Robinson+Cole

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Also admitted in Massachusetts

January 17, 2020

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

Re: **Notice of Exempt Modification – Facility Modification**
173 South Broad Street, Pawcatuck (Stonington), Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the 150-foot level on the existing 180-foot tower at the Stonington Police Station, 173 South Broad Street in Pawcatuck, Connecticut (the "Property"). The tower is owned by SBA Communications ("SBA"). The Property is owned by the Town of Stonington. The Siting Council approved Cellco's use of the tower in 2011 (EM-VER-137-110413). Prior to making this filing, we reviewed the Town's on-line records data base and were unable to locate any permits or approvals for the Police Department tower. We also made several attempts to contact Town's Planning and Zoning staff regarding existing permits and received no response.

Cellco now intends to modify its facility by removing three (3) of its existing antennas and replacing three (3) of the remaining antennas with three (3) new antennas, for a total of nine (9) antennas. A set of project plans showing the proposed facility modifications and specifications for Cellco's antennas are included in Attachment 1.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Stonington's First Selectman, Danielle Chesebrough; Keith Brynes, Stonington's Acting Director of Planning; and SBA, the owner of the tower.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas will be installed at a centerline height of 150 feet on the 180-foot tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

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

4. The installation of new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for the modified facility is included in Attachment 2.

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

6. The tower, its foundation and the antenna mounting brackets, with certain modifications can support Cellco's proposed facility modifications. (*See* Structural Analysis Report and Mount Modification Design Analysis Report included in Attachment 3).

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Danielle Chesebrough, Stonington First Selectman
Keith Brynes, Stonington Acting Director of Planning
SBA Communications
Tim Parks

ATTACHMENT 1

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE PROJECT OWNERS REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX

VICINITY MAP

RFDS NOTE:
RFDS DATED JANUARY 9, 2020, DOES NOT MATCH EXISTING CONDITION. NEXIUS REPRESENTATIVE PERFORMED A SITE VISIT ON NOVEMBER 26, 2019.

APPLICANT:
CELLCO PARTNERSHIP d/b/a
VERIZON WIRELESS

SCOPE OF WORK:
PROPOSED EQUIPMENT & ANTENNA MODIFICATIONS TO AN EXISTING VERIZON WIRELESS INSTALLATION AT A 180'-0"± SELF SUPPORT TOWER

SITE NAME
PAWCATUCK_CT

LOCATION CODE
468000

SITE OWNER
SBA

ADDRESS
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

COORDINATES
41° 22' 08.60" N
71° 51' 44.49" W

NOTES

GENERAL NOTES:

1. 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.
2. 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.
3. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
4. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
5. "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.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. 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.
8. 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.
9. 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.
10. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
11. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
12. 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.
13. 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 = 35 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
14. 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.
15. 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.
16. 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.
17. 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: 2018 CONNECTICUT STATE BUILDING CODE (IBC 2015)
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

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

    ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

    AISC 360-10: SPECIFICATIONS STEEL FOR STRUCTURAL STEEL BUILDINGS.

    ANSI/TIA-222-G WITH ADDENDUMS, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

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.

ELECTRICAL & GROUNDING NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
6. GROUNDING SHALL COMPLY WITH NEC ART. 250.
7. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
8. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
9. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
10. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 8" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
11. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
12. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS
13. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
14. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
15. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
16. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
17. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

PREPARED BY:
nexius
TRANSFORM YOUR BUSINESS...THROUGH WIRELESS
A&E OFFICE:
300 APOLLO DRIVE, SUITE 7
CHELMSFORD, MA 01824
T (978) 923-7965

APPLICANT
CELLCO PARTNERSHIP d/b/a
verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROFESSIONAL STAMP

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	12/19/19	FOR CONSTRUCTION	AA
1	01/10/20	REVISED PER NEW RFDS	AA
2	01/16/20	REVISED PER COMMENTS	AA

SITE INFORMATION
SITE NAME
PAWCATUCK_CT
LOCATION CODE
468000
SITE ADDRESS
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

DRAWN BY:	DATE:
AA	01/16/20
CHECKED BY:	DATE:
KB	01/16/20

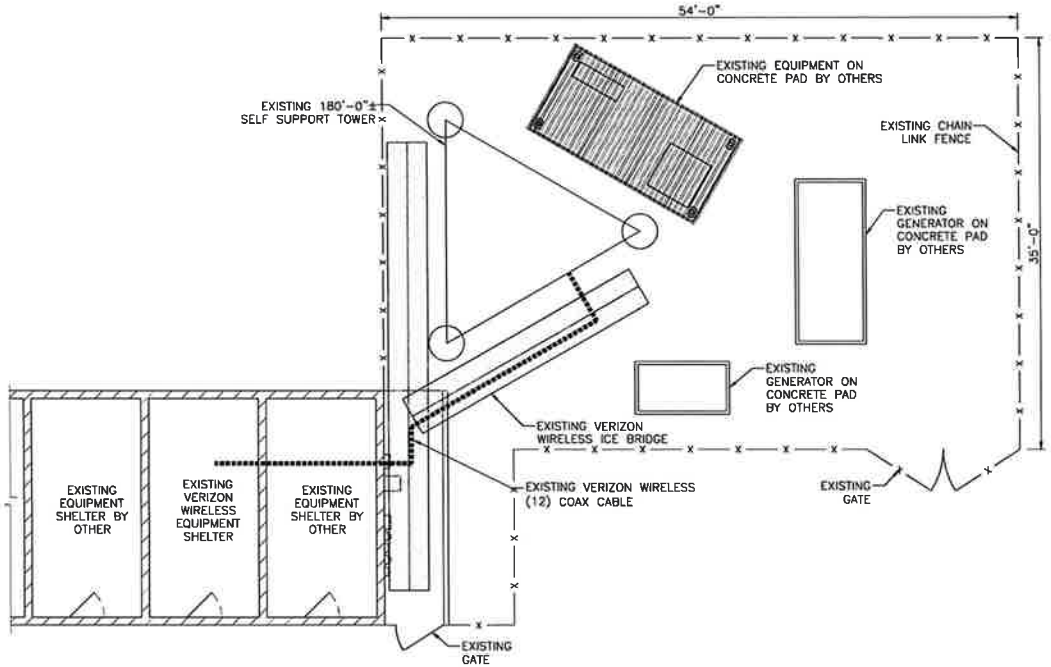
NEXIUS PROJECT NO.
VZ11509

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

TOWER STRUCTURAL ANALYSIS REPORT PREPARED BY TOWER ENGINEERING SOLUTIONS
THE TOWER STRUCTURAL ANALYSIS REPORT, PREPARED BY TOWER ENGINEERING SOLUTIONS, ENTITLED STRUCTURAL ANALYSIS REPORT, DATED DECEMBER 10, 2019, STATES THAT THE TOWER FOR THE EXISTING AND PROPOSED EQUIPMENT WILL BE OF SUFFICIENT CAPACITY.

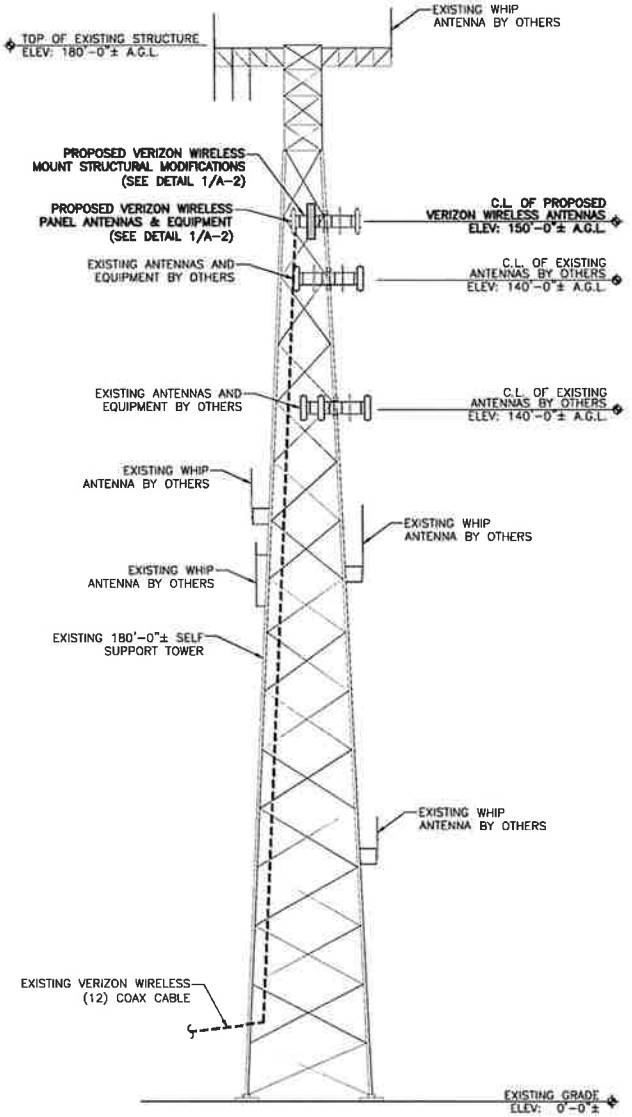
MOUNT STRUCTURAL ANALYSIS PREPARED BY NEXIUS
STRUCTURAL ANALYSIS PREPARED BY NEXIUS, ENTITLED MOUNT MODIFICATION DESIGN AND ANALYSIS REPORT, DATED JANUARY 10, 2020, STATES THAT THE EXISTING MOUNTS ARE ADEQUATE FOR THE EXISTING AND PROPOSED LOADING ON THE CONDITION OF INSTALLING THE PROPOSED STRUCTURAL MODIFICATIONS.



