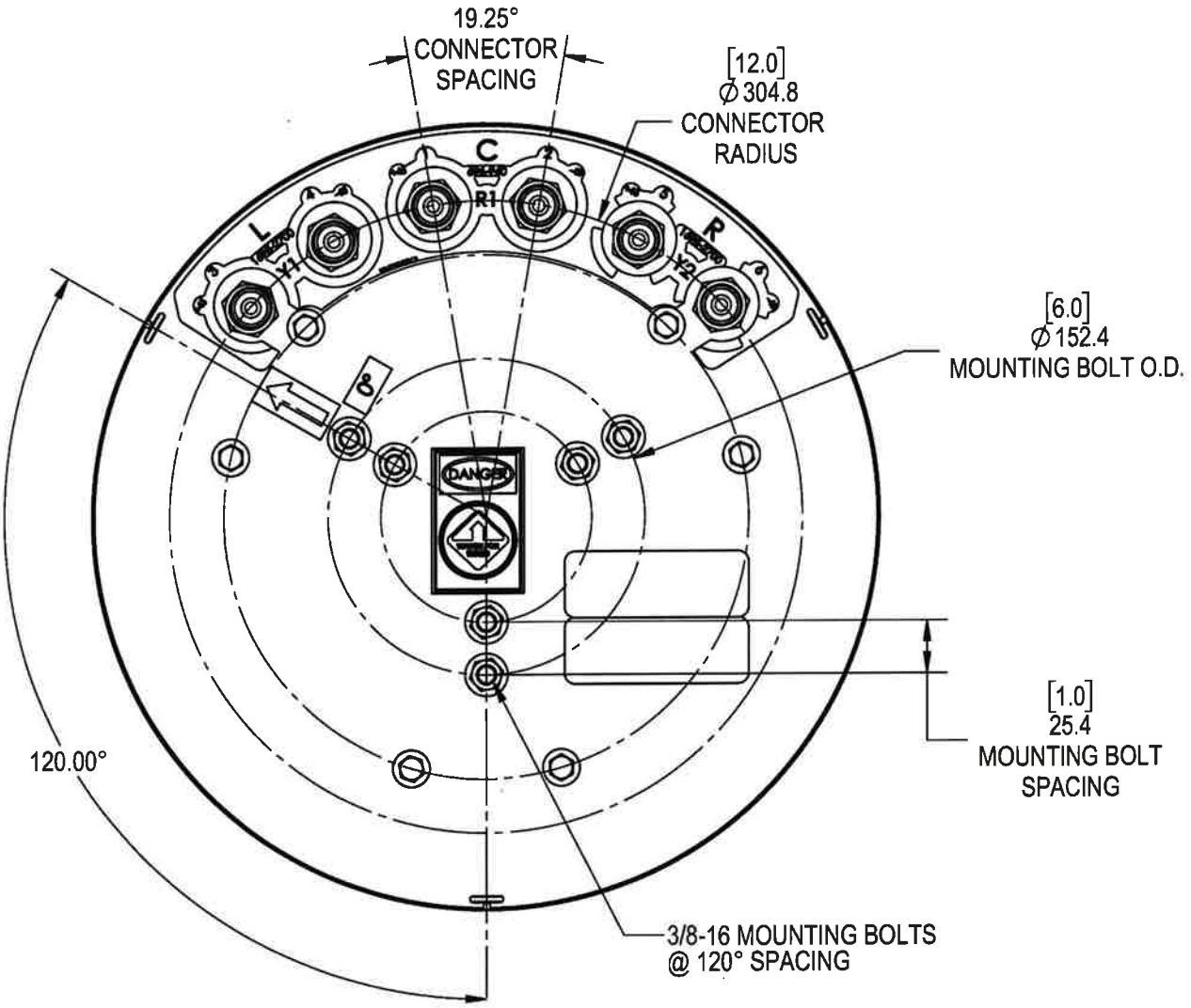
Bottom View - Connector Diagram



CUUD120X06Fxyz0

TRI BAND | BROAD-BEAM 120°, HEART-SHAPE | CANISTER ANTENNA | X-POL | FIXED TILT | 610 MM (24.0 IN)

Bottom View - Connector Diagram



CUUD120X06Fxyz0

TRI BAND | BROAD-BEAM 120°, HEART-SHAPE | CANISTER ANTENNA | X-POL | FIXED TILT | 610 MM (24.0 IN)

Ordering Options

When ordering, select the Radome Color, Degree of Electrical Downtilt for the Low (**x**) and Mid Bands (**y**) and the Connector Type (**z**).

Radome Color	Electrical Downtilt Degree		Connector Type (z)	
	Low Band R1 (x)	Mid Band Y1 Y2 (y)	4.3-10 Female	7/16-DIN Female
Grey Pantone 420 C	0°	0°	CUUD120X06F**00s**0	CUUD120X06F**00D**0
	0°	6°	CUUD120X06F**06s**0	CUUD120X06F**06D**0
	5°	0°	CUUD120X06F**50s**0	CUUD120X06F**50D**0
	5°	6°	CUUD120X06F**56s**0	CUUD120X06F**56D**0
Brown Pantone 476 C	0°	0°	CUUD120X06F**00s**0**BR**	CUUD120X06F**00D**0**BR**
	0°	6°	CUUD120X06F**06s**0**BR**	CUUD120X06F**06D**0**BR**
	5°	0°	CUUD120X06F**50s**0**BR**	CUUD120X06F**50D**0**BR**
	5°	6°	CUUD120X06F**56s**0**BR**	CUUD120X06F**56D**0**BR**
Black RAL 9011	0°	0°	CUUD120X06F**00s**0**BK**	CUUD120X06F**00D**0**BK**
	0°	6°	CUUD120X06F**06s**0**BK**	CUUD120X06F**06D**0**BK**
	5°	0°	CUUD120X06F**50s**0**BK**	CUUD120X06F**50D**0**BK**
	5°	6°	CUUD120X06F**56s**0**BK**	CUUD120X06F**56D**0**BK**

CUUD120X06Fxyz0

TRI BAND | BROAD-BEAM 120°, HEART-SHAPE | CANISTER ANTENNA | X-POL | FIXED TILT | 610 MM (24.0 IN)

Mounting Kits

This antenna can be mounted using any of the following mounting kits. Mounting kits must be ordered separately.

Side Mounting Bracket Kit	Top Mounting Bracket Kit	Utility Pole Mounting Bracket Kit	Wide Diameter Pole Top Mounting Bracket Kit
CWT-MKS-SIDE	CWT-MKS-TOP	WB3X-MKS-01	CWT-MKS-BASE-xx
			

SAMSUNG

Dual-Band Radio Unit
AWS/PCS (B66/B2)
RFV01U-D1A

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

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

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

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

Features and Benefits

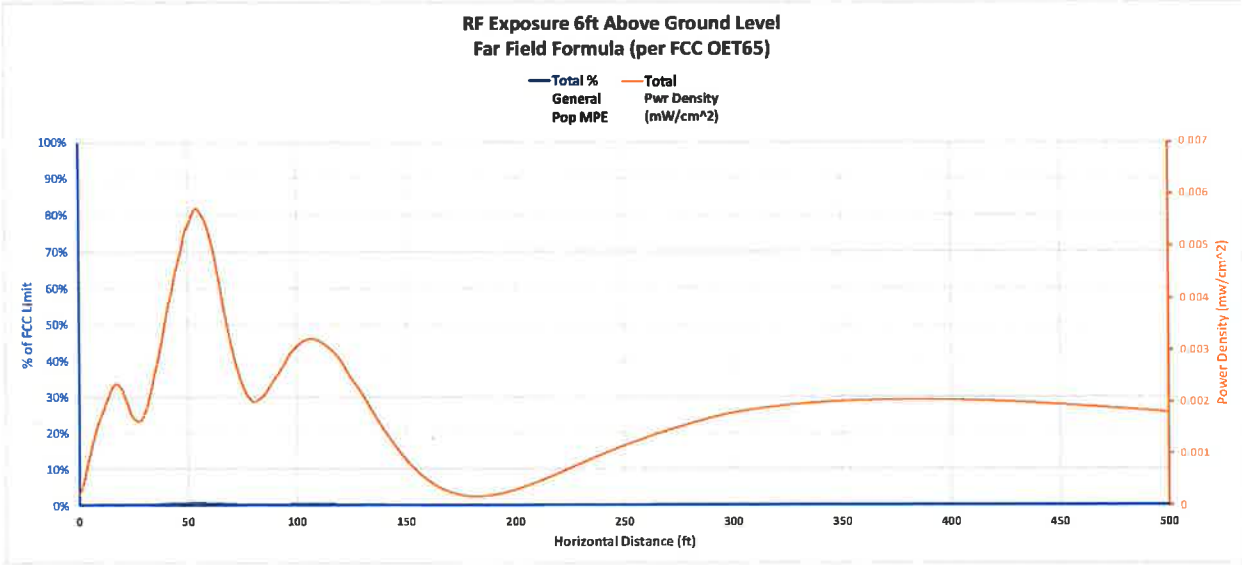
- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation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

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)
B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)
Instantaneous Bandwidth:
70MHz(B66) + 60MHz(B2)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 255mm (36.8L)
Weight: 38.3kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

ATTACHMENT 3

Location	DANIELSON SC 2 CT					
Date	11/21/2022					
Band	C-Band	AWS	PCS	850-LTE	850-CDMA	700
Operating Frequency (MHz)	3,700	2,145	1,970	880	869	746
General Population MPE (mW/cm^2)	1	1	1	0.586666667	0.579333333	0.497333333
ERP Per Transmitter (Watts)	0	312	298	0	0	0
Number of Transmitters	0	4	4	0	0	0
Antenna Centerline (feet)	64	64	64	64	64	64
Total ERP (Watts)	0	1,250	1,194	0	0	0
Total ERP (dBm)	#N/A	61	61	#N/A	#N/A	#N/A
Maximum % of General Population Limit	8.6%					



Angle Below Horizon	Power Density (mW/cm^2) C-Band	AWS	PCS	850-LTE	850-CDMA	700 MHz	Percent of General Population MPE 39GHz	28GHz	C-Band	CBRS	AWS	PCS	Cellular	CDMA	700 MHz	Distance	Total Pwr Density (mW/cm^2)	Total % General Pop MPE
90	0	0.000119081	7.01208E-05	0	0	0	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0	0.000189202	0.02%
89	0	0.000206876	8.4278E-05	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.00%	1.012393766	0.000291154	0.03%
88	0	0.000327577	0.000106003	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.01%	0.00%	0.00%	0.00%	2.025404631	0.000433579	0.04%
87	0	0.000483784	0.000130213	0	0	0	0.00%	0.00%	0.00%	0.00%	0.05%	0.01%	0.00%	0.00%	0.00%	3.039651198	0.000613997	0.06%
86	0	0.000651214	0.000152661	0	0	0	0.00%	0.00%	0.00%	0.00%	0.07%	0.02%	0.00%	0.00%	0.00%	4.055755093	0.000803875	0.08%
85	0	0.000817581	0.000170819	0	0	0	0.00%	0.00%	0.00%	0.00%	0.08%	0.02%	0.00%	0.00%	0.00%	5.074342485	0.000988399	0.10%
84	0	0.00097965	0.000195468	0	0	0	0.00%	0.00%	0.00%	0.00%	0.10%	0.02%	0.00%	0.00%	0.00%	6.096045645	0.001175118	0.12%
83	0	0.001120324	0.000218448	0	0	0	0.00%	0.00%	0.00%	0.00%	0.11%	0.02%	0.00%	0.00%	0.00%	7.121504532	0.001338772	0.13%
82	0	0.001251261	0.000249662	0	0	0	0.00%	0.00%	0.00%	0.00%	0.13%	0.02%	0.00%	0.00%	0.00%	8.151368413	0.001500923	0.15%
81	0	0.001333774	0.000291801	0	0	0	0.00%	0.00%	0.00%	0.00%	0.13%	0.03%	0.00%	0.00%	0.00%	9.186297539	0.001625574	0.16%
80	0	0.001388498	0.000348778	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.03%	0.00%	0.00%	0.00%	10.22696488	0.001737276	0.17%
79	0	0.001444559	0.000407136	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.04%	0.00%	0.00%	0.00%	11.27405793	0.001851696	0.19%
78	0	0.001501935	0.000474958	0	0	0	0.00%	0.00%	0.00%	0.00%	0.15%	0.05%	0.00%	0.00%	0.00%	12.32828058	0.001976893	0.20%
77	0	0.001560595	0.000528804	0	0	0	0.00%	0.00%	0.00%	0.00%	0.16%	0.05%	0.00%	0.00%	0.00%	13.39035509	0.002089398	0.21%
76	0	0.001620505	0.000574983	0	0	0	0.00%	0.00%	0.00%	0.00%	0.16%	0.06%	0.00%	0.00%	0.00%	14.46102416	0.002195488	0.22%
75	0	0.001681628	0.000610568	0	0	0	0.00%	0.00%	0.00%	0.00%	0.17%	0.06%	0.00%	0.00%	0.00%	15.54105316	0.002292196	0.23%
74	0	0.001743916	0.000604686	0	0	0	0.00%	0.00%	0.00%	0.00%	0.17%	0.06%	0.00%	0.00%	0.00%	16.63123237	0.002348602	0.23%
73	0	0.0017618	0.000584843	0	0	0	0.00%	0.00%	0.00%	0.00%	0.18%	0.06%	0.00%	0.00%	0.00%	17.73237952	0.002351023	0.24%
72	0	0.001746847	0.000552407	0	0	0	0.00%	0.00%	0.00%	0.00%	0.17%	0.06%	0.00%	0.00%	0.00%	18.84534238	0.002299254	0.23%

