



April 6, 2021

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

Re: Notice of Exempt Modification New Cingular Wireless PCS LLC ("AT&T") Site CT5100
220 Evergreen Street, Bridgeport, CT 06606 (the "Property")
Latitude: 41-11-51.92 N Longitude: 73-11-26.09 W

Dear Ms. Bachman:

AT&T currently maintains (12) antennas at the 130-foot level on the existing 135' monopole tower ("Tower") at 220 Evergreen Street, Bridgeport, CT. The Tower is owned by Blue Sky towers ("Blue Sky") and the property is owned by Chapin & Bangs. AT&T intends to modify its facility by replacing (1) antenna with (1) MS-MBA-3.2-H4-L4 antenna, replacing (3) RRUs with (2) B5/B12 4449 and (3) 8843 B2/B66A RRUs. The height of AT&T's existing and proposed antennas & RRUs is 130'.

This modification includes B2, B5, and B12 hardware that is both 4G (LTE) and 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

The AT&T facility received CT Siting Council ("Council") approval in Docket 464 on April 14, 2016. The approval contained no conditions that could feasibly be violated by this modification, including facility height or mounting restrictions. AT&T's modification complies with the above-mentioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ("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 the Honorable Joseph P. Ganim, Mayor, City of Bridgeport, as elected official, Dennis Buckley, Zoning Administrator, City of Bridgeport, and Chapin & Bangs, the property owner. Blue Sky tower, the tower owner, received a copy by email.

The planned modification of the facility falls squarely within those activities explicitly provided for in R.C.S.A §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and foundation can support the proposed loading.

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

Sincerely,

Hollis M. Redding

Hollis M. Redding
SAI Communications, LLC
12 Industrial Way
Salem, NH 03079
Mobile: 860-834-6964
hredding@saigrp.com

Enclosures

Cc: Honorable Joseph P. Ganim, Mayor, City of Bridgeport, elected official
Dennis Buckley, Zoning Administrator, City of Bridgeport
Chapin & Bangs, property owner
Blue Sky Towers, tower owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							21.47%
AT&T	1	762	130	0.0178	850	0.5667	0.31%
AT&T	1	5070	130	0.1186	2100	1.0000	1.19%
AT&T	2	1476	130	0.0690	700	0.4667	1.48%
AT&T	1	1000	130	0.0234	850	0.5667	0.41%
AT&T	1	1285	130	0.0301	2300	1.0000	0.30%
AT&T	2	4842	130	0.2265	1900	1.0000	2.26%
AT&T	1	2951	130	0.0690	700	0.4667	1.48%
Site Total							28.91%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							21.47%
AT&T	1	762	130	0.0178	850	0.5667	0.31%
AT&T	1	5070	130	0.1186	2100	1.0000	1.19%
AT&T	1	1476	130	0.0345	700	0.4667	0.74%
AT&T	1	1000	130	0.0468	850	0.5667	0.83%
AT&T	1	1285	130	0.0301	2350	1.0000	0.30%
AT&T	1	2951	130	0.0690	700	0.4667	1.48%
AT&T	1	1476	130	0.0690	700	0.4667	1.48%
AT&T	2	4842	130	0.1132	1900	1.0000	1.13%
Site Total							28.93%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:

- NEW AT&T ANTENNAS: MS-MBA-3.2-H4-L4 (TOTAL OF 1 PER GAMMA SECTOR).
- NEW AT&T RRUS: B5/B12 4449 (850/700) (TOTAL OF 2 PER GAMMA SECTOR).
- NEW AT&T RRUS: 8843 B2/B66A (PCS/AWS) (TOTAL OF 3 PER GAMMA SECTOR).
- NEW AT&T COMBINERS: DBC0051F3V51-2 (TOTAL OF 6 PER GAMMA SECTOR).
- NEW AT&T DC & FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (3) DC POWER & (1) FIBER RUN.
- PROPOSED (5) Y-CABLES.
- PROPOSED RING MOUNT SITEPRO1 P/N LWRM OR APPROVED EQUAL (TOTAL OF 1) WITH FLUSH MOUNT ADAPTER KIT SITEPRO1 P/N FMA1 OR APPROVED EQUAL (TOTAL OF 3)
- EXISTING CLIMBING PEGS ABOVE THE AT&T CABLE PORT TO BE REMOVED AND SAFETY TOP, SAFETY CLIMB WIRE ATTACHMENT TO BE RELOCATED BELOW THE PLATFORM.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- ADD RBS 6630 FOR 5G.

ITEMS TO BE REMOVED:

- EXISTING AT&T ANTENNAS: HPA-65R-BUU-H8 (TOTAL OF 1 PER GAMMA SECTOR).
- EXISTING AT&T RRUS: RRUS-12 B5 (850) (TOTAL OF 1 PER GAMMA SECTOR).
- EXISTING AT&T RRUS: RRUS-11 B12 (700) (TOTAL OF 1 PER GAMMA SECTOR).
- EXISTING AT&T RRUS: RRUS-32 B2 (PCS) (TOTAL OF 1 PER GAMMA SECTOR).
- EXISTING AT&T SURGE ARRESTOR DC6-48-60-18-8F WITH (2) DC POWER & (1) FIBER RUN.

ITEMS TO REMAIN:

- (11) ANTENNAS, (21) RRU'S, (3) SURGE ARRESTOR, (6) DC POWER & (1) FIBER.

SITE ADDRESS: 220 EVERGREEN ST
BRIDGEPORT, CT 06606

LATITUDE: 41.197778° N, 41° 11' 52.00" N

LONGITUDE: 73.190692° W, 73° 11' 26.49" W

TYPE OF SITE: MONOPOLE / INDOOR

STRUCTURE HEIGHT: 135'-0"±

RAD CENTER: 130'-0"±

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT5100

SITE NAME: BRIDGEPORT EVERGREEN ST

FA CODE: 10107972

PACE ID: MRCTB050196

PROJECT: LTE_GAMMA SECTOR SPLIT_2020 UPGRADE

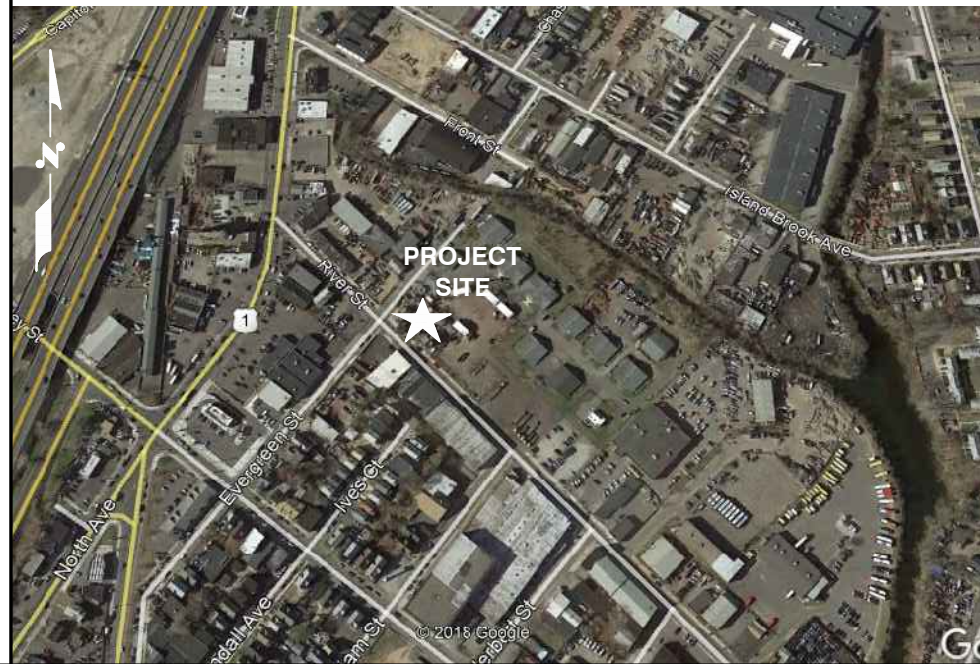
DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLANS	0
A-2	ANTENNA LAYOUTS	0
A-3	ELEVATION	0
A-4	DETAILS	0
A-5	DETAILS	0
G-1	GROUNDING DETAILS	0
RF-1	RF PLUMBING DIAGRAM	0

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING WEST ON COCHITUATE RD/MA-30 TOWARD BURR ST. MAKE A U-TURN AT BURR ST ONTO COCHITUATE RD/MA-30. MERGE ONTO I-90 W/MASSACHUSETTS TPKE W TOWARD SPRINGFIELD/BOSTON. MERGE ONTO I-84 W/WILBUR CROSS HWY S VIA EXIT 9 TOWARD US-20/HARTFORD/NEW YORK CITY (PORTIONS TOLL) (CROSSING INTO CONNECTICUT). KEEP LEFT TO TAKE CT-15 S/WILBUR CROSS HWY S VIA EXIT 57 TOWARD I-91 S/CHARTER OAK BR/NY CITY. MERGE ONTO I-91 S VIA EXIT 86 TOWARD NEW HAVEN/NY CITY. MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST. MERGE ONTO CT-8 S VIA EXIT 52 TOWARD BRIDGEPORT. TAKE EXIT 5 TOWARD NORTH AVE/BOSTON AVE/BEARDSLEY ZOOLOGICAL GARDENS/MOTOR VEH DEPT. MERGE ONTO CHOPSEY HILL RD. TURN RIGHT ONTO US-1 S/NORTH AVE. TURN LEFT ONTO RIVER ST. SCRUPLES LOUNGE IS ON THE LEFT. TAKE THE 1ST LEFT ONTO EVERGREEN ST. 220 EVERGREEN ST IS ON THE RIGHT.



GENERAL NOTES

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

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT

HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
TEL: (978) 557-5553 FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/24/21	ISSUED FOR CONSTRUCTION	GA	HC	DPH
A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: GA

Daniel P. Hamm
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T	
TITLE SHEET	
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE	
SITE NUMBER	DRAWING NUMBER
CT5100	T-1
REV	0

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SAI
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

**BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)**

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

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

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

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

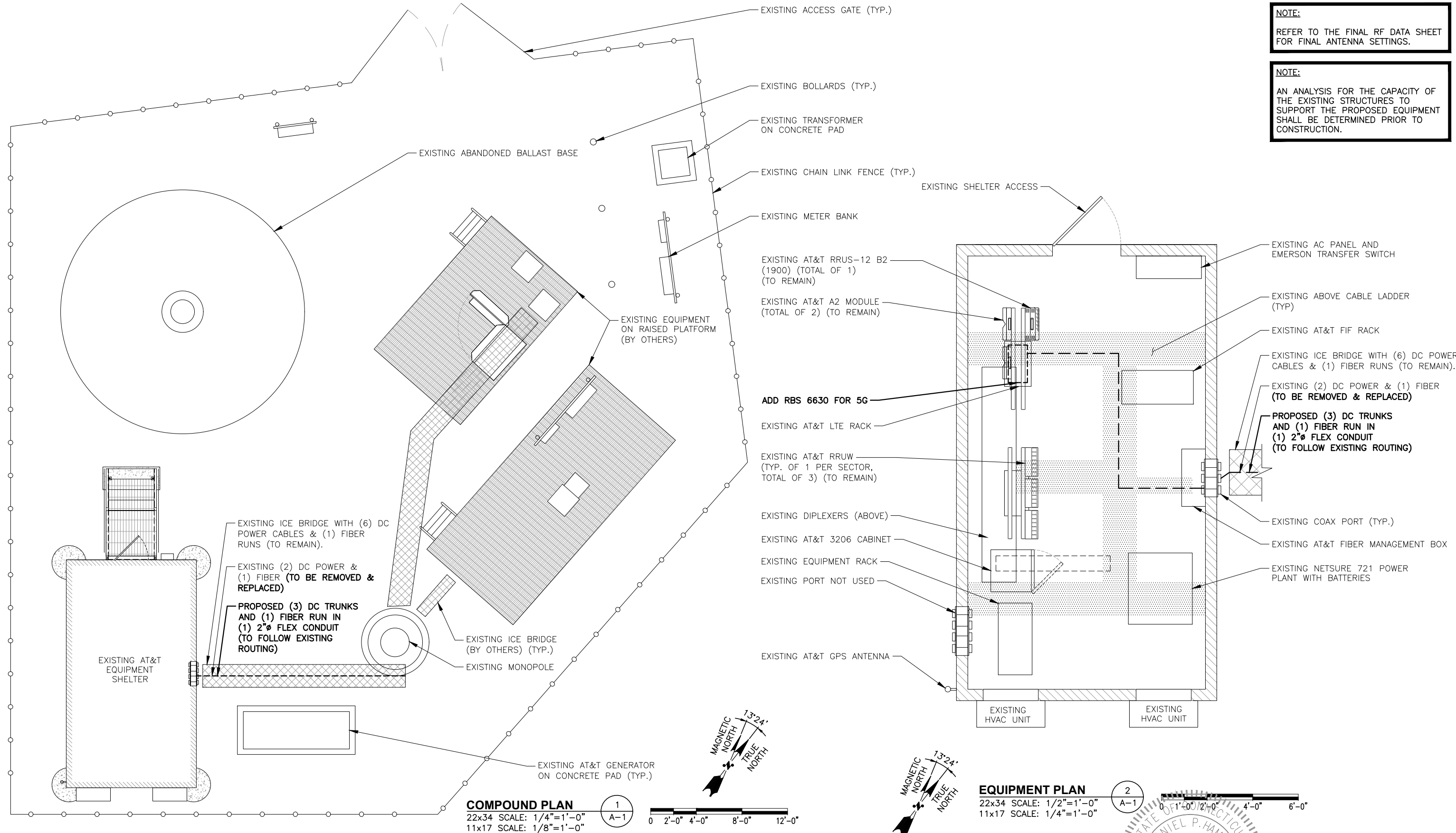
220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

				AT&T	
				GENERAL NOTES	
				LTE_GAMMA SECTOR SPLIT_2020 UPGRADE	
NO.		DATE		REVISIONS	
SCALE: AS SHOWN		DESIGNED BY: HC		DRAWN BY: GA	
SITE NUMBER		DRAWING NUMBER		REV	
CT5100		GN-1		0	

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

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



NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/24/21	ISSUED FOR CONSTRUCTION	GA	HC	DPH
A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH
		REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: GA		

2
A-1

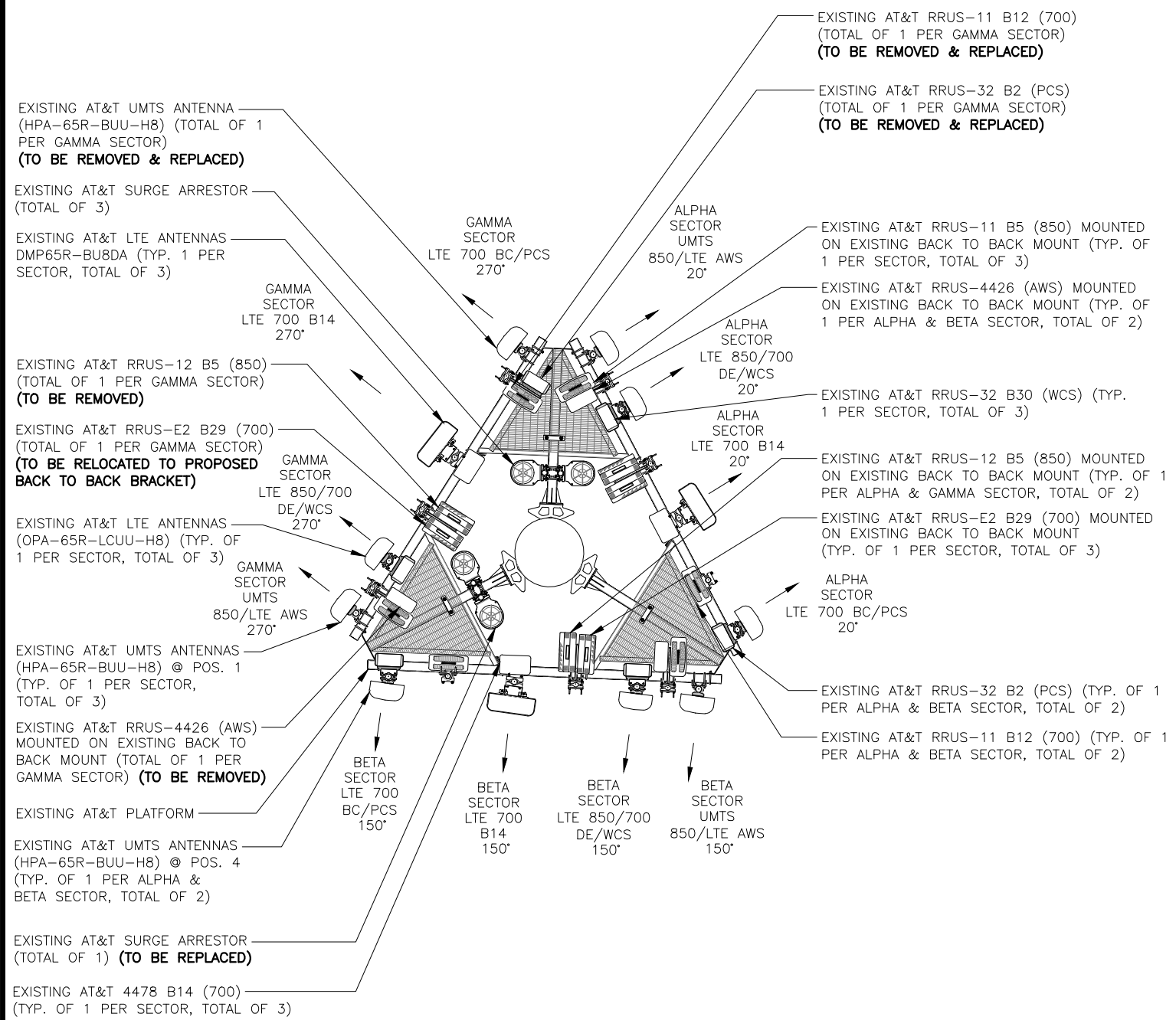
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T	
COMPOUND & EQUIPMENT PLANS	
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE	
SITE NUMBER	DRAWING NUMBER
CT5100	A-1
REV	0

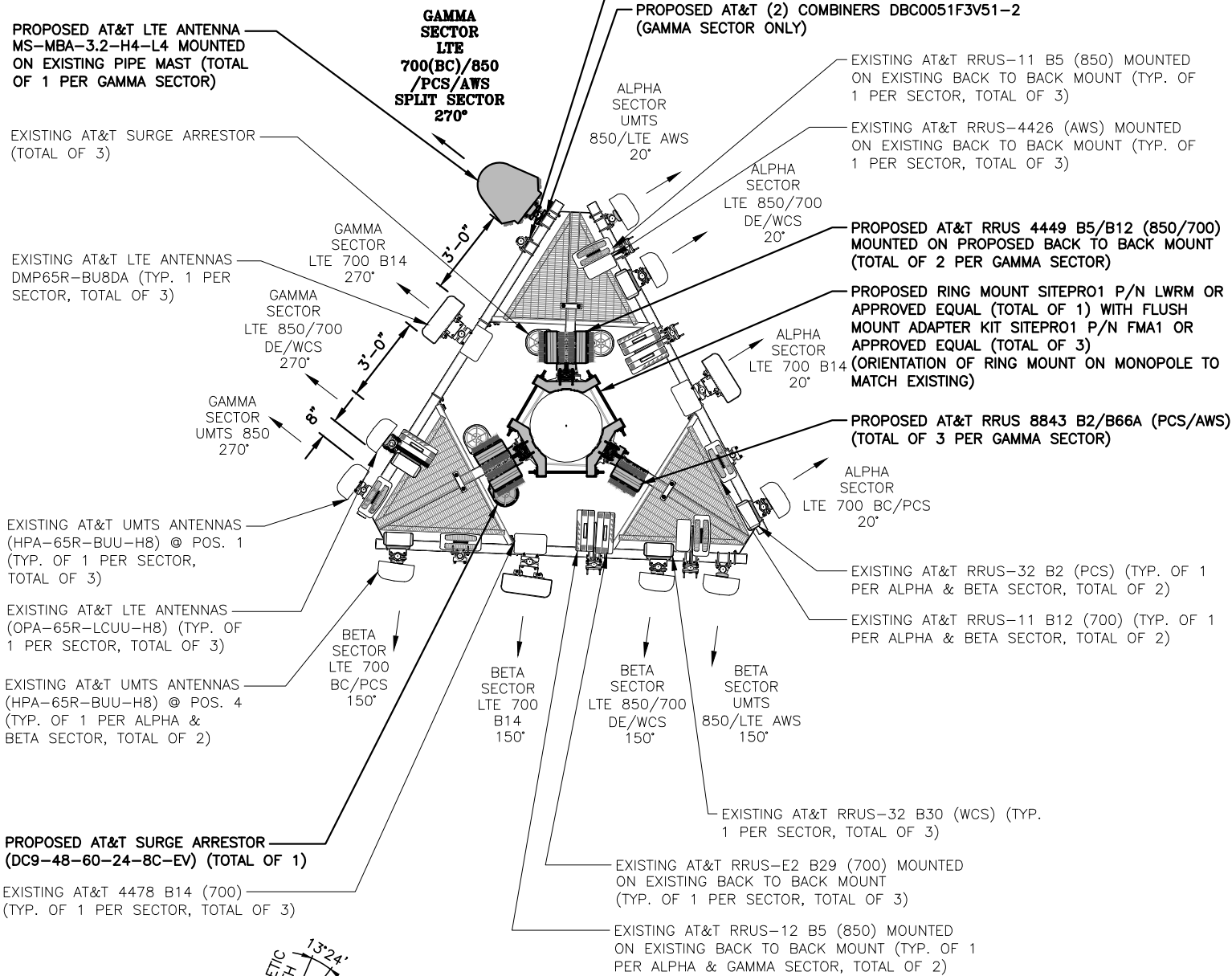
NOTE:
AN ANALYSIS FOR THE CAPACITY OF EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC DATED: MARCH 4, 2021.

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

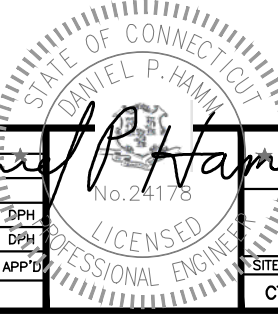
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AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

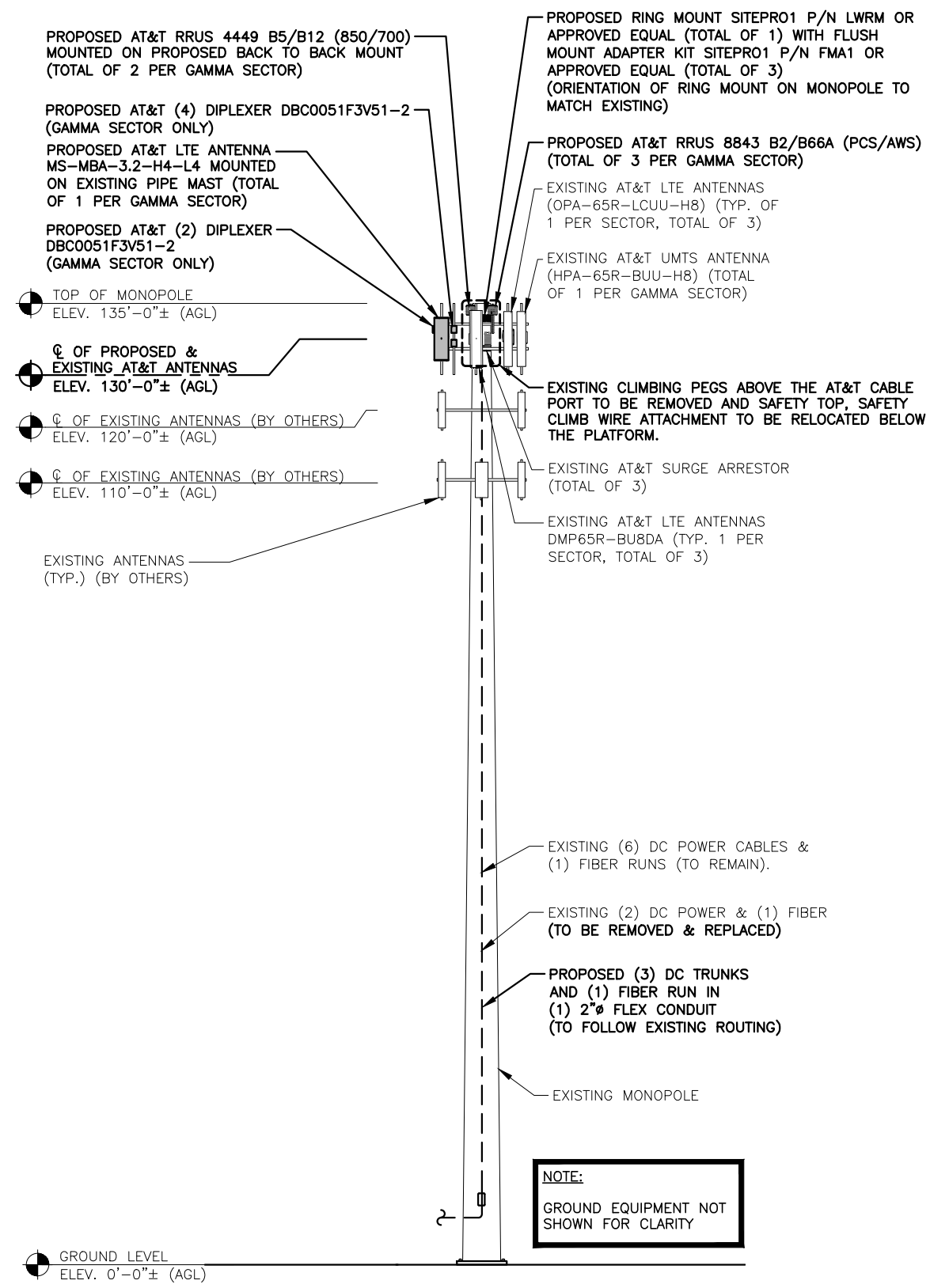


NOTE:
EXISTING ANTENNAS TO BE RELOCATED TO ACHIEVE 3' MINIMUM SEPARATION FOR NEW ANTENNA



1	03/24/21	ISSUED FOR CONSTRUCTION	GA	HC	DPH
A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED BY: HC		DRAWN BY: GA



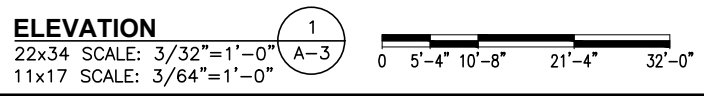


NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC DATED: MARCH 4, 2021.