APPROX. NORTH

① COMPOUND PLAN
SCALE: 3/16" = 1'-0"

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



② TOWER ELEVATION
SCALE: 3/32" = 1'-0"

GRAPHIC SCALE: 3/32"=1'-0"

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CHELMSFORD, MA 01824
1 (978) 923-7965

APPLICANT:
CELLCO PARTNERSHIP d/b/a
verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROFESSIONAL STAMP:
STATE OF CONNECTICUT
JIAZHU HU
31530
LICENSED
PROFESSIONAL ENGINEER

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	12/19/19	FOR CONSTRUCTION	AA
1	01/10/20	REVISED PER NEW RFDS	AA
2	01/16/20	REVISED PER COMMENTS	AA

SITE INFORMATION

SITE NAME
PAWCATUCK_CT
LOCATION CODE
468000
SITE ADDRESS
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

DRAWN BY:	DATE:
AA	01/16/20
CHECKED BY:	DATE:
KB	01/16/20

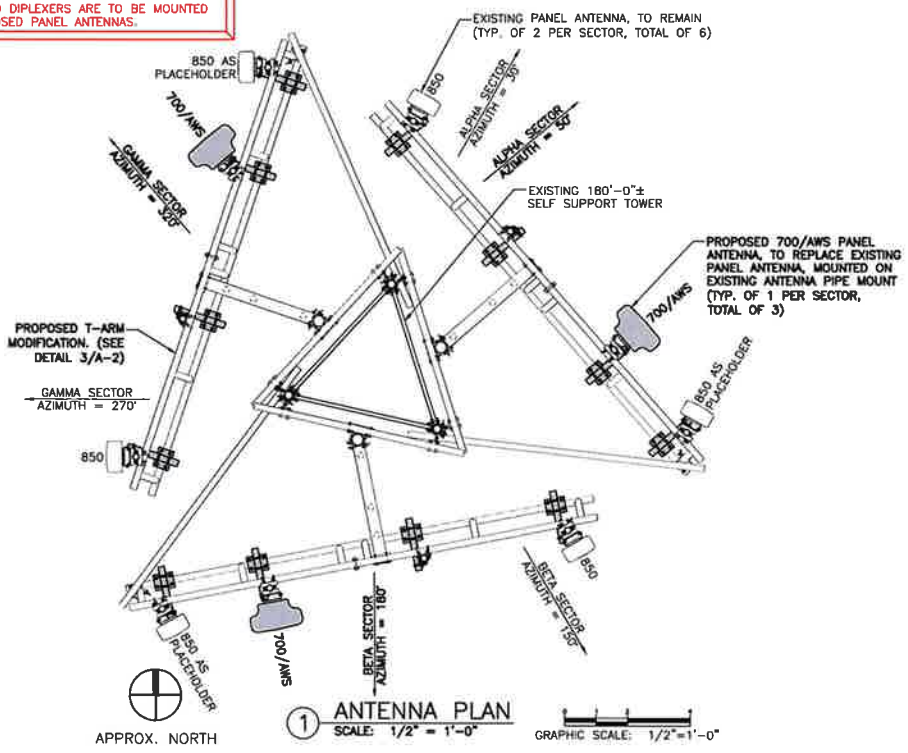
NEXIUS PROJECT NO.
VZ11509

SHEET TITLE:
COMPOUND PLAN & TOWER ELEVATION

SHEET NUMBER:
A-1

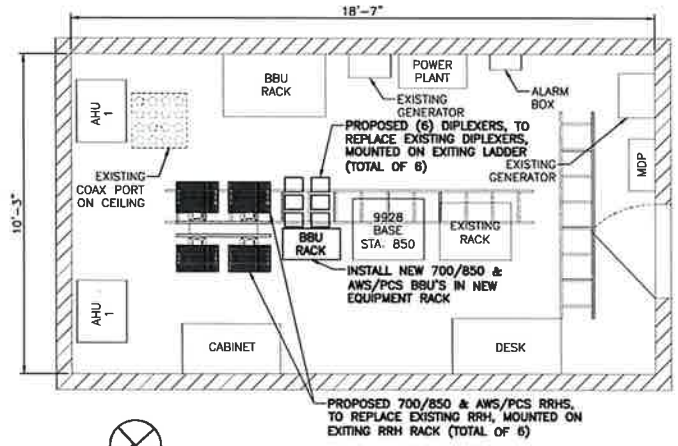
NOTE:

ALL PROPOSED DIPLEXERS ARE TO BE MOUNTED BEHIND PROPOSED PANEL ANTENNAS.



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

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



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

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

SCOPE OF WORK:

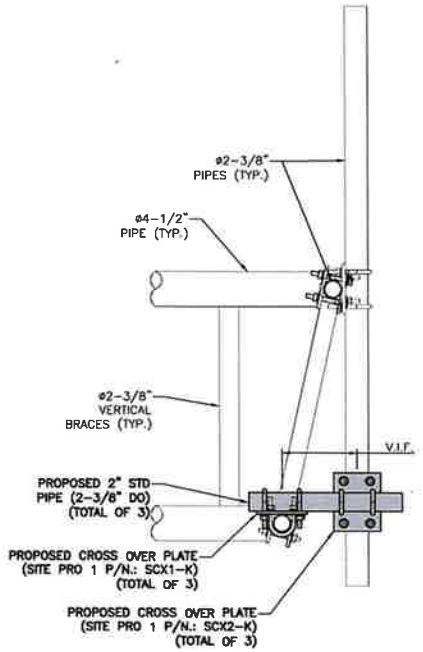
ALPHA SECTOR:
- REMOVE (1) EXISTING 700 PANEL ANTENNAS.
- REMOVE (1) EXISTING PANEL ANTENNAS.
- REMOVE (2) EXISTING DIPLEXERS.
- INSTALL (1) NEW JMA WIRELESS MX06FRO660-03 700/AWS ANTENNA AS SHOWN ON PLANS.
- INSTALL (1) CBC426T-DS-43 700/850/AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) CBC1923T-DS-43 AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED.

BETA SECTOR:
- REMOVE (1) EXISTING 700 PANEL ANTENNAS.
- REMOVE (1) EXISTING PANEL ANTENNAS.
- REMOVE (2) EXISTING DIPLEXERS.
- INSTALL (1) NEW JMA WIRELESS MX06FRO660-03 700/AWS ANTENNA AS SHOWN ON PLANS.
- INSTALL (1) CBC426T-DS-43 700/850/AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) CBC1923T-DS-43 AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED

GAMMA SECTOR:
- REMOVE (1) EXISTING 700 PANEL ANTENNAS.
- REMOVE (1) EXISTING PANEL ANTENNAS.
- REMOVE (2) EXISTING DIPLEXERS.
- INSTALL (1) NEW JMA WIRELESS MX06FRO660-03 700/AWS ANTENNA AS SHOWN ON PLANS.
- INSTALL (1) CBC426T-DS-43 700/850/AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) CBC1923T-DS-43 AWS/PCS DIPLEXER AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED

PROPOSED STRUCTURAL MODIFICATIONS SHALL BE INSTALLED PRIOR TO INSTALLING ANY ADDITIONAL LOADING.

DESIGN SHOWN HEREIN IS BASED OFF A RFDS PROVIDED BY VERIZON WIRELESS DATED 01/09/20.



3 PIPE TO MOUNT DETAIL
SCALE: N.T.S.

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APPLICANT

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PROFESSIONAL STAMP

SUBMITTALS

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SITE INFORMATION

SITE NAME
PAWCATUCK_CT

LOCATION CODE
488000

SITE ADDRESS
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

DRAWN BY	DATE
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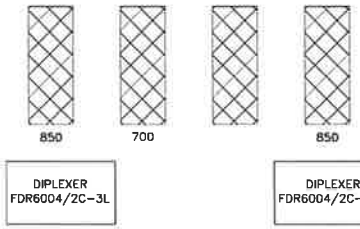
KB	01/16/20

NEXIUS PROJECT NO
VZ11509

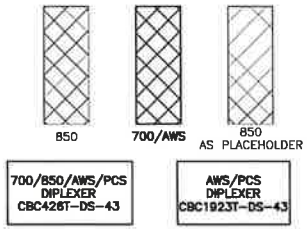
SHEET TITLE
ANTENNA PLAN, DETAILS & NOTES

SHEET NUMBER
A-2

NOTE: ALL ANTENNAS ARE VIEWED FROM THE REAR

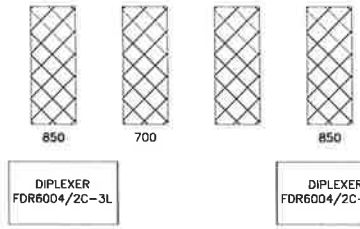


EXISTING CONFIGURATION



PROPOSED CONFIGURATION

ALPHA SECTOR ANTENNA CONFIGURATION



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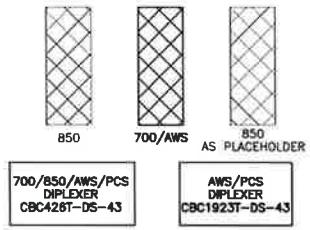
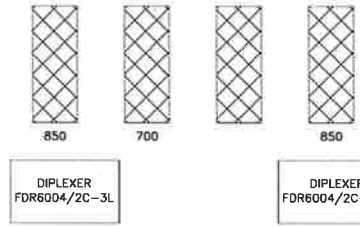
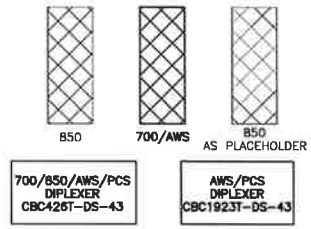


PROPOSED CONFIGURATION

BETA SECTOR ANTENNA CONFIGURATION



EXISTING CONFIGURATION



PROPOSED CONFIGURATION

GAMMA SECTOR ANTENNA CONFIGURATION

GENERAL NOTES:

1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS, AND HARDWARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES, AND RRH'S IN ACCORDANCE WITH THE NEC ARTICLE 250 & THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANY INSTALLED SAFETY DEVICES.