71	0	0.001726563	0.000497951	0	0	0	0.00%	0.00%	0.00%	0.00%	0.17%	0.05%	0.00%	0.00%	0.00%	19.97100157	0.002224514	0.22%
70	0	0.001628598	0.000459006	0	0	0	0.00%	0.00%	0.00%	0.00%	0.16%	0.05%	0.00%	0.00%	0.00%	21.11027359	0.002087604	0.21%
69	0	0.001535132	0.000422815	0	0	0	0.00%	0.00%	0.00%	0.00%	0.15%	0.04%	0.00%	0.00%	0.00%	22.26411403	0.001957947	0.20%
68	0	0.001413104	0.000407548	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.04%	0.00%	0.00%	0.00%	23.4335211	0.001820651	0.18%
67	0	0.001270265	0.000440452	0	0	0	0.00%	0.00%	0.00%	0.00%	0.13%	0.04%	0.00%	0.00%	0.00%	24.61953934	0.001710718	0.17%
66	0	0.001141045	0.000521563	0	0	0	0.00%	0.00%	0.00%	0.00%	0.11%	0.05%	0.00%	0.00%	0.00%	25.82326375	0.001662608	0.17%
65	0	0.000978123	0.000646246	0	0	0	0.00%	0.00%	0.00%	0.00%	0.10%	0.06%	0.00%	0.00%	0.00%	27.04584417	0.00162437	0.16%
64	0	0.000818771	0.00081878	0	0	0	0.00%	0.00%	0.00%	0.00%	0.08%	0.08%	0.00%	0.00%	0.00%	28.28849014	0.001637551	0.16%
63	0	0.000684864	0.001036593	0	0	0	0.00%	0.00%	0.00%	0.00%	0.07%	0.10%	0.00%	0.00%	0.00%	29.55247607	0.001721457	0.17%
62	0	0.000559387	0.001311344	0	0	0	0.00%	0.00%	0.00%	0.00%	0.06%	0.13%	0.00%	0.00%	0.00%	30.83914704	0.00187073	0.19%
61	0	0.00044615	0.001619889	0	0	0	0.00%	0.00%	0.00%	0.00%	0.04%	0.16%	0.00%	0.00%	0.00%	32.14992498	0.002066039	0.21%
60	0	0.000347459	0.001953925	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.20%	0.00%	0.00%	0.00%	33.48631561	0.002301384	0.23%
59	0	0.000283122	0.002301324	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.23%	0.00%	0.00%	0.00%	34.8499159	0.002584446	0.26%
58	0	0.000235876	0.002586352	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.26%	0.00%	0.00%	0.00%	36.24242241	0.002822228	0.28%
57	0	0.000220305	0.00290422	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.29%	0.00%	0.00%	0.00%	37.66564041	0.003124525	0.31%
56	0	0.000241541	0.003184161	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.32%	0.00%	0.00%	0.00%	39.12149398	0.003425702	0.34%
55	0	0.000296873	0.003487994	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.35%	0.00%	0.00%	0.00%	40.61203722	0.00378486?	0.38%
54	0	0.000409032	0.003645541	0	0	0	0.00%	0.00%	0.00%	0.00%	0.04%	0.36%	0.00%	0.00%	0.00%	42.13946662	0.004054573	0.41%
53	0	0.00056304	0.003806658	0	0	0	0.00%	0.00%	0.00%	0.00%	0.06%	0.38%	0.00%	0.00%	0.00%	43.70613491	0.004369699	0.44%
52	0	0.000792331	0.003880708	0	0	0	0.00%	0.00%	0.00%	0.00%	0.08%	0.39%	0.00%	0.00%	0.00%	45.31456634	0.004673039	0.47%
51	0	0.001063769	0.003862352	0	0	0	0.00%	0.00%	0.00%	0.00%	0.11%	0.39%	0.00%	0.00%	0.00%	46.96747393	0.004926121	0.49%
50	0	0.001426758	0.003840207	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.38%	0.00%	0.00%	0.00%	48.66777861	0.005266964	0.53%
49	0	0.001784029	0.003642557	0	0	0	0.00%	0.00%	0.00%	0.00%	0.18%	0.36%	0.00%	0.00%	0.00%	50.41863079	0.005426587	0.54%
48	0	0.002177656	0.003451386	0	0	0	0.00%	0.00%	0.00%	0.00%	0.22%	0.35%	0.00%	0.00%	0.00%	52.22343457	0.005629042	0.56%
47	0	0.002535696	0.003192284	0	0	0	0.00%	0.00%	0.00%	0.00%	0.25%	0.32%	0.00%	0.00%	0.00%	54.085875	0.005727981	0.57%
46	0	0.002816504	0.002816533	0	0	0	0.00%	0.00%	0.00%	0.00%	0.28%	0.28%	0.00%	0.00%	0.00%	56.00994894	0.005633037	0.56%
45	0	0.003053601	0.002425586	0	0	0	0.00%	0.00%	0.00%	0.00%	0.31%	0.24%	0.00%	0.00%	0.00%	58	0.005479187	0.55%
44	0	0.003157801	0.002038868	0	0	0	0.00%	0.00%	0.00%	0.00%	0.32%	0.20%	0.00%	0.00%	0.00%	60.0607582	0.00519667	0.52%
43	0	0.003187197	0.001634607	0	0	0	0.00%	0.00%	0.00%	0.00%	0.32%	0.16%	0.00%	0.00%	0.00%	62.19738518	0.004821804	0.48%
42	0	0.003068061	0.00124988	0	0	0	0.00%	0.00%	0.00%	0.00%	0.31%	0.12%	0.00%	0.00%	0.00%	64.41552586	0.004317942	0.43%
41	0	0.002882226	0.000890702	0	0	0	0.00%	0.00%	0.00%	0.00%	0.29%	0.09%	0.00%	0.00%	0.00%	66.72136762	0.003772929	0.38%
40	0	0.00264227	0.000591537	0	0	0	0.00%	0.00%	0.00%	0.00%	0.26%	0.06%	0.00%	0.00%	0.00%	69.12170837	0.003233807	0.32%
39	0	0.002418722	0.000374619	0	0	0	0.00%	0.00%	0.00%	0.00%	0.24%	0.04%	0.00%	0.00%	0.00%	71.62403508	0.002793341	0.28%
38	0	0.00216036	0.000253823	0	0	0	0.00%	0.00%	0.00%	0.00%	0.22%	0.03%	0.00%	0.00%	0.00%	74.23661467	0.002414183	0.24%
37	0	0.001926497	0.000226346	0	0	0	0.00%	0.00%	0.00%	0.00%	0.19%	0.02%	0.00%	0.00%	0.00%	76.96859965	0.002152843	0.22%
36	0	0.001715061	0.000298047	0	0	0	0.00%	0.00%	0.00%	0.00%	0.17%	0.03%	0.00%	0.00%	0.00%	79.83015139	0.002013108	0.20%
35	0	0.001595971	0.000460288	0	0	0	0.00%	0.00%	0.00%	0.00%	0.16%	0.05%	0.00%	0.00%	0.00%	82.83258439	0.002056258	0.21%
34	0	0.00151693	0.000677595	0	0	0	0.00%	0.00%	0.00%	0.00%	0.15%	0.07%	0.00%	0.00%	0.00%	85.98853617	0.002194525	0.22%
33	0	0.001472515	0.000950745	0	0	0	0.00%	0.00%	0.00%	0.00%	0.15%	0.10%	0.00%	0.00%	0.00%	89.3121679	0.002423261	0.24%
32	0	0.001426467	0.001214132	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.12%	0.00%	0.00%	0.00%	92.81940268	0.002640599	0.26%
31	0	0.001443846	0.001477493	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.15%	0.00%	0.00%	0.00%	96.52820998	0.002921339	0.29%
30	0	0.001424893	0.00167412	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.17%	0.00%	0.00%	0.00%	100.4589468	0.003099013	0.31%
29	0	0.001402764	0.001807129	0	0	0	0.00%	0.00%	0.00%	0.00%	0.14%	0.18%	0.00%	0.00%	0.00%	104.6347698	0.003209893	0.32%
28	0	0.001346049	0.001858084	0	0	0	0.00%	0.00%	0.00%	0.00%	0.13%	0.19%	0.00%	0.00%	0.00%	109.082135	0.003204133	0.32%
27	0	0.001258739	0.00181945	0	0	0	0.00%	0.00%	0.00%	0.00%	0.13%	0.18%	0.00%	0.00%	0.00%	113.8314093	0.00307819	0.31%
26	0	0.001173616	0.001696409	0	0	0	0.00%	0.00%	0.00%	0.00%	0.12%	0.17%	0.00%	0.00%	0.00%	118.9176228	0.002870026	0.29%
25	0	0.001017979	0.001471442	0	0	0	0.00%	0.00%	0.00%	0.00%	0.10%	0.15%	0.00%	0.00%	0.00%	124.3814014	0.002489421	0.25%
24	0	0.000879972	0.001243006	0	0	0	0.00%	0.00%	0.00%	0.00%	0.09%	0.12%	0.00%	0.00%	0.00%	130.2701329	0.002122978	0.21%
23	0	0.000707291	0.000954119	0	0	0	0.00%	0.00%	0.00%	0.00%	0.07%	0.10%	0.00%	0.00%	0.00%	136.6394372	0.001661411	0.17%
22	0	0.000540746	0.000680765	0	0	0	0.00%	0.00%	0.00%	0.00%	0.05%	0.07%	0.00%	0.00%	0.00%	143.5550375	0.001221511	0.12%
21	0	0.00038415	0.000431028	0	0	0	0.00%	0.00%	0.00%	0.00%	0.04%	0.04%	0.00%	0.00%	0.00%	151.0951658	0.000815177	0.08%
20	0	0.000253481	0.000242075	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.00%	0.00%	0.00%	159.3536903	0.000495556	0.05%
19	0	0.000151749	0.000123348	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.00%	168.4442309	0.000275097	0.03%
18	0	9.0324E-05	8.2378E-05	0	0	0	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	178.5056452	0.000172703	0.02%
17	0	7.7217E 05	0.000116874	0	0	0	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	189.7094519	0.000194091	0.02%
16	0	0.000111306	0.000217032	0	0	0	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.00%	0.00%	0.00%	202.2700377	0.000328337	0.03%
15	0	0.000191353	0.000364619	0	0	0	0.00%	0.00%	0.00%	0.00%	0.02%	0.04%	0.00%	0.00%	0.00%	216.4589468	0.000555972	0.06%
14	0	0.00031131	0.000541	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.05%	0.00%	0.00%	0.00%	232.6252941	0.000852309	0.09%
13	0	0.000446702	0.000724474	0	0	0	0.00%	0.00%	0.00%	0.00%	0.04%	0.07%	0.00%	0.00%	0.00%	251.2256007	0.001171176	0.12%
12	0	0.000591017	0.00089455	0	0	0	0.00%	0.00%	0.00%	0.00%	0.06%	0.09%	0.00%	0.00%	0.00%	272.8685463	0.001485567	0.15%
11	0	0.000736275	0.001040026	0	0	0	0.00%	0.00%	0.00%	0.00%	0.07%	0.10%	0.00%	0.00%	0.00%	298.3841329	0.001776301	0.18%
10	0	0.000841749	0.001109653	0	0	0	0.00%	0.00%	0.00%	0.00%	0.08%	0.11%	0.00%	0.00%	0.00%	328.9343455	0.001951402	0.20%
9	0	0.000900549	0.001133735	0	0	0	0.00%	0.00%	0.00%	0.00%	0.09%	0.11%	0.00%	0.00%	0.00%	366.1975879	0.002034284	0.20%
8	0	0.000918233	0.00110397	0	0	0	0.00%	0.00%	0.00%	0.00%	0.09%	0.11%	0.00%	0.00%	0.00%	412.6914439	0.002022203	0.20%
7	0	0.000866226	0.001017737	0	0	0	0.00%	0.00%	0.00%	0.00%	0.09%	0.10%	0.00%	0.00%	0.00%	472.3720928	0.001883963	0.19%
6	0	0.000766146	0.000859638	0	0	0	0.00%	0.00%	0.00%	0.00%	0.08%	0.09%	0.00%	0.00%	0.00%	551.8331383	0.001625784	0.16%
5	0	0.000625798	0.000686181	0	0	0	0.00%	0.00%	0.00%	0.00%	0.06%	0.07%	0.00%	0.00%	0.00%	662.9430336	0.001311979	0.13%
4	0	0.000460269	0.000481965	0	0	0	0.00%	0.00%	0.00%	0.00%	0.05%	0.05%	0.00%	0.00%	0.00%	829.4386429	0.000942234	0.09%
3	0	0.000290698	0.000297473	0	0	0	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%	0.00%	0.00%	0.00%	1106.705928	0.000588171	0.06%
2	0	0.00013851	0.000141738	0	0	0	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	1660.90269	0.000280247	0.03%
1	0	3.79798E 05	3.71157E 05	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3322.817775	7.50955E 05	0.01%

ATTACHMENT 4

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

Antenna Frame

Proposed Verizon
Antenna Upgrade

Site Ref: Danielson SC2

172 Main Street
Killingly, CT

CENTEK Project No. 22105.07

~~Date: August 15, 2022~~
Rev 2: December 7, 2022

Prepared for:

Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

63-2 North Branford Road, Branford, CT 06405 203.488.0580 Fax 203.488.8587 www.CentekEng.com

Table of Contents

Introduction

The purpose of this structural analysis report (SAR) is to summarize the results, of the impacted structural components, by the equipment upgrade proposed by Verizon Wireless on the existing host building located in Killingly, CT.