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

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY



HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

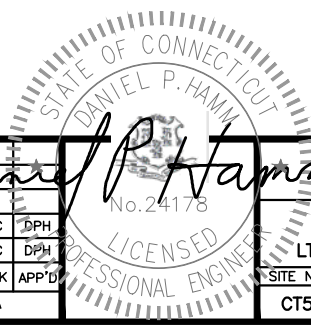
SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

1	03/24/21	ISSUED FOR CONSTRUCTION	GA	HC	DPH
A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: GA		

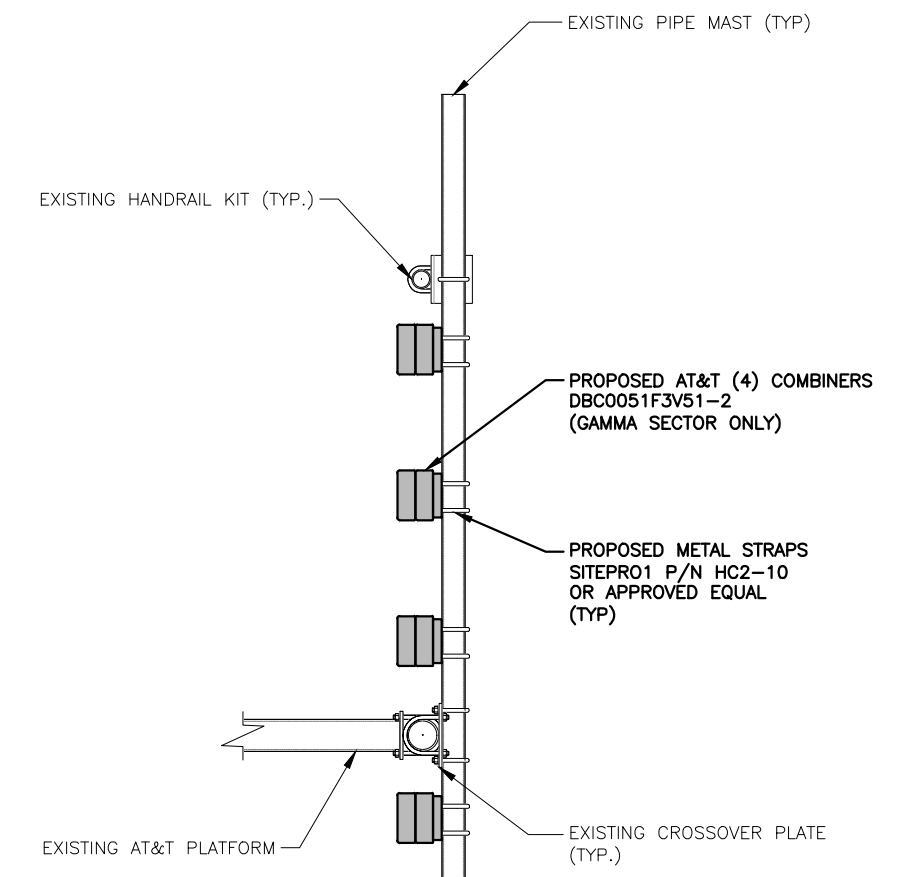
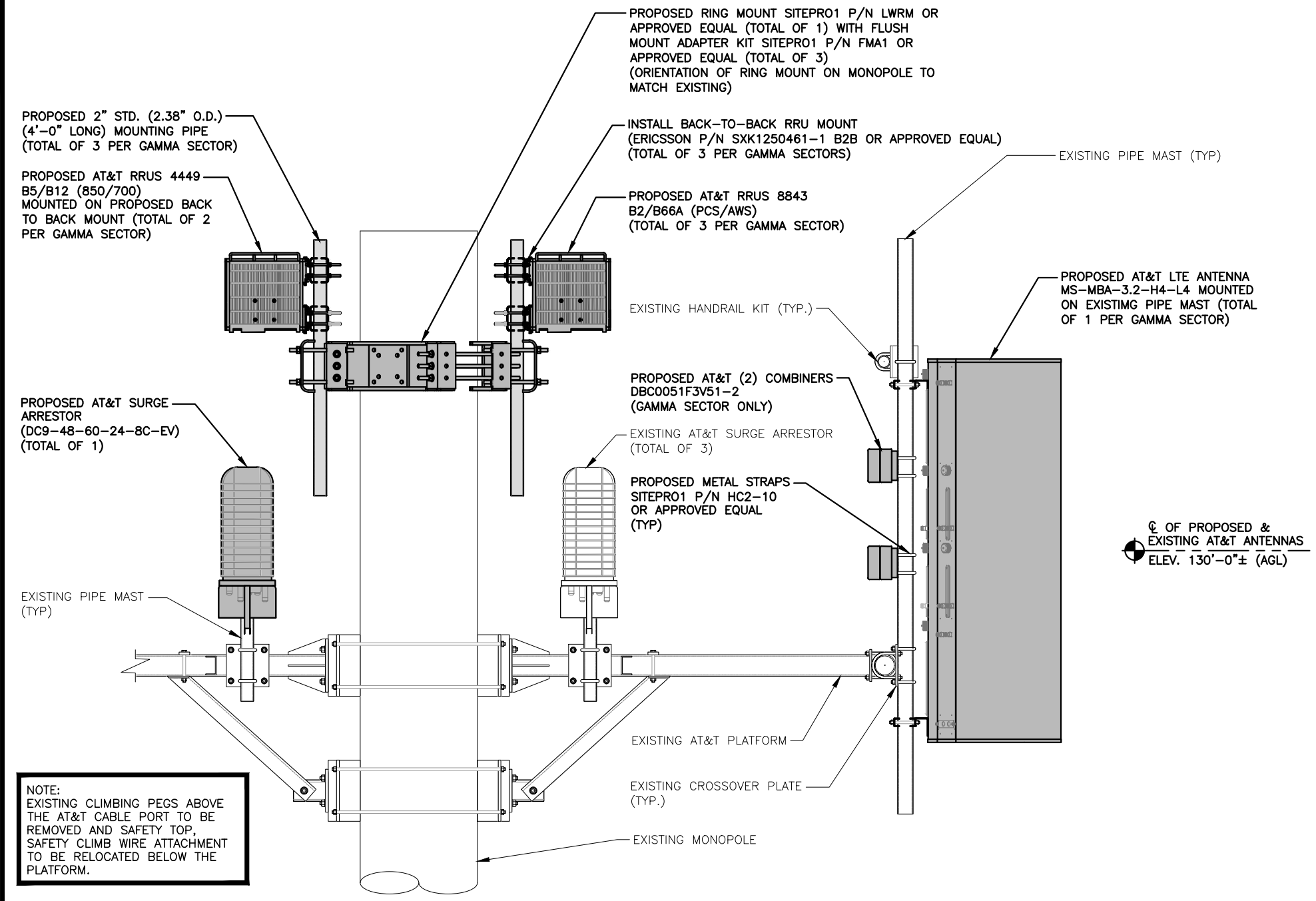


AT&T
ELEVATION
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE
SITE NUMBER: CT5100
DRAWING NUMBER: A-3
REV: 0

NOTE:
 AN ANALYSIS FOR THE CAPACITY OF EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC DATED: MARCH 4, 2021.

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

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



NOTE:
 EXISTING CLIMBING PEGS ABOVE THE AT&T CABLE PORT TO BE REMOVED AND SAFETY TOP, SAFETY CLIMB WIRE ATTACHMENT TO BE RELOCATED BELOW THE PLATFORM.

PROPOSED LTE ANTENNA, RRUS & SURGE ARRESTOR MOUNTING DETAIL
 22x34 SCALE: 1"=1'-0"
 11x17 SCALE: 1/2"=1'-0"

PROPOSED COMBINER MOUNTING DETAIL
 22x34 SCALE: 1"=1'-0"
 11x17 SCALE: 1/2"=1'-0"

HGD HUDSON Design Group LLC
 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553 FAX: (978) 336-5586

SAI
 12 INDUSTRIAL WAY SALEM, NH 03079

SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST
 220 EVERGREEN ST BRIDGEPORT, CT 06606 FAIRFIELD COUNTY

at&t
 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

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A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: GA		

Daniel P. Hamm
 No. 24178
 LICENSED PROFESSIONAL ENGINEER
 STATE OF CONNECTICUT

AT&T
 DETAILS
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE
 SITE NUMBER: CT5100 DRAWING NUMBER: A-4 REV: 0

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA CL HEIGHT	AZIMUTH	COMBINERS	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850/LTE AWS	HPA-65R-BUU-H8	93X15X7	130'-0"±	20°	-	(E)(1) RRUS-11 B5 (UMTS 850) (E)(1) 4426 B66 (AWS)	-	-	(E) (1) RAYCAP DC6-48-60-18-8F
A2	EXISTING	LTE 850/700 DE/WCS	OPA-65R-LCUU-H8	92.7x14.4x7	130'-0"±	20°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) RRUS-12 B5 (LTE 850) (E)(1) RRUS-32 B30 (WCS)	-	-	
A3	EXISTING	LTE 700 B14	DMP65R-BU8DA	96.0X20.7X7.7	130'-0"±	20°	-	(P)(1) 4478 B14 (700)	-	-	
A4	EXISTING	LTE 700 BC/PCS	HPA-65R-BUU-H8	93X15X7	130'-0"±	20°	-	(E)(1) RRUS-11 B12 (700) (E)(1) RRUS-32 B2 (1900)	-	(2)(E) DC POWER (1) FIBER	
B1	EXISTING	UMTS 850/LTE AWS	HPA-65R-BUU-H8	93X15X7	130'-0"±	150°	-	(E)(1) RRUS-11 B5 (UMTS 850) (E)(1) 4426 B66 (AWS)	-	-	(E) (2) RAYCAP DC6-48-60-8F
B2	EXISTING	LTE 850/700 DE/WCS	OPA-65R-LCUU-H8	92.7x14.4x7	130'-0"±	150°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) RRUS-12 B5 (LTE 850) (E)(1) RRUS-32 B30 (WCS)	-	(4)(E) DC POWER	
B3	EXISTING	LTE 700 B14	DMP65R-BU8DA	96.0X20.7X7.7	130'-0"±	150°	-	(P)(1) 4478 B14 (700)	-	-	
B4	EXISTING	LTE 700 BC/PCS	HPA-65R-BUU-H8	93X15X7	130'-0"±	150°	-	(E)(1) RRUS-11 B12 (700) (E)(1) RRUS-32 B2 (1900)	-	-	
C1	EXISTING	UMTS 850	HPA-65R-BUU-H8	93X15X7	130'-0"±	270°	-	(E)(1) RRUS-11 B5 (UMTS 850) (E)(1) 4426 B66 (AWS)	-	-	(P) (1) RAYCAP DC9-48-60-24-8C-EV
C2	EXISTING	LTE 850/700 DE/WCS	OPA-65R-LCUU-H8	92.7x14.4x7	130'-0"±	270°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) RRUS-32 B30 (WCS)	-	-	
C3	EXISTING	LTE 700 B14	DMP65R-BU8DA	96.0X20.7X7.7	130'-0"±	270°	-	(P)(1) 4478 B14 (700)	-	-	
C4	PROPOSED	LTE 700(BC)/850/PCS/AWS	MS-MBA-3.2-H4-L4	72X24X25	130'-0"±	270°	(P)(6) DBC0051F3V51-2	(P)(2) 4449 B5/B12 (850/700) (P)(3) 8843 B2/B66A (PCS/AWS)	17.9X13.2X10.4 14.9X13.2X10.9	(3)(P) DC POWER (1) FIBER	

NOTE:
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BY: HUDSON DESIGN GROUP, LLC
DATED: MARCH 4, 2021.

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

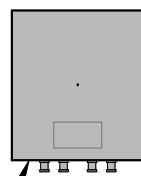
NOTE:
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FINAL ANTENNA SCHEDULE 1
SCALE: N.T.S

RRU CHART		
QUANTITY	MODEL	SIZE (L x W x D)
P(2)	4449 (850/700)	17.9"X13.2"X10.4"
P(3)	8843 (PCS/AWS)	14.9"X13.2"X10.9"
(E)(3)	4478 B15 (700)	18.1"x13.4"x8.3"
E(3)	4426 (AWS)	14.9"x13.2"x5.8"
E(5)	RRUS-32 (WCS)/(1900)	27.2"x12.1"x7.0"
E(3)	RRUS-E2 B29 (700)	20.4"x18.5"x7.5"
E(2)	RRUS-12 B5 (850)	20.4"x18.5"x7.5"
E(3)	RRUS-11 B5 (850)	19.7"x17.0"x7.2"
E(2)	RRUS-11 B12 (700)	19.7"x17.0"x7.2"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL 2
SCALE: N.T.S



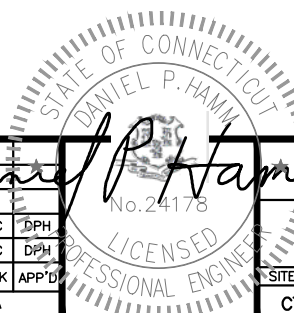
SITE NUMBER: CT5100
SITE NAME: BRIDGEPORT EVERGREEN ST

220 EVERGREEN ST
BRIDGEPORT, CT 06606
FAIRFIELD COUNTY

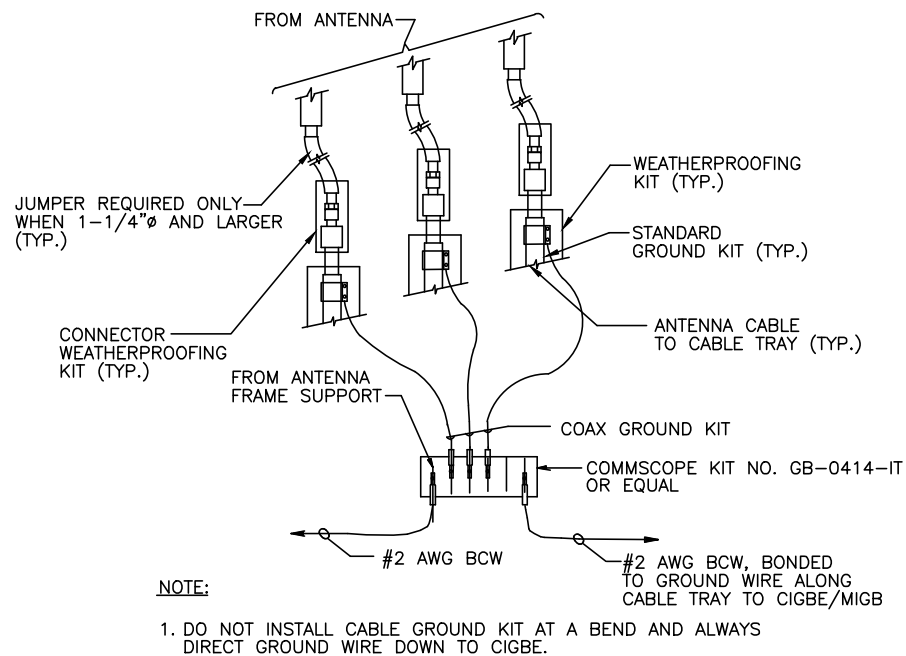


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A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH

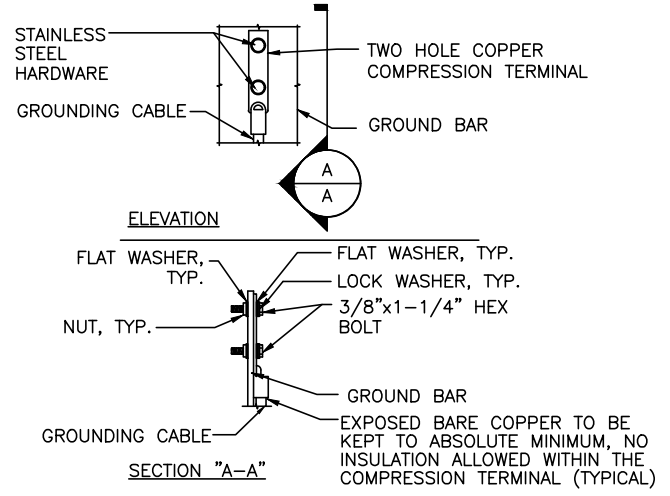
SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: GA



AT&T	
DETAILS	
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE	
SITE NUMBER	DRAWING NUMBER
CT5100	A-5
REV	0

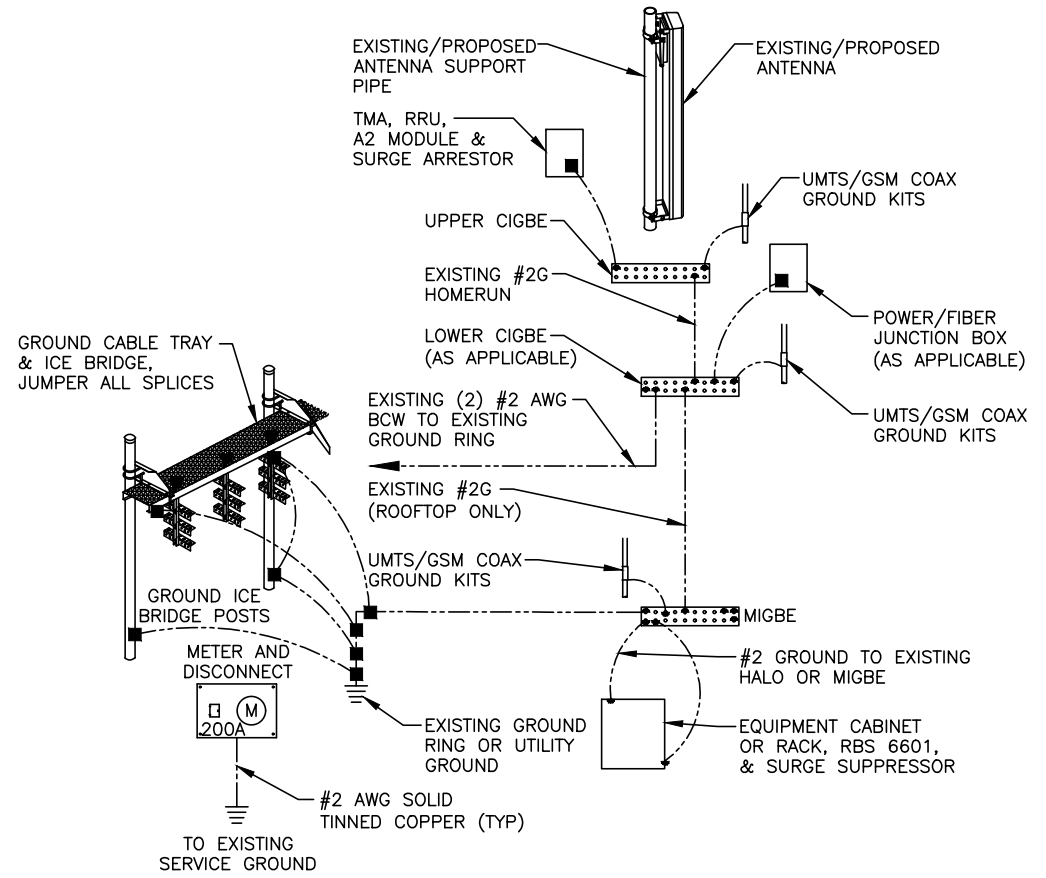


GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL 3
SCALE: N.T.S. G-1



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

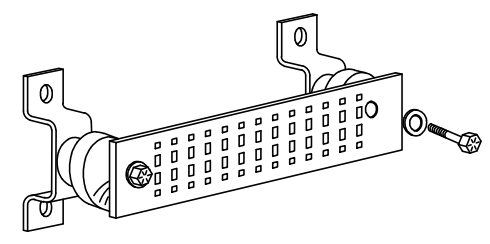
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

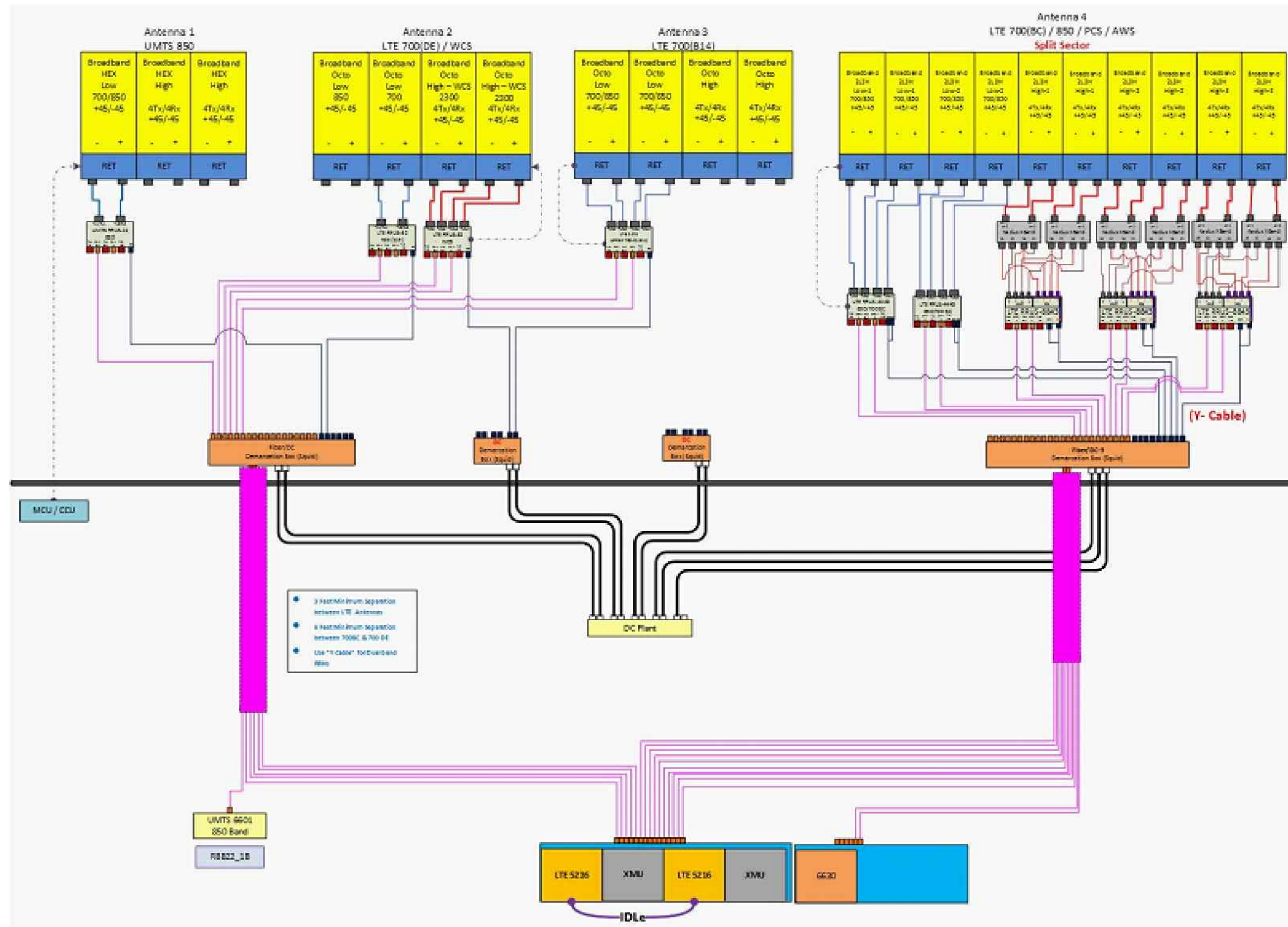
SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED) 4
SCALE: N.T.S. G-1

GAMMA SECTOR



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

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

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/24/21	ISSUED FOR CONSTRUCTION	GA	HC	DPH
A	03/05/21	ISSUED FOR REVIEW	GA	HC	DPH

SCALE: AS SHOWN
DESIGNED BY: HC
DRAWN BY: GA

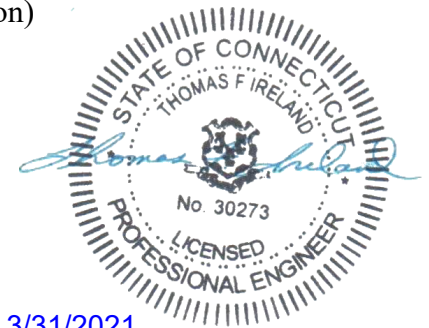
AT&T		
RF PLUMBING DIAGRAM		
LTE_GAMMA SECTOR SPLIT_2020 UPGRADE		
SITE NUMBER	DRAWING NUMBER	REV
CT5100	RF-1	0



Structural Analysis Report

Structure : 135 foot Monopole Tower
BST Site Name : Bridgeport-Evergreen St
BST Site Number : CT-5020
Proposed Carrier : AT&T
Carrier Site Name : Bridgeport Evergreen St
Carrier Site Number : CT 5100 / FA#10107972
Site Location : 220 Evergreen Street
Bridgeport, CT 06606 (Fairfield County)
41.1977, -73.1907
Date : March 31, 2021
Max Member Stress Level : 41.9% (Tower)
: 38.1% (Foundation – Reaction Comparison)
Result : PASS

Prepared by:
Bennett & Pless, Inc.
B&P Job No.: 21.03.014.005



3/31/2021



Table of Contents

Introduction	1
Existing Structural Information	1
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Calculations	Attached
Collocation Application	Attached

Introduction

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by AT&T. The objective of the analysis was to determine if the tower meets the current structural codes and standards with the proposed equipment installation.

Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

Tower Information	Rohn Drawing No.: 217435-01-D1R2 dated March 17, 2016.
Foundation Information	Rohn Drawing No.: 217435-01-F1R1 dated March 17, 2016.
Geotechnical Information	Geotechnical Information was not available.
Existing Equipment Information	Bennett & Pless Structural Analysis dated October 16, 2019. BlueSky AT&T Application dated October 30, 2019.
Tower Reinforcement Information	Tower has not been previously reinforced.

Final Proposed Equipment Loading for Verizon

The following proposed loading was obtained from the BlueSky Collocation Application:

Mount (ft)	Antenna/Equipment				Coax	
	RAD (ft)	Qty.	Antenna	Type	Qty.	Size/Type
130.0	-	1	Low Profile Platform w/ Handrails	Mount	4 3 1	2" Conduit 3/8" RET Line 2" Conduit*
	130.0	5	CCI HPA-65R-BUU-H8	Panel		
		3	CCI OPA-65R-LCUU-H8	Panel		
		3	CCI DMP65R-BU8DA	Panel		
		1	Matsing MS-MBA-3.2-H4-L4	Panel		
		3	Ericsson RRU-11 B5	RRU		
		2	Ericsson RRU-11 B12	RRU		
		3	Ericsson 4426 B66	RRU		
		3	Ericsson RRU-32 B30	RRU		
		2	Ericsson RRU-32 B2	RRU		
		3	Ericsson RRUS E2 B29	RRU		
		3	Ericsson RRUS 4478 B14	RRU		
		2	Ericsson RRU-12 B5	RRU		
		2	Ericsson 4449 B5/B12	RRU		
		3	Ericsson 8843 B2/B66A	RRU		
		3	Raycap DC6-48-60-18-8F	Surge Arrestors		
		1	Raycap DC9-48-60-24-8C-EV	Surge Arrestors		
6	Kaelus - DBC0051F3V51-2	Diplexers				

Note: Proposed equipment shown in bold.

Note: Other existing loading can be found on the tower profile attached.

Note:* Indicates (1) new DC Trunk inside new 2" conduit.

Design Criteria

The tower was analyzed using tnxTower (Version 8.0.7.5) tower analysis software using the following design criteria.

State/County	Connecticut / Fairfield County
State Building Code	2018 Connecticut State Bldg. Code (IBC 2015)
TIA/EIA Standard Code	TIA-222-G
Basic Wind Speed	125 MPH (V_{ult}) / 97 MPH (V_{asd})
Basic Wind Speed w/ Ice	50 MPH / 0.75" Ice
Steel Grade	65 ksi pole, 50 ksi base plate, anchor bolts A615 Grade 75
Exposure Category	C
Topographic Category (height)	1 (0.0 ft)
Structure Class	II

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing tower is structurally capable of supporting the proposed equipment loads without modification.**

The existing foundation has also been evaluated. Based on the foregoing information, our structural analysis determined that **the existing foundation is structurally capable of supporting the proposed equipment loads without modification.**

Component	Analysis Reactions	Original Reactions*	% Capacity	Results
Vertical (Kips)	63	211.3	29.8	Pass
Shear (Kips)	41	107.5	38.1	Pass
Moment (Kip-ft)	4111	10890	37.8	Pass

*Have been factored by 1.35 to equate to TIA H standard.

Assumptions

The below assumptions are true, complete and accurate.

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.
7. Tower is within acceptable engineering tolerance at 105%.
8. Foundations are within acceptable engineering tolerance at 110%.

Conclusions

The existing tower described above **does have sufficient capacity** to support the proposed loading based on the governing Building Code. The existing tower foundation also has sufficient capacity.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 678-990-8700.

Sincerely,

Analysis by:



Kshitij Kadam
Project Engineer

Reviewed by:

Thomas F. Ireland, P.E.
Principal



3/31/2021

Standard Conditions

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

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and its components, or relevant information.
- Information from drawings in possession of Bennett & Pless 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 Bennett & Pless Inc. and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with ANSI/TIA/EIA-222-H.