PREPARED BY

nexius

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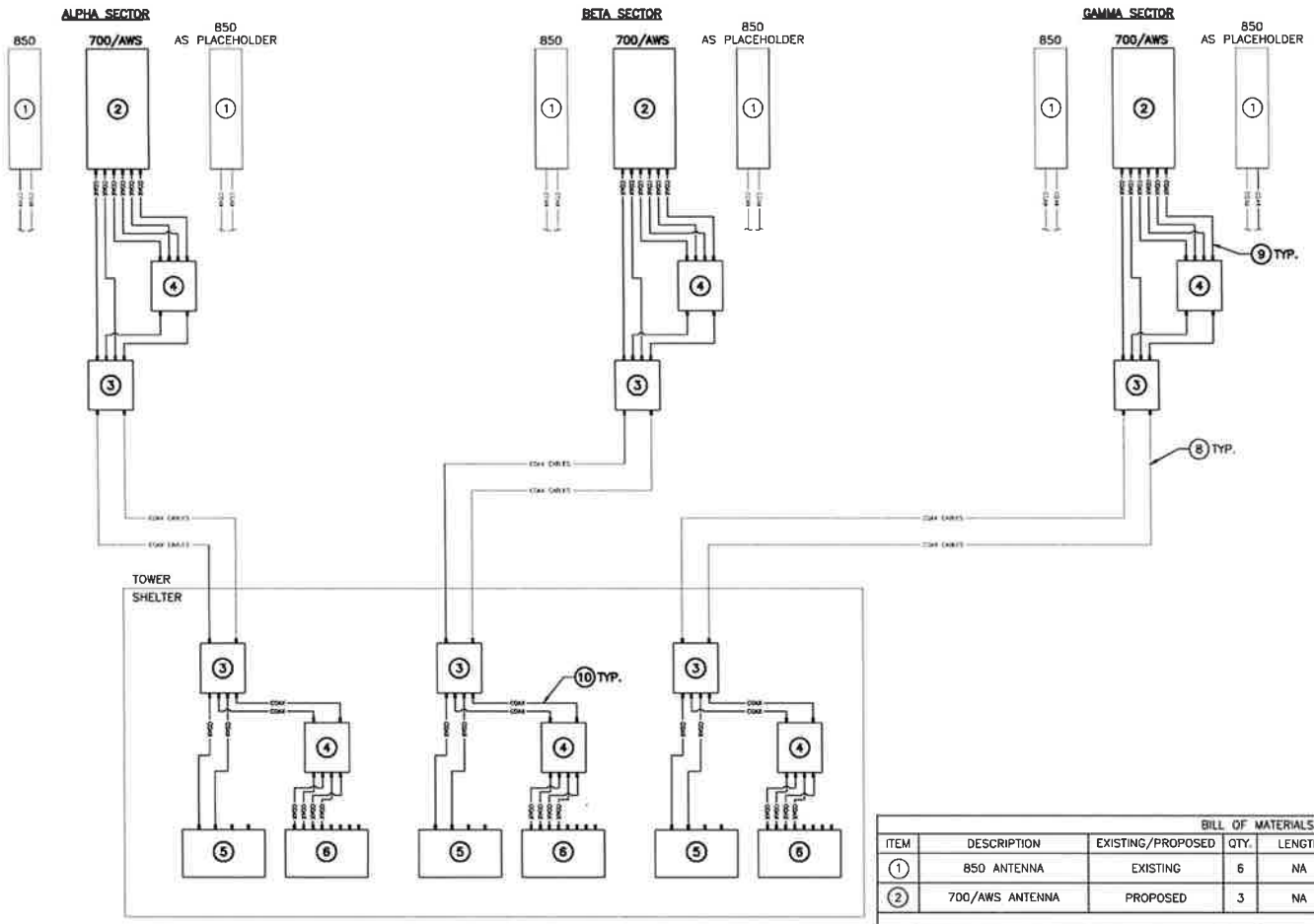
NEXIUS PROJECT NO.
VZ11509

SHEET TITLE
ANTENNA SECTOR CONFIGURATIONS, DETAILS & NOTES

SHEET NUMBER

A-3

NOTE: ALL ANTENNAS ARE VIEWED FROM THE REAR



GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUITHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS & MANUFACTURERS INSTRUCTIONS. EXTERIOR CONTROL CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING COAXIAL CABLES EVERY 4' MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS IN CERTAIN APPLICATIONS.
3. RET CABLES SHALL BE ROUTED & SECURED ON STRUCTURAL MEMBERS ONLY. DO NOT LOOP THE CABLES IN MID-AIR BETWEET ANTENNAS.
4. CONTRACTOR SHALL VERIFY ALL CABLE LENGTHS PRIOR TO CONSTRUCTION.

BILL OF MATERIALS

ITEM	DESCRIPTION	EXISTING/PROPOSED	QTY.	LENGTH	COMMENTS
(1)	850 ANTENNA	EXISTING	6	NA	EXISTING 850 ANTENNAS, TO REMAIN
(2)	700/AWS ANTENNA	PROPOSED	3	NA	REPLACE EXISTING PANEL ANTENNA WITH JMA WIRELESS MX06FRO660-03
(3)	700/850/AWS/PCS DIPLEXER	PROPOSED	6	NA	INSTALL COMMSCOPE 700/850/AWS/PCS DIPLEXERS CBC426T-DS-43
(4)	AWS/PCS DIPLEXER	PROPOSED	6	NA	INSTALL COMMSCOPE AWS/PCS DIPLEXERS CBC1923T-DS-43
(6)	700/850 RRH	PROPOSED	3	NA	INSTALL SAMSUNG B5/B13 RRH BR04C IN SHELTER
(7)	AWS/PCS RRH	PROPOSED	3	NA	INSTALL SAMSUNG B2/B66A RRH BR049 IN SHELTER
(8)	1-5/8" COAX CABLES	EXISTING	12	NA	ROUTED AS SHOWN ON SCHEMATIC
(9)	1/2" COAX CABLES	EXISTING	24	NA	ROUTED AS SHOWN ON SCHEMATIC, AT ANTENNAS
(10)	1/2" COAX CABLES	EXISTING	24	NA	ROUTED AS SHOWN ON SCHEMATIC, IN SHELTER

1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY, REFER TO VERIZON WIRELESS' B.O.M. FOR ALL MANUFACTURERS PART NUMBERS & ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
2. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
* SIGNIFIES LEASE ONLY.

PREPARED BY:

nexius

TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:
300 APOLLO DRIVE, SUITE 7
CHELMSFORD, MA 01824
1 (978) 923-7965

APPLICANT:

CELLCO PARTNERSHIP d/b/a

verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROFESSIONAL STAMP

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	12/19/19	FOR CONSTRUCTION	AA
1	01/10/20	REVISED PER NEW RFDS	AA
2	01/16/20	REVISED PER COMMENTS	AA

SITE INFORMATION

SITE NAME
PAWCATUCK_CT

LOCATION CODE
458000

SITE ADDRESS
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

DRAWN BY	DATE
AA	01/16/20
CHECKED BY	DATE
KB	01/16/20

NEXIUS PROJECT NO.
VZ11509

SHEET TITLE
RET SYSTEM WIRING SCHEMATIC

SHEET NUMBER
A-4

JMA WIRELESS

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

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

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

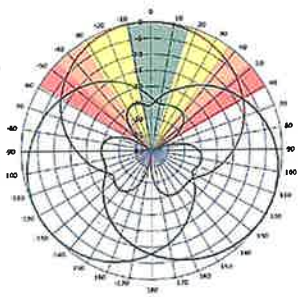
- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external diplexers
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready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

nWAV

Fast Roll-Off antennas increase data throughput without compromising coverage

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

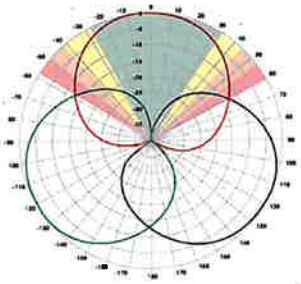
Non-FRO antenna



Large traditional antenna pattern overlap creates harmful interference.