The antenna is mounted on a structural steel pipe mast attached to the façade of the hosting structure chimney. The antenna is concealed within an existing RF transparent faux smoke stack. The mounts member sizes information were obtained from the original design documents prepared by Centek Engineering, dated March 2, 2015, structural steel shop drawings prepared by Jakeweld Corp dated April 28, 2015 and FRP shop drawings prepared by Stealth dated May 8, 2015. Proposed/existing antenna and appurtenance information was taken from a RF data sheet dated 7/18/2022 provided by Verizon Wireless.

Primary Assumptions Used in the Analysis

- The host structure's theoretical capacity not including any assessment of the condition of the host structure.
- The existing steel antenna frames carry the horizontal and vertical loads due to the weight of equipment, and wind and transfers into host structure.
- Structure is in plumb condition.
- Loading for equipment and enclosure as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as observed during roof framing mapping.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.

Antenna and Equipment Summary

Location	Appurtenance / Equipment	Rad Center Elevation (AGL)	Mount Type
Alpha Sector	~~(1) Commscope NH65PS-DG-F0M Antenna~~ **(1) Amphenol CUUD120X06Fxyz0 Antenna**	±64-ft	Pipe mast attached to chimney façade within concealment enclosure
Alpha Sector	~~(1) Nokia B4 RRH 2x60 4R RRH~~ **(1) Samsung B2/B66A RRH – BR049** **(1) Commscope SDX1926Q-43 Diplexer** (1) OVP Box	±45-ft	Pipe masts attached to building façade

~~Equipment~~ – Indicates equipment to be removed.
Equipment – Indicates equipment to be installed.

Analysis

The existing antenna frame was analyzed using a comprehensive computer program titled Risa3D. The program analyzes the antenna mounts considering the worst case code prescribed loading condition. The structures were considered to be loaded by concentric forces, and the model assumes that the members are subjected to bending, axial, and shear forces.

Design Loading

Loading was determined per the requirements of the 2021 International Building Code amended by the 2022 CSBC and ASCE 7-16 "Minimum Design Loads for Buildings and Other Structures".

Wind Speed:	V_{ult} = 125 mph	Appendix P of the 2022 CT State Building Code
Risk Category:	II	2021 IBC; Table 1604.05
Exposure Category:	Surface Roughness C	ASCE 7-16; Section 26.7.2
Dead Load	Equipment and framing self-weight	Identified within SAR design calculations

Reference Standards

2021 International Building Code:

1. ACI 318-19, *Building Code Requirements for Structural Concrete.*
2. ACI 402/602-16, *Building Code Requirements for Masonry Structures.*
3. AISC 360-16, *Specification for Structural Steel Buildings*
4. AWS D1.4-18, *Structural Welding Code – Steel.*

Results

Structure stresses were calculated utilizing the structural analysis software RISA 3D. The stresses were determined based on the AISC standard.

- Calculated stresses for the antenna mount and host building were found to **be within allowable** limits.

Sector	Component	Stress Ratio (percentage of capacity)	Result
All Sectors	Antenna Mast	14%	**PASS**
	Connection	55%	**PASS**
	RRH Mast	2%	**PASS**
	Connection	10%	**PASS**

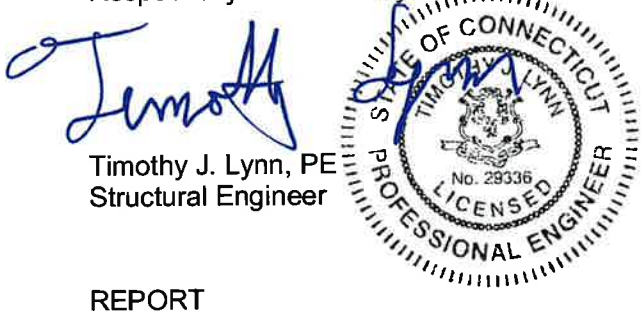
Conclusion

This analysis shows that the subject antenna mounts and host building **HAVE SUFFICIENT CAPACITY** to support the proposed modified antenna configuration.

The analysis is based, in part, on the information provided to this office by Verizon. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Design Wind Load on Other Structures: (Based on IBC 2021, CSBC 2022 and ASCE 7-16)

Wind Speed =	$V := 125$ mph	(User Input)	(CSBC Appendix P)
Risk Category =	$BC := II$	(User Input)	(IBC Table 1604.5)
Exposure Category =	$Exp := C$	(User Input)	
Height Above Grade =	$Z := 65$ ft	(User Input)	
Structure Type =	$Structuretype := Round\_Chimney$	(User Input)	
Structure Height =	$Height := 5.5$ ft	(User Input)	
Horizontal Dimension of Structure =	$Width := 2.33$ ft	(User Input)	

Terrain Exposure Constants:

Nominal Height of the Atmospheric Boundary Layer = (Table 26.11-1)

$$zg := \begin{cases} 1200 & \text{if } Exp = B = 900 \\ 900 & \text{if } Exp = C \\ 700 & \text{if } Exp = D \end{cases}$$

3-Sec Gust Speed Power Law Exponent = (Table 26.11-1)

$$\alpha := \begin{cases} 7 & \text{if } Exp = B = 9.5 \\ 9.5 & \text{if } Exp = C \\ 11.5 & \text{if } Exp = D \end{cases}$$

Integral Length Scale Factor = (Table 26.11-1)

$$l := \begin{cases} 320 & \text{if } Exp = B = 500 \\ 500 & \text{if } Exp = C \\ 650 & \text{if } Exp = D \end{cases}$$

Integral Length Scale Power Law Exponent = (Table 26.11-1)

$$E := \begin{cases} \frac{1}{3} & \text{if } Exp = B = 0.2 \\ \frac{1}{5} & \text{if } Exp = C \\ \frac{1}{8} & \text{if } Exp = D \end{cases}$$

Turbulence Intensity Factor = (Table 26.11-1)

$$c := \begin{cases} 0.3 & \text{if } Exp = B = 0.2 \\ 0.2 & \text{if } Exp = C \\ 0.15 & \text{if } Exp = D \end{cases}$$

Exposure Constant = (Table 26.11-1)

$$Z_{min} := \begin{cases} 30 & \text{if } Exp = B = 15 \\ 15 & \text{if } Exp = C \\ 7 & \text{if } Exp = D \end{cases}$$

Exposure Coefficient = (Table 26.10-1)

$$K_z := \begin{cases} 2.01\left(\frac{Z}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } 15 \le Z \le zg = 1.16 \\ 2.01\left(\frac{15}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } Z < 15 \end{cases}$$

CENTEK engineering
Centered on Solutions™ www.centekeng.com
63-2 North Branford Road P:(203) 488-0580
Branford, CT 06405 F:(203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Topographic Factor =	$K_{zt} := 1$	(Eq. 26.8-2)
Wind Directionality Factor =	$K_d = 0.95$	(Table 26.6-1)
Velocity Pressure =	$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 = 43.92$	(Eq. 26.10-2)
Peak Factor for Background Response =	$g_Q := 3.4$	(Sec 26.11.4)
Peak Factor for Wind Response =	$g_v := 3.4$	(Sec 26.11.4)
Equivalent Height of Structure =	$z := \begin{cases} Z_{min} & \text{if } Z_{min} > 0.6 \cdot Height \\ 0.6 \cdot Height & \text{otherwise} \end{cases} = 15$	(Sec 26.11.4)
Intensity of Turbulence =	$I_z := c \cdot \left(\frac{33}{z}\right)^{\left(\frac{1}{6}\right)} = 0.228$	(Eq. 26.11-7)
Integral Length Scale of Turbulence =	$L_Z := l \cdot \left(\frac{z}{33}\right)^{E} = 427.057$	(Eq. 26.11-9)
Background Response Factor =	$Q := \sqrt{\frac{1}{1 + 0.63\left(\frac{Width + Height}{L_Z}\right)^{0.63}}} = 0.976$	(Eq. 26.11-8)
Gust Response Factor =	$G := 0.925 \cdot \left[\frac{\left(1 + 1.7 \cdot g_Q \cdot I_z \cdot Q\right)}{1 + 1.7 \cdot g_v \cdot I_z}\right] = 0.912$	(Eq. 26.11-6)
Force Coefficient =	$C_f = 0.523$	(Fig 29.4-1 - 29.4-4)
Wind Force =	$F := q_z \cdot G \cdot C_f = 21$ psf	

CENTEK engineering
Centered on Solutions℠
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Development of Wind & Ice Load on Enclosure

Enclosure Data:

Enclosure Model =	2'-4" (Max) diameter Concealment Enclosure		
Enclosure Shape =	Flat		(User Input)
Enclosure Height =	$L_{enc} := 66$	in	(User Input)
Enclosure Width =	$W_{enc} := 28$	in	(User Input)
Enclosure Thickness =	$T_{enc} := 28$	in	(User Input)

Wind Load (Front)

Surface Area for One Enclosure =	$SA_{enc} := \frac{L_{enc} \cdot W_{enc}}{144} = 12.8$	sf
Enclosure Projected Surface Area =	$A_{enc} := SA_{enc} = 12.8$	sf
Total Enclosure Wind Force =	$F_{enc} := F \cdot A_{enc} = 269$	lbs

Wind Load (Side)

Surface Area for One Enclosure =	$SA_{enc} := \frac{L_{enc} \cdot T_{enc}}{144} = 12.8$	sf
Enclosure Projected Surface Area =	$A_{enc} := SA_{enc} = 12.8$	sf
Total Enclosure Wind Force =	$F_{enc} := F \cdot A_{enc} = 269$	lbs

CENTEK engineering
Centered on Solutions℠
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Amphenol CUUD120X06Fxyz0		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 24$	in	(User Input)
Antenna Width =	$W_{ant} := 14.6$	in	(User Input)
Antenna Thickness =	$T_{ant} := 14.6$	in	(User Input)
Antenna Weight =	$WT_{ant} := 30$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)

Wind Load (Front)

Surface Area for One Antenna =	$SA_{ant} := 0 = 0$	(Antenna in Enclosure)	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 0$		sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 0$		lbs

Wind Load (Side)

Surface Area for One Antenna =	$SA_{ant} := 0 = 0$	(Antenna in Enclosure)	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 0$		sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 0$		lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 30$	lbs

CENTEK engineering
Centered on Solutions
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Design Wind Load on Other Structures: (Based on IBC 2021, CSBC 2022 and ASCE 7-16)

Wind Speed =	$V := 125$ mph	(User Input)	(CSBC Appendix P)
Risk Category =	$BC := II$	(User Input)	(IBC Table 1604.5)
Exposure Category =	$Exp := C$	(User Input)	
Height Above Grade =	$Z := 45$ ft	(User Input)	
Structure Type =	$Structuretype := Square\_Chimney$	(User Input)	
Structure Height =	$Height := 1.5$ ft	(User Input)	
Horizontal Dimension of Structure =	$Width := 1.5$ ft	(User Input)	

Terrain Exposure Constants:

Nominal Height of the Atmospheric Boundary Layer = (Table 26.11-1)

$$zg := \begin{cases} 1200 & \text{if } Exp = B = 900 \\ 900 & \text{if } Exp = C \\ 700 & \text{if } Exp = D \end{cases}$$

3-Sec Gust Speed Power Law Exponent = (Table 26.11-1)

$$\alpha := \begin{cases} 7 & \text{if } Exp = B = 9.5 \\ 9.5 & \text{if } Exp = C \\ 11.5 & \text{if } Exp = D \end{cases}$$

Integral Length Scale Factor = (Table 26.11-1)

$$l := \begin{cases} 320 & \text{if } Exp = B = 500 \\ 500 & \text{if } Exp = C \\ 650 & \text{if } Exp = D \end{cases}$$

Integral Length Scale Power Law Exponent = (Table 26.11-1)

$$E := \begin{cases} \frac{1}{3} & \text{if } Exp = B = 0.2 \\ \frac{1}{5} & \text{if } Exp = C \\ \frac{1}{8} & \text{if } Exp = D \end{cases}$$

Turbulence Intensity Factor = (Table 26.11-1)

$$c := \begin{cases} 0.3 & \text{if } Exp = B = 0.2 \\ 0.2 & \text{if } Exp = C \\ 0.15 & \text{if } Exp = D \end{cases}$$

Exposure Constant = (Table 26.11-1)

$$Z_{min} := \begin{cases} 30 & \text{if } Exp = B = 15 \\ 15 & \text{if } Exp = C \\ 7 & \text{if } Exp = D \end{cases}$$

Exposure Coefficient = (Table 26.10-1)

$$K_z := \begin{cases} 2.01\left(\frac{Z}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } 15 \le Z \le zg = 1.07 \\ 2.01\left(\frac{15}{zg}\right)^{\left(\frac{2}{\alpha}\right)} & \text{if } Z < 15 \end{cases}$$