All services are performed, results obtained and recommendations made in accordance with the generally accepted engineering principles and practices. Bennett & Pless Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

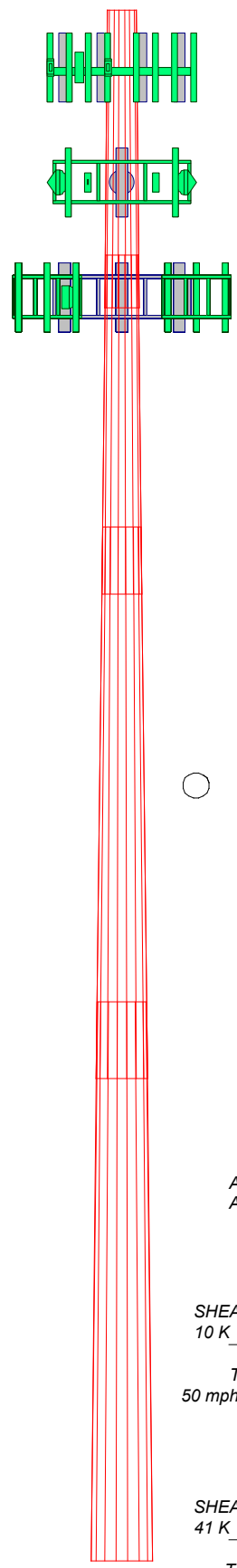
Disclaimer of Warranties

Bennett & Pless Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from the ability of the existing structure to support the design loads for which it was originally designed. Bennett & Pless Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Bennett & Pless Inc. pursuant to this report will be limited to the total fee received for preparation of this report.

Attachment 1:
Calculations

Section	1	2	3	4
Length (ft)	25.920	29.500	48.000	48.660
Number of Sides	18	18	18	18
Thickness (in)	0.2500	0.3125	0.5000	0.6250
Socket Length (ft)	4.580	5.833	6.667	50.9844
Top Dia (in)	29.5200	34.9231	40.6656	64.0000
Bot Dia (in)	36.6900	42.8600	53.8100	18.7
Grade			A572-65	
Weight (K)	2.3	3.8	12.1	36.9

135.0 ft
109.1 ft
84.2 ft
42.0 ft
0.0 ft

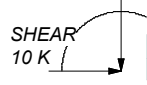


DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) CCI HPA-65R-BUU-H8 (ATT)	130	GPS-TMG-HR-26NCM (Sprint)	120
(2) CCI HPA-65R-BUU-H8 (ATT)	130	SitePro1 F4P-10W (4 Sector) (Sprint)	120
CCI HPA-65R-BUU-H8 (ATT)	130	APXVSP18-C-A20 w/ Mount Pipe (Sprint)	120
CCI OPA-65R-LCUU-H8 (ATT)	130	Nokia - AAHF (Quad) (Sprint)	120
CCI OPA-65R-LCUU-H8 (ATT)	130	(2) 1900 MHz RRH (Sprint)	120
CCI DMP65R-BU8DA (ATT)	130	800 MHz RRH (Sprint)	120
CCI DMP65R-BU8DA (ATT)	130	IBC1900HG-2A (Sprint)	120
CCI DMP65R-BU8DA (ATT)	130	VHLP2-18 (Sprint)	120
RRUS 32 B30 (ATT)	130	VHLP2-18 (Sprint)	120
RRUS 32 B30 (ATT)	130	MT-485025 (Sprint)	120
(2) RRUS-11 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
(2) RRUS-11 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
RRUS-11 (ATT)	130	RRUS 11 B12 (T-Mobile)	110
RRUS 12 (ATT)	130	RRUS 11 (T-Mobile)	110
RRUS 12 (ATT)	130	RRUS 11 (T-Mobile)	110
Ericsson 4426 B66 (ATT)	130	RRUS 11 (T-Mobile)	110
Ericsson 4426 B66 (ATT)	130	RRUS 11 (T-Mobile)	110
Ericsson 4426 B66 (ATT)	130	F4P-10W (T-Mobile)	110
Ericsson RRUS 4478 B14 (ATT)	130	Ericsson AIR32 B66AaB2a (T-Mobile)	110
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Ericsson RRUS 32 B2 (ATT)	130	Ericsson AIR32 B66AaB2a (T-Mobile)	110
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Ericsson E2 B29 (ATT)	130	Ericsson AIR6449 B41 (T-Mobile)	110
Ericsson E2 B29 (ATT)	130	Ericsson AIR6449 B41 (T-Mobile)	110
Ericsson E2 B29 (ATT)	130	Ericsson AIR6449 B41 (T-Mobile)	110
(3) DC6-48-60-18-8F (ATT)	130	Ericsson AIR6449 B41 (T-Mobile)	110
12' Low Profile Platform (ATT)	130	Ericsson 4449 B12/B71 (T-Mobile)	110
Matsing MS-MBA-3.2-H4-L4 (ATT)	130	Ericsson 4449 B12/B71 (T-Mobile)	110
(2) Ericsson 4449 B5/B12 (ATT)	130	Ericsson 4449 B12/B71 (T-Mobile)	110
(3) Ericsson 8843 B2/B66A (ATT)	130	Ericsson 4449 B12/B71 (T-Mobile)	110
Raycap DC9-48-60-24-8C-EV (ATT)	130	Ericsson 4415 B25 (T-Mobile)	110
(6) Kaelus DBC0051F3V51-2 (ATT)	130	Ericsson 4415 B25 (T-Mobile)	110
IBC1900-BB-1 (Sprint)	120	Ericsson 4415 B25 (T-Mobile)	110
APXVSP18-C-A20 w/ Mount Pipe (Sprint)	120	Ericsson 4415 B25 (T-Mobile)	110
Nokia - AAHF (Quad) (Sprint)	120	Andrew VHLP2-18 (Flat Panel) (T-Mobile)	110
(2) 1900 MHz RRH (Sprint)	120	Andrew VHLP2-18 (Flat Panel) (T-Mobile)	110
800 MHz RRH (Sprint)	120	Andrew VHLP2-18 (Flat Panel) (T-Mobile)	110
IBC1900HG-2A (Sprint)	120	SDX1926Q-43 (T-Mobile)	110
IBC1900-BB-1 (Sprint)	120	SDX1926Q-43 (T-Mobile)	110
APXVSP18-C-A20 w/ Mount Pipe (Sprint)	120	SDX1926Q-43 (T-Mobile)	110
Nokia - AAHF (Quad) (Sprint)	120	SDX1926Q-43 (T-Mobile)	110
(2) 1900 MHz RRH (Sprint)	120	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
800 MHz RRH (Sprint)	120	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
IBC1900HG-2A (Sprint)	120	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
IBC1900-BB-1 (Sprint)	120	RFS APXVFWW24X-C-NA20 (T-Mobile)	110
DAP Head (Sprint)	120	RRUS 11 B12 (T-Mobile)	110
DAP Head (Sprint)	120	SHP2-13-3WH/B (T-Mobile)	110
DAP Head (Sprint)	120		
ODU (15 lbs, 1.5 CaAa) (Sprint)	120		
ODU (15 lbs, 1.5 CaAa) (Sprint)	120		
ODU (15 lbs, 1.5 CaAa) (Sprint)	120		
ODU (15 lbs, 1.5 CaAa) (Sprint)	120		

ALL REACT ARE FACT

AXIAL 84 K



TORQUE 2
50 mph WIND - 1.

AXIAL 63 K



TORQUE 1.8
REACTIONS - 119 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
 2. Tower designed for Exposure C to the TIA-222-H Standard.
 3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
 4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
 5. Deflections are based upon a 60 mph wind.
 6. Tower Risk Category II.
 7. Topographic Category 1 with Crest Height of 0.000 ft
- TOWER RATING: 41.9%

<p>Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton, FL 33487 Phone: 561-288-1187 FAX:</p>	<p>Job: US-CT-5020</p>
	<p>Project: Bridgeport - Evergreen St.135' Mono</p>
<p>Client: Blue Sky Towers</p>	<p>Drawn by: kkadam</p>
<p>Code: TIA-222-H</p>	<p>Date: 03/23/21</p>
<p>Experience Structural Expertise</p>	<p>App'd: _____</p> <p>Scale: NTS</p> <p>Path: _____</p> <p>Dwg No. E-1</p>

Section	1	2	3	4
Length (ft)	25.920	29.500	48.000	48.660
Number of Sides	18	18	18	18
Thickness (in)	0.2500	0.3125	0.5000	0.6250
Socket Length (ft)	4.580	5.833	6.667	50.9844
Top Dia (in)	29.5200	34.9231	40.6656	64.0000
Bot Dia (in)	36.6900	42.8600	53.8100	18.7
Grade	A572-65			
Weight (K)	2.3	3.8	12.1	36.9

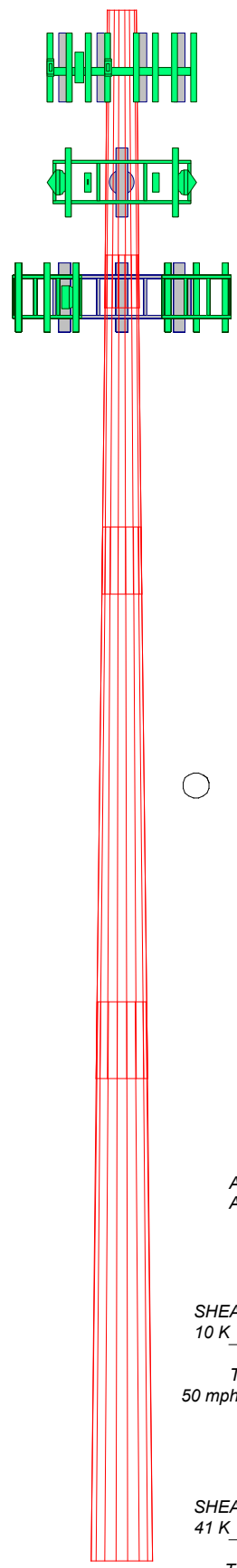
135.0 ft

109.1 ft

84.2 ft

42.0 ft

0.0 ft



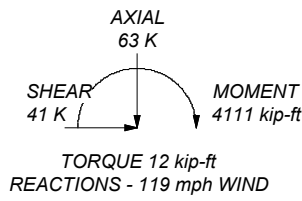
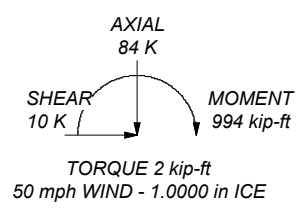
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
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6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 41.9%

ALL REACTIONS ARE FACTORED



Bennett & Pless
 750 Park of Commerce Blvd. Ste 200
 Boca Raton
 Phone: (561) 452-3316
 FAX:

Experience Structural Expertise

Job: **US-CT-5020**
 Project: **Bridgeport - Evergreen St.135' Mono**
 Client: Blue Sky Towers
 Code: TIA-222-H
 Path:

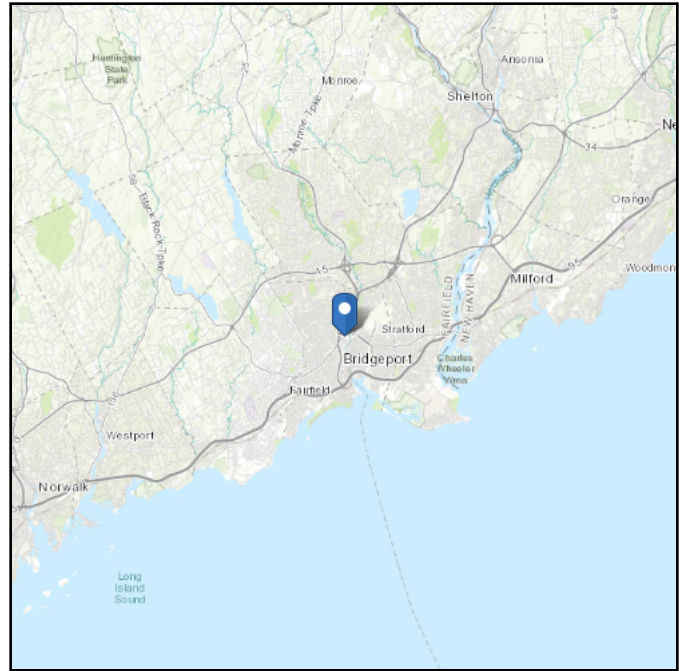
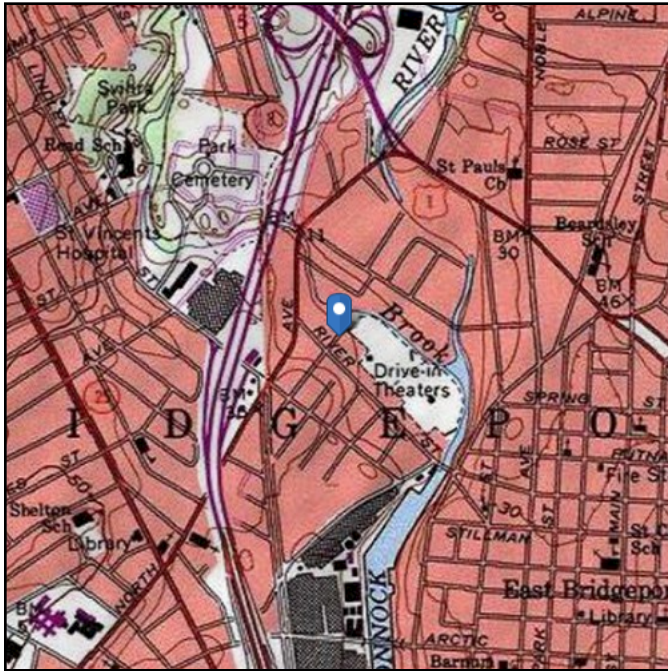
Drawn by: jbozzetto
 Date: 03/31/21
 Scale: NTS
 App'd:
 Dwg No. E-1

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 12.67 ft (NAVD 88)
Latitude: 41.197838
Longitude: -73.190772



Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Tue Mar 23 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

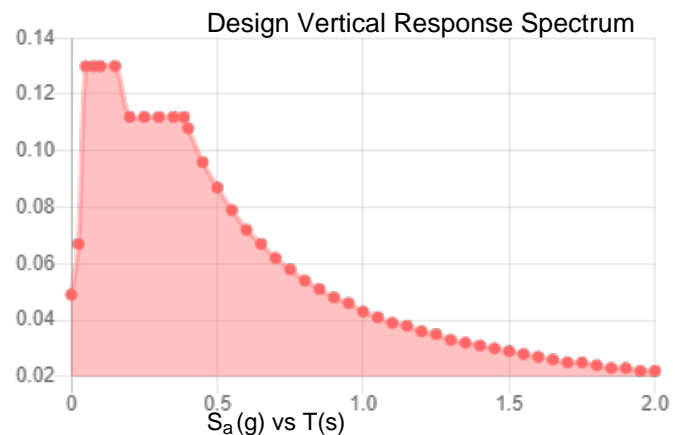
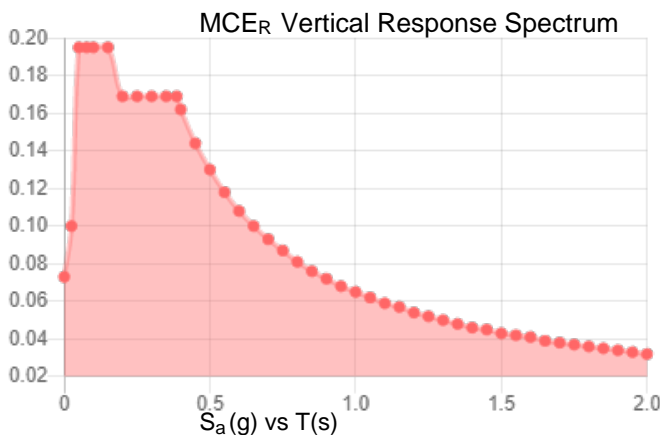
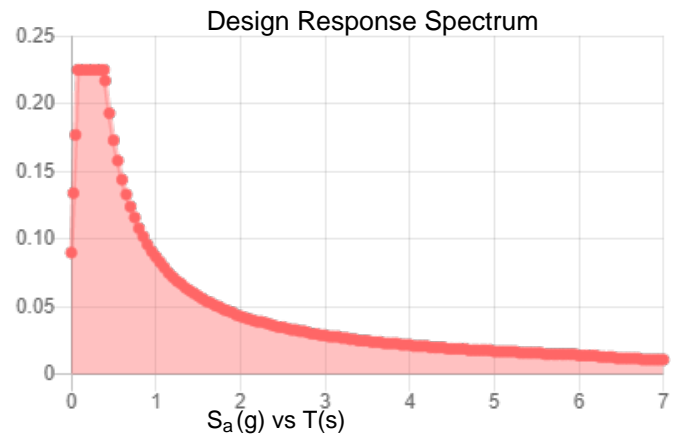
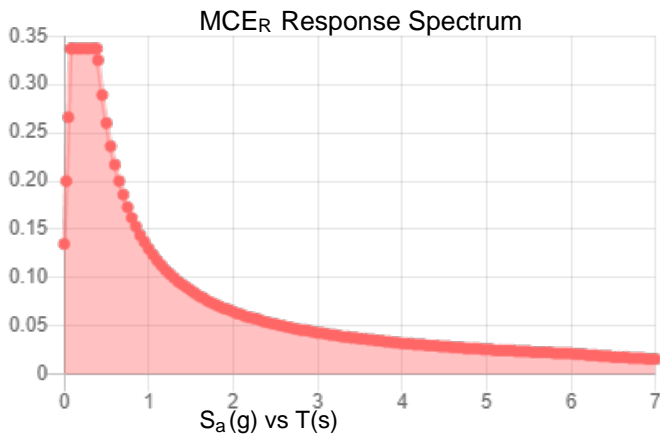
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	0.211	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.12
F_v :	2.4	PGA _M :	0.187
S_{MS} :	0.337	F_{PGA} :	1.56
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.225	C_v :	0.721

Seismic Design Category B



Data Accessed:

Tue Mar 23 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Tue Mar 23 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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tnxTower Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton, FL 33487 Phone: 561-288-1187 FAX:	Job	US-CT-5020	Page	1 of 18
	Project	Bridgeport - Evergreen St.135' Mono	Date	11:39:12 03/23/21
	Client	Blue Sky Towers	Designed by	kkadam

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Tower base elevation above sea level: 12.000 ft.

Basic wind speed of 119 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-H Bracing Resist. Exemption
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
√ Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	√ Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are
		Known

Tapered Pole Section Geometry

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	Client Blue Sky Towers	Designed by kkadam

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	135.000-109.080	25.920	4.580	18	29.5200	36.6900	0.2500	1.0000	A572-65 (65 ksi)
L2	109.080-84.160	29.500	5.833	18	34.9231	42.8600	0.3125	1.2500	A572-65 (65 ksi)
L3	84.160-41.993	48.000	6.667	18	40.6656	53.8100	0.5000	2.0000	A572-65 (65 ksi)
L4	41.993-0.000	48.660		18	50.9844	64.0000	0.6250	2.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	29.9368	23.2257	2513.9263	10.3909	14.9962	167.6380	5031.1606	11.6151	4.7555	19.022
	37.2174	28.9151	4850.8683	12.9362	18.6385	260.2604	9708.1196	14.4603	6.0174	24.07
L2	36.6649	34.3294	5195.4239	12.2868	17.7409	292.8497	10397.6841	17.1679	5.5965	17.909
	43.4730	42.2018	9651.9827	15.1044	21.7729	443.3030	19316.6657	21.1049	6.9934	22.379
L3	42.8378	63.7427	12991.9963	14.2588	20.6581	628.9055	26001.0878	31.8774	6.2771	12.554
	54.5630	84.6030	30376.6883	18.9250	27.3355	1111.2550	60793.3470	42.3095	8.5906	17.181
L4	53.4852	99.9004	32008.5027	17.8776	25.9001	1235.8466	64059.1229	49.9597	7.8732	12.597
	64.8909	125.7202	63793.7757	22.4981	32.5120	1962.1609	127671.492	62.8720	10.1640	16.262

9

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 135.000-109.080				1	1	1			
L2 109.080-84.160				1	1	1			
L3 84.160-41.993				1	1	1			
L4 41.993-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight klf
2" Flex Conduit (AT&T)	C	No	No	Inside Pole	130.000 - 4.000	4	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000
RET Cable (AT&T)	C	No	No	Inside Pole	130.000 - 4.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000

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	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight klf
1 1/4" Hybriflex (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
0.92" Hybrid Trunk (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	3	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
5/16" Coax (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	6	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
1/2" ethernet (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	4	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
1/2" Coax (Sprint)	C	No	No	Inside Pole	120.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000

1 5/8 Hybrid Flex (1.98" 1.3lbs) (T-Mobile)	C	No	No	Inside Pole	110.000 - 4.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
1/2" Coax (T-Mobile)	C	No	No	Inside Pole	110.000 - 4.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000

2" Flex Conduit (AT&T)	A	No	No	Inside Pole	130.000 - 4.000	1	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	135.000-109.080	A	0.000	0.000	0.000	0.000	0.014
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.148
L2	109.080-84.160	A	0.000	0.000	0.000	0.000	0.017
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.385
L3	84.160-41.993	A	0.000	0.000	0.000	0.000	0.029
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.651
L4	41.993-0.000	A	0.000	0.000	0.000	0.000	0.026
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.587

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	135.000-109.080	A	1.139	0.000	0.000	0.000	0.000	0.014

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	Client	Blue Sky Towers	Designed by	kkadam

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L2	109.080-84.160	B	1.113	0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.148
		A		0.000	0.000	0.000	0.000	0.017
L3	84.160-41.993	B	1.066	0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.385
		A		0.000	0.000	0.000	0.000	0.029
L4	41.993-0.000	B	0.956	0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.651
		A		0.000	0.000	0.000	0.000	0.026
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.587

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	135.000-109.080	0.0000	0.0000	0.0000	0.0000
L2	109.080-84.160	0.0000	0.0000	0.0000	0.0000
L3	84.160-41.993	0.0000	0.0000	0.0000	0.0000
L4	41.993-0.000	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
(2) CCI HPA-65R-BUU-H8 (ATT)	A	From Leg	3.000	0.0000	130.000	No Ice	12.976	7.516	0.068
			0.000			1/2" Ice	13.558	8.087	0.142
			0.000			1" Ice	14.147	8.666	0.223
(2) CCI HPA-65R-BUU-H8 (ATT)	B	From Leg	3.000	0.0000	130.000	No Ice	12.976	7.516	0.068
			0.000			1/2" Ice	13.558	8.087	0.142
			0.000			1" Ice	14.147	8.666	0.223
CCI HPA-65R-BUU-H8 (ATT)	C	From Leg	3.000	0.0000	130.000	No Ice	12.976	7.516	0.068
			0.000			1/2" Ice	13.558	8.087	0.142
			0.000			1" Ice	14.147	8.666	0.223
CCI OPA-65R-LCUU-H8 (ATT)	A	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223
CCI OPA-65R-LCUU-H8 (ATT)	B	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223
CCI OPA-65R-LCUU-H8 (ATT)	C	From Leg	3.000	0.0000	130.000	No Ice	12.746	7.246	0.073
			0.000			1/2" Ice	13.328	7.817	0.144
			0.000			1" Ice	13.916	8.396	0.223

<p>tnxTower</p> <p>Bennett & Pless 750 Park of Commerce Blvd. Ste 200 Boca Raton, FL 33487 Phone: 561-288-1187 FAX:</p>	Job	US-CT-5020	Page	5 of 18
	Project	Bridgeport - Evergreen St.135' Mono	Date	11:39:12 03/23/21
	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Lateral						Vert
CCI DMP65R-BU8DA (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	17.871	8.122	0.096
			0.000	0.000			1/2" Ice	18.502	8.716	0.194
			0.000	0.000			1" Ice	19.141	9.317	0.299
CCI DMP65R-BU8DA (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	17.871	8.122	0.096
			0.000	0.000			1/2" Ice	18.502	8.716	0.194
			0.000	0.000			1" Ice	19.141	9.317	0.299
CCI DMP65R-BU8DA (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice	17.871	8.122	0.096
			0.000	0.000			1/2" Ice	18.502	8.716	0.194
			0.000	0.000			1" Ice	19.141	9.317	0.299
RRUS 32 B30 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.692	1.573	0.060
			0.000	0.000			1/2" Ice	2.912	1.756	0.080
			0.000	0.000			1" Ice	3.138	1.945	0.104
RRUS 32 B30 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.692	1.573	0.060
			0.000	0.000			1/2" Ice	2.912	1.756	0.080
			0.000	0.000			1" Ice	3.138	1.945	0.104
RRUS 32 B30 (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.692	1.573	0.060
			0.000	0.000			1/2" Ice	2.912	1.756	0.080
			0.000	0.000			1" Ice	3.138	1.945	0.104
(2) RRUS-11 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.940	1.250	0.055
			0.000	0.000			1/2" Ice	3.170	1.410	0.074
			0.000	0.000			1" Ice	3.400	1.570	0.094
(2) RRUS-11 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.940	1.250	0.055
			0.000	0.000			1/2" Ice	3.170	1.410	0.074
			0.000	0.000			1" Ice	3.400	1.570	0.094
RRUS-11 (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.940	1.250	0.055
			0.000	0.000			1/2" Ice	3.170	1.410	0.074
			0.000	0.000			1" Ice	3.400	1.570	0.094
RRUS 12 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	3.145	1.285	0.058
			0.000	0.000			1/2" Ice	3.365	1.438	0.081
			0.000	0.000			1" Ice	3.592	1.600	0.108
RRUS 12 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	3.145	1.285	0.058
			0.000	0.000			1/2" Ice	3.365	1.438	0.081
			0.000	0.000			1" Ice	3.592	1.600	0.108
Ericsson 4426 B66 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	1.650	0.727	0.048
			0.000	0.000			1/2" Ice	1.810	0.844	0.061
			0.000	0.000			1" Ice	1.978	0.971	0.076
Ericsson 4426 B66 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	1.650	0.727	0.048
			0.000	0.000			1/2" Ice	1.810	0.844	0.061
			0.000	0.000			1" Ice	1.978	0.971	0.076
Ericsson 4426 B66 (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice	1.650	0.727	0.048
			0.000	0.000			1/2" Ice	1.810	0.844	0.061
			0.000	0.000			1" Ice	1.978	0.971	0.076
Ericsson RRUS 4478 B14 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.021	1.246	0.059
			0.000	0.000			1/2" Ice	2.200	1.396	0.077
			0.000	0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 4478 B14 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.021	1.246	0.059
			0.000	0.000			1/2" Ice	2.200	1.396	0.077
			0.000	0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 4478 B14 (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.021	1.246	0.059
			0.000	0.000			1/2" Ice	2.200	1.396	0.077
			0.000	0.000			1" Ice	2.386	1.554	0.097
Ericsson RRUS 32 B2 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.743	1.668	0.053
			0.000	0.000			1/2" Ice	2.965	1.855	0.074
			0.000	0.000			1" Ice	3.194	2.049	0.098
Ericsson RRUS 32 B2 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice	2.743	1.668	0.053
			0.000	0.000			1/2" Ice	2.965	1.855	0.074
			0.000	0.000			1" Ice	3.194	2.049	0.098

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	Project	Bridgeport - Evergreen St.135' Mono	Date	11:39:12 03/23/21
	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
Ericsson E2 B29 (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice 3.143	1.282	0.053
			0.000	0.000			1/2" Ice 3.363	1.434	0.076
			0.000	0.000			1" Ice 3.590	1.595	0.102
Ericsson E2 B29 (ATT)	B	From Leg	3.000	0.000	0.0000	130.000	No Ice 3.143	1.282	0.053
			0.000	0.000			1/2" Ice 3.363	1.434	0.076
			0.000	0.000			1" Ice 3.590	1.595	0.102
Ericsson E2 B29 (ATT)	C	From Leg	3.000	0.000	0.0000	130.000	No Ice 3.143	1.282	0.053
			0.000	0.000			1/2" Ice 3.363	1.434	0.076
			0.000	0.000			1" Ice 3.590	1.595	0.102
(3) DC6-48-60-18-8F (ATT)	A	From Leg	3.000	0.000	0.0000	130.000	No Ice 2.045	2.045	0.020
			0.000	0.000			1/2" Ice 3.111	3.111	0.061
			0.000	0.000			1" Ice 3.369	3.369	0.106
12' Low Profile Platform (ATT)	C	None			0.0000	130.000	No Ice 23.100	23.100	2.100
							1/2" Ice 26.800	26.800	2.500
							1" Ice 30.500	30.500	2.900

APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	A	From Leg	4.000	0.000	0.0000	120.000	No Ice 8.262	6.946	0.083
			0.000	0.000			1/2" Ice 8.822	8.127	0.151
			0.000	0.000			1" Ice 9.346	9.021	0.227
Nokia - AAHF (Quad) (Sprint)	A	From Leg	4.000	0.000	0.0000	120.000	No Ice 4.203	2.061	0.103
			0.000	0.000			1/2" Ice 4.458	2.252	0.135
			0.000	0.000			1" Ice 4.721	2.454	0.171
(2) 1900 MHz RRH (Sprint)	A	From Leg	2.000	0.000	0.0000	120.000	No Ice 4.045	1.533	0.070
			0.000	0.000			1/2" Ice 4.298	1.712	0.097
			0.000	0.000			1" Ice 4.557	1.899	0.128
800 MHz RRH (Sprint)	A	From Leg	2.000	0.000	0.0000	120.000	No Ice 2.134	1.773	0.053
			0.000	0.000			1/2" Ice 2.320	1.946	0.074
			0.000	0.000			1" Ice 2.512	2.127	0.098
IBC1900HG-2A (Sprint)	A	From Leg	2.000	0.000	0.0000	120.000	No Ice 1.090	0.531	0.022
			0.000	0.000			1/2" Ice 1.224	0.635	0.030
			0.000	0.000			1" Ice 1.365	0.745	0.041
IBC1900-BB-1 (Sprint)	A	From Leg	2.000	0.000	0.0000	120.000	No Ice 1.230	0.512	0.040
			0.000	0.000			1/2" Ice 1.379	0.603	0.052
			0.000	0.000			1" Ice 1.536	0.702	0.067
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	B	From Leg	4.000	0.000	0.0000	120.000	No Ice 8.262	6.946	0.083
			0.000	0.000			1/2" Ice 8.822	8.127	0.151
			0.000	0.000			1" Ice 9.346	9.021	0.227
Nokia - AAHF (Quad) (Sprint)	B	From Leg	4.000	0.000	0.0000	120.000	No Ice 4.203	2.061	0.103
			0.000	0.000			1/2" Ice 4.458	2.252	0.135
			0.000	0.000			1" Ice 4.721	2.454	0.171
(2) 1900 MHz RRH (Sprint)	B	From Leg	2.000	0.000	0.0000	120.000	No Ice 4.045	1.533	0.070
			0.000	0.000			1/2" Ice 4.298	1.712	0.097
			0.000	0.000			1" Ice 4.557	1.899	0.128
800 MHz RRH (Sprint)	B	From Leg	2.000	0.000	0.0000	120.000	No Ice 2.134	1.773	0.053
			0.000	0.000			1/2" Ice 2.320	1.946	0.074
			0.000	0.000			1" Ice 2.512	2.127	0.098
IBC1900HG-2A (Sprint)	B	From Leg	2.000	0.000	0.0000	120.000	No Ice 1.090	0.531	0.022
			0.000	0.000			1/2" Ice 1.224	0.635	0.030
			0.000	0.000			1" Ice 1.365	0.745	0.041
IBC1900-BB-1 (Sprint)	B	From Leg	2.000	0.000	0.0000	120.000	No Ice 1.230	0.512	0.040
			0.000	0.000			1/2" Ice 1.379	0.603	0.052
			0.000	0.000			1" Ice 1.536	0.702	0.067
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	C	From Leg	4.000	0.000	0.0000	120.000	No Ice 8.262	6.946	0.083
			0.000	0.000			1/2" Ice 8.822	8.127	0.151
			0.000	0.000			1" Ice 9.346	9.021	0.227
Nokia - AAHF (Quad) (Sprint)	C	From Leg	4.000	0.000	0.0000	120.000	No Ice 4.203	2.061	0.103
			0.000	0.000			1/2" Ice 4.458	2.252	0.135

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	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
(2) 1900 MHz RRH (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	4.721	2.454	0.171
			2.000				No Ice	4.045	1.533	0.070
			0.000				1/2" Ice	4.298	1.712	0.097
800 MHz RRH (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	4.557	1.899	0.128
			2.000				No Ice	2.134	1.773	0.053
			0.000				1/2" Ice	2.320	1.946	0.074
IBC1900HG-2A (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	2.512	2.127	0.098
			2.000				No Ice	1.090	0.531	0.022
			0.000				1/2" Ice	1.224	0.635	0.030
IBC1900-BB-1 (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	1.365	0.745	0.041
			2.000				No Ice	1.230	0.512	0.040
			0.000				1/2" Ice	1.379	0.603	0.052
DAP Head (Sprint)	A	From Leg	0.000		0.0000	120.000	1" Ice	1.536	0.702	0.067
			2.000				No Ice	1.564	0.726	0.033
			0.000				1/2" Ice	1.722	0.844	0.045
DAP Head (Sprint)	B	From Leg	0.000		0.0000	120.000	1" Ice	1.888	0.969	0.059
			2.000				No Ice	1.564	0.726	0.033
			0.000				1/2" Ice	1.722	0.844	0.045
DAP Head (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	1.888	0.969	0.059
			2.000				No Ice	1.564	0.726	0.033
			0.000				1/2" Ice	1.722	0.844	0.045
ODU (15 lbs, 1.5 CaAa) (Sprint)	A	From Leg	0.000		0.0000	120.000	1" Ice	1.888	0.969	0.059
			2.000				No Ice	1.500	1.500	0.015
			0.000				1/2" Ice	2.000	2.000	0.020
ODU (15 lbs, 1.5 CaAa) (Sprint)	B	From Leg	0.000		0.0000	120.000	1" Ice	2.500	2.500	0.024
			2.000				No Ice	1.500	1.500	0.015
			0.000				1/2" Ice	2.000	2.000	0.020
ODU (15 lbs, 1.5 CaAa) (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	2.500	2.500	0.024
			2.000				No Ice	1.500	1.500	0.015
			0.000				1/2" Ice	2.000	2.000	0.020
ODU (15 lbs, 1.5 CaAa) (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	2.500	2.500	0.024
			2.000				No Ice	1.500	1.500	0.015
			0.000				1/2" Ice	2.000	2.000	0.020
GPS-TMG-HR-26NCM (Sprint)	C	From Leg	0.000		0.0000	120.000	1" Ice	2.500	2.500	0.024
			2.000				No Ice	0.073	0.073	0.001
			0.000				1/2" Ice	0.117	0.117	0.002
SitePro1 F4P-10W (4 Sector) (Sprint)	C	None	0.000		0.0000	120.000	1" Ice	0.170	0.170	0.004
							No Ice	40.740	40.740	2.396
							1/2" Ice	52.240	52.240	3.087
***						1" Ice	64.600	64.600	4.041	
Ericsson AIR32 B66AaB2a (T-Mobile)	A	From Leg	4.000		0.0000	110.000	No Ice	6.510	4.712	0.132
			0.000				1/2" Ice	6.887	5.068	0.178
			0.000				1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a (T-Mobile)	B	From Leg	4.000		0.0000	110.000	No Ice	6.510	4.712	0.132
			0.000				1/2" Ice	6.887	5.068	0.178
			0.000				1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a (T-Mobile)	C	From Leg	4.000		0.0000	110.000	No Ice	6.510	4.712	0.132
			0.000				1/2" Ice	6.887	5.068	0.178
			0.000				1" Ice	7.271	5.431	0.229
Ericsson AIR32 B66AaB2a (T-Mobile)	C	From Leg	4.000		90.0000	110.000	No Ice	6.510	4.712	0.132
			0.000				1/2" Ice	6.887	5.068	0.178
			0.000				1" Ice	7.271	5.431	0.229
RFS APXVFWW24X-C-NA20 (T-Mobile)	A	From Leg	4.000		0.0000	110.000	No Ice	11.311	8.278	0.073
			0.000				1/2" Ice	11.927	8.872	0.141
			0.000				1" Ice	12.550	9.474	0.217
RFS	B	From Leg	4.000		0.0000	110.000	No Ice	11.311	8.278	0.073

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	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Lateral					
APXVFWW24X-C-NA20 (T-Mobile)			0.000			1/2" Ice	11.927	8.872	0.141
RFS	C	From Leg	0.000			1" Ice	12.550	9.474	0.217
APXVFWW24X-C-NA20 (T-Mobile)			4.000	0.0000	110.000	No Ice	11.311	8.278	0.073
RFS	C	From Leg	0.000			1/2" Ice	11.927	8.872	0.141
APXVFWW24X-C-NA20 (T-Mobile)			0.000			1" Ice	12.550	9.474	0.217
RRUS 11 B12 (T-Mobile)	A	From Leg	4.000	90.0000	110.000	No Ice	11.311	8.278	0.073
			0.000			1/2" Ice	11.927	8.872	0.141
			0.000			1" Ice	12.550	9.474	0.217
RRUS 11 B12 (T-Mobile)	B	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12 (T-Mobile)	B	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12 (T-Mobile)	C	From Leg	3.000	0.0000	110.000	No Ice	2.833	1.182	0.051
			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 B12 (T-Mobile)	C	From Leg	3.000	90.0000	110.000	No Ice	2.833	1.182	0.051
			0.000			1/2" Ice	3.043	1.330	0.072
			0.000			1" Ice	3.259	1.485	0.095
RRUS 11 (T-Mobile)	A	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11 (T-Mobile)	B	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11 (T-Mobile)	C	From Leg	3.000	0.0000	110.000	No Ice	2.784	1.187	0.051
			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
RRUS 11 (T-Mobile)	C	From Leg	3.000	90.0000	110.000	No Ice	2.784	1.187	0.051
			0.000			1/2" Ice	2.992	1.334	0.071
			0.000			1" Ice	3.207	1.490	0.095
F4P-10W (T-Mobile)	C	None		0.0000	110.000	No Ice	40.740	45.260	2.396
						1/2" Ice	52.240	56.430	3.087
						1" Ice	63.740	67.600	3.778

Matsing	C	From Leg	3.000	0.0000	130.000	No Ice	12.000	12.500	0.130
MS-MBA-3.2-H4-L4 (ATT)			0.000			1/2" Ice	0.000	0.000	0.169
			0.000			1" Ice	0.000	0.000	0.208
(2) Ericsson 4449 B5/B12 (ATT)	C	From Leg	3.000	0.0000	130.000	No Ice	1.969	1.410	0.071
			0.000			1/2" Ice	2.145	1.566	0.089
			0.000			1" Ice	2.329	1.729	0.110
(3) Ericsson 8843 B2/B66A (ATT)	C	From Leg	3.000	0.0000	130.000	No Ice	1.644	1.359	0.072
			0.000			1/2" Ice	1.804	1.506	0.090
			0.000			1" Ice	1.972	1.661	0.110
Raycap	C	From Leg	3.000	0.0000	130.000	No Ice	4.783	2.736	0.029
DC9-48-60-24-8C-EV (ATT)			0.000			1/2" Ice	5.063	2.962	0.066
			0.000			1" Ice	5.350	3.195	0.107
(6) Kaelus DBC0051F3V51-2 (ATT)	C	From Leg	3.000	0.0000	130.000	No Ice	0.413	0.293	0.000
			0.000			1/2" Ice	0.496	0.366	0.004
			0.000			1" Ice	0.586	0.446	0.010

Ericsson AIR6449 B41 (T-Mobile)	A	From Leg	4.000	0.0000	110.000	No Ice	5.599	2.491	0.104
			0.000			1/2" Ice	5.900	2.718	0.143
			0.000			1" Ice	6.208	2.952	0.186

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	Project	Bridgeport - Evergreen St.135' Mono	Date	11:39:12 03/23/21
	Client	Blue Sky Towers	Designed by	kkadam

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
Ericsson AIR6449 B41 (T-Mobile)	B	From Leg	4.000	0.000	0.0000	110.000	No Ice	5.599	2.491	0.104
			0.000	0.000			1/2" Ice	5.900	2.718	0.143
			0.000	0.000			1" Ice	6.208	2.952	0.186
Ericsson AIR6449 B41 (T-Mobile)	C	From Leg	4.000	0.000	0.0000	110.000	No Ice	5.599	2.491	0.104
			0.000	0.000			1/2" Ice	5.900	2.718	0.143
			0.000	0.000			1" Ice	6.208	2.952	0.186
Ericsson AIR6449 B41 (T-Mobile)	C	From Leg	4.000	90.0000	0.0000	110.000	No Ice	5.599	2.491	0.104
			0.000	0.000			1/2" Ice	5.900	2.718	0.143
			0.000	0.000			1" Ice	6.208	2.952	0.186
Ericsson 4449 B12/B71 (T-Mobile)	A	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.639	1.291	0.074
			0.000	0.000			1/2" Ice	1.799	1.436	0.091
			0.000	0.000			1" Ice	1.966	1.587	0.111
Ericsson 4449 B12/B71 (T-Mobile)	B	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.639	1.291	0.074
			0.000	0.000			1/2" Ice	1.799	1.436	0.091
			0.000	0.000			1" Ice	1.966	1.587	0.111
Ericsson 4449 B12/B71 (T-Mobile)	C	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.639	1.291	0.074
			0.000	0.000			1/2" Ice	1.799	1.436	0.091
			0.000	0.000			1" Ice	1.966	1.587	0.111
Ericsson 4449 B12/B71 (T-Mobile)	C	From Leg	4.000	90.0000	0.0000	110.000	No Ice	1.639	1.291	0.074
			0.000	0.000			1/2" Ice	1.799	1.436	0.091
			0.000	0.000			1" Ice	1.966	1.587	0.111
Ericsson 4415 B25 (T-Mobile)	A	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.868	0.826	0.044
			0.000	0.000			1/2" Ice	2.038	0.949	0.058
			0.000	0.000			1" Ice	2.217	1.081	0.075
Ericsson 4415 B25 (T-Mobile)	B	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.868	0.826	0.044
			0.000	0.000			1/2" Ice	2.038	0.949	0.058
			0.000	0.000			1" Ice	2.217	1.081	0.075
Ericsson 4415 B25 (T-Mobile)	C	From Leg	4.000	0.0000	0.0000	110.000	No Ice	1.868	0.826	0.044
			0.000	0.000			1/2" Ice	2.038	0.949	0.058
			0.000	0.000			1" Ice	2.217	1.081	0.075
Ericsson 4415 B25 (T-Mobile)	C	From Leg	4.000	90.0000	0.0000	110.000	No Ice	1.868	0.826	0.044
			0.000	0.000			1/2" Ice	2.038	0.949	0.058
			0.000	0.000			1" Ice	2.217	1.081	0.075
Andrew VHLP2-18 (Flat Panel) (T-Mobile)	A	From Leg	4.000	0.0000	0.0000	110.000	No Ice	3.151	2.205	0.025
			0.000	0.000			1/2" Ice	3.380	2.406	0.052
			0.000	0.000			1" Ice	3.616	2.617	0.083
Andrew VHLP2-18 (Flat Panel) (T-Mobile)	B	From Leg	4.000	0.0000	0.0000	110.000	No Ice	3.151	2.205	0.025
			0.000	0.000			1/2" Ice	3.380	2.406	0.052
			0.000	0.000			1" Ice	3.616	2.617	0.083
Andrew VHLP2-18 (Flat Panel) (T-Mobile)	C	From Leg	4.000	0.0000	0.0000	110.000	No Ice	3.151	2.205	0.025
			0.000	0.000			1/2" Ice	3.380	2.406	0.052
			0.000	0.000			1" Ice	3.616	2.617	0.083
SDX1926Q-43 (T-Mobile)	A	From Leg	4.000	0.0000	0.0000	110.000	No Ice	0.241	0.101	0.030
			0.000	0.000			1/2" Ice	0.306	0.144	0.032
			0.000	0.000			1" Ice	0.379	0.195	0.036
SDX1926Q-43 (T-Mobile)	B	From Leg	4.000	0.0000	0.0000	110.000	No Ice	0.241	0.101	0.030
			0.000	0.000			1/2" Ice	0.306	0.144	0.032
			0.000	0.000			1" Ice	0.379	0.195	0.036
SDX1926Q-43 (T-Mobile)	C	From Leg	4.000	0.0000	0.0000	110.000	No Ice	0.241	0.101	0.030
			0.000	0.000			1/2" Ice	0.306	0.144	0.032
			0.000	0.000			1" Ice	0.379	0.195	0.036
SDX1926Q-43 (T-Mobile)	C	From Leg	4.000	90.0000	0.0000	110.000	No Ice	0.241	0.101	0.030
			0.000	0.000			1/2" Ice	0.306	0.144	0.032
			0.000	0.000			1" Ice	0.379	0.195	0.036

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Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				Horz Lateral	Vert						
				ft	°	°	ft	ft	ft ²	K	
VHLP2-18 (Sprint)	A	Paraboloid w/Radome	From Leg	4.000	0.0000	120.000	2.175	No Ice	3.720	0.030	
				0.000	0.000				1/2" Ice	4.010	0.050
				0.000	0.000				1" Ice	4.300	0.070
VHLP2-18 (Sprint)	B	Paraboloid w/Radome	From Leg	4.000	0.0000	120.000	2.175	No Ice	3.720	0.030	
				0.000	0.000				1/2" Ice	4.010	0.050
				0.000	0.000				1" Ice	4.300	0.070
VHLP2-18 (Sprint)	C	Paraboloid w/Radome	From Leg	4.000	0.0000	120.000	2.175	No Ice	3.720	0.030	
				0.000	0.000				1/2" Ice	4.010	0.050
				0.000	0.000				1" Ice	4.300	0.070
MT-485025 (Sprint)	C	Grid	From Leg	4.000	0.0000	120.000	1.167	No Ice	1.069	0.006	
				0.000	0.000				1/2" Ice	1.227	0.012
				0.000	0.000				1" Ice	1.385	0.019
SHP2-13-3WH/B (T-Mobile)	C	Paraboloid w/Shroud (HP)	From Leg	3.000	0.0000	110.000	2.000	No Ice	6.250	0.024	
				0.000	0.000				1/2" Ice	6.500	0.030
				0.000	0.000				1" Ice	6.800	0.036

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp

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<i>Comb. No.</i>	<i>Description</i>
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Axial K</i>	<i>Major Axis Moment kip-ft</i>	<i>Minor Axis Moment kip-ft</i>
L1	135 - 109.08	Pole	Max Tension	36	0.000	-0.000	0.000
			Max. Compression	26	-22.249	2.067	0.424
			Max. Mx	20	-12.050	240.811	1.459
			Max. My	14	-12.040	-0.749	-242.082
			Max. Vy	20	-18.845	240.811	1.459
			Max. Vx	2	-19.010	3.476	241.537
			Max. Torque	24			9.435
L2	109.08 - 84.16	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.048	8.072	-3.014
			Max. Mx	20	-22.118	883.893	5.593
			Max. My	14	-22.098	-3.654	-891.382
			Max. Vy	8	29.700	-876.208	-11.230
			Max. Vx	2	-30.066	11.166	888.969
			Max. Torque	25			11.591
L3	84.16 - 41.9933	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-55.104	8.133	-3.037
			Max. Mx	20	-36.536	2213.928	16.919
			Max. My	2	-36.524	19.796	2237.228
			Max. Vy	8	34.807	-2209.342	-23.850
			Max. Vx	2	-35.171	19.796	2237.228
			Max. Torque	13			-11.586
L4	41.9933 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-84.486	8.133	-3.037
			Max. Mx	20	-62.599	4045.772	30.201
			Max. My	2	-62.598	29.677	4090.385
			Max. Vy	8	40.413	-4044.880	-38.476
			Max. Vx	2	-40.771	29.677	4090.385
			Max. Torque	13			-11.579

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Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	84.486	0.000	-0.000
	Max. H _x	20	62.613	40.315	0.270
	Max. H _z	3	46.960	0.200	40.749
	Max. M _x	2	4090.385	0.200	40.749
	Max. M _z	8	4044.880	-40.391	-0.297
	Max. Torsion	25	11.576	20.460	35.414
	Min. Vert	7	46.960	-34.770	20.075
	Min. H _x	8	62.613	-40.391	-0.297
	Min. H _z	15	46.960	-0.271	-40.668
	Min. M _x	14	-4085.511	-0.271	-40.668
	Min. M _z	20	-4045.772	40.315	0.270
	Min. Torsion	13	-11.576	-20.439	-35.426

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	52.177	0.000	0.000	1.954	3.834	-0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	62.613	-0.200	-40.749	-4090.385	29.676	-10.485
0.9 Dead+1.0 Wind 0 deg - No Ice	46.960	-0.200	-40.749	-4073.414	28.358	-10.491
1.2 Dead+1.0 Wind 30 deg - No Ice	62.613	19.938	-35.128	-3522.683	-1988.846	-6.932
0.9 Dead+1.0 Wind 30 deg - No Ice	46.960	19.938	-35.128	-3508.156	-1981.497	-6.936
1.2 Dead+1.0 Wind 60 deg - No Ice	62.613	34.770	-20.075	-2007.929	-3477.287	-1.146
0.9 Dead+1.0 Wind 60 deg - No Ice	46.960	34.770	-20.075	-1999.914	-3463.545	-1.147
1.2 Dead+1.0 Wind 90 deg - No Ice	62.613	40.391	0.297	38.475	-4044.880	4.947
0.9 Dead+1.0 Wind 90 deg - No Ice	46.960	40.391	0.297	37.698	-4028.696	4.948
1.2 Dead+1.0 Wind 120 deg - No Ice	62.613	35.189	20.548	2070.416	-3527.263	9.339
0.9 Dead+1.0 Wind 120 deg - No Ice	46.960	35.189	20.548	2060.912	-3513.296	9.343
1.2 Dead+1.0 Wind 150 deg - No Ice	62.613	20.439	35.426	3563.066	-2049.767	11.570
0.9 Dead+1.0 Wind 150 deg - No Ice	46.960	20.439	35.426	3547.152	-2042.139	11.576
1.2 Dead+1.0 Wind 180 deg - No Ice	62.613	0.271	40.668	4085.511	-28.243	10.647
0.9 Dead+1.0 Wind 180 deg - No Ice	46.960	0.271	40.668	4067.356	-29.295	10.653
1.2 Dead+1.0 Wind 210 deg - No Ice	62.613	-19.923	35.049	3518.366	1997.004	6.909
0.9 Dead+1.0 Wind 210 deg - No Ice	46.960	-19.923	35.049	3502.650	1987.253	6.913
1.2 Dead+1.0 Wind 240 deg - No Ice	62.613	-34.763	20.071	2012.625	3486.516	1.146
0.9 Dead+1.0 Wind 240 deg - No Ice	46.960	-34.763	20.071	2003.380	3470.364	1.147

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Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
No Ice						
1.2 Dead+1.0 Wind 270 deg - No Ice	62.613	-40.315	-0.270	-30.202	4045.772	-4.924
0.9 Dead+1.0 Wind 270 deg - No Ice	46.960	-40.315	-0.270	-30.666	4027.215	-4.926
1.2 Dead+1.0 Wind 300 deg - No Ice	62.613	-35.084	-20.569	-2067.691	3524.311	-9.501
0.9 Dead+1.0 Wind 300 deg - No Ice	46.960	-35.084	-20.569	-2059.402	3507.992	-9.506
1.2 Dead+1.0 Wind 330 deg - No Ice	62.613	-20.460	-35.414	-3557.161	2061.098	-11.570
0.9 Dead+1.0 Wind 330 deg - No Ice	46.960	-20.460	-35.414	-3542.476	2051.060	-11.576
1.2 Dead+1.0 Ice+1.0 Temp	84.486	-0.000	0.000	3.037	8.133	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	84.486	-0.017	-10.254	-987.675	10.438	-1.700
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	84.486	5.061	-8.849	-851.148	-479.013	-1.205
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	84.486	8.792	-5.076	-486.143	-839.098	-0.337
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	84.486	10.194	0.042	8.203	-975.159	0.621
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	84.486	8.872	5.142	500.343	-848.669	1.363
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	84.486	5.135	8.897	863.032	-488.052	1.802
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	84.486	0.045	10.232	991.203	2.766	1.750
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	84.486	-5.047	8.833	855.486	493.998	1.234
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	84.486	-8.786	5.073	491.942	854.996	0.337
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	84.486	-10.173	-0.046	-2.463	989.335	-0.650
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	84.486	-8.839	-5.155	-495.740	861.253	-1.413
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	84.486	-5.137	-8.895	-856.716	504.845	-1.803
Dead+Wind 0 deg - Service	52.177	-0.045	-9.269	-926.499	9.572	-2.390
Dead+Wind 30 deg - Service	52.177	4.535	-7.990	-797.707	-448.350	-1.580
Dead+Wind 60 deg - Service	52.177	7.909	-4.566	-454.070	-786.014	-0.261
Dead+Wind 90 deg - Service	52.177	9.187	0.068	10.175	-914.780	1.127
Dead+Wind 120 deg - Service	52.177	8.004	4.674	471.142	-797.357	2.129
Dead+Wind 150 deg - Service	52.177	4.649	8.058	809.767	-462.171	2.638
Dead+Wind 180 deg - Service	52.177	0.062	9.250	928.286	-3.565	2.428
Dead+Wind 210 deg - Service	52.177	-4.532	7.972	799.619	455.879	1.576
Dead+Wind 240 deg - Service	52.177	-7.907	4.565	458.028	793.785	0.261
Dead+Wind 270 deg - Service	52.177	-9.170	-0.061	-5.403	920.659	-1.123
Dead+Wind 300 deg - Service	52.177	-7.980	-4.679	-467.627	802.366	-2.166
Dead+Wind 330 deg - Service	52.177	-4.654	-8.055	-805.532	470.423	-2.638

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-52.177	0.000	0.000	52.177	0.000	0.000%
2	-0.200	-62.613	-40.749	0.200	62.613	40.749	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
3	-0.200	-46.960	-40.749	0.200	46.960	40.749	0.000%
4	19.938	-62.613	-35.128	-19.938	62.613	35.128	0.000%
5	19.938	-46.960	-35.128	-19.938	46.960	35.128	0.000%
6	34.770	-62.613	-20.075	-34.770	62.613	20.075	0.000%
7	34.770	-46.960	-20.075	-34.770	46.960	20.075	0.000%
8	40.391	-62.613	0.297	-40.391	62.613	-0.297	0.000%
9	40.391	-46.960	0.297	-40.391	46.960	-0.297	0.000%
10	35.189	-62.613	20.548	-35.189	62.613	-20.548	0.000%
11	35.189	-46.960	20.548	-35.189	46.960	-20.548	0.000%
12	20.439	-62.613	35.426	-20.439	62.613	-35.426	0.000%
13	20.439	-46.960	35.426	-20.439	46.960	-35.426	0.000%
14	0.271	-62.613	40.668	-0.271	62.613	-40.668	0.000%
15	0.271	-46.960	40.668	-0.271	46.960	-40.668	0.000%
16	-19.923	-62.613	35.049	19.923	62.613	-35.049	0.000%
17	-19.923	-46.960	35.049	19.923	46.960	-35.049	0.000%
18	-34.763	-62.613	20.071	34.763	62.613	-20.071	0.000%
19	-34.763	-46.960	20.071	34.763	46.960	-20.071	0.000%
20	-40.315	-62.613	-0.270	40.315	62.613	0.270	0.000%
21	-40.315	-46.960	-0.270	40.315	46.960	0.270	0.000%
22	-35.084	-62.613	-20.569	35.084	62.613	20.569	0.000%
23	-35.084	-46.960	-20.569	35.084	46.960	20.569	0.000%
24	-20.460	-62.613	-35.414	20.460	62.613	35.414	0.000%
25	-20.460	-46.960	-35.414	20.460	46.960	35.414	0.000%
26	0.000	-84.486	0.000	0.000	84.486	-0.000	0.000%
27	-0.017	-84.486	-10.254	0.017	84.486	10.254	0.000%
28	5.061	-84.486	-8.849	-5.061	84.486	8.849	0.000%
29	8.792	-84.486	-5.076	-8.792	84.486	5.076	0.000%
30	10.194	-84.486	0.042	-10.194	84.486	-0.042	0.000%
31	8.872	-84.486	5.142	-8.872	84.486	-5.142	0.000%
32	5.135	-84.486	8.897	-5.135	84.486	-8.897	0.000%
33	0.045	-84.486	10.232	-0.045	84.486	-10.232	0.000%
34	-5.047	-84.486	8.833	5.047	84.486	-8.833	0.000%
35	-8.786	-84.486	5.073	8.786	84.486	-5.073	0.000%
36	-10.173	-84.486	-0.046	10.173	84.486	0.046	0.000%
37	-8.839	-84.486	-5.155	8.839	84.486	5.155	0.000%
38	-5.137	-84.486	-8.895	5.137	84.486	8.895	0.000%
39	-0.045	-52.177	-9.269	0.045	52.177	9.269	0.000%
40	4.535	-52.177	-7.990	-4.535	52.177	7.990	0.000%
41	7.909	-52.177	-4.566	-7.909	52.177	4.566	0.000%
42	9.187	-52.177	0.068	-9.187	52.177	-0.068	0.000%
43	8.004	-52.177	4.674	-8.004	52.177	-4.674	0.000%
44	4.649	-52.177	8.058	-4.649	52.177	-8.058	0.000%
45	0.062	-52.177	9.250	-0.062	52.177	-9.250	0.000%
46	-4.532	-52.177	7.972	4.532	52.177	-7.972	0.000%
47	-7.907	-52.177	4.565	7.907	52.177	-4.565	0.000%
48	-9.170	-52.177	-0.061	9.170	52.177	0.061	0.000%
49	-7.980	-52.177	-4.679	7.980	52.177	4.679	0.000%
50	-4.654	-52.177	-8.055	4.654	52.177	8.055	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00002210
3	Yes	4	0.00000001	0.00066792