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

JMA FRO antenna



LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333+%	8-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2-3.3	165%	4-5
Poor	<10	<2	0%	1-3

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

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

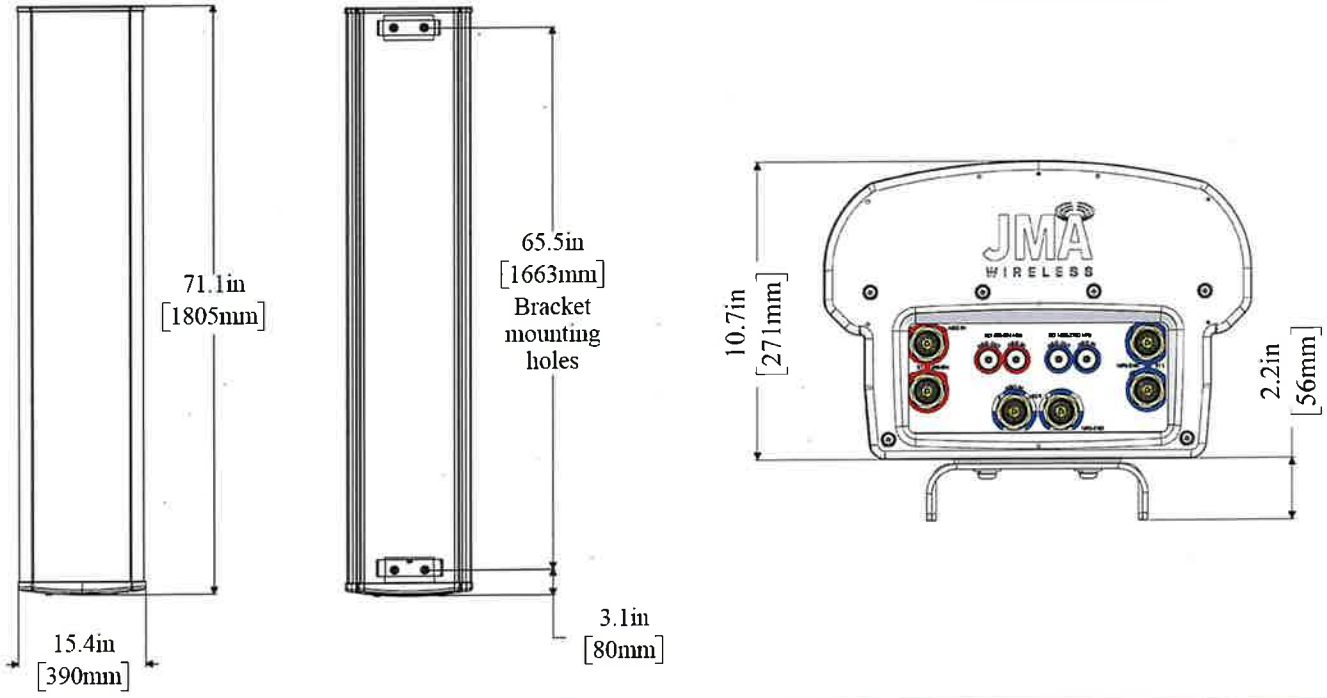
[1] Typical value over frequency and tilt

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

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

Front view **Back view** **Bottom view**



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

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

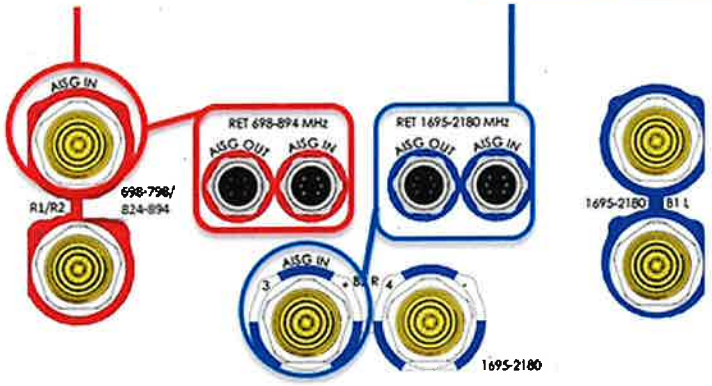
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total no. of internal RETs (low bands)	2
Total no. of internal RETs (high bands)	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

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

RET device	Band	RF port
R1	698-798	1-2
R2	824-894	1-2

RET device	Band	RF port
B1/B2	1695-2180	3-6

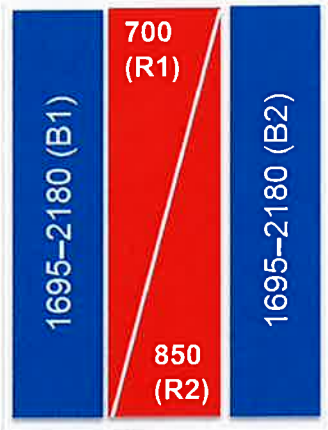


Array topology

3 sets of radiating arrays

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

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



ATTACHMENT 2

	General	Power	Density					
Site Name: Pawcatuck (Stonington)								
Tower Height: 180'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Town Antenna 1	1	650	199	300	0.0063	0.2000	0.31%	
*Town Antenna 2	1	100	191	300	0.0011	0.2000	0.05%	
*Town Antenna 3	1	350	167	300	0.0049	0.2000	0.24%	
*Town Antenna 4	1	60	102	300	0.0023	0.2000	0.12%	
*Town Antenna 5	1	90	90	300	0.0046	0.2000	0.23%	
*Town Antenna 6	1	60	86	300	0.0034	0.2000	0.17%	
*Town Antenna 7	1	100	52	300	0.0170	0.2000	0.85%	
*Town Antenna 8	1	20	41	450	0.0059	0.3000	0.20%	
*Town Antenna 9	1	250	41	821	0.0734	0.5473	1.34%	
*T-Mobile	2	12	140	1950	0.0005	1.0000	0.00%	
*T-Mobile	2	16	140	2100	0.0006	1.0000	0.01%	
*T-Mobile	2	24	140	2100	0.0010	1.0000	0.01%	
*MetroPCS	3	444	130	2140	0.0311	1.0000	0.31%	
*AT&T	1	500	120	880	0.0138	0.5867	0.24%	
*AT&T	1	500	120	1900	0.0138	1.0000	0.14%	
*AT&T	6	296	120	880	0.0491	0.5867	0.84%	
*AT&T	6	427	120	1900	0.0709	1.0000	0.71%	
*AT&T	1	500	120	740	0.0138	0.4933	0.28%	
VZW PCS	**2**	**4323**	**150**	**0.0691**	**1970**	**1.0000**	**6.91%**	
VZW Cellular	**2**	**638**	**150**	**0.0102**	**869**	**0.5793**	**1.76%**	
VZW Cellular	**3**	**823**	**150**	**0.0132**	**880**	**0.5866**	**2.24%**	
VZW AWS	**2**	**4632**	**150**	**0.0740**	**2145**	**1.0000**	**7.40%**	
VZW 700	**2**	**1887**	**150**	**0.0302**	**746**	**0.4973**	**6.06%**	
VZW CBRS	**0**	**0**	**150**	**0.0000**	**0**	**0.4973**	**0.00%**	
								30.4%
* Source: Siting Council								

ATTACHMENT 3

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

Structural Analysis Report

Existing 180 ft PIROD Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT03241-S

Customer Site Name: Stonington 2, CT

Carrier Name: Verizon (App#: 117677, V4)

Carrier Site ID / Name: 117862 / Pawcatuck, CT

Site Location: 173 South Broad Street

Pawcatuck, Connecticut

New London County

Latitude: 41.369066

Longitude: -71.862361

Analysis Result:

Max Structural Usage: 59.0% [Pass]

Max Foundation Usage: 87.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Sital Shrestha

Introduction

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

Sources of Information

Tower Drawings	PiROD Eng. File # A-116770-, Archive # Q-91612, dated 02/25/2000
Foundation Drawing	PiROD Eng. File # A-116770-, Archive # Q-91612, dated 02/25/2000
Geotechnical Report	Jaworski Geotech, Inc. Project # 99731G, dated 02/15/2000
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	129.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-H / 2018 IBC
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.183, S_1 = 0.052

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	190.0	2	Celwave - PD220 - Omni	(3) 10' Side Arms	(2) 7/8"	Stonington Police
2	189.3	1	Celwave - PD1142 - Omni			
3	180.0	1	Yagi		(2) 7/8"	-
4	175.0	1	10' Dipole			
5	178.0	1	2' x 1' Panel	Direct	(1) 7/8"	
6	173.0	2	Decibel - DB212 - Dipole	(2) Standoffs	(2) 7/8"	Stonington Police
-	150.0	3	Antel - BXA-70063/6CF - Panel	(3) T-Frames	(12) 1 5/8"	Verizon
-		6	Andrew - DB844H80-XY - Panel			
-		3	Rymsa - MGD5-800T2 - Panel			
-		6	RFS - FD9R6004/2C-3L - Diplexer			
11	140.0	3	Ericsson - Air 21 B2A/B4P - Panel	(3) T-Frames w/ Mods (MetroSite MS-HR35-18 Support Rail Pipe Kit; (2) MS-C1B-350P V-Bracing Kits; (3) MS-STZ-350P Stabilizer Adapter Kits; and (3) MS-STZ-2PST Stabilizer Kits	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
12		3	Ericsson - Air 21 B4A/B2P - Panel			
13		3	RFS - APXVAARR24_43-U-NA20 - Panel			
14		3	Ericsson - KRY 112 144/1 - TMA			
15		3	Ericsson - Radio 4449 B71+B12 - RRU			
16	120.0	6	Powerwave - 7770 - Panel	(3) T-Frames	(12) 1 5/8" (1) Fiber (2) DC	AT&T
17		3	KMW - 14-65 - Panel			
18		3	CSS - DUO1417-8986 - Panel			
19		6	Powerwave - TT19-08BP111-001 - TMA			
20		6	Ericsson - RRU-11 - RRU			
21		1	Raycap - DC6-48-60-18-8F - SP			
22		3	CSS - DBC-750 - Combiner			
23	106.0	1	10' Dipole	(2) Standoffs	(1) 7/8"	-
24	104.0	1	Celwave - PD1167 - Omni			Stonington Police
25	98.0	1	Decibel - DB212 - Dipole	Direct	(1) 7/8"	
27	63.0	1	Decibel - DB437 - Yagi	Direct	(1) 7/8"	
28	59.0	1	Decibel - DB212 - Dipole	Direct	(1) 7/8"	
29	43.0	1	2' Omni	(1) Standoff	(1) 7/8"	-
30	42.0	1	Decibel - DB437 - Yagi	Direct	(1) 7/8"	Stonington Police