CENTEK engineering
Centered on Solutions℠
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Topographic Factor =	$K_{zt} := 1$	(Eq. 26.8-2)
Wind Directionality Factor =	$K_d = 0.9$	(Table 26.6-1)
Velocity Pressure =	$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 = 38.51$	(Eq. 26.10-2)
Peak Factor for Background Response =	$g_Q := 3.4$	(Sec 26.11.4)
Peak Factor for Wind Response =	$g_v := 3.4$	(Sec 26.11.4)
Equivalent Height of Structure =	$z := \begin{cases} Z_{min} & \text{if } Z_{min} > 0.6 \cdot Height \\ 0.6 \cdot Height & \text{otherwise} \end{cases} = 15$	(Sec 26.11.4)
Intensity of Turbulence =	$I_z := c \cdot \left(\frac{33}{z}\right)^{\left(\frac{1}{6}\right)} = 0.228$	(Eq. 26.11-7)
Integral Length Scale of Turbulence =	$L_Z := l \cdot \left(\frac{z}{33}\right)^{E} = 427.057$	(Eq. 26.11-9)
Background Response Factor =	$Q := \sqrt{\frac{1}{1 + 0.63\left(\frac{Width + Height}{L_Z}\right)^{0.63}}} = 0.986$	(Eq. 26.11-8)
Gust Response Factor =	$G := 0.925 \cdot \left[\frac{\left(1 + 1.7 \cdot g_Q \cdot I_z \cdot Q\right)}{1 + 1.7 \cdot g_v \cdot I_z}\right] = 0.918$	(Eq. 26.11-6)
Force Coefficient =	$C_f = 1.3$	(Fig 29.4-1 - 29.4-4)
Wind Force =	$F := q_z \cdot G \cdot C_f = 46$	psf

CENTEK engineering
Centered on Solutions℠
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Samsung B2/B66A RRH-BR049		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 15$	in	(User Input)
Antenna Width =	$W_{ant} := 15$	in	(User Input)
Antenna Thickness =	$T_{ant} := 10$	in	(User Input)
Antenna Weight =	$WT_{ant} := 75$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)

Wind Load (Front)

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 1.6$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 1.6$	sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 72$	lbs

Wind Load (Side)

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot T_{ant}}{144} = 1$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 1$	sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 48$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 75$	lbs

CENTEK engineering
Centered on Solutions℠ www.centekeng.com
63-2 North Branford Road P: (203) 488-0580
Branford, CT 06405 F: (203) 488-8587

Subject: Wind Load on Equipment per ASCE 7-16

Location: Killingly, CT

Rev. 2: 12/7/22

Prepared by: T.J.L; Checked by: C.F.C.
Job No. 22105.07

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Commecope SDX1926Q-43 Diplexer		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 4.173$	in	(User Input)
Antenna Width =	$W_{ant} := 6.929$	in	(User Input)
Antenna Thickness =	$T_{ant} := 2.913$	in	(User Input)
Antenna Weight =	$WT_{ant} := 7$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 1$		(User Input)

Wind Load (Front)

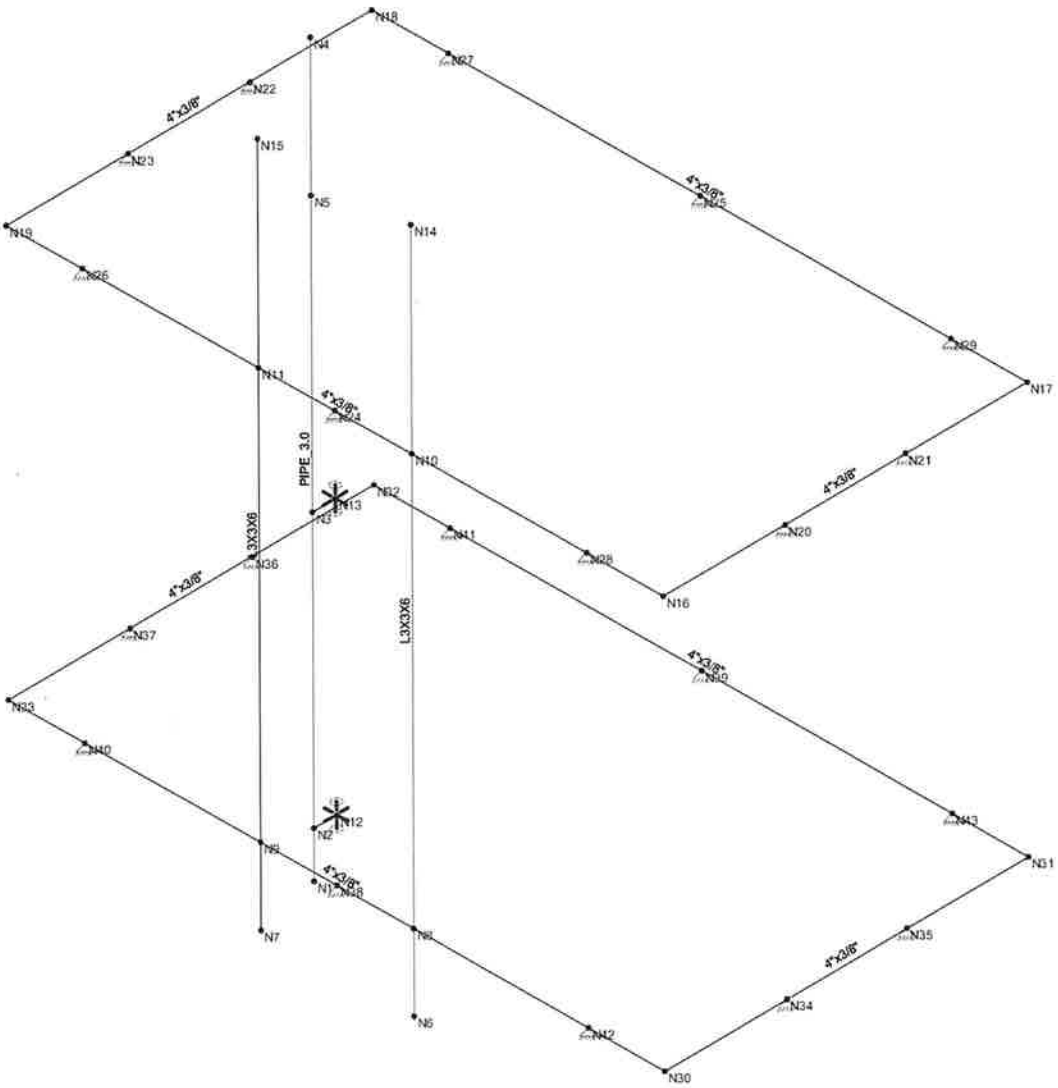
Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 0.2$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 0.2$	sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 9$	lbs

Wind Load (Side)

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot T_{ant}}{144} = 0.1$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 0.1$	sf
Total Antenna Wind Force =	$F_{ant} := F \cdot A_{ant} = 4$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$WT_{ant} \cdot N_{ant} = 7$	lbs



Envelope Only Solution

Centek Engineering		
TJL	Danielson SC2	Dec 7, 2022 at 9:07 AM
22105.07	Member Framing	Mount.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): ASD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): ASD
Cold Formed Steel Code	AISI S100-10: ASD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: ASD
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1
Footing Overturning Safety Factor	1
Optimize for OTM/Sliding	No
Check Concrete Bearing	No
Footing Concrete Weight (k/ft^3)	150.001
Footing Concrete f'c (ksi)	4
Footing Concrete Ec (ksi)	3644
Lambda	1
Footing Steel fy (ksi)	60
Minimum Steel	0.0018
Maximum Steel	0.0075
Footing Top Bar	#3
Footing Top Bar Cover (in)	2
Footing Bottom Bar	#3
Footing Bottom Bar Cover (in)	3.5
Pedestal Bar	#3
Pedestal Bar Cover (in)	1.5
Pedestal Ties	#3

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Antenna Mast	PIPE_3.0	Column	Pipe	A53 Grade B	Typical	2.07	2.85	2.85	5.69
2	Angle	L3X3X6	Column	Wide Flange	A36 Gr.36	Typical	2.11	1.75	1.75	.101
3	Plate	4"x3/8"	Beam	Wide Flange	A36 Gr.36	Typical	1.5	.018	2	.066

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[...	Lcomp bot[...	L-torq...	Kyy	Kzz	Cb	Functi...
1	M1	Antenna Mast	8									Lateral
2	M4	Angle	7.503									Lateral
3	M5	Angle	7.503									Lateral
4	M6	Plate	7.166			Lbyy						Lateral
5	M7	Plate	4			Lbyy						Lateral
6	M8	Plate	7.166			Lbyy						Lateral
7	M9	Plate	4			Lbyy						Lateral
8	M10	Plate	7.166			Lbyy						Lateral
9	M11	Plate	4			Lbyy						Lateral
10	M12	Plate	7.166			Lbyy						Lateral
11	M13	Plate	4			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design ...
1	M1	N1	N4			Antenna Mast	Column	Pipe	A53 Grade B	Typical
2	M2	N3	N13			RIGID	None	None	RIGID	Typical
3	M3	N2	N12			RIGID	None	None	RIGID	Typical
4	M4	N7	N15			Angle	Column	Wide Flan...	A36 Gr.36	Typical
5	M5	N6	N14		90	Angle	Column	Wide Flan...	A36 Gr.36	Typical
6	M6	N19	N16			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
7	M7	N16	N17			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
8	M8	N17	N18			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
9	M9	N18	N19			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
10	M10	N33	N30			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
11	M11	N30	N31			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
12	M12	N31	N32			Plate	Beam	Wide Flan...	A36 Gr.36	Typical
13	M13	N32	N33			Plate	Beam	Wide Flan...	A36 Gr.36	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	.25	0	
2	N2	0	.5	.25	0	
3	N3	0	3.5	.25	0	
4	N4	0	8	.25	0	
5	N5	0	6.5	.25	0	
6	N6	.833	-1	0	0	
7	N7	-.833	-1	0	0	
8	N8	.833	-.167	0	0	
9	N9	-.833	-.167	0	0	
10	N10	.833	4.333	0	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
11	N11	-.833	4.333	0	0	
12	N12	0	.5	0	0	
13	N13	0	3.5	0	0	
14	N14	.833	6.503	0	0	
15	N15	-.833	6.503	0	0	
16	N16	3.583	4.333	0	0	
17	N17	3.583	4.333	-4	0	
18	N18	-3.583	4.333	-4	0	
19	N19	-3.583	4.333	0	0	
20	N20	3.583	4.333	-1.333333	0	
21	N21	3.583	4.333	-2.666667	0	
22	N22	-3.583	4.333	-2.666667	0	
23	N23	-3.583	4.333	-1.333333	0	
24	N24	0	4.333	0	0	
25	N25	-0.	4.333	-4	0	
26	N26	-2.75	4.333	0	0	
27	N27	-2.75	4.333	-4	0	
28	N28	2.75	4.333	0	0	
29	N29	2.75	4.333	-4	0	
30	N30	3.583	-.167	0	0	
31	N31	3.583	-.167	-4	0	
32	N32	-3.583	-.167	-4	0	
33	N33	-3.583	-.167	0	0	
34	N34	3.583	-.167	-1.333333	0	
35	N35	3.583	-.167	-2.666667	0	
36	N36	-3.583	-.167	-2.666667	0	
37	N37	-3.583	-.167	-1.333333	0	
38	N38	0	-.167	0	0	
39	N39	-0.	-.167	-4	0	
40	N40	-2.75	-.167	0	0	
41	N41	-2.75	-.167	-4	0	
42	N42	2.75	-.167	0	0	
43	N43	2.75	-.167	-4	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N2						
2	N3						
3	N12	Reaction	Reaction	Reaction		Reaction	
4	N13	Reaction	Reaction	Reaction		Reaction	
5	N26	Reaction	Reaction	Reaction			
6	N23	Reaction	Reaction	Reaction			
7	N22	Reaction	Reaction	Reaction			
8	N25	Reaction	Reaction	Reaction			
9	N27	Reaction	Reaction	Reaction			
10	N21	Reaction	Reaction	Reaction			
11	N29	Reaction	Reaction	Reaction			
12	N20	Reaction	Reaction	Reaction			
13	N24	Reaction	Reaction	Reaction			
14	N28	Reaction	Reaction	Reaction			

Joint Boundary Conditions (Continued)

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
15	N34	Reaction	Reaction	Reaction			
16	N35	Reaction	Reaction	Reaction			
17	N36	Reaction	Reaction	Reaction			
18	N37	Reaction	Reaction	Reaction			
19	N38	Reaction	Reaction	Reaction			
20	N39	Reaction	Reaction	Reaction			
21	N40	Reaction	Reaction	Reaction			
22	N41	Reaction	Reaction	Reaction			
23	N42	Reaction	Reaction	Reaction			
24	N43	Reaction	Reaction	Reaction			

Member Point Loads

Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
No Data to Print ...			