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4	Yes	5	0.00000001	0.00003039
5	Yes	4	0.00000001	0.00091521
6	Yes	5	0.00000001	0.00003619
7	Yes	5	0.00000001	0.00001670
8	Yes	4	0.00000001	0.00050415
9	Yes	4	0.00000001	0.00032152
10	Yes	5	0.00000001	0.00004920
11	Yes	5	0.00000001	0.00002288
12	Yes	5	0.00000001	0.00003277
13	Yes	4	0.00000001	0.00098924
14	Yes	5	0.00000001	0.00002113
15	Yes	4	0.00000001	0.00063896
16	Yes	5	0.00000001	0.00004484
17	Yes	5	0.00000001	0.00002080
18	Yes	5	0.00000001	0.00003419
19	Yes	5	0.00000001	0.00001563
20	Yes	4	0.00000001	0.00043252
21	Yes	4	0.00000001	0.00027576
22	Yes	5	0.00000001	0.00003251
23	Yes	4	0.00000001	0.00097853
24	Yes	5	0.00000001	0.00005349
25	Yes	5	0.00000001	0.00002490
26	Yes	4	0.00000001	0.00001594
27	Yes	4	0.00000001	0.00068767
28	Yes	4	0.00000001	0.00071169
29	Yes	4	0.00000001	0.00070633
30	Yes	4	0.00000001	0.00066798
31	Yes	4	0.00000001	0.00072942
32	Yes	4	0.00000001	0.00073174
33	Yes	4	0.00000001	0.00069529
34	Yes	4	0.00000001	0.00074376
35	Yes	4	0.00000001	0.00073701
36	Yes	4	0.00000001	0.00069244
37	Yes	4	0.00000001	0.00074095
38	Yes	4	0.00000001	0.00074957
39	Yes	4	0.00000001	0.00006150
40	Yes	4	0.00000001	0.00004038
41	Yes	4	0.00000001	0.00003431
42	Yes	4	0.00000001	0.00002982
43	Yes	4	0.00000001	0.00007084
44	Yes	4	0.00000001	0.00006188
45	Yes	4	0.00000001	0.00006200
46	Yes	4	0.00000001	0.00006023
47	Yes	4	0.00000001	0.00003119
48	Yes	4	0.00000001	0.00002934
49	Yes	4	0.00000001	0.00005230
50	Yes	4	0.00000001	0.00008396

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	135 - 109.08	8.409	50	0.5423	0.0065
L2	113.66 - 84.16	6.023	50	0.5115	0.0057
L3	89.9933 - 41.9933	3.715	50	0.3987	0.0029
L4	48.66 - 0	1.062	50	0.1996	0.0010

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Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.000	(2) CCI HPA-65R-BUU-H8	50	7.838	0.5390	0.0064	73875
120.000	VHLP2-18	50	6.713	0.5269	0.0061	24625
110.000	SHP2-13-3WH/B	50	5.636	0.4988	0.0054	16069

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	135 - 109.08	37.061	24	2.3882	0.0284
L2	113.66 - 84.16	26.549	24	2.2550	0.0251
L3	89.9933 - 41.9933	16.379	24	1.7580	0.0129
L4	48.66 - 0	4.683	24	0.8798	0.0042

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
130.000	(2) CCI HPA-65R-BUU-H8	24	34.547	2.3742	0.0281	17185
120.000	VHLP2-18	24	29.591	2.3222	0.0268	5727
110.000	SHP2-13-3WH/B	24	24.844	2.1990	0.0236	3719

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	135 - 109.08 (1)	TP36.69x29.52x0.25	25.920	135.000	129.7	27.9098	-12.031	374.580	0.032
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	29.500	135.000	111.4	40.6451	-22.085	740.419	0.030
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	48.000	135.000	88.6	81.7057	-36.518	2265.120	0.016
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	48.660	135.000	72.0	125.720 0	-62.598	4492.890	0.014

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Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	135 - 109.08 (1)	TP36.69x29.52x0.25	243.345	1329.142	0.183	0.000	1329.142	0.000
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	895.925	2314.950	0.387	0.000	2314.950	0.000
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	2250.567	6287.608	0.358	0.000	6287.608	0.000
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	4111.142	11955.167	0.344	0.000	11955.167	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	135 - 109.08 (1)	TP36.69x29.52x0.25	19.060	489.818	0.039	2.093	1508.775	0.001
L2	109.08 - 84.16 (2)	TP42.86x34.9231x0.3125	30.221	713.322	0.042	11.581	2559.867	0.005
L3	84.16 - 41.9933 (3)	TP53.81x40.6656x0.5	35.325	1433.940	0.025	11.573	6465.241	0.002
L4	41.9933 - 0 (4)	TP64x50.9844x0.625	40.922	2206.390	0.019	11.570	12245.583	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	135 - 109.08 (1)	0.032	0.183	0.000	0.039	0.001	0.217	1.000	4.8.2 ✓
L2	109.08 - 84.16 (2)	0.030	0.387	0.000	0.042	0.005	0.419	1.000	4.8.2 ✓
L3	84.16 - 41.9933 (3)	0.016	0.358	0.000	0.025	0.002	0.375	1.000	4.8.2 ✓
L4	41.9933 - 0 (4)	0.014	0.344	0.000	0.019	0.001	0.358	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
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	Client	Blue Sky Towers	Designed by	kkadam

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	135 - 109.08	Pole	TP36.69x29.52x0.25	1	-12.031	374.580	21.7	Pass	
L2	109.08 - 84.16	Pole	TP42.86x34.9231x0.3125	2	-22.085	740.419	41.9	Pass	
L3	84.16 - 41.9933	Pole	TP53.81x40.6656x0.5	3	-36.518	2265.120	37.5	Pass	
L4	41.9933 - 0	Pole	TP64x50.9844x0.625	4	-62.598	4492.890	35.8	Pass	
							Summary		
							Pole (L2)	41.9	Pass
							RATING =	41.9	Pass

Program Version 8.0.7.5 - 8/3/2020 File:Z:/Shared/Projects/2021/21.03.000 - Boca Raton/21.03.014.xxx - BlueSky/21.03.014.005 - CT-5020 Bridgeport Evergreen St (AT&T) 135' Mono/Calcs/US-CT-5020 Bridgeport Evergreen St (AT&T) 135' Mono.eri

Attachment 2:
Collocation Application

Blue Sky Tower Collocation Application



Installation Type: Anchor Collocation Add to Existing

Contact: James Burgess Site Number: CT-5020
 Email: jamesb@blueskytower.com Site Name: Bridgeport-Evergreen St
 Office: 617-549-2800 Submittal Date: 3/10/2021
 Fax: Revision Date(s):

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL. Include Drawings, Specification Sheets, RFDS, Antenna Data Sheets

Applicant Information

Applicant Name: New Cingular Wireless PCS, LLC Primary Contact/Agent Name: Emily Barnes
 Applicant Site Name: Bridgeport Evergreen St Contact/Agent Company Name: SAI
 Applicant Site Number: CT 5100 / FA#10107972 Contact/Agent Number: 603-560-8742
 Proposed ON AIR Date: 12/1/2021 Contact Email: ebarnes@sairp.com

Applicant Contact Information

Leasing Contact Name: Emily Barnes Email: ebarnes@sairp.com Number: 603-560-8742
 RF Contact Name: Mohammad M Hussain Email: mh705r@att.com Number:
 Construction Contact Name: Mike Cypranowski Email: mcypnanowski@qualtekwireless.com Number:
 Emergency Contact Name: Network Operations Email: N/A Number: 800-638-2822
 Account Payable Contact Name: Email: Number:

Tower Information

Latitude: 41.197838 N Structure Type: Monopole
 Longitude: 73.190772 W Structure Height: 135
 AMSL: FT Site Address:

EQUIPMENT SPECIFICATIONS

Summary of Work to be Completed: Swap (1) panel (gamma sector), add (6) Diplexers, Swap (1) RRUS-11B12 + (1) RRUS-12B5s for (2) 700/850-4449, Swap (1) RRUS-32B2 for (3) 8843 B2/B66A, Swap (1) DC6 DC/Squid for (1) DC9 DC/Fiber Squid, Add (1) 2" conduit for new 1" DC Trunk

EXISTING CONDITIONS - List all installed equipment prior to proposed modification. If this is a new installation, proceed to FINAL CONFIGURATION.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (if necessary)
Current RAD Center (Ft AGL)	130	130	130	
Tower Mount Height (if different than RAD ctr)				
Mount Type (Label "Existing" if no change)	Low Profile Platform w/ Rails	Low Profile Platform w/ Rails	Low Profile Platform w/ Rails	
Mount Model #				
Antenna Manufacturer	CCI/CCI/CCI/CCI	CCI/CCI/CCI/CCI	CCI/CCI/CCI/CCI	
Antenna Model# (Attach Specs)	HFA-65R-BUU-H8 OPA-65R-LCUU-H8 BU8DA 65R-BUU-H8	HFA-65R-BUU-H8 DMP65R- HFA- BU8DA 65R-BUU-H8	HFA-65R-BUU-H8 OPA-65R-LCUU-H8 BU8DA 65R-BUU-H8	DMP65R- HFA-
Antenna Dimensions (WxHxD in inches)	93"x15"x7" 92.7"x14.4"x7" 96.0"x20.7"x7.7" 93"x15"x7"	93"x15"x7" 92.7"x14.4"x7" 96.0"x20.7"x7.7" 93"x15"x7"	93"x15"x7" 92.7"x14.4"x7" 96.0"x20.7"x7.7" 93"x15"x7"	
Antenna Weight (Lbs.)	68 / 88 / 95.7 / 68	68 / 88 / 95.7 / 68	68 / 88 / 95.7 / 68	
Antenna Quantity	1/1/1/1	1/1/1/1	1/1/1/1	
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths				
Total # of Coax Lines per Sector				
Diameter Of Coax Cables (In)				
Total # of Hybrid Cables per Sector				
Diameter Of Hybrid Cables (In)				
Total # of Other Cables per Sector	2 & 1	1 & 1	1 & 1	
Diameter Of Other Cables (In)	2" conduit / 3/8" RET line	2" conduit / 3/8" RET line	2" conduit / 3/8" RET line	

Quantity of RRUs per Sector	1 & 1 1 & 1 1 & 1 1 & 1	1 & 1 1 & 1 1 & 1 1 & 1	1 & 1 1 & 1 1 & 1 1 & 1	
Manufacturer	Ericsson Ericsson Ericsson Ericsson	Ericsson Ericsson Ericsson Ericsson	Ericsson Ericsson Ericsson Ericsson	
Model	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 RRRUS 12-B5 & RRUS 11 B12 RRUS 32 B2 & RRUS 4478 B14	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 RRRUS 12-B5 & RRUS 11 B12 RRUS 32 B2 & RRUS 4478 B14	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 RRRUS 12-B5 & RRUS 11 B12 RRUS 32 B2 & RRUS 4478 B14	
Dimensions	19.7"x17"x7.2" & 14.9"x 13.2" x 5.8" 27.2"x12.1"x7" & 20.4"x18.5"x7.5" 20.4"x18.5"x7.5" & 19.7"x17"x7.2" 27.2"x12.1"x7" & 18.1"x13.4"x8.3"	19.7"x17"x7.2" & 14.9"x 13.2" x 5.8" 27.2"x12.1"x7" & 20.4"x18.5"x7.5" 20.4"x18.5"x7.5" & 19.7"x17"x7.2" 27.2"x12.1"x7" & 18.1"x13.4"x8.3"	19.7"x17"x7.2" & 14.9"x 13.2" x 5.8" 27.2"x12.1"x7" & 20.4"x18.5"x7.5" 20.4"x18.5"x7.5" & 19.7"x17"x7.2" 27.2"x12.1"x7" & 18.1"x13.4"x8.3"	
Weight (Lbs.)	58lbs & 49lbs 60lbs & 53lbs 58lbs & 51lbs 60lbs & 60lbs	58lbs & 49lbs 60lbs & 53lbs 58lbs & 51lbs 60lbs & 60lbs	58lbs & 49lbs 60lbs & 53lbs 58lbs & 51lbs 60lbs & 60lbs	
Quantity of TMAs per Sector				
Manufacturer				
Model				
Dimensions				
Weight (Lbs.)				
Quantity of Surge Arrestors per Sector	4			
Manufacturer	Raycap			
Model	DC6-48-60-18-8F			

Antenna Model & Quantity to be Removed per Sector (If Applicable)		1 - HFA-65R-BUU-H8	
RRU Model & Quantity to be Removed per Sector (If Applicable)		1 - RRUS 12-B5 & RRUS 11 B12	1 - 1 -
		RRUS 32 B2	

Line/Cable Type, Size & Quantity to be Removed (If Applicable)	(If			
List Any Other Equipment to be Removed (If Applicable)	(If	1 - DC6-48-60-18-8F		

FINAL CONFIGURATION - List all installed equipment after proposed modification or initial installation.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (if necessary)
Current/Proposed RAD Center (Ft AGL)	130	130	130	
Tower Mount Height (if different than RAD ctr)				
Mount Type (Label "Existing" if no change)	Low Profile Platform	Low Profile Platform	Low Profile Platform	
Mount Model #				
Antenna Manufacturer	CCI/CCI/CCI/CCI	CCI/CCI/CCI/CCI	CCI/CCI/CCI/Matsing	
Antenna Model# (Attach Specs)	HFA-65R-BUU-H8 OPA-65R-LCUU-H8 BU8DA 65R-BUU-H8	HFA-65R-BUU-H8 OPA-65R-LCUU-H8 BU8DA 65R-BUU-H8	HFA-65R-BUU-H8 OPA-65R-LCUU-H8 BU8DA MBA-3.2-H4-L4	
Antenna Dimensions (WxHxD in inches)	93"X15"X7" 92.7"X14.4"X7" 96.0"X20.7"X7.7" 93"X15"X7"	93"X15"X7" 92.7"X14.4"X7" 96.0"X20.7"X7.7" 93"X15"X7"	93"X15"X7" 92.7"X14.4"X7" 96.0"X20.7"X7.7" 72"X24"X25"	
Antenna Weight (Lbs.)	68 / 88 / 95.7 / 68	68 / 88 / 95.7 / 68	68 / 88 / 95.7 / 130	
Antenna Quantity	1 / 1 / 1 / 1	1 / 1 / 1 / 1	1 / 1 / 1 / 1	
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths				

Total # of Coax Lines per Sector			
Diameter Of Coax Cables (In)			
Total # of Hybrid Cables per Sector			
Diameter Of Hybrid Cables (In)			
Total # of other Cables per Sector	2 & 1	2 & 1	1 & 1
Diameter Of Other Cables (In)	2" conduit / 3/8" RET line	2" conduit / 3/8" RET line	2" conduit / 3/8" RET line

Quantity of RRUs per Sector	1 & 1 1 & 1 1 & 1 1 & 1	1 & 1 1 & 1 1 & 1 1 & 1	1 & 1 1 & 1 1 2 & 3
Manufacturer	Ericsson Ericsson Ericsson Ericsson	Ericsson Ericsson Ericsson Ericsson	Ericsson Ericsson Ericsson Ericsson
Model	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 RRUS 12-B5 & RRUS 11 B12 RRUS 32 B2 & RRUS 4478 B14	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 RRUS 12-B5 & RRUS 11 B12 RRUS 32 B2 & RRUS 4478 B14	RRU-11 B5 & 4426 B66 RRUS 32 B30 & RRUS E2 B29 & RRUS 4478 B14 4449 B5/B12 & 8843 B2/B66A
Quantity of TMAs per Sector			6
Manufacturer			Kaelus - Combiners
Model			DBC0051F3V51-2
Quantity of Surge Arrestors per Sector	3		1
Manufacturer	Raycap		Raycap
Model	DC6-48-60-18-8F		DC9-48-60-24-8C-EV

Transmit Frequency (MHz)	704-716, 835-848, 1850-1860, 1885-1895, 1770-1780, 2305-2320, 788-798	704-716, 835-848, 1850-1860, 1885-1895, 1770-1780, 2305-2320, 788-798	704-716, 835-848, 1850-1860, 1885-1895, 1770-1780, 2305-2320, 788-798
Receive Frequency (MHz)	716-728, 734-746, 880-893, 1930-1940, 1965-1975, 2170-2180, 2345-2360, 758-768	716-728, 734-746, 880-893, 1930-1940, 1965-1975, 2170-2180, 2345-2360, 758-768	716-728, 734-746, 880-893, 1930-1940, 1965-1975, 2170-2180, 2345-2360, 758-768
Antenna Gain (Db)			
Type of Technology			
TX Power Output			
ERP (Watts)			
Electric Service Required (Amps/Volts)			

GROUND SPACE REQUIREMENTS

Existing Lease Area:	DIMS: L(ft) 20	W(ft) 12	OR	_____	Square footage
New/Add 'l Lease Area being requested:	DIMS: L(ft) _____	W(ft) _____	OR	_____	Square footage
Shelter:	DIMS: L(ft) _____	W(ft) _____	H(ft) _____		
Concrete Pad for Shelter/Cabinets:	DIMS: L(ft) _____	W(ft) _____			

POWER REQUIREMENTS

Power Provided by: _____ Power Company	Electrical Service Provider: _____ CL&P	Electrical Service Telephone Number: _____
Average Monthly Power Consumption: _____ KWH units		
Is a multi-tenant meter rack present: <input checked="" type="checkbox"/> Yes	How many, if any, empty meter banks are present: _____	
Telco/Interconnect Requirements: FOTS <input type="checkbox"/>	T1 <input type="checkbox"/>	MICROWAVE <input type="checkbox"/>
Fiber Provider: _____ Utility company		FIBER OPTIC <input checked="" type="checkbox"/>

BACK-UP POWER INFORMATION

Generator Required: <input checked="" type="checkbox"/> Yes	Generation Location: _____ Inside Lease Area	Fuel Type: _____ Diesel
Generator Ground Space Requirement: DIMS: L(ft) 4	W(ft) 8	H(ft) _____
BST Generator: _____	Generator Owner: _____	Shared Generator Peak Usage: _____ KW
Generator Capacity: _____ 50 KW	Generator Make: _____ Generac	Generator Model: _____ SD-050
Fuel Tank Location: _____	Fuel Tank Size: DIMS: L(ft) _____	W(ft) _____ Fuel Tank _____ Gallons
Pad for Fuel Tank (if required) DIMS: L(ft) _____	W(ft) _____	
Comments: _____		

Comments: List any pertinent information that was not included above.

March 4, 2021



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT5100 (SPLIT SECTOR)
 FA Number: 10107972
 PACE Number: MRCTB050196
 PT Number: 2051A0XXCM
 Site Name: BRIDGEPORT EVERGREEN ST
 Site Address: 220 Evergreen Street
 Bridgeport, CT 06606

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (5) HPA-65R-BUU-H8 Antennas (92.4"x14.8"x7.4" – Wt. = 68 lbs. /each)
- (3) OPA-65R-LCUU-H8 Antennas (92.7"x14.4"x7.0" – Wt. = 88 lbs. /each)
- (3) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)
- (3) RRUS-11 B5 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) 4426 B66 RRH's (14.9"x13.2"x5.8" – Wt. = 49 lbs. /each)
- (3) RRUS-E2 B29 RRH's (20.4"x18.5"x7.5" – Wt. = 53 lbs. /each)
- (2) RRUS-12 B5 RRH's (20.4"x18.5"x7.5" – Wt. = 58 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (2) RRUS-11 B12 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (2) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) Squid Surge Arrestors (24.0"x9.7" Φ – Wt. = 33 lbs. /each)
- **(1) MS-MBA-3.2-H4-L4 Antennas (72.0"x24.0"x25.0" – Wt. = 130 lbs. /each)**
- **(6) DBC0051F3V51-2 Diplexers (8.0"x6.2"x6.5" - Wt. = 26 lbs. /each)**
- **(2) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each) (Separated Mount)**
- **(3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each) (Separated Mount)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on September 8, 2019. HDG conducted a ground audit on the existing antenna mount on February 3, 2021.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.15 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.215 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.065.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with ring mount. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (SPLIT SECTOR) Mount Rating	89	LC1	81%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC dated September 30, 2019.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

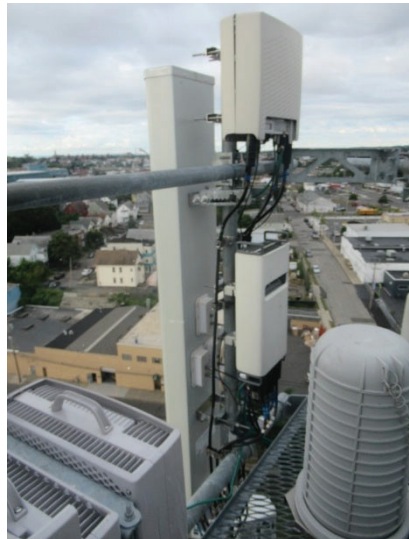


Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 2/26/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: CT5100
 Designed By: RL Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ **1.065**

$z =$ 130 (ft)
 $z_g =$ 1200 (ft)
 $\alpha =$ 7.0

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} =$ **1**

$K_h =$ 1

(If Category 1 then $K_{zt} = 1.0$)

$K_c =$ 0.9 (from Table 2-4)

$K_t =$ (from Table 2-5)

$f =$ (from Table 2-5)

$z =$ 130

$z_s =$ 25 (Mean elevation of base of structure above sea level)

$H =$ (Ht. of the crest above surrounding terrain)

$K_{zt} =$ 1.00 (from 2.6.6.2.1)

$K_e =$ 1.00 (from 2.6.8)

Category = 1

2.6.10 Design Ice Thickness

Max Ice Thickness =

$t_i =$ 1.00 in

Importance Factor =

$I =$ 1.00 (from Table 2-3)

$K_{iz} =$ 1.15 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ 1.15 in

Date: 2/26/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: CT5100
 Designed By: RL Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$ $h =$ ht. of structure

$h =$ 135 $G_h =$ 0.85

2.6.9.2 Guyed Masts $G_h =$ 0.85

2.6.9.3 Pole Structures $G_h =$ 1.1

2.6.9 Appurtenances $G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5))

$G_h =$ 1.35 $G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$q_z =$ 40.44
 $q_{z(ice)} =$ 6.47
 $q_{z(30)} =$ 2.33

$K_z =$ 1.065 (from 2.6.5.2)
 $K_{zt} =$ 1.0 (from 2.6.6.2.1)
 $K_s =$ 1.0 (from 2.6.7)
 $K_e =$ 1.00 (from 2.6.8)
 $K_d =$ 0.95 (from Table 2-2)
 $V_{max} =$ 125 mph (Ultimate Wind Speed)
 $V_{max(ice)} =$ 50 mph
 $V_{30} =$ 30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r _s) ≥ 0.85	1.4 - 4.0(r _s) ≥ 0.90	2.0 - 6.0(r _s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	4.14/(C ^{0.485})	3.66/(C ^{0.415})	46.8/(C ^{1.0})
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance.)
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ice Thickness = 1.15 in Angle = 0 (deg) Equivalent Angle = 180 (deg)			
						Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	6.24	1.37	525	99	30
OPA-65R-LCUU-H8 Antenna	92.7	14.4	7.0	9.27	6.44	1.38	515	98	30
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	723	132	42
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	3.00	1.22	593	107	34
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	1.16	1.20	113	23	7
RRUS-11 B5 RRH (Shielded)	19.7	2.2	7.2	0.30	8.95	1.47	18	7	1
RRUS-11 B5 RRH (Side)	19.7	7.2	17.0	0.99	2.74	1.21	48	11	3
4426 B66 RRH	14.9	13.2	5.8	1.37	1.13	1.20	66	14	4
4426 B66 RRH (Shielded)	14.9	0.0	5.8	0.00	0.00	1.20	0	2	0
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	2.57	1.20	29	8	2
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	2.25	1.20	111	23	6
RRUS-32 B30 RRH (Shielded)	27.2	0.0	7.0	0.00	0.00	1.20	0	4	0
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	67	16	4
RRUS-32 B30 RRH (Side) (Shielded)	27.2	3.5	12.1	0.66	7.77	1.43	38	11	2
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.10	1.20	127	25	7
RRUS-12 B5 RRH (Side)	20.4	7.5	18.5	1.06	2.72	1.21	52	12	3
RRUS-12 B5 RRH (Side) (Shielded)	20.4	3.8	18.5	0.53	5.44	1.33	29	8	2
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.10	1.20	127	25	7
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.72	1.21	52	12	3
4478 B14 RRH	18.1	13.4	8.3	1.68	1.35	1.20	82	17	5
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	0.00	1.20	0	3	0
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	111	23	6
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.10	1.20	127	25	7
RRUS-11 B12 RRH (Shielded)	20.4	3.7	7.5	0.52	5.51	1.33	28	8	2
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.36	1.20	80	17	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.90	1.20	57	13	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.20	66	14	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	55	12	3
DBC0051F3V51-2 Diplexer	8.5	5.0	4.5	0.30	1.70	1.20	14	4	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	46	10	3
3-1/2" Pipe	4.0	12.0		0.33	0.33	1.20	16		
2" Pipe	2.4	12.0		0.20	0.20	1.20	10		
C 3-3/8x2-1/8x3/16	3.4	2.1		0.05	1.59	1.25	3		
2x2 Angle	2.0	12.0		0.17	0.17	2.00	13		
3x3 Angle	3.0	12.0		0.25	0.25	2.00	20		
PL 6x3/8	0.4	6.0		0.02	0.06	1.25	1		

Date: 2/26/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: C15100
 Designed by: RL Checked By: MSC



WIND LOADS

Angle = 30 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Apertures	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	470
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	460
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	624
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	599
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	97
RRUS-11 B5 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	56	48	54
RRUS-11 B5 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	30	113	51
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	57
4426 B66 RRH (Shielded)	14.9	6.6	5.8	0.68	0.60	2.26	2.57	1.20	1.20	33	29	32
4426 B66 RRH (Side)	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	18	66	30
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-32 B30 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	60	67	62
RRUS-32 B30 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	34	111	53
RRUS-32 B30 RRH (Side) (Shielded)	27.2	1.5	12.1	0.29	2.29	17.98	2.25	1.77	1.20	20	111	43
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-12 B5 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	2.72	1.10	1.20	64	127	79
RRUS-12 B5 RRH (Side) (Shielded)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	34	127	57
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	2.72	1.10	1.20	64	127	79
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	74
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	51	44
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-11 B12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	64	52	61
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	74
4449 B5/B12 RRH (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	40	80	50
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	63
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.13	2.26	1.13	1.20	1.20	33	66	41
DBC0051F3V51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	14

WIND LOADS WITH ICE:

HPA-65R-BUU-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	88
OPA-65R-LCUU-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	87
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	114
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	108
RRUS-11 B5 RRH	22.0	19.3	9.5	2.95	1.45	1.14	2.82	1.20	1.20	23	11	20
RRUS-11 B5 RRH (Shielded)	22.0	9.6	9.5	1.47	1.45	2.28	2.82	1.20	1.20	11	11	11
RRUS-11 B5 RRH (Side)	22.0	4.8	19.3	0.74	2.95	4.56	1.14	1.29	1.20	6	23	10
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	13
4426 B66 RRH (Shielded)	17.2	7.7	8.1	0.93	0.97	2.22	2.12	1.20	1.20	7	8	7
4426 B66 RRH (Side)	17.2	3.9	15.5	0.46	1.85	4.44	1.11	1.29	1.20	4	14	6
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-32 B30 RRH (Shielded)	29.5	7.2	9.3	1.47	1.90	4.10	3.17	1.27	1.23	12	15	13
RRUS-32 B30 RRH (Side)	29.5	3.6	14.4	0.74	2.95	8.20	2.05	1.44	1.20	7	23	11
RRUS-32 B30 RRH (Side) (Shielded)	29.5	1.8	14.4	0.37	2.95	16.39	2.05	1.71	1.20	4	23	9
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-12 B5 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
RRUS-12 B5 RRH (Side) (Shielded)	22.7	5.2	20.8	0.82	3.28	4.37	1.09	1.28	1.20	7	25	11
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-E2 B29 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	16
4478 B14 RRH (Shielded)	20.4	7.8	10.6	1.11	1.50	2.60	1.93	1.20	1.20	9	12	9
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-11 B12 RRH (Shielded)	22.7	10.4	9.8	1.64	1.54	2.18	2.32	1.20	1.20	13	12	13
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	16
4449 B5/B12 RRH (Side)	20.2	7.7	15.5	1.09	2.17	2.61	1.30	1.20	1.20	8	17	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	14
8843 B2/B66A RRH (Side)	17.2	7.7	15.5	0.93	1.58	2.22	1.11	1.20	1.20	7	14	9
DBC0051F3V51-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	27
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	26
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	36
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	34
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 B5 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-11 B5 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	2	7	3
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	3
4426 B66 RRH (Shielded)	14.9	6.6	5.8	0.68	0.60	2.26	2.57	1.20	1.20	2	2	2
4426 B66 RRH (Side)	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	1	4	2
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B30 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	4
RRUS-32 B30 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	6	3
RRUS-32 B30 RRH (Side) (Shielded)	27.2	1.5	12.1	0.29	2.29	17.98	2.25	1.77	1.20	1	6	2
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-12 B5 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	2.72	1.10	1.20	4	7	5
RRUS-12 B5 RRH (Side) (Shielded)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	2	7	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	2.72	1.10	1.20	4	7	5
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-11 B12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	4	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	2	5	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.13	2.26	1.13	1.20				

WIND LOADS

Angle = 60 (deg)	Ice Thickness = 1.15 in.	Equivalent Angle = 240 (deg)
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WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _a (normal)	C _a (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	359
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	349
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	427
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	610
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	64
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	85	48	57
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	63	113	101
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	38
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	50	29	34
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	37	66	59
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	85	67	72
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	66	111	100
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	52	111	96
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
RRUS-12 B5 RRH (Side) (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	72	127	113
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	58
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	51	53
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	95	52	63
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	62
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	60	80	75
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	58
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	50	66	62
DBC0051F3V51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	13

WIND LOADS WITH ICE:

HPA-65R-BUU-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	70
OPA-65R-LCUU-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	69
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	82
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	109
RRUS-11 B5 RRH	22.0	19.3	9.5	2.95	1.45	1.12	2.32	1.20	1.20	23	11	14
RRUS-11 B5 RRH (Shielded)	22.0	14.5	9.5	2.21	1.45	1.52	2.32	1.20	1.20	17	11	13
RRUS-11 B5 RRH (Side)	22.0	10.9	19.3	1.66	2.95	2.03	1.14	1.20	1.20	13	23	20
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	9
4426 B66 RRH (Shielded)	17.2	11.6	8.1	1.39	0.97	1.48	2.12	1.20	1.20	11	8	8
4426 B66 RRH (Side)	17.2	8.7	15.5	1.04	1.85	1.97	1.11	1.20	1.20	8	14	13
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-32 B30 RRH (Shielded)	29.5	10.8	9.3	2.21	1.90	2.73	3.17	1.21	1.23	17	15	16
RRUS-32 B30 RRH (Side)	29.5	8.1	14.4	1.66	2.95	3.64	2.05	1.25	1.20	13	23	21
RRUS-32 B30 RRH (Side) (Shielded)	29.5	6.1	14.4	1.24	2.95	4.86	2.05	1.30	1.20	10	23	20
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-12 B5 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
RRUS-12 B5 RRH (Side) (Shielded)	22.7	11.7	20.8	1.84	3.28	1.94	1.09	1.20	1.20	14	25	23
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-E2 B29 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	13
4478 B14 RRH (Shielded)	20.4	11.8	10.6	1.67	1.50	1.73	1.93	1.20	1.20	13	12	12
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-11 B12 RRH (Shielded)	22.7	15.6	9.8	2.46	1.54	1.46	2.32	1.20	1.20	19	12	14
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	14
4449 B5/B12 RRH (Side)	20.2	11.6	15.5	1.63	2.17	1.74	1.30	1.20	1.20	13	17	16
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	13
8843 B2/B66A RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	14	13
DBC0051F3V51-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	21
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	20
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	25
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	4	7	6
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	3	2	2
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	2	4	3
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	6	6
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	3	6	6
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
RRUS-12 B5 RRH (Side) (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	4	7	7
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	5	3	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	3	5	4
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	3	4	4
DBC0051F3V51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	1	1	1

Date: 2/26/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: C15100
 Designed by: RL Checked by: MSC



WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	304
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	293
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	328
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	615
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	48
RRUS-11 B5 RRH (Shielded)	19.7	2.2	7.2	0.30	0.99	8.95	2.74	1.47	1.21	18	48	48
RRUS-11 B5 RRH (Side)	19.7	7.2	17.0	0.99	2.33	2.74	1.16	1.21	1.20	48	113	113
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	29
4426 B66 RRH (Shielded)	14.9	0.0	5.8	0.00	0.60	0.00	2.57	1.20	1.20	0	29	29
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	1.37	2.57	1.13	1.20	1.20	29	66	66
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	67
RRUS-32 B30 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	67	67
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	67	111	111
RRUS-32 B30 RRH (Side) (Shielded)	27.2	3.5	12.1	0.66	2.29	7.77	2.25	1.43	1.20	38	111	111
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	52
RRUS-12 B5 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	52	127	127
RRUS-12 B5 RRH (Side) (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	29	127	127
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	52
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	52	127	127
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	51
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	51	51
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	67
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	52
RRUS-11 B12 RRH (Shielded)	20.4	3.7	7.5	0.52	1.06	5.51	2.72	1.33	1.21	28	52	52
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	57
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	57	80	80
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	55
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	55	66	66
DBC005FV351-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	13

WIND LOADS WITH ICE:

HPA-65R-BUU-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	62
OPA-65R-LCUU-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	60
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	66
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	110
RRUS-11 B5 RRH	22.0	19.3	9.5	2.95	1.45	1.14	2.32	1.20	1.20	23	11	11
RRUS-11 B5 RRH (Shielded)	22.0	4.5	9.5	0.69	1.45	4.89	2.32	1.31	1.20	6	11	11
RRUS-11 B5 RRH (Side)	22.0	9.5	19.3	1.45	2.95	2.32	1.14	1.20	1.20	11	23	23
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	8
4426 B66 RRH (Shielded)	17.2	2.3	8.1	0.27	0.97	7.50	2.12	1.42	1.20	3	8	8
4426 B66 RRH (Side)	17.2	8.1	15.5	0.97	1.85	2.12	1.11	1.20	1.20	8	14	14
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	15
RRUS-32 B30 RRH (Shielded)	29.5	2.3	9.3	0.47	1.90	12.86	3.17	1.60	1.23	5	15	15
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	15	23	23
RRUS-32 B30 RRH (Side) (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	10	23	23
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	12
RRUS-12 B5 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	12	25	25
RRUS-12 B5 RRH (Side) (Shielded)	22.7	6.0	20.8	0.95	3.28	3.75	1.09	1.26	1.20	8	25	25
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	12
RRUS-E2 B29 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	12	25	25
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	12
4478 B14 RRH (Shielded)	20.4	2.3	10.6	0.32	1.50	8.89	1.93	1.46	1.20	3	12	12
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	15
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	12
RRUS-11 B12 RRH (Shielded)	22.7	6.0	9.8	0.94	1.54	3.79	2.32	1.26	1.20	8	12	12
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	13
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	13	17	17
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	12
8843 B2/B66A RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	12	14	14
DBC005FV351-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	18
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	17
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	19
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	3
RRUS-11 B5 RRH (Shielded)	19.7	2.2	7.2	0.30	0.99	8.95	2.74	1.47	1.21	1	3	3
RRUS-11 B5 RRH (Side)	19.7	7.2	17.0	0.99	2.33	2.74	1.16	1.21	1.20	3	7	7
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	14.9	0.0	5.8	0.00	0.60	0.00	2.57	1.20	1.20	0	2	2
4426 B66 RRH (Side)	14.9	5.8	13.2	0.60	1.37	2.57	1.13	1.20	1.20	2	4	4
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 B30 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	4	4
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	0.00	2.25	1.20	1.20	4	6	6
RRUS-32 B30 RRH (Side) (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	6	6
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	3
RRUS-12 B5 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	7	7
RRUS-12 B5 RRH (Side) (Shielded)	20.4	3.8	18.5	0.53	2.62	5.44	1.10	1.33	1.20	2	7	7
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	3
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	3	7	7
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	3
RRUS-11 B12 RRH (Shielded)	20.4	3.7	7.5	0.52	1.06	5.51	2.72	1.33	1.21	2	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	5	5
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20</				

WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _a (normal)	C _a (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	359
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	349
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	427
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	610
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	64
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	85	48	57
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	63	113	101
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	38
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	50	29	34
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	37	66	59
RRUS-32 B30 RRH	27.2	11.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	85	67	72
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	66	111	100
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	52	111	96
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
RRUS-12 B5 RRH (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	72	127	113
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	58
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	51	53
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	95	52	63
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	62
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	60	80	75
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	58
8843 B2/B66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	50	66	62
DBC005F3V51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	13

WIND LOADS WITH ICE:

HPA-65R-BUU-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	70
OPA-65R-LCUU-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	69
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	82
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	109
RRUS-11 B5 RRH	22.0	19.3	9.5	2.90	1.45	1.14	2.32	1.20	1.20	23	11	14
RRUS-11 B5 RRH (Shielded)	22.0	14.5	9.5	2.21	1.45	1.52	2.32	1.20	1.20	17	11	13
RRUS-11 B5 RRH (Side)	22.0	10.9	19.3	1.66	2.95	2.03	1.14	1.20	1.20	13	23	20
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	9
4426 B66 RRH (Shielded)	17.2	11.6	8.1	1.39	0.97	1.48	2.12	1.20	1.20	11	8	8
4426 B66 RRH (Side)	17.2	8.7	15.5	1.04	1.85	1.97	1.11	1.20	1.20	8	14	13
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-32 B30 RRH (Shielded)	29.5	10.8	9.3	2.21	1.90	2.73	3.17	1.21	1.23	17	15	16
RRUS-32 B30 RRH (Side)	29.5	8.1	14.4	1.66	2.95	3.64	2.05	1.25	1.20	13	23	21
RRUS-32 B30 RRH (Side) (Shielded)	29.5	6.1	14.4	1.24	2.95	4.86	2.05	1.30	1.20	10	23	20
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-12 B5 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
RRUS-12 B5 RRH (Shielded)	22.7	11.7	20.8	1.84	3.28	1.94	1.09	1.20	1.20	14	25	23
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-E2 B29 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	13
4478 B14 RRH (Shielded)	20.4	11.8	10.6	1.67	1.50	1.73	1.93	1.20	1.20	13	12	12
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-11 B12 RRH (Shielded)	22.7	15.6	9.8	2.46	1.54	1.46	2.32	1.20	1.20	19	12	14
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	14
4449 B5/B12 RRH (Side)	20.2	#REF!	15.5	#REF!	2.17	#REF!	1.30	#REF!	1.20	#REF!	17	#REF!
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	13
8843 B2/B66A RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	11	14	13
DBC005F3V51-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	21
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	20
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	25
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	4	7	6
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	3	2	2
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	2	4	3
RRUS-32 B30 RRH	27.2	11.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	6	6
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	3	6	6
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
RRUS-12 B5 RRH (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	4	7	7
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	5	3	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	3	5	4
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 B2/B66A RRH (Side)	14.9	9.9	13.2									

Date: 3/4/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: C15100
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 120 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _n (normal)	C _s (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	359
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	349
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	427
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	610
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	64
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	85	48	57
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	63	113	101
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	38
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	50	29	34
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	37	66	59
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	85	67	72
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	66	111	100
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	52	111	96
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
RRUS-12 B5 RRH (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	72	127	113
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	95	127	119
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	58
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	51	53
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	78
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	71
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	95	52	63
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	62
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	60	80	75
8843 R2/R66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	58
8843 R2/R66A RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	50	66	62
DBC0051F3V51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	13

WIND LOADS WITH ICE:

HPA-65R-BUU-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	70
OPA-65R-LCUU-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	69
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	82
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	109
RRUS-11 B5 RRH	22.0	19.3	9.5	2.95	1.45	1.14	2.32	1.20	1.20	23	11	14
RRUS-11 B5 RRH (Shielded)	22.0	14.5	9.5	2.21	1.45	1.52	2.32	1.20	1.20	17	11	13
RRUS-11 B5 RRH (Side)	22.0	10.9	19.3	1.66	2.95	2.03	1.14	1.20	1.20	13	23	20
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	9
4426 B66 RRH (Shielded)	17.2	11.6	8.1	1.39	0.97	1.48	2.12	1.20	1.20	11	8	8
4426 B66 RRH (Side)	17.2	8.7	15.5	1.04	1.85	1.97	1.11	1.20	1.20	8	14	13
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-32 B30 RRH (Shielded)	29.5	10.8	9.3	2.21	1.90	2.73	3.17	1.21	1.23	17	15	16
RRUS-32 B30 RRH (Side)	29.5	8.1	14.4	1.66	2.95	3.64	2.05	1.25	1.20	13	23	21
RRUS-32 B30 RRH (Side) (Shielded)	29.5	6.1	14.4	1.24	2.95	4.86	2.05	1.30	1.20	10	23	20
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-12 B5 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
RRUS-12 B5 RRH (Shielded)	22.7	11.7	20.8	1.84	3.28	1.94	1.09	1.20	1.20	14	25	23
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-E2 B29 RRH (Side)	22.7	15.6	20.8	2.46	3.28	1.46	1.09	1.20	1.20	19	25	24
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	13
4478 B14 RRH (Shielded)	20.4	11.8	10.6	1.67	1.50	1.73	1.93	1.20	1.20	13	12	12
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	17
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	15
RRUS-11 B12 RRH (Shielded)	22.7	15.6	9.8	2.46	1.54	1.46	2.32	1.20	1.20	19	12	14
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	14
4449 B5/B12 RRH (Side)	20.2	11.6	15.5	1.63	2.17	1.74	1.30	1.20	1.20	13	17	16
8843 R2/R66A RRH	17.2	15.5	13.2	1.85	1.58	1.11	1.30	1.20	1.20	14	12	13
8843 R2/R66A RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.31	1.20	1.20	11	14	13
DBC0051F3V51-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUU-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	21
OPA-65R-LCUU-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	20
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	25
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	35
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 B5 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-11 B5 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	4	7	6
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	14.9	9.9	5.8	1.02	0.60	1.51	2.57	1.20	1.20	3	2	2
4426 B66 RRH (Side)	14.9	7.4	13.2	0.77	1.37	2.01	1.13	1.20	1.20	2	4	3
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-32 B30 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B30 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	6	6
RRUS-32 B30 RRH (Side) (Shielded)	27.2	5.1	12.1	0.96	2.29	5.33	2.25	1.33	1.20	3	6	6
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-12 B5 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
RRUS-12 B5 RRH (Shielded)	20.4	10.4	18.5	1.47	2.62	1.96	1.10	1.20	1.20	4	7	7
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-E2 B29 RRH (Side)	20.4	13.9	18.5	1.97	2.62	1.47	1.10	1.20	1.20	5	7	7
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	5
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-11 B12 RRH (Shielded)	20.4	13.9	7.5	1.97	1.06	1.47	2.72	1.20	1.21	5	3	4
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Side)	17.9	9.9	13.2	1.23	1.64	1.81	1.36	1.20	1.20	3	5	4
8843 R2/R66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	3
8843 R2/R66A RRH (Side)	14.9	9.9	13.2	1.02	1.37							

Date: 3/4/2021
 Project Name: BRIDGEPORT EVERGREEN ST
 Project No.: C15100
 Designed By: RL Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _a (normal)	C _a (side)	Force (lbf) (normal)	Force (lbf) (side)	Force (lbf) (angle)
HPA-65R-BUJ-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	525	304	470
OPA-65R-LCUJ-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	515	293	460
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	723	328	624
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	593	615	599
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	113	48	97
RRUS-11 B5 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	56	48	54
RRUS-11 B5 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	30	113	51
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	66	29	57
4426 B66 RRH (Shielded)	14.9	6.6	5.8	0.68	0.60	2.26	2.57	1.20	1.20	33	29	32
4426 B66 RRH (Side)	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	18	66	30
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-32 B30 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	60	67	62
RRUS-32 B30 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	34	111	53
RRUS-32 B30 RRH (Side) (Shielded)	27.2	1.5	12.1	0.29	2.29	17.98	2.25	1.77	1.20	20	111	43
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-12 B5 RRH (Shielded)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	64	127	79
RRUS-12 B5 RRH (Side) (Shielded)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	34	127	57
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	64	127	79
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	82	51	74
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	51	44
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	111	67	100
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	127	52	108
RRUS-11 B12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	64	52	61
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	80	57	74
4449 B5/B12 RRH (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	40	80	50
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	55	63
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.13	2.26	1.13	1.20	1.20	33	66	41
DBC0051FV51-2 Diplexer	8.5	5.0	4.5	0.30	0.27	1.70	1.89	1.20	1.20	14	13	14

WIND LOADS WITH ICE

HPA-65R-BUJ-HB Antenna	94.7	17.1	9.7	11.24	6.37	5.54	9.77	1.34	1.49	97	62	88
OPA-65R-LCUJ-HB Antenna	95.0	16.7	9.3	11.01	6.13	5.69	10.22	1.34	1.51	96	60	87
DMP65R-BUBDA Antenna	98.3	23.0	10.0	15.70	6.82	4.27	9.84	1.28	1.49	130	66	114
MS-MBA-3.2-H4-L4 Antenna	74.3	26.3	27.3	13.57	14.08	2.83	2.72	1.21	1.21	107	110	108
RRUS-11 B5 RRH	22.0	19.3	9.5	2.95	1.45	1.14	2.32	1.20	1.20	23	11	20
RRUS-11 B5 RRH (Shielded)	22.0	9.6	9.5	1.47	1.45	2.28	2.32	1.20	1.20	11	11	11
RRUS-11 B5 RRH (Side)	22.0	4.8	19.3	0.74	2.95	4.56	1.14	1.29	1.20	6	23	10
4426 B66 RRH	17.2	15.5	8.1	1.85	0.97	1.11	2.12	1.20	1.20	14	8	13
4426 B66 RRH (Shielded)	17.2	7.7	8.1	0.93	0.97	2.22	2.12	1.20	1.20	7	8	7
4426 B66 RRH (Side)	17.2	3.9	15.5	0.46	1.85	4.44	1.11	1.29	1.20	4	14	6
RRUS-32 B30 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-32 B30 RRH (Shielded)	29.5	7.2	9.3	1.47	1.90	4.10	3.17	1.27	1.23	12	15	13
RRUS-32 B30 RRH (Side)	29.5	3.6	14.4	0.74	2.95	8.20	2.05	1.44	1.20	7	23	11
RRUS-32 B30 RRH (Side) (Shielded)	29.5	1.8	14.4	0.37	2.95	16.39	2.05	1.71	1.20	4	23	9
RRUS-12 B5 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-12 B5 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
RRUS-12 B5 RRH (Side) (Shielded)	22.7	5.2	20.8	0.82	3.28	4.37	1.09	1.28	1.20	7	25	11
RRUS-E2 B29 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-E2 B29 RRH (Side)	22.7	10.4	20.8	1.64	3.28	2.18	1.09	1.20	1.20	13	25	16
4478 B14 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	17	12	16
4478 B14 RRH (Shielded)	20.4	7.8	10.6	1.11	1.50	2.60	1.93	1.20	1.20	9	12	9
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.90	2.05	3.17	1.20	1.23	23	15	21
RRUS-11 B12 RRH	22.7	20.8	9.8	3.28	1.54	1.09	2.32	1.20	1.20	25	12	22
RRUS-11 B12 RRH (Shielded)	22.7	10.4	9.8	1.64	1.54	2.18	2.32	1.20	1.20	13	12	13
4449 B5/B12 RRH	20.2	15.5	11.7	2.17	1.64	1.30	1.73	1.20	1.20	17	13	16
4449 B5/B12 RRH (Side)	20.2	7.7	15.5	1.09	2.17	2.61	1.30	1.20	1.20	8	17	11
8843 B2/B66A RRH	17.2	15.5	13.2	1.85	1.38	1.11	1.30	1.20	1.20	14	12	14
8843 B2/B66A RRH (Side)	17.2	7.7	15.5	0.93	1.85	2.22	1.11	1.20	1.20	7	14	9
DBC0051FV51-2 Diplexer	10.8	7.3	6.8	0.55	0.51	1.48	1.59	1.20	1.20	4	4	4

WIND LOADS AT 30 MPH:

HPA-65R-BUJ-HB Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	30	18	27
OPA-65R-LCUJ-HB Antenna	92.7	14.4	7.0	9.27	4.51	6.44	13.24	1.38	1.61	30	17	26
DMP65R-BUBDA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	42	19	36
MS-MBA-3.2-H4-L4 Antenna	72.0	24.0	25.0	12.00	12.50	3.00	2.88	1.22	1.22	34	35	34
RRUS-11 B5 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 B5 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-11 B5 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	2	7	3
4426 B66 RRH	14.9	13.2	5.8	1.37	0.60	1.13	2.57	1.20	1.20	4	2	3
4426 B66 RRH (Shielded)	14.9	6.6	5.8	0.68	0.60	2.26	2.57	1.20	1.20	2	2	2
4426 B66 RRH (Side)	14.9	3.3	13.2	0.34	1.37	4.52	1.13	1.29	1.20	1	4	2
RRUS-32 B30 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B30 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	4
RRUS-32 B30 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	6	3
RRUS-32 B30 RRH (Side) (Shielded)	27.2	1.5	12.1	0.29	2.29	17.98	2.25	1.77	1.20	1	6	2
RRUS-12 B5 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-12 B5 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	4	7	5
RRUS-12 B5 RRH (Side) (Shielded)	20.4	4.6	18.5	0.66	2.62	4.41	1.10	1.28	1.20	2	7	3
RRUS-E2 B29 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-E2 B29 RRH (Side)	20.4	9.3	18.5	1.31	2.62	2.21	1.10	1.20	1.20	4	7	5
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-11 B12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-11 B12 RRH (Shielded)	20.4	9.3	7.5	1.31	1.06	2.21	2.72	1.20	1.21	4	3	3
4449 B5/B12 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	5	3	4
4449 B5/B12 RRH (Side)	17.9	6.6	13.2	0.82	1.64	2.71	1.36	1.21	1.20	2	5	3
8843 B2/B66A RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	4	3	4
8843 B2/B66A RRH (Side)	14.9	6.6	13.2	0.68	1.13							

Date: 2/26/2021

Project Name: BRIDGEPORT EVERGREEN ST

Project No.: CT5100

Designed By: RL Checked By: MSC



HUDSON
Design Group LLC

RRUS-E2 B29 RRH

Weight of ice based on total radial SF area:

Height (in): 20.4
Width (in): 18.5
Depth (in): 7.5

Total weight of ice on object: 50 lbs

Weight of object: 53.0 lbs

Combined weight of ice and object: 103 lbs

4478 B14 RRH

Weight of ice based on total radial SF area:

Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3

Total weight of ice on object: 36 lbs

Weight of object: 60.0 lbs

Combined weight of ice and object: 96 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:

Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0

Total weight of ice on object: 48 lbs

Weight of object: 60.0 lbs

Combined weight of ice and object: 108 lbs

RRUS-11 B12 RRH

Weight of ice based on total radial SF area:

Height (in): 19.7
Width (in): 17.0
Depth (in): 7.2

Total weight of ice on object: 45 lbs

Weight of object: 51.0 lbs

Combined weight of ice and object: 96 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:

Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4

Total weight of ice on object: 36 lbs

Weight of object: 73.0 lbs

Combined weight of ice and object: 109 lbs

8843 B2/B66A RRH

Weight of ice based on total radial SF area:

Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9

Total weight of ice on object: 32 lbs

Weight of object: 72.0 lbs

Combined weight of ice and object: 104 lbs

DBC0051F3V51-2 Diplexer

Weight of ice based on total radial SF area:

Height (in): 8.5
Width (in): 5.0
Depth (in): 4.5

Total weight of ice on object: 8 lbs

Weight of object: 15.0 lbs

Combined weight of ice and object: 23 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in): 24.0
Diameter(in): 9.7

Total weight of ice on object: 30 lbs

Weight of object: 33 lbs

Combined weight of ice and object: 63 lbs

3-1/2" Pipe

Per foot weight of ice:

diameter (in): 4

Per foot weight of ice on object: 7 plf

2" pipe

Per foot weight of ice:

diameter (in): 2.38

Per foot weight of ice on object: 5 plf

C 3-3/8x2-1/8x3/16

Weight of ice based on total radial SF area:

Height (in): 3.375
Width (in): 2.125

Per foot weight of ice on object: 7 plf

L 2x2 Angles

Weight of ice based on total radial SF area:

Height (in): 2
Width (in): 2

Per foot weight of ice on object: 6 plf

L 3x3 Angles

Weight of ice based on total radial SF area:

Height (in): 3
Width (in): 3

Per foot weight of ice on object: 8 plf

PL 6x3/8

Weight of ice based on total radial SF area:

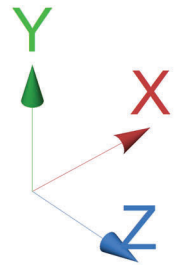
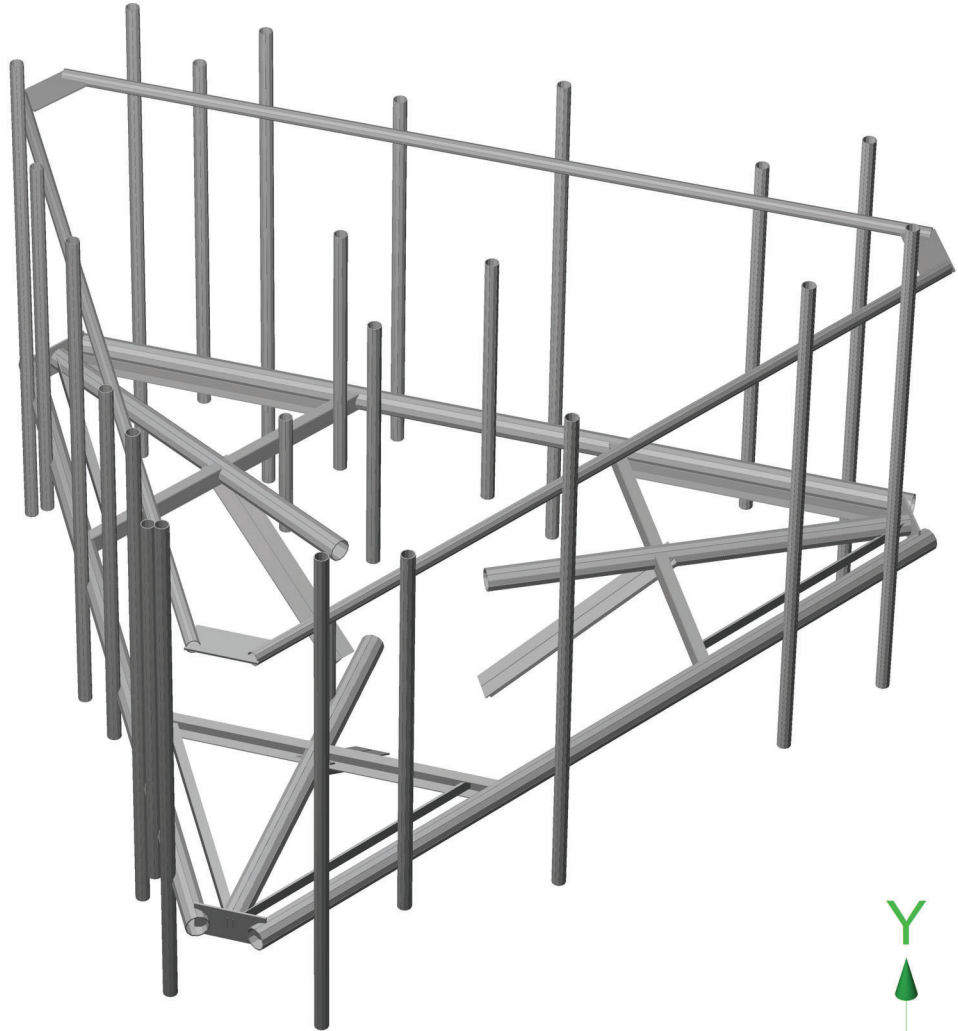
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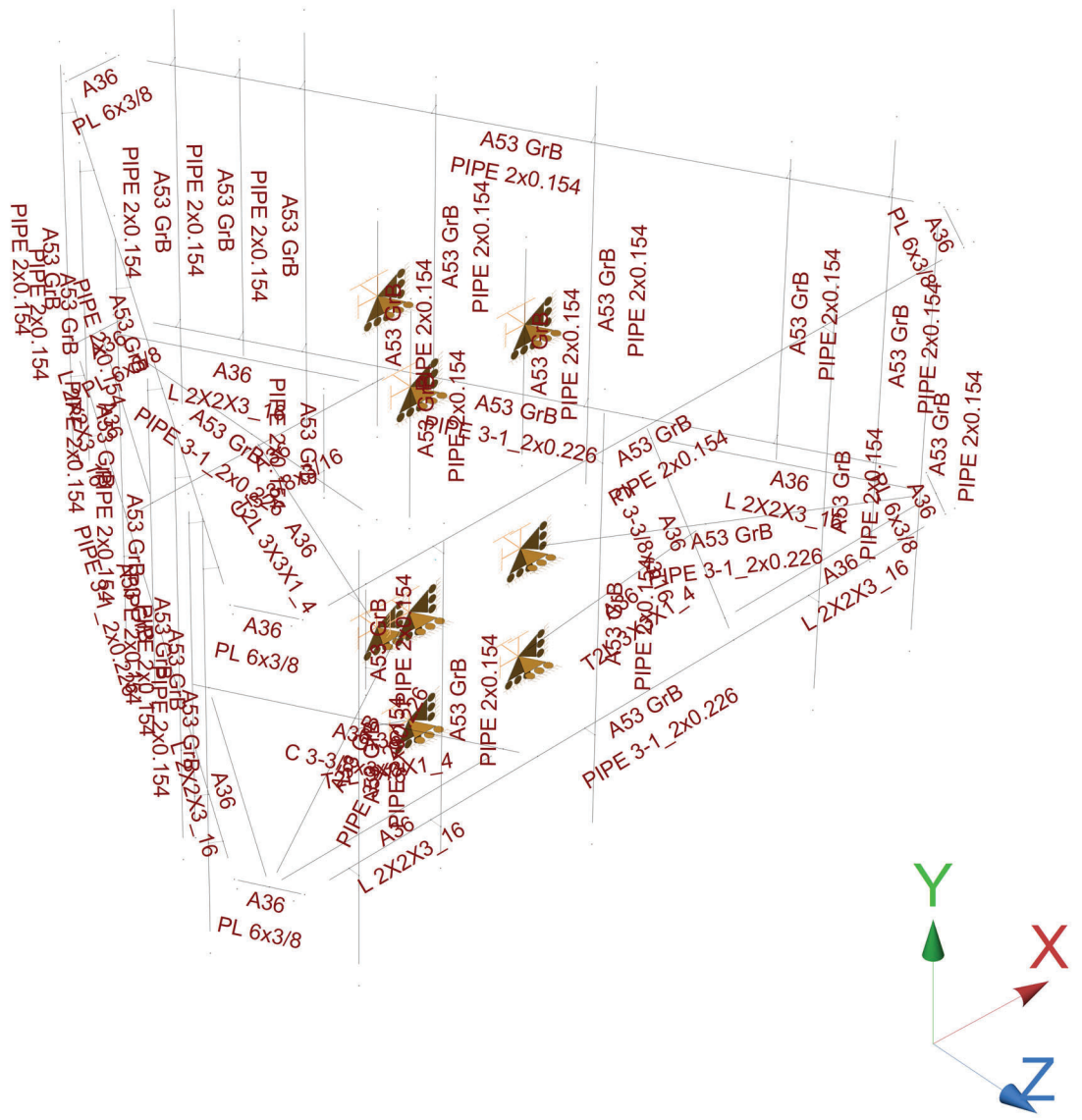
Per foot weight of ice on object: 10 plf

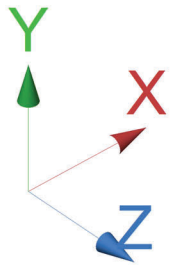
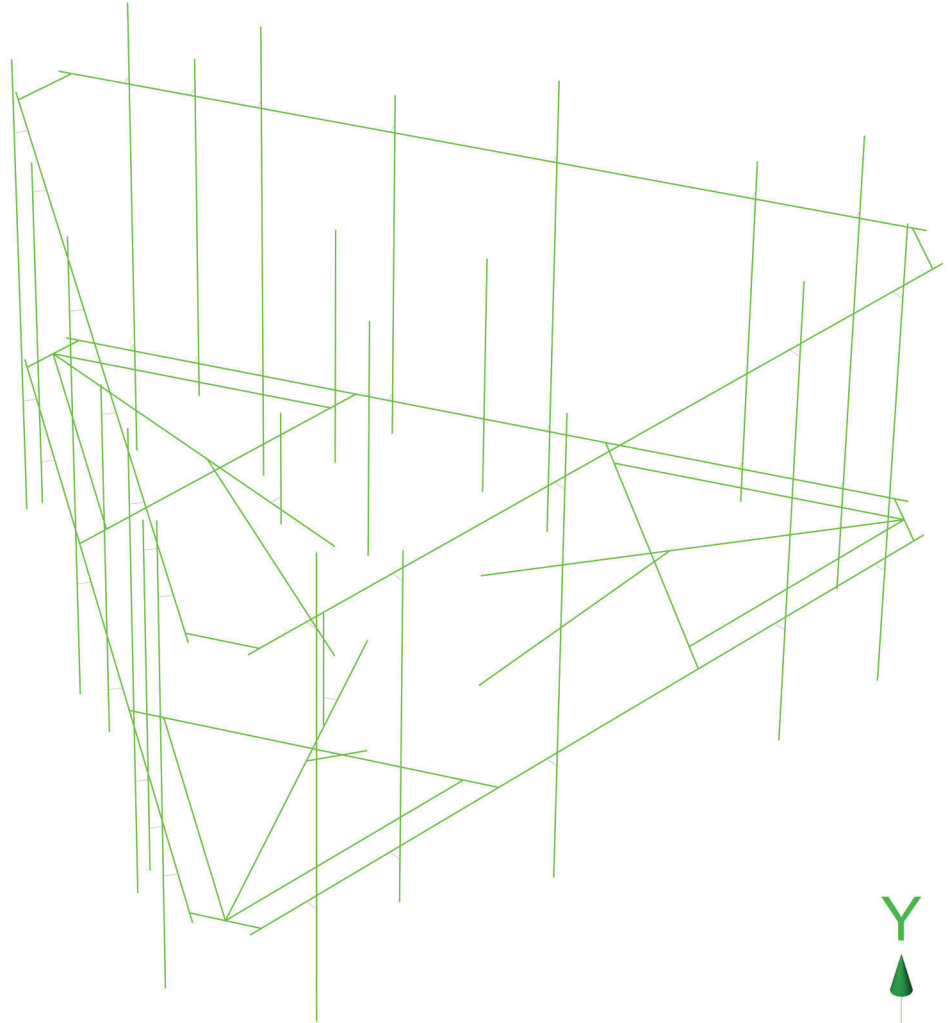


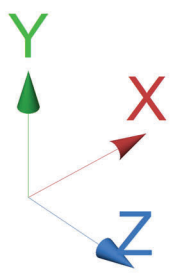
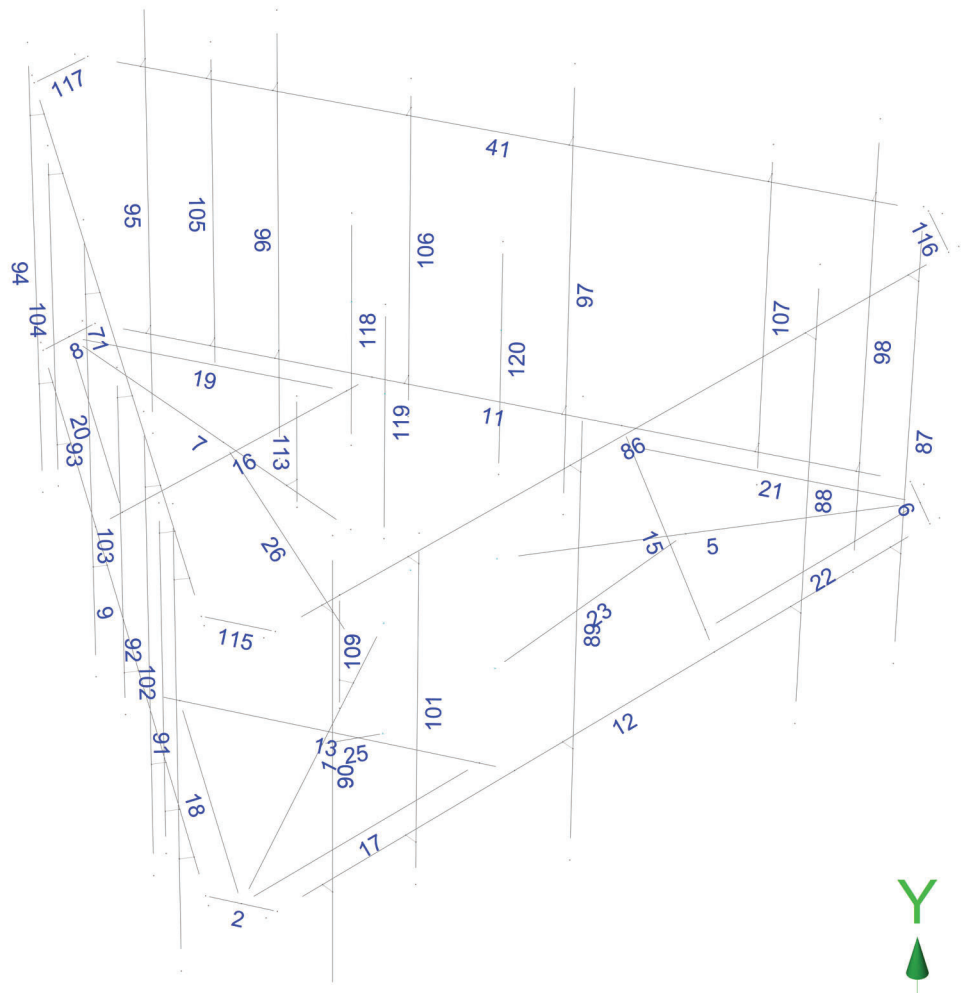
HUDSON
Design Group LLC

**Mount Calculations
(Existing Conditions)**









Current Date: 3/4/2021 11:23 AM

Units system: English

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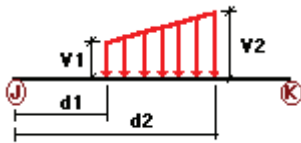
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members



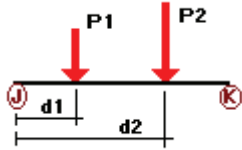
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DL	17	y	-0.01	-0.01	0.00	No	100.00	Yes
	18	y	-0.01	-0.01	0.00	No	100.00	Yes
	13	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	22	y	-0.01	-0.01	0.00	No	100.00	Yes
	21	y	-0.01	-0.01	0.00	No	100.00	Yes
	15	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	16	y	-0.01	-0.01	10.00	Yes	90.00	Yes
	20	y	-0.01	-0.01	0.00	No	100.00	Yes
	19	y	-0.01	-0.01	0.00	No	100.00	Yes
	W0	91	z	-0.01	-0.01	0.00	No	100.00
92		z	-0.01	-0.01	0.00	No	100.00	Yes
93		z	-0.01	-0.01	0.00	No	100.00	Yes
94		z	-0.01	-0.01	0.00	No	100.00	Yes
95		z	-0.01	-0.01	0.00	No	100.00	Yes

96	z	-0.01	-0.01	0.00	No	100.00	Yes	
97	z	-0.01	-0.01	0.00	No	100.00	Yes	
98	z	-0.01	-0.01	0.00	No	100.00	Yes	
101	z	-0.01	-0.01	0.00	No	100.00	Yes	
102	z	-0.01	-0.01	0.00	No	100.00	Yes	
103	z	-0.01	-0.01	0.00	No	100.00	Yes	
104	z	-0.01	-0.01	0.00	No	100.00	Yes	
105	z	-0.01	-0.01	0.00	No	100.00	Yes	
106	z	-0.01	-0.01	0.00	No	100.00	Yes	
107	z	-0.01	-0.01	0.00	No	100.00	Yes	
118	z	-0.01	-0.01	0.00	No	100.00	Yes	
119	z	-0.01	-0.01	0.00	No	100.00	Yes	
120	z	-0.01	-0.01	0.00	No	100.00	Yes	
9	z	-0.016	-0.016	0.00	No	100.00	Yes	
71	z	-0.01	-0.01	0.00	No	100.00	Yes	
12	z	-0.016	-0.016	0.00	No	100.00	Yes	
86	z	-0.01	-0.01	0.00	No	100.00	Yes	
17	z	-0.013	-0.013	0.00	No	100.00	Yes	
1	z	-0.016	-0.016	0.00	No	100.00	Yes	
18	z	-0.013	-0.013	0.00	No	100.00	Yes	
13	z	-0.003	-0.003	0.00	No	100.00	Yes	
115	z	-0.001	-0.001	0.00	No	100.00	Yes	
2	z	-0.001	-0.001	0.00	No	100.00	Yes	
5	z	-0.016	-0.016	0.00	No	100.00	Yes	
22	z	-0.013	-0.013	0.00	No	100.00	Yes	
21	z	-0.013	-0.013	0.00	No	100.00	Yes	
15	z	-0.003	-0.003	0.00	No	100.00	Yes	
116	z	-0.001	-0.001	0.00	No	100.00	Yes	
6	z	-0.001	-0.001	0.00	No	100.00	Yes	
11	z	-0.016	-0.016	0.00	No	100.00	Yes	
16	z	-0.003	-0.003	0.00	No	100.00	Yes	
20	z	-0.013	-0.013	0.00	No	100.00	Yes	
19	z	-0.013	-0.013	0.00	No	100.00	Yes	
117	z	-0.001	-0.001	0.00	No	100.00	Yes	
8	z	-0.001	-0.001	0.00	No	100.00	Yes	
23	z	-0.02	-0.02	0.00	No	100.00	Yes	
26	z	-0.02	-0.02	0.00	No	100.00	Yes	
25	z	-0.02	-0.02	0.00	No	100.00	Yes	
109	z	-0.01	-0.01	0.00	No	100.00	Yes	
113	z	-0.01	-0.01	0.00	No	100.00	Yes	
W30	87	x	-0.01	-0.01	0.00	No	100.00	Yes
	88	x	-0.01	-0.01	0.00	No	100.00	Yes
	89	x	-0.01	-0.01	0.00	No	100.00	Yes
	90	x	-0.01	-0.01	0.00	No	100.00	Yes
	91	x	-0.01	-0.01	0.00	No	100.00	Yes
	92	x	-0.01	-0.01	0.00	No	100.00	Yes
	93	x	-0.01	-0.01	0.00	No	100.00	Yes
	94	x	-0.01	-0.01	0.00	No	100.00	Yes
	101	x	-0.01	-0.01	0.00	No	100.00	Yes
	102	x	-0.01	-0.01	0.00	No	100.00	Yes
	103	x	-0.01	-0.01	0.00	No	100.00	Yes
	104	x	-0.01	-0.01	0.00	No	100.00	Yes
	105	x	-0.01	-0.01	0.00	No	100.00	Yes
	106	x	-0.01	-0.01	0.00	No	100.00	Yes
	107	x	-0.01	-0.01	0.00	No	100.00	Yes
	118	x	-0.01	-0.01	0.00	No	100.00	Yes
	119	x	-0.01	-0.01	0.00	No	100.00	Yes
	120	x	-0.01	-0.01	0.00	No	100.00	Yes
	9	x	-0.016	-0.016	0.00	No	100.00	Yes
	71	x	-0.01	-0.01	0.00	No	100.00	Yes

	12	x	-0.016	-0.016	0.00	No	100.00	Yes
	1	x	-0.016	-0.016	0.00	No	100.00	Yes
	18	x	-0.013	-0.013	0.00	No	100.00	Yes
	13	x	-0.003	-0.003	0.00	No	100.00	Yes
	115	x	-0.001	-0.001	0.00	No	100.00	Yes
	2	x	-0.001	-0.001	0.00	No	100.00	Yes
	5	x	-0.016	-0.016	0.00	No	100.00	Yes
	21	x	-0.013	-0.013	0.00	No	100.00	Yes
	15	x	-0.003	-0.003	0.00	No	100.00	Yes
	116	x	-0.001	-0.001	0.00	No	100.00	Yes
	6	x	-0.001	-0.001	0.00	No	100.00	Yes
	11	x	-0.016	-0.016	0.00	No	100.00	Yes
	7	x	-0.016	-0.016	0.00	No	100.00	Yes
	20	x	-0.013	-0.013	0.00	No	100.00	Yes
	19	x	-0.013	-0.013	0.00	No	100.00	Yes
	23	x	-0.02	-0.02	0.00	No	100.00	Yes
	26	x	-0.02	-0.02	0.00	No	100.00	Yes
	25	x	-0.02	-0.02	0.00	No	100.00	Yes
	109	x	-0.01	-0.01	0.00	No	100.00	Yes
	113	x	-0.01	-0.01	0.00	No	100.00	Yes
Di	87	y	-0.005	-0.005	0.00	No	100.00	Yes
	88	y	-0.005	-0.005	0.00	No	100.00	Yes
	89	y	-0.005	-0.005	0.00	No	100.00	Yes
	90	y	-0.005	-0.005	0.00	No	100.00	Yes
	91	y	-0.005	-0.005	0.00	No	100.00	Yes
	92	y	-0.005	-0.005	0.00	No	100.00	Yes
	93	y	-0.005	-0.005	0.00	No	100.00	Yes
	94	y	-0.005	-0.005	0.00	No	100.00	Yes
	95	y	-0.005	-0.005	0.00	No	100.00	Yes
	96	y	-0.005	-0.005	0.00	No	100.00	Yes
	97	y	-0.005	-0.005	0.00	No	100.00	Yes
	98	y	-0.005	-0.005	0.00	No	100.00	Yes
	101	y	-0.005	-0.005	0.00	No	100.00	Yes
	102	y	-0.005	-0.005	0.00	No	100.00	Yes
	103	y	-0.005	-0.005	0.00	No	100.00	Yes
	104	y	-0.005	-0.005	0.00	No	100.00	Yes
	105	y	-0.005	-0.005	0.00	No	100.00	Yes
	106	y	-0.005	-0.005	0.00	No	100.00	Yes
	107	y	-0.005	-0.005	0.00	No	100.00	Yes
	118	y	-0.005	-0.005	0.00	No	100.00	Yes
	119	y	-0.005	-0.005	0.00	No	100.00	Yes
	120	y	-0.005	-0.005	0.00	No	100.00	Yes
	9	y	-0.007	-0.007	0.00	No	100.00	Yes
	71	y	-0.005	-0.005	0.00	No	100.00	Yes
	12	y	-0.007	-0.007	0.00	No	100.00	Yes
	86	y	-0.005	-0.005	0.00	No	100.00	Yes
	17	y	-0.006	-0.006	0.00	No	100.00	Yes
	1	y	-0.007	-0.007	0.00	No	100.00	Yes
	18	y	-0.006	-0.006	0.00	No	100.00	Yes
	13	y	-0.007	-0.007	0.00	No	100.00	Yes
	5	y	-0.007	-0.007	0.00	No	100.00	Yes
	22	y	-0.006	-0.006	0.00	No	100.00	Yes
	21	y	-0.006	-0.006	0.00	No	100.00	Yes
	15	y	-0.007	-0.007	0.00	No	100.00	Yes
	11	y	-0.007	-0.007	0.00	No	100.00	Yes
	16	y	-0.007	-0.007	0.00	No	100.00	Yes
	7	y	-0.007	-0.007	0.00	No	100.00	Yes
	20	y	-0.006	-0.006	0.00	No	100.00	Yes
	19	y	-0.006	-0.006	0.00	No	100.00	Yes
	23	y	-0.008	-0.008	0.00	No	100.00	Yes

26	y	-0.008	-0.008	0.00	No	100.00	Yes
25	y	-0.008	-0.008	0.00	No	100.00	Yes
109	y	-0.005	-0.005	0.00	No	100.00	Yes
113	y	-0.005	-0.005	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	87	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.051	4.00	No
	88	y	-0.049	2.00	No
			-0.044	0.50	No
			-0.044	7.50	No
			-0.06	3.00	No
	89	y	-0.058	3.00	No
			-0.048	0.50	No
			-0.048	7.50	No
	90	y	-0.06	4.00	No
			-0.075	1.50	No
			-0.075	6.50	No
	91	y	-0.015	4.00	No
			-0.015	4.00	No
			-0.034	0.50	No
			-0.034	7.50	No
	92	y	-0.044	0.50	No
			-0.044	7.50	No
			-0.06	4.00	No
	93	y	-0.048	0.50	No
			-0.048	7.50	No
			-0.06	4.00	No
	94	y	-0.034	0.50	No
			-0.034	7.50	No
			-0.051	4.00	No
	95	y	-0.034	0.50	No
			-0.034	7.50	No
	96	y	-0.044	0.50	No
			-0.044	7.50	No
			-0.06	4.00	No
	97	y	-0.048	0.50	No
			-0.048	7.50	No
			-0.06	4.00	No
	98	y	-0.034	0.50	No
			-0.034	7.50	No
-0.051			4.00	No	
101	y	-0.015	3.00	No	
		-0.015	3.00	No	
		-0.015	4.00	No	
		-0.015	4.00	No	

	102	y	-0.051	3.00	No
		y	-0.049	3.00	No
	103	y	-0.058	3.00	No
		y	-0.053	3.00	No
	104	y	-0.06	3.00	No
	105	y	-0.051	3.00	No
		y	-0.049	3.00	No
	106	y	-0.058	3.00	No
		y	-0.053	3.00	No
	107	y	-0.06	3.00	No
	118	y	-0.073	1.00	No
		y	-0.073	1.00	No
	119	y	-0.072	1.00	No
		y	-0.072	1.00	No
	120	y	-0.072	1.00	No
	109	y	-0.033	0.50	No
		y	-0.033	1.00	No
	113	y	-0.033	0.50	No
		y	-0.033	1.00	No
W0	87	z	-0.263	0.50	No
		z	-0.263	7.50	No
		z	-0.018	2.00	No
	88	z	-0.258	0.50	No
		z	-0.258	7.50	No
	89	z	-0.362	0.50	No
		z	-0.362	7.50	No
		z	-0.038	3.00	No
		z	-0.029	3.00	No
	90	z	-0.297	1.50	No
		z	-0.297	6.50	No
	91	z	-0.18	0.50	No
		z	-0.18	7.50	No
	92	z	-0.175	0.50	No
		z	-0.175	7.50	No
		z	-0.072	4.00	No
	93	z	-0.214	0.50	No
		z	-0.214	7.50	No
		z	-0.053	4.00	No
	94	z	-0.18	0.50	No
		z	-0.18	7.50	No
		z	-0.063	4.00	No
	95	z	-0.18	0.50	No
		z	-0.18	7.50	No
	96	z	-0.175	0.50	No
		z	-0.175	7.50	No
		z	-0.072	4.00	No
	97	z	-0.214	0.50	No
		z	-0.214	7.50	No
		z	-0.053	4.00	No
	98	z	-0.18	0.50	No
		z	-0.18	7.50	No
		z	-0.063	4.00	No
	101	z	-0.014	3.00	No
		z	-0.014	3.00	No
		z	-0.014	4.00	No
		z	-0.014	4.00	No
	102	z	-0.106	3.00	No
	103	z	-0.119	3.00	No
	104	z	-0.078	3.00	No
	105	z	-0.106	3.00	No