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
7	150.0	6	Decibel DB844H90-XY	(3) T-Frames	(12) 1 5/8" Coax	Verizon
8		3	JMA Wireless MX06FRO660-03			
9		3	Commscope CBC426T-DS-43			
10		3	Commscope CBC1923T-DS-43			
26	75.0	1	GPS Receiver	Direct		

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

Analysis Results

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

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**59.0%**	**58.8%**	**29.3%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Original Design Reactions	422.0	379.7	65.7
Analysis Reactions	297.2	256.4	29.6
Factored Reactions*	569.7	512.6	88.7
% of Design Reactions	52.2%	50.0%	33.4%

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.3363 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT03241-S-SBA

Site Name:	Stonington 2, CT			**Code:**	EIA/TIA-222-H	12/10/2019
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	129.00	
Height:	180.00 (ft)	**Base Width:**	18.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	4.00	**Operational WS:**	60.00	Page: 1

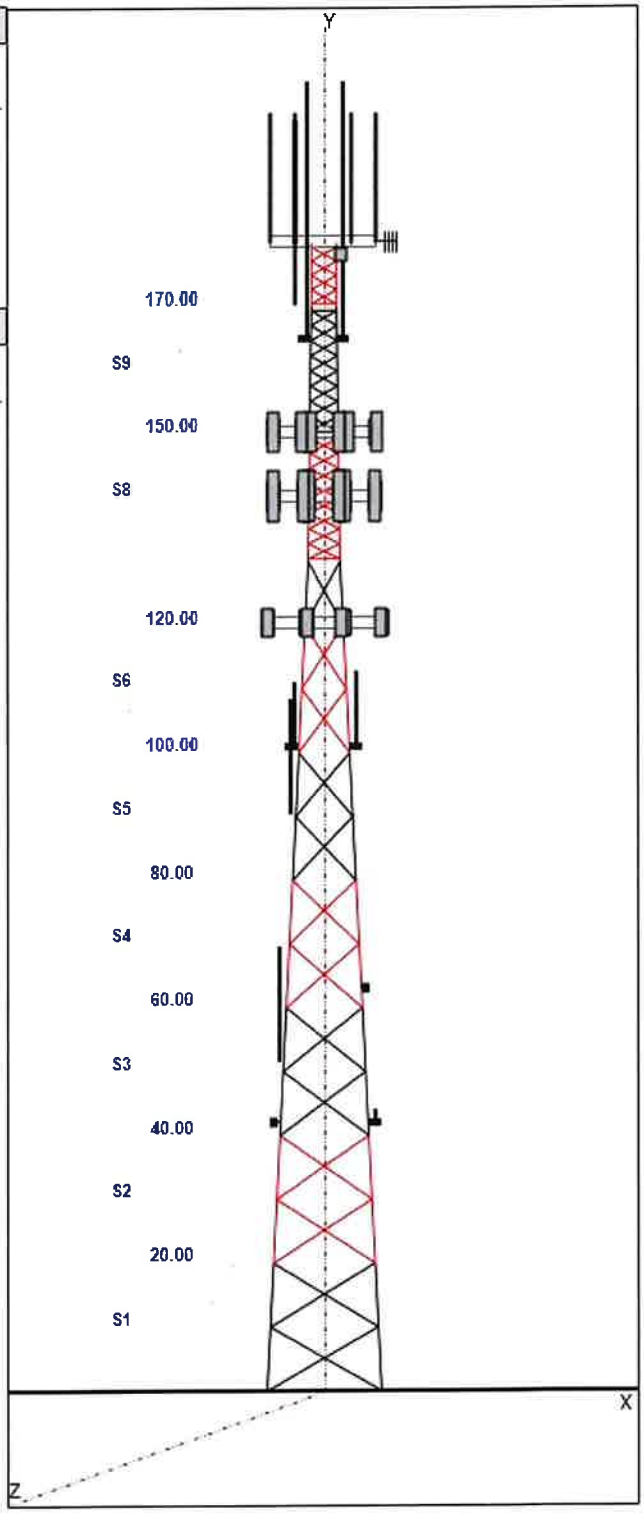
TES Tower Engineering Solutions

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1-2	12B 12"BD 2.25"	SAE 3.5X3.5X0.3125	
3-4	12B 12"BD 2"	SAE 3X3X0.3125	
5	12B 12"BD 1.75"	SAE 3X3X0.1875	
6	12B 12"BD 1.5"	SAE 3X3X0.1875	
7	12B 12"BD 1.25"	SAE 2.5X2.5X0.1875	
8	SOL 2" SOLID	SOL 1" SOLID	SOL 1" SOLID
9-10	SOL 1 1/2" SOLID	SOL 3/4" SOLID	SOL 3/4" SOLID

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.00	180.00	1	Lightning Rod
180.00	180.00	1	Beacon
180.00	180.00	3	10 ft face mounted side arm
180.00	190.00	2	PD220
180.00	189.40	1	PD1142-1
180.00	180.00	1	3' Yagi
180.00	175.00	1	10' Dipole
178.00	178.00	1	24" X 12" Panel
165.00	165.00	2	Side Arm (M. Heavy)
165.00	185.00	2	DB212-2
150.00	150.00	3	15' Pirod Universal T-Frame
150.00	150.00	3	MX06FRO660-02
150.00	150.00	3	CBC426T-DS-43
150.00	150.00	3	CBC1923T-DS-43
150.00	150.00	6	DB844H80-XY
140.00	140.00	3	15' Pirod Universal T-Frame
140.00	140.00	1	(3) HR w/ Double V-Brace Kits
140.00	140.00	1	(3) Stabilizer Kit (4' FW)
140.00	140.00	3	AIR 21, 1.3M, B2A B4P
140.00	140.00	3	AIR 21, 1.3M, B4A B2P
140.00	140.00	3	APXVAARR24_43-U-NA20
140.00	140.00	3	KRY 112 144/1
140.00	140.00	3	4449
120.00	120.00	3	15' Pirod Universal T-Frame
120.00	120.00	6	7770.00
120.00	120.00	3	AM-X-CD-14-65-00T-RET
120.00	120.00	3	DUO1417-8686-0
120.00	120.00	6	TT19-08BP111-001
120.00	120.00	6	RRUS-11
120.00	120.00	1	DC6-48-60-18-8F
120.00	120.00	3	DBC-750
101.00	101.00	2	Side Arm (L. Heavy)
101.00	106.00	1	10' Dipole
101.00	106.90	1	PD1167
90.00	99.17	1	DS4C06F36D-N
75.00	75.00	1	GPS
63.00	63.00	1	DB437
51.00	60.17	1	DB413-B
42.00	43.00	1	2' Omni
42.00	42.00	1	Side Arm (L. Heavy)
42.00	42.00	1	DB437