Member Distributed Loads (BLC 2 : Weight of Equipment)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,k...	Start Location[ft..	End Location[ft,...
1	M4	Y	-.01	-.01	0	0
2	M5	Y	-.01	-.01	0	0

Member Distributed Loads (BLC 3 : Wind X-Direction)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,k...	Start Location[ft..	End Location[ft,...
1	M4	X	.015	.015	0	0
2	M5	X	.015	.015	0	0

Member Distributed Loads (BLC 4 : Wind Z-Direction)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,k...	Start Location[ft..	End Location[ft,...
1	M4	Z	.03	.03	0	0
2	M5	Z	.03	.03	0	0

Basic Load Cases

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Joint	Point	Distrib..	Area(...	Surfa...
1	Self Weight	DL		-1						
2	Weight of Equipment	DL				2		2		
3	Wind X-Direction	WLX				1		2		
4	Wind Z-Direction	WLZ				1		2		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	IBC 16-8	Yes	Y		DL	1																		
2	IBC 16-9	Yes	Y		DL	1	LL	1	LLS	1														
3	IBC 16-12 (a) (a)	Yes	Y		DL	1	W...	.6																
4	IBC 16-12 (a) (b)	Yes	Y		DL	1	W...	.6																
5	IBC 16-12 (a) (c)	Yes	Y		DL	1	W...	-.6																
6	IBC 16-12 (a) (d)	Yes	Y		DL	1	W...	-.6																

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
7	IBC 16-13 (a) (a)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
8	IBC 16-13 (a) (b)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
9	IBC 16-13 (a) (c)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												
10	IBC 16-13 (a) (d)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												
11	IBC 16-15 (a)	Yes	Y		DL	.6	W...	.6																
12	IBC 16-15 (b)	Yes	Y		DL	.6	W...	.6																
13	IBC 16-15 (c)	Yes	Y		DL	.6	W...	-.6																
14	IBC 16-15 (d)	Yes	Y		DL	.6	W...	-.6																

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N12	max	.162	3	.916	4	.176	4	0	14	.04	3	0	14
2		min	-.162	5	-.797	14	-.153	14	0	1	-.04	5	0	1
3	N13	max	.323	5	.934	6	.315	14	0	14	.081	5	0	14
4		min	-.323	3	-.786	12	-.337	4	0	1	-.081	3	0	1
5	N26	max	.013	5	.028	5	.032	6	0	14	0	14	0	14
6		min	-.012	11	.012	11	-.032	12	0	1	0	1	0	1
7	N23	max	.003	12	.004	3	.016	12	0	14	0	14	0	14
8		min	-.003	6	0	13	-.016	6	0	1	0	1	0	1
9	N22	max	0	6	.012	5	0	12	0	14	0	14	0	14
10		min	0	12	.006	11	0	6	0	1	0	1	0	1
11	N25	max	0	14	.014	4	0	12	0	14	0	14	0	14
12		min	0	1	.008	14	0	6	0	1	0	1	0	1
13	N27	max	0	12	.013	3	0	14	0	14	0	14	0	14
14		min	0	6	.008	13	0	4	0	1	0	1	0	1
15	N21	max	0	12	.012	3	0	12	0	14	0	14	0	14
16		min	0	6	.006	13	0	6	0	1	0	1	0	1
17	N29	max	0	6	.013	5	0	14	0	14	0	14	0	14
18		min	0	4	.008	11	0	4	0	1	0	1	0	1
19	N20	max	.003	6	.004	5	.016	12	0	14	0	14	0	14
20		min	-.003	12	0	11	-.016	6	0	1	0	1	0	1
21	N24	max	.057	13	.13	4	.142	6	0	14	0	14	0	14
22		min	-.057	11	.076	14	-.142	12	0	1	0	1	0	1
23	N28	max	.012	13	.028	3	.032	6	0	14	0	14	0	14
24		min	-.013	3	.012	13	-.032	12	0	1	0	1	0	1
25	N34	max	.002	14	.004	6	.009	4	0	14	0	14	0	14
26		min	-.002	4	0	12	-.009	14	0	1	0	1	0	1
27	N35	max	0	4	.013	3	0	12	0	14	0	14	0	14
28		min	0	14	.006	13	0	6	0	1	0	1	0	1
29	N36	max	0	14	.013	5	0	12	0	14	0	14	0	14
30		min	0	4	.006	11	0	6	0	1	0	1	0	1
31	N37	max	.002	4	.004	6	.009	4	0	14	0	14	0	14
32		min	-.002	14	0	12	-.009	14	0	1	0	1	0	1
33	N38	max	.038	5	.136	6	.076	14	0	14	0	14	0	14
34		min	-.038	3	.062	12	-.076	4	0	1	0	1	0	1
35	N39	max	0	14	.014	4	0	12	0	14	0	14	0	14
36		min	0	1	.008	14	0	6	0	1	0	1	0	1
37	N40	max	.008	13	.029	4	.019	14	0	14	0	14	0	14
38		min	-.009	3	.01	14	-.019	4	0	1	0	1	0	1
39	N41	max	0	12	.013	3	0	14	0	14	0	14	0	14

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
40		min	0	14	.008	13	0	4	0	1	0	1	0	1
41	N42	max	.009	5	.029	4	.019	14	0	14	0	14	0	14
42		min	-.008	11	.01	14	-.019	4	0	1	0	1	0	1
43	N43	max	0	14	.013	5	0	14	0	14	0	14	0	14
44		min	0	4	.008	11	0	4	0	1	0	1	0	1
45	Totals:	max	.296	13	.652	10	.432	14						
46		min	-.296	3	.391	11	-.432	4						

Envelope Joint Displacements

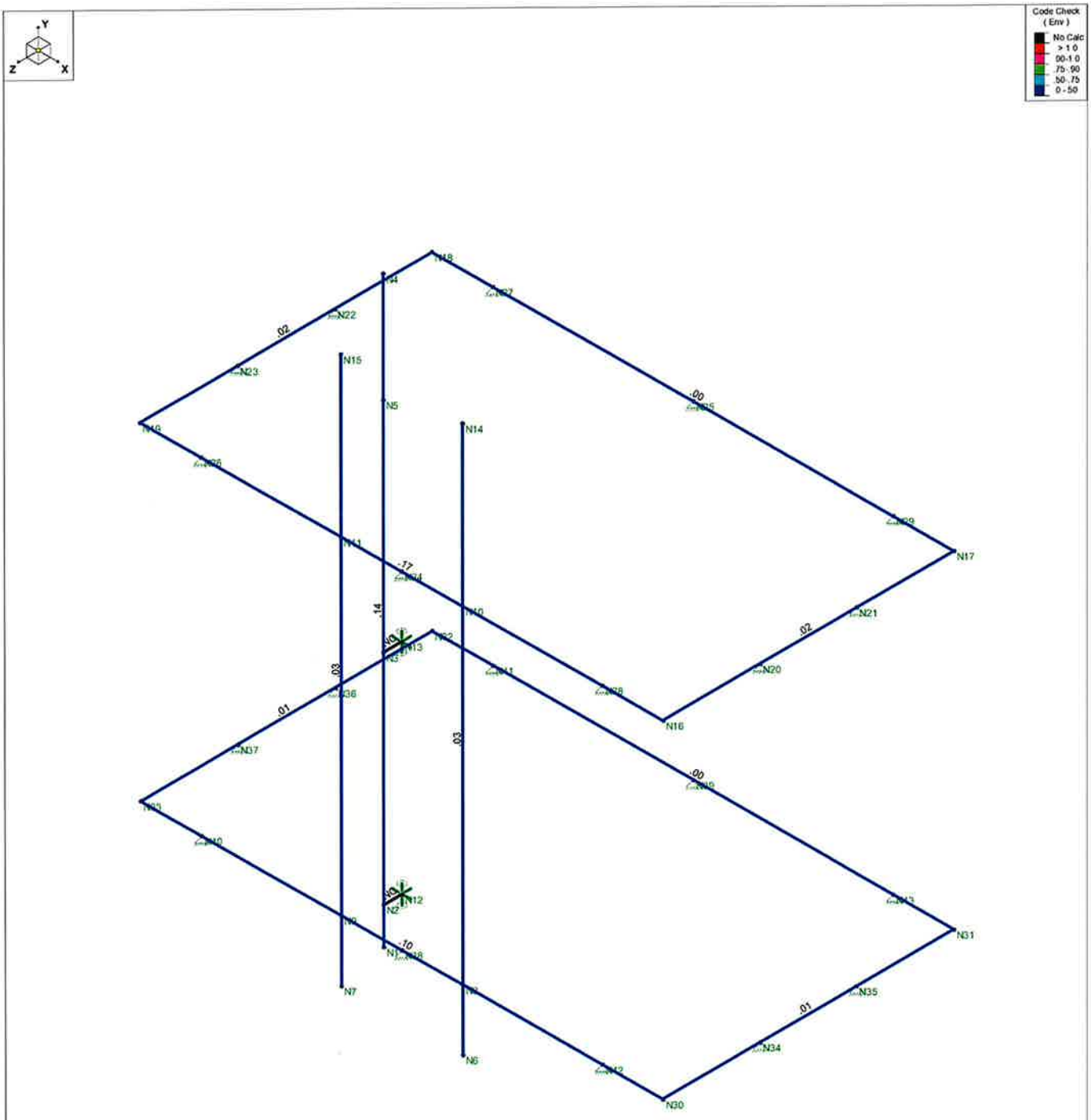
	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	.003	3	0	14	0	14	1.885e-04	4	0	14	5.16e-04	3
2		min	-.003	5	0	4	-.001	4	-1.623e-04	14	0	1	-5.16e-04	5
3	N2	max	0	14	0	14	0	14	1.885e-04	4	0	14	5.16e-04	3
4		min	0	1	0	4	0	1	-1.623e-04	14	0	1	-5.16e-04	5
5	N3	max	0	14	.001	14	0	14	4.139e-04	4	0	14	1.072e-03	5
6		min	0	1	-.001	4	0	1	-3.635e-04	14	0	1	-1.072e-03	3
7	N4	max	.125	3	.001	14	.089	4	2.001e-03	4	0	14	2.661e-03	5
8		min	-.125	5	-.001	4	-.087	14	-1.949e-03	14	0	1	-2.661e-03	3
9	N5	max	.077	3	.001	14	.053	4	2.001e-03	4	0	14	2.66e-03	5
10		min	-.077	5	-.001	4	-.052	14	-1.948e-03	14	0	1	-2.66e-03	3
11	N6	max	0	14	0	13	.012	12	3.048e-04	4	1.417e-03	14	-5.906e-06	13
12		min	0	4	0	3	-.012	6	-2.892e-04	14	-1.418e-03	4	-2.117e-05	3
13	N7	max	0	4	0	11	.012	12	3.048e-04	4	1.418e-03	4	2.117e-05	5
14		min	0	14	0	5	-.012	6	-2.892e-04	14	-1.417e-03	14	5.906e-06	11
15	N8	max	0	11	0	13	.015	4	3.143e-04	4	1.417e-03	14	-8.705e-07	14
16		min	0	5	0	3	-.015	14	-2.987e-04	14	-1.418e-03	4	-2.621e-05	4
17	N9	max	0	3	0	11	.015	4	3.143e-04	4	1.418e-03	4	2.621e-05	4
18		min	0	13	0	5	-.015	14	-2.987e-04	14	-1.417e-03	14	8.705e-07	14
19	N10	max	0	3	0	13	.026	12	2.172e-04	4	2.258e-03	6	-5.417e-06	13
20		min	0	13	0	3	-.026	6	-2.008e-04	14	-2.258e-03	12	-2.303e-05	3
21	N11	max	0	11	0	11	.026	12	2.172e-04	4	2.258e-03	12	2.303e-05	5
22		min	0	5	0	5	-.026	6	-2.008e-04	14	-2.258e-03	6	5.417e-06	11
23	N12	max	0	14	0	14	0	14	1.885e-04	4	0	14	5.16e-04	3
24		min	0	1	0	1	0	1	-1.623e-04	14	0	1	-5.16e-04	5
25	N13	max	0	14	0	14	0	14	4.139e-04	4	0	14	1.072e-03	5
26		min	0	1	0	1	0	1	-3.635e-04	14	0	1	-1.072e-03	3
27	N14	max	.003	4	0	13	.035	4	3.851e-04	4	2.258e-03	6	9.402e-05	14
28		min	-.002	14	0	3	-.034	14	-3.686e-04	14	-2.258e-03	12	-1.225e-04	4
29	N15	max	.002	14	0	11	.035	4	3.851e-04	4	2.258e-03	12	1.225e-04	4
30		min	-.003	4	0	5	-.034	14	-3.686e-04	14	-2.258e-03	6	-9.402e-05	14
31	N16	max	0	14	0	3	0	14	-3.091e-06	13	3.103e-04	6	1.42e-05	3
32		min	0	4	0	13	0	4	-1.341e-05	3	-3.103e-04	12	2.369e-06	13
33	N17	max	0	12	0	11	0	14	-7.908e-07	11	4.772e-06	12	-1.726e-06	11
34		min	0	6	0	5	0	4	-1.646e-06	5	-4.772e-06	6	-3.85e-06	5
35	N18	max	0	14	0	13	0	14	-7.908e-07	13	4.772e-06	14	3.85e-06	3
36		min	0	4	0	3	0	4	-1.646e-06	3	-4.771e-06	4	1.726e-06	13
37	N19	max	0	12	0	5	0	14	-3.091e-06	11	3.103e-04	12	-2.369e-06	11
38		min	0	6	0	11	0	4	-1.341e-05	5	-3.103e-04	6	-1.42e-05	5
39	N20	max	0	14	0	14	0	14	-6.272e-07	13	8.293e-05	12	8.424e-06	3
40		min	0	1	0	1	0	1	-4.315e-06	3	-8.294e-05	6	7.607e-07	13