	106	z	-0.119	3.00	No
	107	z	-0.078	3.00	No
	118	z	-0.057	1.00	No
		z	-0.057	1.00	No
	119	z	-0.062	1.00	No
	120	z	-0.062	1.00	No
	109	z	-0.046	0.50	No
		z	-0.046	1.00	No
	113	z	-0.046	0.50	No
		z	-0.046	1.00	No
W30	87	x	-0.152	0.50	No
		x	-0.152	7.50	No
		x	-0.048	4.00	No
		x	-0.029	2.00	No
	88	x	-0.147	0.50	No
		x	-0.147	7.50	No
		x	-0.127	3.00	No
	89	x	-0.165	0.50	No
		x	-0.165	7.50	No
		x	-0.051	4.00	No
	90	x	-0.308	1.50	No
		x	-0.308	6.50	No
		x	-0.013	4.00	No
		x	-0.013	4.00	No
	91	x	-0.235	0.50	No
		x	-0.235	7.50	No
	92	x	-0.23	0.50	No
		x	-0.23	7.50	No
		x	-0.062	4.00	No
	93	x	-0.313	0.50	No
		x	-0.313	7.50	No
		x	-0.044	4.00	No
	94	x	-0.235	0.50	No
		x	-0.235	7.50	No
		x	-0.061	4.00	No
	95	x	-0.235	0.50	No
		x	-0.235	7.50	No
	96	x	-0.23	0.50	No
		x	-0.23	7.50	No
		x	-0.062	4.00	No
	97	x	-0.313	0.50	No
		x	-0.313	7.50	No
		x	-0.044	4.00	No
	98	x	-0.235	0.50	No
		x	-0.235	7.50	No
		x	-0.061	4.00	No
	101	x	-0.013	3.00	No
		x	-0.013	3.00	No
		x	-0.013	4.00	No
		x	-0.013	4.00	No
	102	x	-0.071	3.00	No
	103	x	-0.079	3.00	No
	104	x	-0.10	3.00	No
	105	x	-0.071	3.00	No
	106	x	-0.079	3.00	No
	107	x	-0.10	3.00	No
	118	x	-0.08	1.00	No
	119	x	-0.041	1.00	No
	120	x	-0.041	1.00	No
	109	x	-0.046	0.50	No

		x	-0.046	1.00	No
	113	x	-0.046	0.50	No
		x	-0.046	1.00	No
Di	87	y	-0.096	0.50	No
		y	-0.096	7.50	No
		y	-0.045	4.00	No
		y	-0.027	2.00	No
	88	y	-0.093	0.50	No
		y	-0.093	7.50	No
		y	-0.048	4.00	No
		y	-0.05	2.00	No
	89	y	-0.131	0.50	No
		y	-0.131	7.50	No
		y	-0.036	4.00	No
	90	y	-0.151	1.50	No
		y	-0.151	6.50	No
		y	-0.008	4.00	No
		y	-0.008	4.00	No
	91	y	-0.096	0.50	No
		y	-0.096	7.50	No
	92	y	-0.093	0.50	No
		y	-0.093	7.50	No
		y	-0.048	4.00	No
	93	y	-0.131	0.50	No
		y	-0.131	7.50	No
		y	-0.036	4.00	No
	94	y	-0.096	0.50	No
		y	-0.096	7.50	No
		y	-0.045	4.00	No
	95	y	-0.096	0.50	No
		y	-0.096	7.50	No
	96	y	-0.093	0.50	No
		y	-0.093	7.50	No
		y	-0.048	4.00	No
	97	y	-0.131	0.50	No
		y	-0.131	7.50	No
		y	-0.036	4.00	No
	98	y	-0.096	0.50	No
		y	-0.096	7.50	No
		y	-0.045	4.00	No
	101	y	-0.008	3.00	No
		y	-0.008	3.00	No
		y	-0.008	4.00	No
		y	-0.008	4.00	No
	102	y	-0.045	3.00	No
		y	-0.027	3.00	No
	103	y	-0.05	3.00	No
		y	-0.05	3.00	No
	104	y	-0.048	3.00	No
	105	y	-0.045	3.00	No
		y	-0.027	3.00	No
	106	y	-0.05	3.00	No
		y	-0.05	3.00	No
	107	y	-0.048	3.00	No
	118	y	-0.036	1.00	No
		y	-0.036	1.00	No
	119	y	-0.032	1.00	No
		y	-0.032	1.00	No
	120	y	-0.032	1.00	No
	109	y	-0.03	0.50	No

		y	-0.03	1.00	No
	113	y	-0.03	0.50	No
		y	-0.03	1.00	No
Wi0	87	z	-0.05	0.50	No
		z	-0.05	7.50	No
		z	-0.007	4.00	No
	88	z	-0.049	0.50	No
		z	-0.049	7.50	No
		z	-0.011	3.00	No
		z	-0.008	3.00	No
	89	z	-0.066	0.50	No
		z	-0.066	7.50	No
	90	z	-0.054	1.50	No
		z	-0.054	6.50	No
	91	z	-0.036	0.50	No
		z	-0.036	7.50	No
	92	z	-0.035	0.50	No
		z	-0.035	7.50	No
		z	-0.016	4.00	No
	93	z	-0.041	0.50	No
		z	-0.041	7.50	No
		z	-0.012	4.00	No
	94	z	-0.036	0.50	No
		z	-0.036	7.50	No
		z	-0.014	4.00	No
	95	z	-0.036	0.50	No
		z	-0.036	7.50	No
	96	z	-0.035	0.50	No
		z	-0.035	7.50	No
		z	-0.016	4.00	No
	97	z	-0.041	0.50	No
		z	-0.041	7.50	No
		z	-0.012	4.00	No
	98	z	-0.036	0.50	No
		z	-0.036	7.50	No
		z	-0.014	4.00	No
	101	z	-0.004	3.00	No
		z	-0.004	3.00	No
		z	-0.004	4.00	No
		z	-0.004	4.00	No
	102	z	-0.021	3.00	No
	103	z	-0.024	3.00	No
	104	z	-0.017	3.00	No
	105	z	-0.021	3.00	No
	106	z	-0.024	3.00	No
	107	z	-0.017	3.00	No
	118	z	-0.013	1.00	No
		z	-0.013	1.00	No
	119	z	-0.013	1.00	No
	120	z	-0.013	1.00	No
	109	z	-0.01	0.50	No
		z	-0.01	1.00	No
	113	z	-0.01	0.50	No
		z	-0.01	1.00	No
Wi30	87	x	-0.031	0.50	No
		x	-0.031	7.50	No
		x	-0.011	4.00	No
		x	-0.008	2.00	No
	88	x	-0.03	0.50	No
		x	-0.03	7.50	No

	x	-0.025	3.00	No
89	x	-0.033	0.50	No
	x	-0.033	7.50	No
	x	-0.012	4.00	No
90	x	-0.056	1.50	No
	x	-0.056	6.50	No
	x	-0.004	4.00	No
	x	-0.004	4.00	No
91	x	-0.045	0.50	No
	x	-0.045	7.50	No
92	x	-0.044	0.50	No
	x	-0.044	7.50	No
	x	-0.013	4.00	No
93	x	-0.057	0.50	No
	x	-0.057	7.50	No
	x	-0.009	4.00	No
94	x	-0.045	0.50	No
	x	-0.045	7.50	No
	x	-0.013	4.00	No
95	x	-0.045	0.50	No
	x	-0.045	7.50	No
96	x	-0.044	0.50	No
	x	-0.044	7.50	No
	x	-0.013	4.00	No
97	x	-0.057	0.50	No
	x	-0.057	7.50	No
	x	-0.009	4.00	No
98	x	-0.045	0.50	No
	x	-0.045	7.50	No
	x	-0.013	4.00	No
101	x	-0.004	3.00	No
	x	-0.004	3.00	No
	x	-0.004	4.00	No
	x	-0.004	4.00	No
102	x	-0.014	3.00	No
103	x	-0.016	3.00	No
104	x	-0.021	3.00	No
105	x	-0.014	3.00	No
106	x	-0.016	3.00	No
107	x	-0.021	3.00	No
118	x	-0.017	1.00	No
119	x	-0.009	1.00	No
120	x	-0.009	1.00	No
109	x	-0.01	0.50	No
	x	-0.01	1.00	No
113	x	-0.01	0.50	No
	x	-0.01	1.00	No
WLO 87	z	-0.016	0.50	No
	z	-0.016	7.50	No
	z	-0.001	4.00	No
88	z	-0.015	0.50	No
	z	-0.015	7.50	No
89	z	-0.021	0.50	No
	z	-0.021	7.50	No
	z	-0.002	3.00	No
	z	-0.002	3.00	No
90	z	-0.018	1.50	No
	z	-0.018	6.50	No
91	z	-0.011	0.50	No
	z	-0.011	7.50	No

92	z	-0.011	0.50	No
	z	-0.011	7.50	No
	z	-0.004	4.00	No
93	z	-0.013	0.50	No
	z	-0.013	7.50	No
	z	-0.003	4.00	No
94	z	-0.011	0.50	No
	z	-0.011	7.50	No
	z	-0.004	4.00	No
95	z	-0.011	0.50	No
	z	-0.011	7.50	No
96	z	-0.011	0.50	No
	z	-0.011	7.50	No
	z	-0.004	4.00	No
97	z	-0.013	0.50	No
	z	-0.013	7.50	No
	z	-0.003	4.00	No
98	z	-0.011	0.50	No
	z	-0.011	7.50	No
	z	-0.004	4.00	No
101	z	-0.001	3.00	No
	z	-0.001	3.00	No
	z	-0.001	4.00	No
	z	-0.001	4.00	No
102	z	-0.006	3.00	No
103	z	-0.007	3.00	No
104	z	-0.005	3.00	No
105	z	-0.006	3.00	No
106	z	-0.007	3.00	No
107	z	-0.005	3.00	No
118	z	-0.003	1.00	No
	z	-0.003	1.00	No
119	z	-0.004	1.00	No
120	z	-0.004	1.00	No
109	z	-0.003	0.50	No
	z	-0.003	1.00	No
113	z	-0.003	0.50	No
	z	-0.003	1.00	No
WL30 87	x	-0.009	0.50	No
	x	-0.009	7.50	No
	x	-0.003	4.00	No
	x	-0.002	2.00	No
88	x	-0.009	0.50	No
	x	-0.009	7.50	No
	x	-0.007	3.00	No
89	x	-0.01	0.50	No
	x	-0.01	7.50	No
	x	-0.003	4.00	No
90	x	-0.018	1.50	No
	x	-0.018	6.50	No
	x	-0.001	4.00	No
	x	-0.001	4.00	No
91	x	-0.014	0.50	No
	x	-0.014	7.50	No
92	x	-0.014	0.50	No
	x	-0.014	7.50	No
	x	-0.004	4.00	No
93	x	-0.018	0.50	No
	x	-0.018	7.50	No
	x	-0.003	4.00	No

	94	x	-0.014	0.50	No
		x	-0.014	7.50	No
		x	-0.003	4.00	No
	95	x	-0.014	0.50	No
		x	-0.014	7.50	No
	96	x	-0.014	0.50	No
		x	-0.014	7.50	No
		x	-0.004	4.00	No
	97	x	-0.018	0.50	No
		x	-0.018	7.50	No
		x	-0.003	4.00	No
	98	x	-0.014	0.50	No
		x	-0.014	7.50	No
		x	-0.003	4.00	No
	101	x	-0.001	3.00	No
		x	-0.001	3.00	No
		x	-0.001	4.00	No
		x	-0.001	4.00	No
	102	x	-0.004	3.00	No
	103	x	-0.005	3.00	No
	104	x	-0.006	3.00	No
	105	x	-0.004	3.00	No
	106	x	-0.005	3.00	No
	107	x	-0.006	3.00	No
	118	x	-0.005	1.00	No
	119	x	-0.002	1.00	No
	120	x	-0.002	1.00	No
	109	x	-0.003	0.50	No
		x	-0.003	1.00	No
	113	x	-0.003	0.50	No
		x	-0.003	1.00	No
LL1	86	y	-0.25	50.00	Yes
LL2	86	y	-0.25	0.00	Yes
LLa1	87	y	-0.25	50.00	Yes
LLa2	88	y	-0.25	50.00	Yes
LLa3	89	y	-0.25	50.00	Yes
LLa4	90	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00



Current Date: 3/4/2021 11:24 AM

Units system: English

File name: Z:\Shared\Work2.0\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5100\Slip Sector\CT5100.retx

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL
- LC2=1.2DL+W0
- LC3=1.2DL+W30
- LC4=1.2DL-W0
- LC5=1.2DL-W30
- LC6=0.9DL+W0
- LC7=0.9DL+W30
- LC8=0.9DL-W0
- LC9=0.9DL-W30
- LC10=1.2DL+Di+W0
- LC11=1.2DL+Di+W30
- LC12=1.2DL+Di-W0
- LC13=1.2DL+Di-W30
- LC14=1.4DL
- LC15=1.2DL+1.5LL1
- LC16=1.2DL+1.5LL2
- LC17=1.2DL+W0+1.5LLa1
- LC18=1.2DL+W30+1.5LLa1
- LC19=1.2DL-W0+1.5LLa1
- LC20=1.2DL-W30+1.5LLa1
- LC21=1.2DL+W0+1.5LLa2
- LC22=1.2DL+W30+1.5LLa2
- LC23=1.2DL-W0+1.5LLa2
- LC24=1.2DL-W30+1.5LLa2
- LC25=1.2DL+W0+1.5LLa3
- LC26=1.2DL+W30+1.5LLa3
- LC27=1.2DL-W0+1.5LLa3
- LC28=1.2DL-W30+1.5LLa3
- LC29=1.2DL+W0+1.5LLa4
- LC30=1.2DL+W30+1.5LLa4
- LC31=1.2DL-W0+1.5LLa4
- LC32=1.2DL-W30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3-3/8x3/16	13	LC5 at 0.00%	0.72	OK	
		15	LC3 at 100.00%	0.58	OK	
		16	LC3 at 0.00%	0.62	OK	
	L 2X2X3_16	17	LC3 at 100.00%	0.40	OK	
		18	LC3 at 0.00%	0.41	OK	
		19	LC2 at 0.00%	0.43	OK	
		20	LC2 at 100.00%	0.45	OK	
		21	LC5 at 100.00%	0.40	OK	
		22	LC5 at 0.00%	0.38	OK	
	PIPE 2x0.154	41	LC6 at 92.50%	0.45	OK	
		71	LC4 at 7.50%	0.40	OK	
		86	LC3 at 7.81%	0.47	OK	
		87	LC3 at 72.92%	0.63	OK	
		88	LC3 at 72.92%	0.77	OK	

89	LC2 at 72.92%	0.81	OK
90	LC5 at 72.92%	0.56	OK
91	LC5 at 72.92%	0.42	OK
92	LC5 at 72.92%	0.56	OK
93	LC5 at 72.92%	0.75	OK
94	LC4 at 72.92%	0.46	OK
95	LC4 at 72.92%	0.40	OK
96	LC4 at 72.92%	0.52	OK
97	LC4 at 72.92%	0.71	OK
98	LC2 at 72.92%	0.51	OK
101	LC5 at 85.42%	0.61	OK
102	LC5 at 85.42%	0.45	OK
103	LC4 at 85.42%	0.64	OK
104	LC5 at 85.42%	0.51	OK
105	LC4 at 85.42%	0.43	OK
106	LC3 at 85.42%	0.63	OK
107	LC2 at 85.42%	0.53	OK
109	LC3 at 71.88%	0.06	OK
113	LC4 at 71.88%	0.06	OK
118	LC2 at 34.38%	0.03	OK
119	LC2 at 34.38%	0.02	OK
120	LC2 at 34.38%	0.02	OK

PIPE 3-1_2x0.226

1	LC3 at 45.31%	0.54	OK
5	LC5 at 45.83%	0.46	OK
7	LC2 at 45.31%	0.52	OK
9	LC2 at 65.10%	0.24	OK
11	LC2 at 34.90%	0.23	OK
12	LC3 at 65.00%	0.30	OK

PL 6x3/8

2	LC3 at 46.88%	0.32	OK
6	LC5 at 50.00%	0.34	OK
8	LC2 at 50.00%	0.35	OK
115	LC4 at 0.00%	0.30	OK
116	LC2 at 0.00%	0.39	OK
117	LC3 at 0.00%	0.39	OK

T2L 3X3X1_4

23	LC5 at 100.00%	0.35	OK
25	LC3 at 100.00%	0.40	OK
26	LC2 at 100.00%	0.34	OK



Current Date: 3/4/2021 11:25 AM

Units system: English

File name: Z:\Shared\Work2.0\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5100\Slip Sector\CT5100.retx

Geometry data

GLOSSARY

Cb22, Cb33 : Moment gradient coefficients
 Cm22, Cm33 : Coefficients applied to bending term in interaction formula
 d0 : Tapered member section depth at J end of member
 DJX : Rigid end offset distance measured from J node in axis X
 DJY : Rigid end offset distance measured from J node in axis Y
 DJZ : Rigid end offset distance measured from J node in axis Z
 DKX : Rigid end offset distance measured from K node in axis X
 DKY : Rigid end offset distance measured from K node in axis Y
 DKZ : Rigid end offset distance measured from K node in axis Z
 dL : Tapered member section depth at K end of member
 Ig factor : Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
 K22 : Effective length factor about axis 2
 K33 : Effective length factor about axis 3
 L22 : Member length for calculation of axial capacity
 L33 : Member length for calculation of axial capacity
 LB pos : Lateral unbraced length of the compression flange in the positive side of local axis 2
 LB neg : Lateral unbraced length of the compression flange in the negative side of local axis 2
 RX : Rotation about X
 RY : Rotation about Y
 RZ : Rotation about Z
 TO : 1 = Tension only member 0 = Normal member
 TX : Translation in X
 TY : Translation in Y
 TZ : Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	-1.0825	0.00	0.625	0
53	-1.0825	-2.00	0.625	0
55	0.00	-2.00	-1.25	0
14	0.00	0.00	-1.25	0
10	1.0825	0.00	0.625	0
49	1.0825	-2.00	0.625	0
238	1.0825	4.00	0.625	0
237	0.00	4.00	-1.25	0
239	-1.0825	4.00	0.625	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
53	1	1	1	1	1	1
55	1	1	1	1	1	1
14	1	1	1	1	1	1
10	1	1	1	1	1	1
49	1	1	1	1	1	1
238	1	1	1	1	1	1
237	1	1	1	1	1	1
239	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
87	200	180		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	199	179		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
89	198	178		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
90	197	177		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
91	196	184		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
92	195	183		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	194	182		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
94	193	181		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
95	189	185		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
96	190	186		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
97	191	187		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
98	192	188		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
101	216	203		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
102	218	204		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
103	217	205		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
104	211	206		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
105	210	207		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
106	212	208		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
107	213	209		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
118	240	243		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
119	242	245		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
120	241	244		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	19	20		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
71	145	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	33	34		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
86	175	176		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	35	3		L 2X2X3_16	A36	0.00	0.00	0.00
1	2	3		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
18	3	36		L 2X2X3_16	A36	0.00	0.00	0.00
13	28	21		C 3-3/8x3/16	A36	0.00	0.00	0.00
115	231	232		PL 6x3/8	A36	0.00	0.00	0.00
2	4	5		PL 6x3/8	A36	0.00	0.00	0.00
5	10	11		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
22	11	44		L 2X2X3_16	A36	0.00	0.00	0.00
21	43	11		L 2X2X3_16	A36	0.00	0.00	0.00
15	42	41		C 3-3/8x3/16	A36	0.00	0.00	0.00
116	233	234		PL 6x3/8	A36	0.00	0.00	0.00
6	12	13		PL 6x3/8	A36	0.00	0.00	0.00
11	29	30		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
41	85	86		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	46	45		C 3-3/8x3/16	A36	0.00	0.00	0.00
7	14	15		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00

20	47	15	L 2X2X3_16	A36	0.00	0.00	0.00
19	15	48	L 2X2X3_16	A36	0.00	0.00	0.00
117	235	236	PL 6x3/8	A36	0.00	0.00	0.00
8	16	17	PL 6x3/8	A36	0.00	0.00	0.00
23	49	50	T2L 3X3X1_4	A36	0.00	0.00	0.00
26	55	56	T2L 3X3X1_4	A36	0.00	0.00	0.00
25	53	54	T2L 3X3X1_4	A36	0.00	0.00	0.00
109	222	221	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
113	228	227	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
87	315.00	0	0.00	0.00	0.00
88	315.00	0	0.00	0.00	0.00
89	315.00	0	0.00	0.00	0.00
90	315.00	0	0.00	0.00	0.00
91	315.00	0	0.00	0.00	0.00
92	315.00	0	0.00	0.00	0.00
93	315.00	0	0.00	0.00	0.00
94	315.00	0	0.00	0.00	0.00
95	315.00	0	0.00	0.00	0.00
96	315.00	0	0.00	0.00	0.00
97	315.00	0	0.00	0.00	0.00
98	315.00	0	0.00	0.00	0.00
101	315.00	0	0.00	0.00	0.00
102	315.00	0	0.00	0.00	0.00
103	315.00	0	0.00	0.00	0.00
104	315.00	0	0.00	0.00	0.00
105	315.00	0	0.00	0.00	0.00
106	315.00	0	0.00	0.00	0.00
107	315.00	0	0.00	0.00	0.00
115	90.00	0	0.00	0.00	0.00
116	90.00	0	0.00	0.00	0.00
117	90.00	0	0.00	0.00	0.00
109	315.00	0	0.00	0.00	0.00
113	315.00	0	0.00	0.00	0.00

220 EVERGREEN ST

Location 220 EVERGREEN ST

Mblu 53/ 1527/ 2/ /

Acct# R--0048990

Owner CHAPIN & BANGS COMPANY

Assessment \$215,420

Appraisal \$307,740

PID 13578

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$2,250	\$305,490	\$307,740

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$1,580	\$213,840	\$215,420

Owner of Record

Owner CHAPIN & BANGS COMPANY

Co-Owner

Address PO BOX 1117
BRIDGEPORT, CT 06601

Sale Price \$0

Certificate

Book & Page 2291/0054

Sale Date 05/12/1987

Instrument

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
CHAPIN & BANGS COMPANY	\$0		2291/0054		05/12/1987

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: \$0

Building Percent Good:

Replacement Cost

Less Depreciation: \$0

Building Attributes	
Field	Description
Style:	Vacant Land
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	

Building Photo

 Building Photo

(http://images.vgsi.com/photos2/BridgeportCTPhotos/\A0113\IMG_0024_11)

Building Layout

(ParcelSketch.ashx?pid=13578&bid=13578)

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

Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplaces	
Fin Bsmt Area	
Fin Bsmt Quality	
Num Park	
Bsmt Garages	
.	
Fndtn Cndtn	
Basement	

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land

Land Use

Use Code 399
Description Vac Ind Lnd
Zone ILI
Neighborhood IND
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 1.00
Frontage 0
Depth 0
Assessed Value \$213,840
Appraised Value \$305,490

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN2	Fence, WD	4	4 ft	150.00 LF	\$2,250	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$2,250	\$350,110	\$352,360

2018	\$2,250	\$350,110	\$352,360
2017	\$2,250	\$350,110	\$352,360

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$1,580	\$245,072	\$246,652
2018	\$1,580	\$245,072	\$246,652
2017	\$1,580	\$245,072	\$246,652

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Search...

Parcels (1)

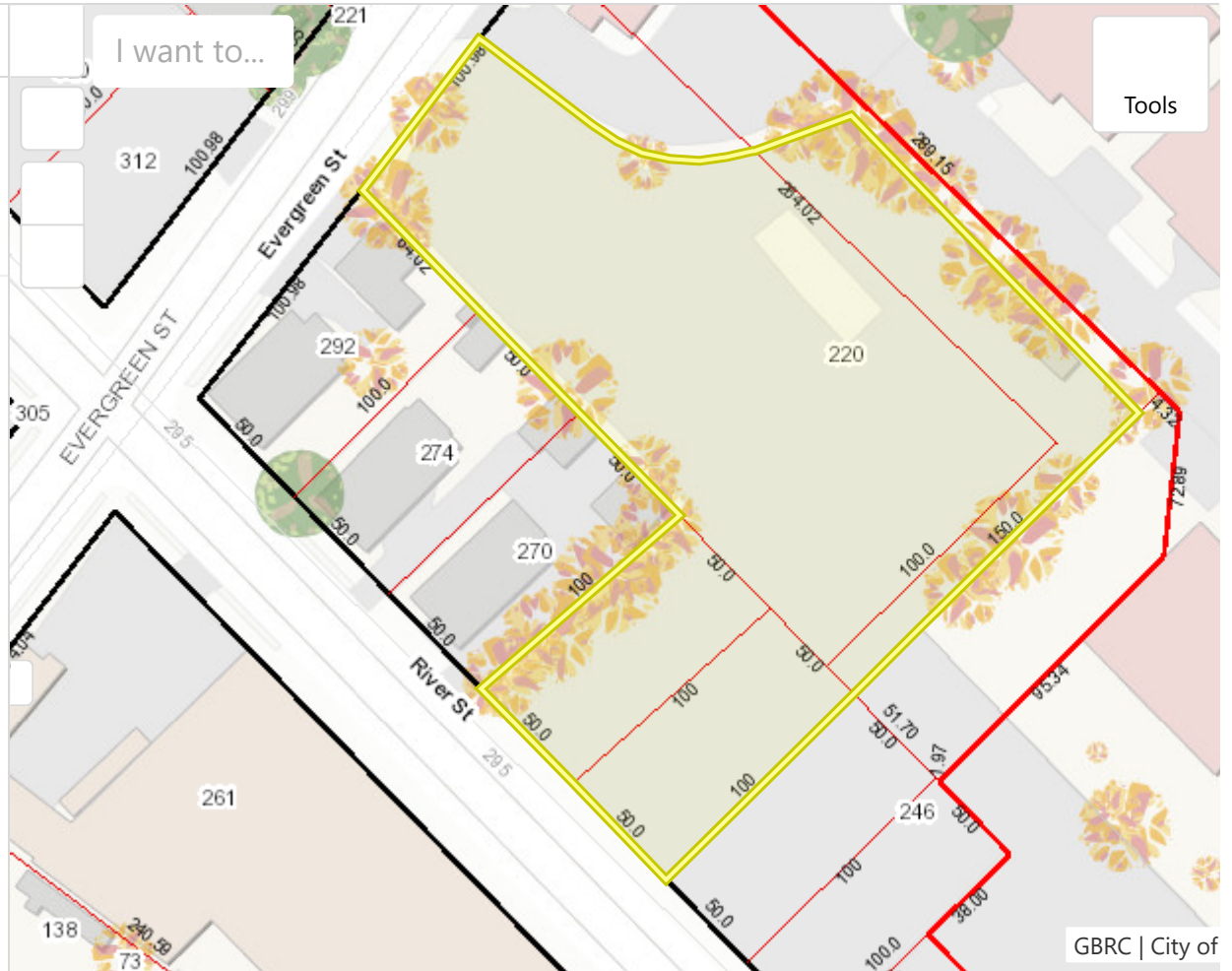
☆ Site Address: 220 EVERGREEN ST

CHAPIN & BANGS COMPANY

[Field Card](#)

[Zoom to Feature](#)

[Buffer Feature](#)



GBRC | City of

Displaying 1 - 1 (Total: 1)

◀ ◀ Page 1 of 1 ▶ ▶

Home Layers Parcels (1)

Basemaps



DOCKET NO. 464 – Blue Sky Towers, LLC and New Cingular } Connecticut
Wireless PCS, LLC application for a Certificate of Environmental }
Compatibility and Public Need for the construction, maintenance, } Siting
and operation of a telecommunications facility located at Bridgeport }
Tax Assessor Map 53, Block 1527, Lot 2, 220 Evergreen Street, } Council
Bridgeport, Connecticut.

April 14, 2016

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Blue Sky Towers, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the proposed site located at 220 Evergreen Street, Bridgeport, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole at a height of 135 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC (AT&T) and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Bridgeport (City) for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) final site plan(s) for development of the facility to include specifications for the tower, tower foundation, antennas, equipment compound including, but not limited to, fence with less than two inch mesh, radio equipment, access road, utility line, transformer, emergency backup generator, space for a future shared generator, flood elevation mitigation plan for equipment, and landscaping that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code and taking into account inundation risk;
 - b) the tower designed with a yield point to ensure that the tower setback radius remains within the boundaries of the subject property;
 - c) location of emergency generator and equipment shelter with air conditioning units and evidence of compliance with noise regulations;
 - d) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; and
 - e) hours of construction.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Bridgeport.
8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.
9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.
15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

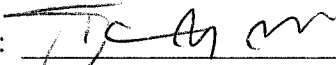
We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated December 3, 2015, and notice of issuance published in the Connecticut Post.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

LETTER OF AUTHORIZATION

This Letter of Authorization provides written authorization for New Cingular Wireless PCS, LLC and its affiliates ("AT&T"), its agents or representatives, to apply for any necessary zoning applications or petitions, permits or any other approvals, including, but not limited to, the filing of applications for building permits, which are necessary for AT&T's placement and operation of a wireless telecommunications facility on and within a portion of the real property with an address of **220 EVERGREEN STREET; Bridgeport, CT 06606.**

OWNER:

BY: 
(Signature)

NAME: JAMES M. BURGESS
(Printed) BLUE SKY TOWER

DATED: 4/6/21



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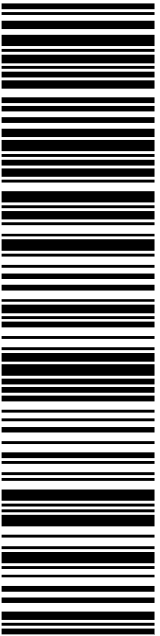
MERIDEN CT 06450-4723

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CT SITING COUNCIL
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39 WESTVIEW DR

Ref#: BPT Evgrm

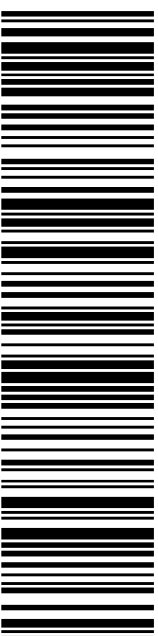
MERIDEN CT 06450-4723

0004

C031

SHIP DENNIS BUCKLEY ZONING ADMINISTRATOR
TO: CITY OF BRIDGEPORT CITY HALL ZONING DEPT
45 LYON TER
RM 210
BRIDGEPORT CT 06604-4023

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SAI GROUP

Ref#: Bpt Evgrm

39 WESTVIEW DR

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C013

SHIP

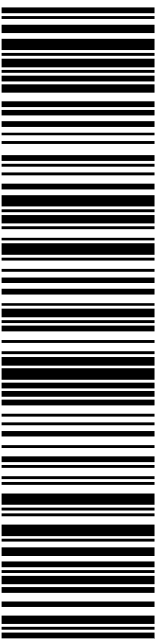
TO: HONORABLE JOSEPH P GANIM, MAYOR

BRIDGEPORT MAYORS OFFICE, MARGARET MORAN

999 BROAD ST

BRIDGEPORT CT 06604-4320

USPS TRACKING #



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Expected Delivery Date: 04/09/21

SAI GROUP

Ref#: BPT Evgrm

39 WESTVIEW DR

MERIDEN CT 06450-4723

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B019

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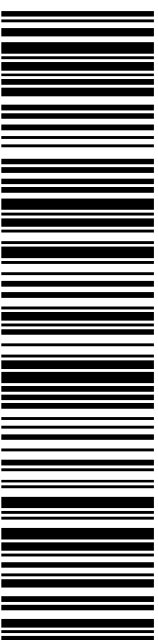
TO: CHAPIN BANGS

THE CHAPIN & BANGS COMPANY

PO BOX 1117

BRIDGEPORT CT 06601-1117

USPS TRACKING #



9405 5036 9930 0337 9393 24

Electronic Rate Approved #038555749

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Hollis Redding

To: james.burgess@blueskytower.com
Subject: AT&T Exempt Mod Filing 220 Evergreen Street, Bridgeport, CT
Attachments: ATT_CT5100_ Bpt 220 Evergreen St EM FILING.pdf

James-

Attached please find the tower owner copy of AT&T's exempt mod filing which will be filed with the CT Siting Council today, April 6, 2021. Thank you. Hollis

Hollis M. Redding



SAI Communications LLC
Mobile: 860-834-6964
hredding@saigrp.com