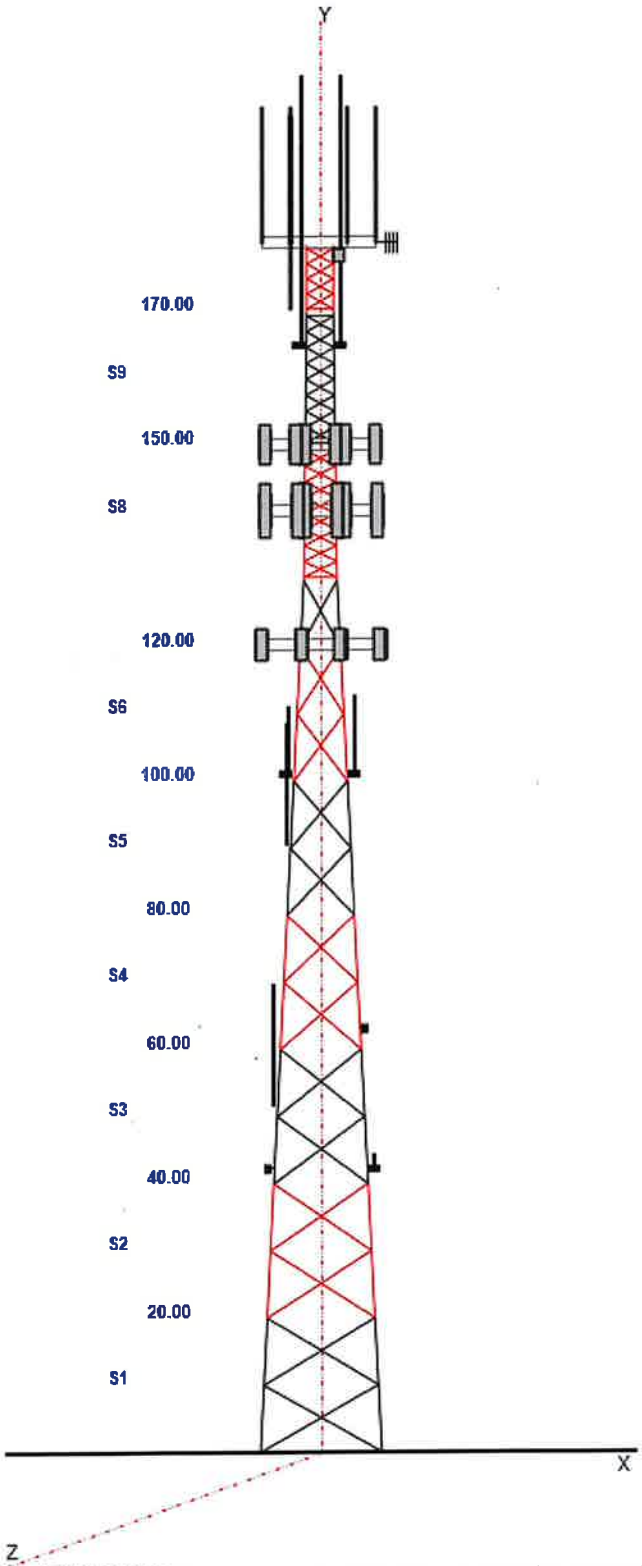


Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	180.00	2	7/8" Coax
0.00	180.00	2	7/8" Coax
0.00	178.00	1	7/8" Coax
0.00	165.00	2	7/8" Coax
0.00	150.00	12	1 5/8" Coax
0.00	150.00	1	W/G Ladder
0.00	140.00	9	1 5/8" Coax
0.00	140.00	4	1 5/8" Fiber
0.00	140.00	1	W/G Ladder
0.00	120.00	12	1 5/8" Coax
0.00	120.00	2	DC
0.00	120.00	1	Fiber
0.00	120.00	1	W/G Ladder
0.00	101.00	1	7/8" Coax
0.00	101.00	1	7/8" Coax
0.00	90.00	1	7/8" Coax
0.00	63.00	1	7/8" Coax
0.00	51.00	1	7/8" Coax
0.00	43.00	1	7/8" Coax
0.00	42.00	1	7/8" Coax

Base Reactions

Leg		Overturning	
Max Uplift:	-256.36 (kips	Moment:	4356.67 (ft-kips)
Max Down:	297.18 (kips	Total Down:	53.11 (kips)
Max Shear:	29.58 (kips	Total Shear:	44.89 (kips)

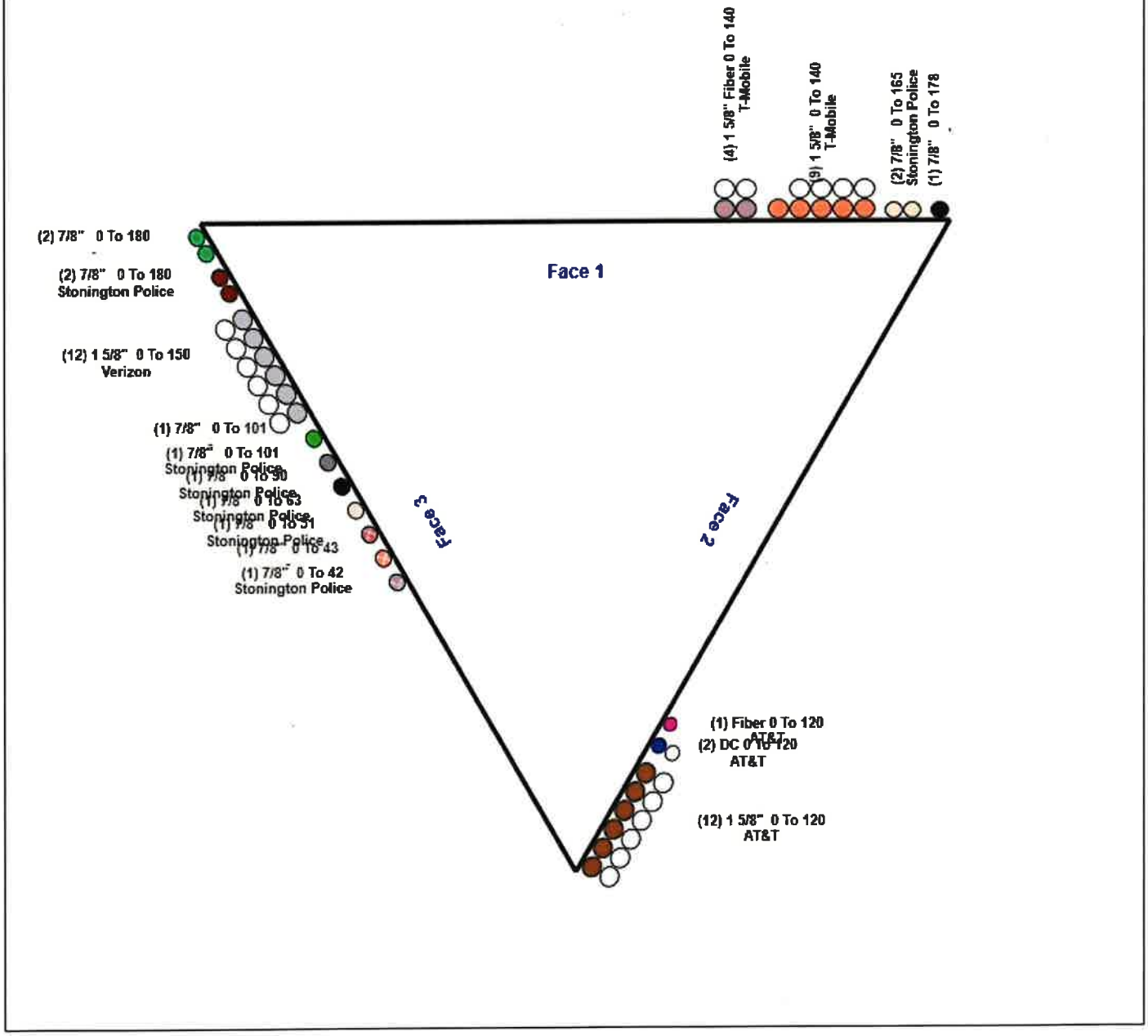


Structure: CT03241-S-SBA - Coax Line Placement

Type: Self Support
Site Name: Stonington 2, CT
Height: 180.00 (ft)