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
41	N21	max	0	14	0	14	0	14	2.633e-07	11	2.191e-05	14	2.652e-06	3
42		min	0	1	0	1	0	1	-6.136e-07	5	-2.19e-05	4	-8.476e-07	13
43	N22	max	0	14	0	14	0	14	2.633e-07	13	2.191e-05	12	8.476e-07	11
44		min	0	1	0	1	0	1	-6.136e-07	3	-2.191e-05	6	-2.652e-06	5
45	N23	max	0	14	0	14	0	14	-6.272e-07	11	8.293e-05	14	-7.607e-07	11
46		min	0	1	0	1	0	1	-4.315e-06	5	-8.293e-05	4	-8.424e-06	5
47	N24	max	0	14	0	14	0	14	2.172e-04	4	1.672e-06	11	4.55e-06	13
48		min	0	1	0	1	0	1	-2.008e-04	14	-1.672e-06	13	-4.55e-06	3
49	N25	max	0	14	0	14	0	14	-8.478e-07	12	0	14	1.205e-07	13
50		min	0	1	0	1	0	1	-1.589e-06	6	0	1	-1.206e-07	3
51	N26	max	0	14	0	14	0	14	5.922e-05	12	9.617e-04	6	-5.748e-06	11
52		min	0	1	0	1	0	1	-6.578e-05	6	-9.616e-04	12	-2.185e-05	5
53	N27	max	0	14	0	14	0	14	-8.194e-07	13	1.822e-06	12	3.187e-07	3
54		min	0	1	0	1	0	1	-1.617e-06	3	-1.822e-06	6	-2.051e-07	13
55	N28	max	0	14	0	14	0	14	5.922e-05	12	9.616e-04	12	2.185e-05	3
56		min	0	1	0	1	0	1	-6.578e-05	6	-9.617e-04	6	5.748e-06	13
57	N29	max	0	14	0	14	0	14	-8.194e-07	11	1.822e-06	14	2.051e-07	11
58		min	0	1	0	1	0	1	-1.617e-06	5	-1.822e-06	4	-3.187e-07	5
59	N30	max	0	14	0	3	0	14	-1.664e-06	13	1.848e-04	14	1.474e-05	3
60		min	0	4	0	13	0	4	-1.384e-05	3	-1.849e-04	4	5.955e-07	13
61	N31	max	0	12	0	11	0	14	-7.598e-07	11	2.843e-06	12	-1.64e-06	11
62		min	0	6	0	5	0	4	-1.706e-06	5	-2.842e-06	6	-4.04e-06	5
63	N32	max	0	14	0	13	0	14	-7.598e-07	13	2.842e-06	14	4.04e-06	3
64		min	0	4	0	3	0	4	-1.706e-06	3	-2.843e-06	4	1.64e-06	13
65	N33	max	0	12	0	5	0	14	-1.664e-06	11	1.849e-04	4	-5.955e-07	11
66		min	0	6	0	11	0	4	-1.384e-05	5	-1.848e-04	14	-1.474e-05	5
67	N34	max	0	14	0	14	0	14	-6.071e-08	13	4.941e-05	12	8.804e-06	3
68		min	0	1	0	1	0	1	-4.49e-06	3	-4.939e-05	6	-4.763e-07	13
69	N35	max	0	14	0	14	0	14	3.523e-07	11	1.305e-05	14	2.872e-06	3
70		min	0	1	0	1	0	1	-8.253e-07	5	-1.305e-05	4	-1.548e-06	13
71	N36	max	0	14	0	14	0	14	3.523e-07	13	1.305e-05	12	1.548e-06	11
72		min	0	1	0	1	0	1	-8.253e-07	3	-1.305e-05	6	-2.872e-06	5
73	N37	max	0	14	0	14	0	14	-6.071e-08	11	4.94e-05	14	4.763e-07	11
74		min	0	1	0	1	0	1	-4.49e-06	5	-4.941e-05	4	-8.804e-06	5
75	N38	max	0	14	0	14	0	14	3.143e-04	4	1.673e-06	13	3.434e-06	13
76		min	0	1	0	1	0	1	-2.987e-04	14	-1.673e-06	11	-3.435e-06	3
77	N39	max	0	14	0	14	0	14	-8.253e-07	12	0	14	1.618e-07	13
78		min	0	1	0	1	0	1	-1.641e-06	6	0	1	-1.618e-07	3
79	N40	max	0	14	0	14	0	14	8.841e-05	12	5.728e-04	14	-3.622e-06	11
80		min	0	1	0	1	0	1	-9.45e-05	6	-5.729e-04	4	-2.25e-05	5
81	N41	max	0	14	0	14	0	14	-7.982e-07	13	1.085e-06	12	4.438e-07	3
82		min	0	1	0	1	0	1	-1.668e-06	3	-1.085e-06	6	-2.655e-07	13
83	N42	max	0	14	0	14	0	14	8.841e-05	12	5.729e-04	4	2.25e-05	3
84		min	0	1	0	1	0	1	-9.45e-05	6	-5.728e-04	14	3.622e-06	13
85	N43	max	0	14	0	14	0	14	-7.982e-07	11	1.085e-06	14	2.655e-07	11
86		min	0	1	0	1	0	1	-1.668e-06	5	-1.085e-06	4	-4.438e-07	5

Envelope AISC 15th(360-16): ASD Steel Code Checks

	Memb...	Shape	Code Check	L...	LC	Sh...	L...	Dir	...	Pnc/o...	Pnt/o...	Mnyy/om [k-ft]	Mn...	Cb	Eqn
1	M1	PIPE 3.0	.141	3.5	4	.013	.5		4	30.799	43.383	3.825	3.825	1	H1..
2	M4	L3X3X6	.030	5....	4	.007	5....	z	6	13.206	45.485	1.535	3.374	1....	H2..
3	M5	L3X3X6	.030	5....	4	.007	5....	y	6	13.206	45.485	1.535	3.374	1....	H2..
4	M6	4"x3/8"	.169	3....	4	.005	3....	y	5	.357	32.335	.253	1.786	1....	H1..
5	M7	4"x3/8"	.016	0	4	.001	2....	y	3	1.147	32.335	.253	2.695	1....	H1..
6	M8	4"x3/8"	.002	.8...	6	.001	3....	y	5	.357	32.335	.253	1.658	1....	H1..
7	M9	4"x3/8"	.016	4	4	.001	1....	y	5	1.147	32.335	.253	2.695	1....	H1..
8	M10	4"x3/8"	.103	3....	6	.005	3....	y	5	.357	32.335	.253	1.93	1....	H1..
9	M11	4"x3/8"	.010	0	4	.001	2....	y	3	1.147	32.335	.253	2.695	1....	H1..
10	M12	4"x3/8"	.002	.8...	6	.001	3....	y	5	.357	32.335	.253	1.692	1....	H1..
11	M13	4"x3/8"	.010	4	4	.001	1....	y	5	1.147	32.335	.253	2.695	1....	H1..



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Centek Engineering		
TJL	Danielson SC2	Dec 7, 2022 at 9:07 AM
22105.07	Unity Check	Mount.r3d

CENTEK engineering
Centered on Solutions
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject:	Connection to Host Building
Location:	Killingly, CT
Rev. 0: 8/15/22	Prepared by: T.J.L. Checked by: C.F.C. Job No. 22105.07

Antenna Mast Connection:

Anchor Data:

HAS Threaded Rod w/ Hilti HY70 Adhesive =

Number of Anchor Bolts =	$N := 4$	(User Input)
Diameter of Bolts =	$D := 0.5in$	(User Input)
Embedment of Bolts =	$EM := 6in$	(User Input)
Bolt Spacing =	$Sp := 6in$	(User Input)
Alowable Tension =	$T_{all} := 895 \cdot lb$	(User Input)
Alowable Shear =	$V_{all} := 1075 \cdot lb$	(User Input)

Design Reactions:

Fx =	$F_x := 0.4 \cdot kips$	(User Input)
Fy =	$F_y := 1.0 \cdot kips$	(User Input)
Fz =	$F_z := 0.4 \cdot kips$	(User Input)
Moment X =	$Mx := 0 \cdot ft \cdot kips$	(User Input)
Moment Y =	$My := 0.1 \cdot ft \cdot kips$	(User Input)
Moment Z =	$Mz := 0 \cdot ft \cdot kips$	(User Input)

Anchor Check:

Max Tension Force =

$$T_{Max} := \frac{F_z}{N} + \frac{My}{Sp \cdot \frac{N}{2}} = 200lb$$

Max Shear Force =

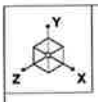
$$V_{Max} := \frac{F_y + F_x}{N} = 350lb$$

Condition 1 =

$$Condition1 := if\left(\frac{T_{Max}}{T_{all}} + \frac{V_{Max}}{V_{all}} \le 1.0, "OK", "NG"\right) = "OK"$$

% of Capacity =

$$\max\left[\frac{T_{Max}}{T_{all}}, \frac{V_{Max}}{V_{all}}, \left(\frac{\frac{T_{Max}}{T_{all}} + \frac{V_{Max}}{V_{all}}}{1.0}\right)\right] = 54.9 \cdot \%$$



Envelope Only Solution

Centek Engineering		
TJL	Danielson SC2	Dec 7, 2022 at 9:10 AM
22105.07	Member Framing	RRH Mount.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): ASD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): ASD
Cold Formed Steel Code	AISI S100-10: ASD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: ASD
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1
Footing Overturning Safety Factor	1
Optimize for OTM/Sliding	No
Check Concrete Bearing	No
Footing Concrete Weight (k/ft^3)	150.001
Footing Concrete f'c (ksi)	4
Footing Concrete Ec (ksi)	3644
Lambda	1
Footing Steel fy (ksi)	60
Minimum Steel	0.0018
Maximum Steel	0.0075
Footing Top Bar	#3
Footing Top Bar Cover (in)	2
Footing Bottom Bar	#3
Footing Bottom Bar Cover (in)	3.5
Pedestal Bar	#3
Pedestal Bar Cover (in)	1.5
Pedestal Ties	#3

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mast	PIPE_2.0	Column	Pipe	A53 Grade B	Typical	1.02	.627	.627	1.25

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[...	Lcomp bot[...	L-torq...	Kyy	Kzz	Cb	Functi...
1	M1	Mast	4									Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design ...
1	M1	N1	N4			Mast	Column	Pipe	A53 Grade B	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	1	0	0	
3	N3	0	3	0	0	
4	N4	0	4	0	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N2	Reaction	Reaction	Reaction		Reaction	
2	N3	Reaction	Reaction	Reaction		Reaction	

Member Point Loads (BLC 2 : Weight of Equipment)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Y	-.075	3.5
2	M1	Y	-.007	1.5

Member Point Loads (BLC 3 : Wind X-Direction)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	X	.048	3.5
2	M1	X	.004	1.5

Member Point Loads (BLC 4 : Wind Z-Direction)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Z	.072	3.5
2	M1	Z	.009	1.5

Member Distributed Loads (BLC 3 : Wind X-Direction)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,k...	Start Location[ft,..	End Location[ft,...
1	M1	X	.01	.01	0	0

Basic Load Cases

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Joint	Point	Distrib..	Area(...	Surfa...
1	Self Weight	DL		-1						
2	Weight of Equipment	DL					2			
3	Wind X-Direction	WLX					2	1		
4	Wind Z-Direction	WLZ					2			

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
1	IBC 16-8	Yes	Y		DL	1																		
2	IBC 16-9	Yes	Y		DL	1	LL	1	LLS	1														
3	IBC 16-12 (a) (a)	Yes	Y		DL	1	W...	.6																
4	IBC 16-12 (a) (b)	Yes	Y		DL	1	W...	.6																
5	IBC 16-12 (a) (c)	Yes	Y		DL	1	W...	-.6																
6	IBC 16-12 (a) (d)	Yes	Y		DL	1	W...	-.6																
7	IBC 16-13 (a) (a)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
8	IBC 16-13 (a) (b)	Yes	Y		DL	1	W...	.45	LL	.75	LLS	.75												
9	IBC 16-13 (a) (c)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												
10	IBC 16-13 (a) (d)	Yes	Y		DL	1	W...	-.45	LL	.75	LLS	.75												
11	IBC 16-15 (a)	Yes	Y		DL	.6	W...	.6																
12	IBC 16-15 (b)	Yes	Y		DL	.6	W...	.6																
13	IBC 16-15 (c)	Yes	Y		DL	.6	W...	-.6																
14	IBC 16-15 (d)	Yes	Y		DL	.6	W...	-.6																

Envelope Joint Reactions

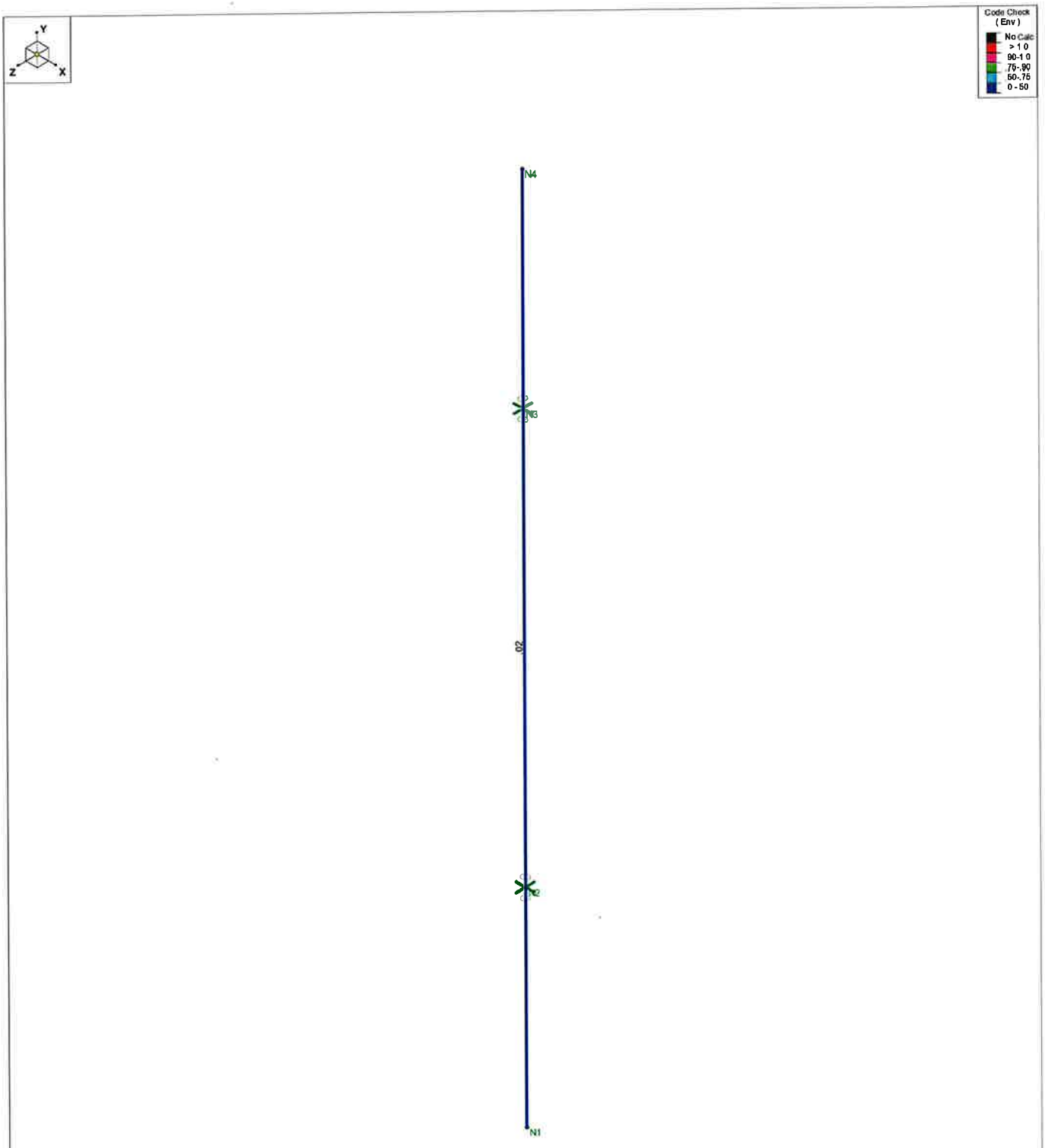
	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	.007	13	.012	10	.007	4	0	14	0	14	0	14
2		min	-.007	11	.007	11	-.007	6	0	1	0	1	0	1
3	N3	max	.049	5	.084	10	.055	6	0	14	0	14	0	14
4		min	-.049	3	.05	11	-.055	4	0	1	0	1	0	1
5	Totals:	max	.055	13	.096	10	.049	14						
6		min	-.055	3	.058	11	-.049	4						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0	3	0	14	0	4	5.776e-05	6	0	14	6.092e-05	3
2		min	0	5	0	1	0	6	-5.776e-05	4	0	1	-6.092e-05	5
3	N2	max	0	14	0	14	0	14	5.776e-05	6	0	14	5.102e-05	3
4		min	0	1	0	1	0	1	-5.776e-05	4	0	1	-5.102e-05	5
5	N3	max	0	14	0	14	0	14	1.361e-04	4	0	14	1.025e-04	5
6		min	0	1	0	1	0	1	-1.361e-04	6	0	1	-1.025e-04	3
7	N4	max	.002	3	0	14	.002	4	1.896e-04	4	0	14	1.481e-04	5
8		min	-.002	5	0	1	-.002	6	-1.896e-04	6	0	1	-1.481e-04	3

Envelope AISC 15th(360-16): ASD Steel Code Checks

	Memb...	Shape	Code Check	L...	LC	Sh...	L...	Dir	...Pnc/o...	Pnt/o...	Mnyy/om [k-ft]	Mn...	Cb	Eqn
1	M1	PIPE_2.0	.020	3	6	.007	3		6	17.646	21.377	1.245	1.245	1	H1..



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Centek Engineering		
TJL	Danielson SC2	Dec 7, 2022 at 9:10 AM
22105.07	Unity Check	RRH Mount.r3d

CENTEK engineering
Centered on Solutions
63-2 North Branford Road
Branford, CT 06405
www.centekeng.com
P: (203) 488-0580
F: (203) 488-8587

Subject:	Connection to Host Building
Location:	Killingly, CT
Rev. 1: 8/23/22	Prepared by: T.J.L. Checked by: C.F.C. Job No. 22105.07

RRH Mast Connection:

Anchor Data:

HAS Threaded Rod w/ Hilti HY70Adhesive =

Number of Anchor Bolts =	$N := 2$	(User Input)
Diameter of Bolts =	$D := 0.5in$	(User Input)
Embedment of Bolts =	$EM := 6in$	(User Input)
Bolt Spacing =	$Sp := 12in$	(User Input)
Alowable Tension =	$T_{all} := 895 \cdot lb$	(User Input)
Alowable Shear =	$V_{all} := 1075 \cdot lb$	(User Input)

Design Reactions:

Fx =	$F_x := 0.05 \cdot kips$	(User Input)
Fy =	$F_y := 0.085 \cdot kips$	(User Input)
Fz =	$F_z := 0.06 \cdot kips$	(User Input)
Moment X =	$Mx := 0 \cdot ft \cdot kips$	(User Input)
Moment Y =	$My := 0 \cdot ft \cdot kips$	(User Input)
Moment Z =	$Mz := 0 \cdot ft \cdot kips$	(User Input)

Anchor Check:

Max Tension Force =

$$T_{Max} := \frac{F_z}{N} + \frac{My}{Sp \cdot \frac{N}{2}} = 30lb$$

Max Shear Force =

$$V_{Max} := \frac{F_y + F_x}{N} = 67.5lb$$

Condition 1 =

$$Condition1 := if\left(\frac{T_{Max}}{T_{all}} + \frac{V_{Max}}{V_{all}} \le 1.0, "OK", "NG"\right) = "OK"$$

% of Capacity =

$$\max\left[\frac{T_{Max}}{T_{all}}, \frac{V_{Max}}{V_{all}}, \left(\frac{\frac{T_{Max}}{T_{all}} + \frac{V_{Max}}{V_{all}}}{1.0}\right)\right] = 9.6 \cdot \%$$

verizon
fuze | RFDS

EAST > North East > New England > New England West > DANIELSON SC 2 CT

RF Submit by: , - - 3/23/2022, 8:11:40 AM

EE Submit by: Driscoll, Janet - janet.driscoll@verizonwireless.com - 7/18/2022, 1:10:22 PM

Project Details

FUZE Project ID: 16773947
Project Name: Radio Swap
Project Alt Name: DANIELSON SC 2 CT - NENG_SC_ESNAP
Project Type: Modification
Modification Type: RF
Designed Sector Carrier 4G: 2
Designed Sector Carrier 5G: N/A
Additional Sector Carrier 4G: N/A
Additional Sector Carrier 5G: N/A
FP Solution Type & Tech Type: MODIFICATION;4G_PCS,4G_Radio Swap
Carrier Aggregation: false
MPT Id:
eCIP-0: false
Suffix: Rev0_20220323

Location Information

Site ID: 2796056
E-NodeB ID: 0647869,064869
PSLC: 468085
Switch Name: Wallingford 1
Tower Owner:
Tower Type: Rooftop
Site Type: SMALL-CELL
Site Sub Type: SPOKE
Street Address: 172 Main St
City: Danielson
State: CT
Zip Code: 06239
County: Windham
Latitude: 41.805792 / 41° 48' 20.8512" N
Longitude: -71.882572 / 71° 52' 57.2592" W

RFDS Project Scope: ESNAP
Swap RRH to SS dual high band
Swap antenna
Add diplexer to support 4T

Rev0_20220323: initial design

Antenna Summary

Added

1900	AWS	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID
LTE	LTE	AMPHENOL	CUUDI20X06Fx0z0-T00-1900-(-45)-Y1	64	65	50(01)	false	true	PHYSICAL	1	

Removed

1900	AWS	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID
	LTE	ANDREW	NH65PS-DG-F0M	64	65.2	50(01)	false	false	PHYSICAL	1	

Retained

1900	AWS	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID

No data available

Added: 1 | Removed: 1 | Retained: 0

Equipment Summary

Added

Equipment Type	Location	1900	AWS	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID
Kit	Tower			COMMSCOPET-001	SDX1926Q-43			PHYSICAL	1	SDX1926Q-43
Kit	Tower			GEMINI	1600131299A			PHYSICAL	1	1600131299A
Kit	Tower			GEMINI	1600270671A			PHYSICAL	1	1600270671A
Kit	Tower			QUADELECTRIC	F113CGRS0101FLF025			PHYSICAL	2	F113CGRS0101FLF0
Kit	Tower			QUADELECTRIC	FLI002OT010046M010			PHYSICAL	2	FLI002OT010046M
Kit	Tower			QUADELECTRIC	SAMSUNG-CBRS-BRKT			PHYSICAL	1	SAMSUNG-CBRS-BRKT
Kit	Tower			QUADELECTRIC	TRAT303H1B1J00F005			PHYSICAL	8	TRAT303H1B1J00F
Kit	Tower			QUADELECTRIC	TRAT303H1B1J00F050			PHYSICAL	8	TRAT303H1B1J00F
Kit	Tower			QUADELECTRIC	UXP-4MT-12S			PHYSICAL	8	UXP-4MT-12S
Kit	Tower			QUADELECTRIC	WPS-4F			PHYSICAL	8	WPS-4F
Kit	Tower			QUADELECTRIC	WPS-N-4S			PHYSICAL	8	WPS-N-4S
Kit	Tower			QUADELELECTRIC	V3000			PHYSICAL	1	V3000
RRU	Tower	LTE	LTE	Samsung	B2/B66A RRH-BR049 (RFV01U-D1A)			PHYSICAL	1	SLS-BR0497EACX

Removed

Equipment Type	Location	1900	AWS	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID
RRU	Tower		LTE	Nokia	UHIC B4 RRH 2x60-4R			PHYSICAL	1	

Retained

Equipment Type	Location	1900	AWS	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID

No data available.

Service Info

1900 MHz LTE		0002
Sector		01
Azimuth		50
Cell / ENode B ID		064869
Antenna Model		CUUD120X06Fx0z0-T00 -1900-(-45)-Y1
Antenna Make		AMPHENOL
Antenna Centerline(Ft)		64
Mechanical Down-Tilt(Deg.)		0
Electrical Down-Tilt		0
Tip Height		65
Regulatory Power		36.26
DLEARFCN		1075
Channel Bandwidth(MHz)		15
Total ERP (W)		298.4
TMA Make		
TMA Model		
RRU Make		[illegible]
RRU Model		[illegible]
Number of Tx, Rx Lines		4,4
Position		
Transmitter Id		12616760
Source		ATOLL_API

2100 MHz LTE	0000	0002
Sector	01	01
Azimuth	50	50
Cell / ENode B ID	064869	064869
Antenna Model	NH65PS-DG-F0M	CUUD120X06Fx0z0-T00 -2100-(-45)-Y1
Antenna Make	ANDREW	AMPHENOL
Antenna Centerline(Ft)	64	64
Mechanical Down-Tilt(Deg.)	0	0
Electrical Down-Tilt	0	0
Tip Height	65.2	65
Regulatory Power	37.47	28.48
DLEARFCN	2050	2050
Channel Bandwidth(MHz)	20	20
Total ERP (W)	411.15	312.46
TMA Make		
TMA Model		
RRU Make	Nokia	[illegible]
RRU Model	UHIC B4 RRH 2x60-4R	[illegible]
Number of Tx, Rx Lines	2,2	4,4
Position		
Transmitter Id	1959620	12616759
Source	ATOLL_API	ATOLL_API

Service Comments

Callsigns Per Antenna

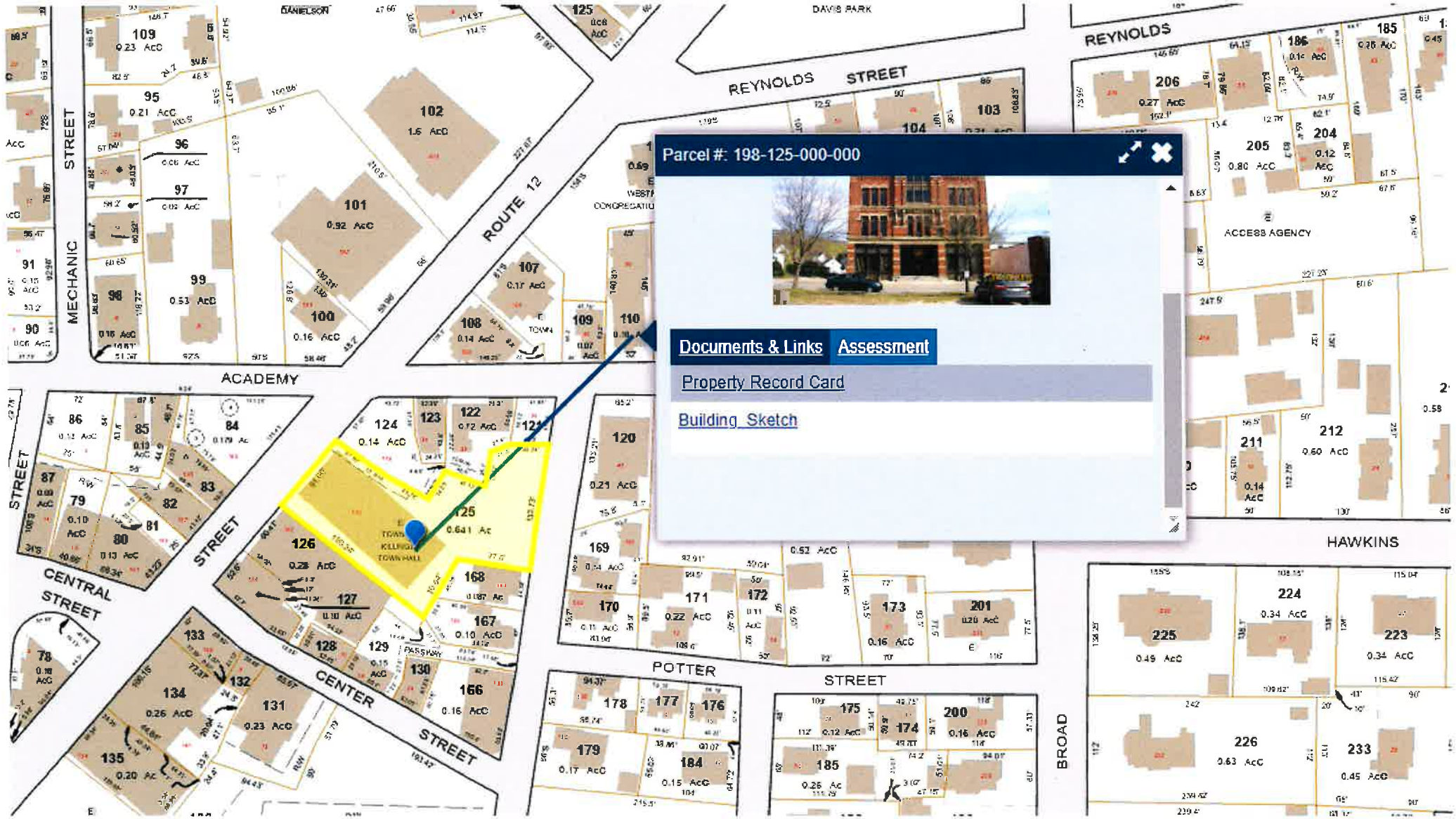
Sector	Antenna Make	Antenna Model	Ant CL Height AGL	Tip Height	Azimuth (TN)	Elec Tilt	Mech Tilt	Gain	Beam Width	Regulatory Power	Callsigns						
											700	850	1900	2100	28 GHz	31 GHz	39 GHz
01	AMPHENOL	CUUD120X06Fx0z0-T00-2100-(-45)-Y1	64	65	50	0	0	9.148	120	28.48				WQGA906 WQGD529			
01	AMPHENOL	CUUD120X06Fx0z0-T00-1900-(-45)-Y1	64	65	50	0	0	8.948	125	36.26			KNLH263 WQDU931 WQEM954				