12/10/2019

Tower Engineering Solutions



Loading Summary

Structure:	CT03241-S-SBA		**Code:**	EIA/TIA-222-H	12/10/2019
Site Name:	Stonington 2, CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
180.00	Lightning Rod	1	5.00	0.500	19.18	1.682	72.000	1.000	1.000	1.00	1.00	0.000
180.00	Beacon	1	36.00	2.720	126.18	3.363	28.000	17.500	17.500	1.00	1.00	0.000
180.00	10 ft face mounted side arm	3	250.00	4.740	793.51	19.202	0.000	0.000	0.000	0.75	0.75	0.000
180.00	PD220	2	25.00	5.500	119.68	10.301	240.000	2.700	2.700	0.80	1.00	10.00
180.00	PD1142-1	1	10.00	3.120	69.04	7.614	225.600	1.600	1.600	0.80	1.00	9.400
180.00	3' Yagi	1	10.00	2.980	70.94	7.231	36.000	36.000	3.000	0.80	1.00	0.000
180.00	10' Dipole	1	30.00	3.760	105.54	7.822	120.000	3.000	3.000	0.80	1.00	-5.000
178.00	24" X 12" Panel	1	20.00	2.400	61.89	3.128	24.000	12.000	6.000	1.00	1.00	0.000
165.00	Side Arm (M. Heavy)	2	160.00	6.000	253.68	10.693	0.000	0.000	0.000	1.00	1.00	0.000
165.00	DB212-2	2	31.00	6.500	196.39	30.087	180.000	0.000	0.000	0.90	1.00	20.00
150.00	15' Pirod Universal T-Frame	3	500.00	15.000	846.64	27.941	0.000	0.000	0.000	0.75	0.75	0.000
150.00	MX06FRO660-02	3	46.00	9.870	214.97	10.764	71.300	15.400	10.700	0.80	0.87	0.000
150.00	CBC426T-DS-43	3	4.90	0.420	12.28	0.608	8.000	6.300	4.900	0.80	1.00	0.000
150.00	CBC1923T-DS-43	3	11.00	0.320	17.96	0.493	8.300	4.600	3.700	0.80	1.00	0.000
150.00	DB844H80-XY	6	10.00	2.860	70.70	3.792	48.000	6.000	8.500	0.80	1.16	0.000
140.00	15' Pirod Universal T-Frame	3	500.00	15.000	846.64	27.941	0.000	0.000	0.000	0.75	0.75	0.000
140.00	(3) HR w/ Double V-Brace Kits	1	650.00	15.500	1190.76	26.246	0.000	0.000	0.000	0.75	1.00	0.000
140.00	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	256.47	6.265	0.000	0.000	0.000	0.75	1.00	0.000
140.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.090	194.31	6.799	56.000	12.100	7.900	0.80	0.85	0.000
140.00	AIR 21, 1.3M, B4A B2P	3	90.40	6.090	193.23	6.799	56.000	12.100	7.900	0.80	0.85	0.000
140.00	APXVAARR24_43-U-NA20	3	128.00	20.240	425.75	21.484	95.900	24.000	7.800	0.80	0.70	0.000
140.00	KRY 112 144/1	3	11.00	0.410	18.14	0.725	6.900	6.100	2.700	0.80	0.50	0.000
140.00	4449	3	70.00	1.650	134.71	2.031	15.000	13.200	9.300	0.80	0.67	0.000
120.00	15' Pirod Universal T-Frame	3	500.00	15.000	838.38	27.633	0.000	0.000	0.000	0.75	0.75	0.000
120.00	7770.00	6	35.00	5.500	118.50	6.165	55.000	11.000	5.000	0.80	0.77	0.000
120.00	AM-X-CD-14-65-00T-RET	3	36.40	5.000	108.48	6.211	48.000	11.800	5.900	0.80	0.78	0.000
120.00	DUO1417-8686-0	3	20.30	5.830	119.13	6.480	48.400	14.000	9.000	0.80	0.84	0.000
120.00	TT19-08BP111-001	6	16.00	0.640	29.08	1.023	9.900	6.700	5.400	0.80	0.50	0.000
120.00	RRUS-11	6	51.00	2.520	97.71	2.929	17.000	17.800	7.200	0.80	0.67	0.000
120.00	DC6-48-60-18-8F	1	31.80	0.920	71.76	1.203	24.000	11.000	11.000	0.80	1.00	0.000
120.00	DBC-750	3	4.80	0.510	11.05	0.852	7.800	6.600	1.200	0.80	0.50	0.000
101.00	Side Arm (L. Heavy)	2	120.00	4.500	186.33	7.823	0.000	0.000	0.000	1.00	1.00	0.000
101.00	10' Dipole	1	30.00	3.760	100.68	7.561	120.000	3.000	3.000	0.90	1.00	5.000
101.00	PD1167	1	8.00	1.470	36.18	4.112	141.600	1.200	1.200	0.90	1.00	5.900
90.00	DS4C06F36D-N	1	70.00	5.500	157.57	9.627	220.000	3.000	3.000	1.00	1.00	9.167
75.00	GPS	1	10.00	1.000	28.11	1.440	12.000	9.000	6.000	1.00	1.00	0.000
63.00	DB437	1	15.00	0.800	33.86	2.344	14.500	35.000	0.000	1.00	1.00	0.000
51.00	DB413-B	1	32.00	4.370	113.26	11.028	220.000	0.000	0.000	1.00	1.00	9.167
42.00	2' Omni	1	5.00	0.300	11.50	0.551	24.000	2.000	2.000	1.00	1.00	1.000
42.00	Side Arm (L. Heavy)	1	120.00	4.500	179.43	7.478	0.000	0.000	0.000	1.00	1.00	0.000
42.00	DB437	1	15.00	0.800	32.92	2.267	14.500	35.000	0.000	1.00	1.00	0.000
	Totals:	**95**	**9,374.70**		**20,398.97**						**Number of Appurtenances :**	**41**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.00	7/8" Coax	2	1.11	0.52	100.00	3	Individual IR		N	0.50	1.00	0
0.00	180.00	7/8" Coax	2	1.11	0.52	100.00	3	Individual IR		N	0.50	1.00	0
0.00	178.00	7/8" Coax	1	1.11	0.52	100.00	1	Individual NR		N	0.50	1.00	
0.00	165.00	7/8" Coax	2	1.11	0.52	100.00	1	Individual IR		N	0.50	1.00	
0.00	150.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	0.58	
0.00	150.00	W/G Ladder	1	0.50	6.00	100.00	1	Individual NR		N	0.50	1.00	
0.00	140.00	1 5/8" Coax	9	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	140.00	1 5/8" Fiber	4	2.00	1.10	50.00	1	Block		N	0.50	1.00	
0.00	140.00	W/G Ladder	1	0.50	6.00	100.00	1	Individual NR		N	0.50	1.00	
0.00	120.00	1 5/8" Coax	12	1.98	1.04	50.00	2	Block		N	0.50	0.58	
0.00	120.00	DC	2	0.75	0.40	50.00	2	Block		N	0.50	1.00	
0.00	120.00	Fiber	1	0.39	0.05	100.00	2	Individual NR		N	0.50	1.00	
0.00	120.00	W/G Ladder	1	0.50	6.00	100.00	2	Individual NR		N	0.50	1.00	
0.00	101.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	101.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	90.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	63.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	51.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	43.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	42.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W Normal Wind — 1.2D + 1.0W 129 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.75	105.57	0.00	7,568.3	0.0	2433.02	1527.14	3,960.17
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	30.38	105.57	0.00	7,392.6	0.0	2572.61	1764.75	4,337.36
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.29	101.50	0.00	6,287.6	0.0	2388.89	1963.48	4,352.36
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	23.73	98.44	0.00	6,132.3	0.0	2350.13	2106.29	4,456.41
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	21.76	97.24	0.00	4,765.3	0.0	2240.42	2220.18	4,460.60
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	20.28	92.80	0.00	4,214.4	0.0	2102.01	2313.87	4,415.88
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.62	32.96	0.00	1,584.3	0.0	899.90	880.55	1,780.46
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	1.00	1.00	0.00	8.25	51.83	0.00	2,446.9	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	981.6	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	488.1	0.0	374.65	25.26	399.91
														41,861.4	**0.0**			**31,270.12**

Load Case: 1.2D + 1.0W 60° Wind — 1.2D + 1.0W 129 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.28	105.57	0.00	7,568.3	0.0	2101.26	1527.14	3,628.40
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	26.31	105.57	0.00	7,392.6	0.0	2228.00	1764.75	3,992.76
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.12	101.50	0.00	6,287.6	0.0	2089.55	1963.48	4,053.03
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	20.87	98.44	0.00	6,132.3	0.0	2066.44	2106.29	4,172.72
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.16	97.24	0.00	4,765.3	0.0	1973.26	2220.18	4,193.43
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	17.92	92.80	0.00	4,214.4	0.0	1857.83	2313.87	4,171.69
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.70	32.96	0.00	1,584.3	0.0	804.13	880.55	1,684.68
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	0.80	1.00	0.00	8.25	51.83	0.00	2,446.9	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	981.6	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	488.1	0.0	374.65	25.26	399.91
														41,861.4	**0.0**			**29,403.61**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 90° Wind — 1.2D + 1.0W 129 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.40	105.57	0.00	7,568.3	0.0	2184.20	1527.14	3,711.34
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	27.33	105.57	0.00	7,392.6	0.0	2314.15	1764.75	4,078.91
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	22.92	101.50	0.00	6,287.6	0.0	2164.39	1963.48	4,127.86
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	21.58	98.44	0.00	6,132.3	0.0	2137.36	2106.29	4,243.64
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	19.81	97.24	0.00	4,765.3	0.0	2040.05	2220.18	4,260.23
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	18.51	92.80	0.00	4,214.4	0.0	1918.87	2313.87	4,232.74
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	7.93	32.96	0.00	1,584.3	0.0	828.07	880.55	1,708.62
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	0.85	1.00	0.00	8.25	51.83	0.00	2,446.9	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	981.6	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	488.1	0.0	374.65	25.26	399.91
														41,861.4	**0.0**			**29,870.24**

Load Case: 0.9D + 1.0W Normal Wind — 0.9D + 1.0W 129 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.75	105.57	0.00	5,676.2	0.0	2433.02	1527.14	3,960.17
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	30.38	105.57	0.00	5,544.4	0.0	2572.61	1764.75	4,337.36
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.29	101.50	0.00	4,715.7	0.0	2388.89	1963.48	4,352.36
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	23.73	98.44	0.00	4,599.2	0.0	2350.13	2106.29	4,456.41
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	21.76	97.24	0.00	3,573.9	0.0	2240.42	2220.18	4,460.60
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	20.28	92.80	0.00	3,160.8	0.0	2102.01	2313.87	4,415.88
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.62	32.96	0.00	1,188.2	0.0	899.90	880.55	1,780.46
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	1.00	1.00	0.00	8.25	51.83	0.00	1,835.2	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	736.2	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	366.1	0.0	374.65	25.26	399.91
														31,396.1	**0.0**			**31,270.12**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 60° Wind — 0.9D + 1.0W 129 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.28	105.57	0.00	5,676.2	0.0	2101.26	1527.14	3,628.40
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	26.31	105.57	0.00	5,544.4	0.0	2228.00	1764.75	3,992.76
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.12	101.50	0.00	4,715.7	0.0	2089.55	1963.48	4,053.03
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	20.87	98.44	0.00	4,599.2	0.0	2066.44	2106.29	4,172.72
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.16	97.24	0.00	3,573.9	0.0	1973.26	2220.18	4,193.43
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	17.92	92.80	0.00	3,160.8	0.0	1857.83	2313.87	4,171.69
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.70	32.96	0.00	1,188.2	0.0	804.13	880.55	1,684.68
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	0.80	1.00	0.00	8.25	51.83	0.00	1,835.2	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	736.2	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	366.1	0.0	374.65	25.26	399.91
														31,396.1	**0.0**			**29,403.61**