Callsigns

Callsign	Market	Radio Code	Market Number	Block	State	County	Licensee Name	Wholly Owned	Total MHZ	Freq Range 1	Freq Range 2	Freq Range 3	Freq Range 4	Regulatory Power	Threshold (W)	POPs /Sq Mi	Status	Action	Approved for Insvc
WQEM954	*New London-Norwich, CT*	*CW*	*BTA319*	*C*	*CT*	*Windhan*	*Cellco Partnership*	*Yes*	*10.000*	*1895.000-1900.000*	*1975.000-1980.000*	*.000-.000*	*.000-.000*	*36.26*	*1640*	*226.98*	*Active*	*added*	*Yes*
WQDU931	*New London-Norwich, CT*	*CW*	*BTA319*	*C*	*CT*	*Windhan*	*Cellco Partnership*	*Yes*	*10.000*	*1900.000-1905.000*	*1980.000-1985.000*	*.000-.000*	*.000-.000*	*36.26*	*1640*	*226.98*	*Active*	*added*	*Yes*
KNLH263	*New London-Norwich, CT*	*CW*	*BTA319*	*F*	*CT*	*Windhan*	*Cellco Partnership*	*Yes*	*10.000*	*1890.000-1895.000*	*1970.000-1975.000*	*.000-.000*	*.000-.000*	*36.26*	*1640*	*226.98*	*Active*	*added*	*Yes*
WQGD529	*Connecticut 2 - Windham*	*AW*	*CMA358*	*A*	*CT*	*Windhan*	*Cellco Partnership*	*Yes*	*20.000*	*1710.000-1720.000*	*2110.000-2120.000*	*.000-.000*	*.000-.000*	*28.48*	*1640*	*226.98*	*Active*	*added*	*Yes*
WQGA906	*New York-No. New Jer.-Long Island, NY-NJ-CT-PA-MA-*	*AW*	*BEA010*	*B*	*CT*	*Windhan*	*Cellco Partnership*	*Yes*	*20.000*	*1720.000-1730.000*	*2120.000-2130.000*	*.000-.000*	*.000-.000*	*28.48*	*1640*	*226.98*	*Active*	*added*	*Yes*
WQJQ689	Northeast	WU	REA001	C	CT	Windhan	Cellco Partnership	Yes	22.000	746.000-757.000	776.000-787.000	.000-.000	.000-.000		1000	226.98	Active		Yes
KNKN862	Connecticut 2 - Windham	CL	CMA358	A	CT	Windhan	Cellco Partnership	Yes	25.000	824.000-835.000	869.000-880.000	845.000-846.500	890.000-891.500		400	226.98	Active		Yes
WREE837	C09015 - Windham, CT	UU	C09015	L1	CT	Windhan	Cellco Partnership	Yes	425.000	27500.000-27925.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WREE838	C09015 - Windham, CT	UU	C09015	L2	CT	Windhan	Cellco Partnership	Yes	425.000	27925.000-28350.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD609	New York, NY	UU	PEA001	M1	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	37600.000-37700.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD610	New York, NY	UU	PEA001	M10	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38500.000-38600.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD611	New York, NY	UU	PEA001	M2	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	37700.000-37800.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD612	New York, NY	UU	PEA001	M3	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	37800.000-37900.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD613	New York, NY	UU	PEA001	M4	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	37900.000-38000.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD614	New York, NY	UU	PEA001	M5	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38000.000-38100.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD615	New York, NY	UU	PEA001	M6	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38100.000-38200.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD616	New York, NY	UU	PEA001	M7	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38200.000-38300.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD617	New York, NY	UU	PEA001	M8	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38300.000-38400.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD618	New York, NY	UU	PEA001	M9	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38400.000-38500.000	.000-.000	.000-.000	.000-.000			226.98	Active		Yes
WRHD619	New York, NY	UU	PEA001	N1	CT	Windhan	Straight Path Spectrum, LLC	Yes	100.000	38600.000-38700.000	.000-.000	.000-.000	.000-.000			226.98	Active	N/A	No
WRNE581	New York, NY	PM	PEA001	A1	CT	Windhan	Cellco Partnership	Yes	20.000	3700.000-3720.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active		Yes

WRNE582	New York, NY	PM	PEA001	A2	CT	Windham	Cellco Partnership	Yes	20.000	3720.000-3740.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	Yes
WRNE583	New York, NY	PM	PEA001	A3	CT	Windham	Cellco Partnership	Yes	20.000	3740.000-3760.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	Yes
WRNE584	New York, NY	PM	PEA001	A4	CT	Windham	Cellco Partnership	Yes	20.000	3760.000-3780.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	No
WRNE585	New York, NY	PM	PEA001	A5	CT	Windham	Cellco Partnership	Yes	20.000	3780.000-3800.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	No
WRNE586	New York, NY	PM	PEA001	B1	CT	Windham	Cellco Partnership	Yes	20.000	3800.000-3820.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	No
WRNE587	New York, NY	PM	PEA001	B2	CT	Windham	Cellco Partnership	Yes	20.000	3820.000-3840.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	No
WRNE588	New York, NY	PM	PEA001	B3	CT	Windham	Cellco Partnership	Yes	20.000	3840.000-3860.000	.000-.000	.000-.000	.000-.000		1640	226.98	Active	No

ATTACHMENT 5


Parcel #: 198-125-000-000
Documents & Links
Assessment
Property Record Card
Building Sketch
REYNOLDS STREET
ROUTE 12
MECHANIC STREET
ACADEMY
CENTRAL STREET
CENTER STREET
POTTER STREET
BROAD
HAWKINS
ACCESS AGENCY
DAVIS PARK
125
0.641 Ac
102
1.6 Acc
101
0.92 Acc
100
0.16 Acc
99
0.53 Acc
109
0.23 Acc
95
0.21 Acc
96
0.06 Acc
97
0.02 Acc
98
0.16 Acc
91
0.15 Acc
90
0.06 Acc
107
0.17 Acc
108
0.14 Acc
109
0.07 Acc
110
0.16 Acc
103
104
206
0.27 Acc
205
0.80 Acc
204
0.12 Acc
186
0.14 Acc
185
0.26 Acc
211
0.14 Acc
212
0.60 Acc
120
0.21 Acc
169
0.54 Acc
170
0.11 Acc
171
0.22 Acc
172
0.11 Acc
173
0.16 Acc
201
0.20 Acc
124
0.14 Acc
123
122
0.72 Acc
121
126
0.28 Acc
127
0.10 Acc
128
129
0.15 Acc
130
168
0.087 Ac
167
0.10 Acc
166
0.16 Acc
86
0.12 Acc
85
0.13 Acc
84
0.179 Ac
87
0.09 Acc
79
0.10 Acc
83
82
81
80
0.13 Acc
78
0.18 Acc
133
134
0.26 Acc
132
131
0.23 Acc
135
0.20 Ac
178
177
176
179
0.17 Acc
184
0.15 Acc
175
0.12 Acc
174
200
0.16 Acc
185
0.25 Ac
224
0.34 Acc
225
0.49 Acc
223
0.34 Acc
226
0.63 Acc
233
0.45 Acc

Killingly

Unique ID: 6997 **Card No:** 1 Of 1

Location:	172 MAIN ST	Map Id:	198-125	Zone:	CBD	Date Printed:	12/8/2022
		Neighborhood:	300			Last Update:	12/7/2022

Owner Of Record	Volume/Page	Date	Sales Type	Valid	Sale Price
KILLINGLY TOWN OF-011	0145/0221	9/30/1961	Warranty Deed	No	0
TOWN HALL, 172 MAIN ST, KILLINGLY, CT 06239			Exempt		

Prior Owner History

Permit Number	Date	Permit Description
21-000715	6/30/2021	REPLACE CORRODED SEWER LINE IN BSMT FLOOR
28102	1/26/2021	ELECTRICAL FLOOR OUTLETS
27647	7/8/2020	2ND FL RENO - DEMO TM OFFICE BATHRM & EXPANSION OF POLICE OFFICE SPACE
27365	2/4/2020	NVC INSTAQLL 2 ELEC HEATERS - 1ST FL LADIES & MENS BATHROOMS
27253	11/15/2019	NVC INSTALL 7 NEW 240 - 30 AMP CIRCUITS FOR ROOF HEATERS
27203	10/24/2019	CONSTRUCT CANOPY TO PROTECT CHILLER 12X18X16H

Supplemental Data

Census/Tract	9045-3008	TylerPARID	006997
Dev Map ID			
GIS ID			
Route			
District			
Utilities	Sewer, Public Water		

Appraised Value

Total Land Value	51,200
Total Building Value	1,245,400
Total Outbldg Value	0
Total Market Value	1,296,600

Acres

Land Type	Acres	490	Total Value
Primary Site	0.64	0.00	51,200
Total	0.6400	0.00	51,200

State Item Codes

Code	Quantity	Value
22-Commercial Building	1.00	871,780
21-Commercial Land	0.64	35,840
25-Commercial Outbuilding	1.00	0

Assessment History (Prior Years as of Oct 1)

	2022	2021	2020	2019	2018
Land	35,840	35,840	35,840	35,840	35,840
Building	871,780	871,780	869,510	869,510	869,510
Outbuilding	0	0	2,270	2,270	2,270
Total	**907,620**	**907,620**	**907,620**	**907,620**	**907,620**

490 Appraised Totals

Type	Acres	Value	Type	Acres	Value
			Totals	0.00	0

Application Date: **Expiration Date:**

Comments

NVC RENO OFFICE SPACE-ADD WALL

Revaluation Date: 10/1/2018

Killinaly

Unique ID: 6997

Location:	172 MAIN ST	**Unit**	

Commercial Building Description

Building Use	Public Use
Class	Wood Frame
Overall Condition	Good
Construction Quality	C
Stories	4.00
Year Built	1972
Remodel	
Percent Complete	100
GLA	**34900**

Basement

Basement Area	9204

HVAC

Heating Type	Hot Air No Duct
Fuel Type	
Cooling Type	Central

Interior

Floors	
Walls	
Wall Height	

Exterior

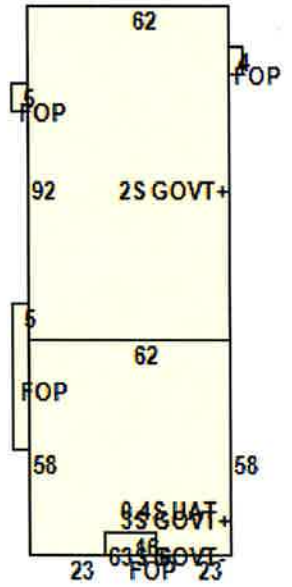
Exterior Walls	Brick Veneer
Roof Type	
Roof Cover	

Special Features

Description	Area/Qty
Base Value	31304
Central Air	34900

Attached Component Computations

Type	Yr Blt	Area/Qty
Open Porch	1972	200
Open Porch	1972	96
Open Porch	1972	40
Open Porch	1972	28
Unfinished Attic	1972	3500



Detached Component Computations

Type	Year	Condition	Area/Qty
Paving	1990	Average	3000

Type	Year	Condition	Area/Qty

ATTACHMENT 6

Danielson SC 2

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	2	2	neopost 01/09/2023 US POSTAGE $003.09⁰ ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		OLD STATE HOUSE STATION 06103 JAN - 9 2023 USPS

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Mary Calorio, Town Manager Town of Killingly 172 Main Street Killingly, CT 06239				
2.	Ann-Marie Aubrey, Director of Planning & Development Town of Killingly 172 Main Street Killingly, CT 06239				
3.					
4.					
5.					
6.					