Load Case: 0.9D + 1.0W 90° Wind — 0.9D + 1.0W 129 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	30.74	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.40	105.57	0.00	5,676.2	0.0	2184.20	1527.14	3,711.34
2	30.0	35.52	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	27.33	105.57	0.00	5,544.4	0.0	2314.15	1764.75	4,078.91
3	50.0	39.55	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	22.92	101.50	0.00	4,715.7	0.0	2164.39	1963.48	4,127.86
4	70.0	42.45	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	21.58	98.44	0.00	4,599.2	0.0	2137.36	2106.29	4,243.64
5	90.0	44.76	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	19.81	97.24	0.00	3,573.9	0.0	2040.05	2220.18	4,260.23
6	110.0	46.69	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	18.51	92.80	0.00	3,160.8	0.0	1918.87	2313.87	4,232.74
7	125.0	47.97	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	7.93	32.96	0.00	1,188.2	0.0	828.07	880.55	1,708.62
8	140.0	49.12	0.000	14.29	0.00	0.15	2.79	0.85	1.00	0.00	8.25	51.83	0.00	1,835.2	0.0	960.19	1269.17	2,229.35
9	160.0	50.52	0.000	10.26	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	736.2	0.0	730.80	146.82	877.62
10	175.0	51.49	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	366.1	0.0	374.65	25.26	399.91
														31,396.1	**0.0**			**29,870.24**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	41.24	17.60	0.18	2.67	1.00	1.00	0.89	45.88	140.61	26.62	11,599.	4031.1	480.24	357.68	837.92
2	30.0	5.34	20.349	42.16	18.52	0.20	2.60	1.00	1.00	0.99	44.56	144.39	29.72	11,797.	4404.9	525.73	428.47	954.20
3	50.0	5.94	15.847	40.40	18.36	0.20	2.58	1.00	1.00	1.04	39.09	142.22	23.63	10,469.	4181.6	509.29	485.02	994.31
4	70.0	6.38	14.323	39.93	17.89	0.23	2.49	1.00	1.00	1.08	37.51	140.47	18.51	10,251.	4119.5	507.29	524.98	1,032.27
5	90.0	6.72	12.972	36.14	17.30	0.25	2.42	1.00	1.00	1.11	34.15	140.28	16.58	8,764.1	3998.8	473.26	557.01	1,030.26
6	110.0	7.01	11.777	33.95	16.72	0.30	2.30	1.00	1.00	1.13	32.11	136.66	7.90	8,006.7	3792.2	439.52	581.29	1,020.81
7	125.0	7.21	4.586	15.98	8.16	0.34	2.20	1.00	1.00	1.14	14.36	49.44	1.90	3,034.2	1449.9	193.43	212.37	405.80
8	140.0	7.38	0.000	40.19	25.90	0.39	2.08	1.00	1.00	1.16	25.61	79.37	3.85	4,841.6	2394.6	333.78	317.85	651.63
9	160.0	7.59	0.000	34.93	24.67	0.38	2.10	1.00	1.00	1.17	22.05	25.05	3.90	2,321.0	1339.3	298.81	65.89	364.70
10	175.0	7.73	0.000	17.95	12.74	0.42	2.03	1.00	1.00	1.18	11.59	9.21	1.58	1,126.7	638.5	155.06	11.52	166.57
														72,212.0	**30350.6**			**7,458.48**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

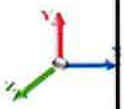
Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	41.24	17.60	0.18	2.67	0.80	1.00	0.89	41.41	140.61	26.62	11,599.	4031.1	433.50	357.68	791.18
2	30.0	5.34	20.349	42.16	18.52	0.20	2.60	0.80	1.00	0.99	40.49	144.39	29.72	11,797.	4404.9	477.71	428.47	906.18
3	50.0	5.94	15.847	40.40	18.36	0.20	2.58	0.80	1.00	1.04	35.92	142.22	23.63	10,469.	4181.6	468.00	485.02	953.02
4	70.0	6.38	14.323	39.93	17.89	0.23	2.49	0.80	1.00	1.08	34.64	140.47	18.51	10,251.	4119.5	468.54	524.98	993.52
5	90.0	6.72	12.972	36.14	17.30	0.25	2.42	0.80	1.00	1.11	31.56	140.28	16.58	8,764.1	3998.8	437.31	557.01	994.31
6	110.0	7.01	11.777	33.95	16.72	0.30	2.30	0.80	1.00	1.13	29.75	136.66	7.90	8,006.7	3792.2	407.28	581.29	988.57
7	125.0	7.21	4.586	15.98	8.16	0.34	2.20	0.80	1.00	1.14	13.44	49.44	1.90	3,034.2	1449.9	181.07	212.37	393.44
8	140.0	7.38	0.000	40.19	25.90	0.39	2.08	0.80	1.00	1.16	25.61	79.37	3.85	4,841.6	2394.6	333.78	317.85	651.63
9	160.0	7.59	0.000	34.93	24.67	0.38	2.10	0.80	1.00	1.17	22.05	25.05	3.90	2,321.0	1339.3	298.81	65.89	364.70
10	175.0	7.73	0.000	17.95	12.74	0.42	2.03	0.80	1.00	1.18	11.59	9.21	1.58	1,126.7	638.5	155.06	11.52	166.57
														72,212.0	**30350.6**			**7,203.13**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	



Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	41.24	17.60	0.18	2.67	0.85	1.00	0.89	42.53	140.61	26.62	11,599.	4031.1	445.19	357.68	802.87
2	30.0	5.34	20.349	42.16	18.52	0.20	2.60	0.85	1.00	0.99	41.51	144.39	29.72	11,797.	4404.9	489.72	428.47	918.19
3	50.0	5.94	15.847	40.40	18.36	0.20	2.58	0.85	1.00	1.04	36.71	142.22	23.63	10,469.	4181.6	478.32	485.02	963.34
4	70.0	6.38	14.323	39.93	17.89	0.23	2.49	0.85	1.00	1.08	35.36	140.47	18.51	10,251.	4119.5	478.23	524.98	1,003.21
5	90.0	6.72	12.972	36.14	17.30	0.25	2.42	0.85	1.00	1.11	32.20	140.28	16.58	8,764.1	3998.8	446.29	557.01	1,003.30
6	110.0	7.01	11.777	33.95	16.72	0.30	2.30	0.85	1.00	1.13	30.34	136.66	7.90	8,006.7	3792.2	415.34	581.29	996.63
7	125.0	7.21	4.586	15.98	8.16	0.34	2.20	0.85	1.00	1.14	13.67	49.44	1.90	3,034.2	1449.9	184.16	212.37	396.53
8	140.0	7.38	0.000	40.19	25.90	0.39	2.08	0.85	1.00	1.16	25.61	79.37	3.85	4,841.6	2394.6	333.78	317.85	651.63
9	160.0	7.59	0.000	34.93	24.67	0.38	2.10	0.85	1.00	1.17	22.05	25.05	3.90	2,321.0	1339.3	298.81	65.89	364.70
10	175.0	7.73	0.000	17.95	12.74	0.42	2.03	0.85	1.00	1.18	11.59	9.21	1.58	1,126.7	638.5	155.06	11.52	166.57
														72,212.0	**30350.6**			**7,266.97**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	35.70	105.57	0.00	6,306.9	0.0	573.86	330.37	904.23
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	33.75	105.57	0.00	6,160.5	0.0	618.12	381.77	999.90
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	28.33	101.50	0.00	5,239.7	0.0	578.88	424.77	1,003.65
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	26.85	98.44	0.00	5,110.2	0.0	575.19	455.66	1,030.85
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	23.70	97.24	0.00	3,971.0	0.0	527.94	480.30	1,008.24
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	21.66	92.80	0.00	3,512.0	0.0	485.78	500.57	986.35
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	9.09	32.96	0.00	1,320.2	0.0	205.33	190.49	395.83
8	140.0	10.63	0.000	14.29	0.00	0.15	2.79	1.00	1.00	0.00	8.25	51.83	0.00	2,039.1	0.0	207.72	274.56	482.28
9	160.0	10.93	0.000	10.26	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	818.0	0.0	158.10	31.76	189.86
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	406.8	0.0	81.05	5.46	86.51
														34,884.5	**0.0**			**7,087.70**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	31.24	105.57	0.00	6,306.9	0.0	502.09	330.37	832.46
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	29.68	105.57	0.00	6,160.5	0.0	543.58	381.77	925.35
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	25.16	101.50	0.00	5,239.7	0.0	514.13	424.77	938.89
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	23.98	98.44	0.00	5,110.2	0.0	513.81	455.66	969.47
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	21.10	97.24	0.00	3,971.0	0.0	470.15	480.30	950.44
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	19.30	92.80	0.00	3,512.0	0.0	432.96	500.57	933.52
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	8.17	32.96	0.00	1,320.2	0.0	184.61	190.49	375.11
8	140.0	10.63	0.000	14.29	0.00	0.15	2.79	0.80	1.00	0.00	8.25	51.83	0.00	2,039.1	0.0	207.72	274.56	482.28
9	160.0	10.93	0.000	10.26	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	818.0	0.0	158.10	31.76	189.86
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	406.8	0.0	81.05	5.46	86.51
														34,884.5	**0.0**			**6,683.91**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

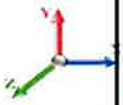
Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	32.35	105.57	0.00	6,306.9	0.0	520.03	330.37	850.41
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	30.69	105.57	0.00	6,160.5	0.0	562.21	381.77	943.99
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	25.96	101.50	0.00	5,239.7	0.0	530.32	424.77	955.08
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	24.70	98.44	0.00	5,110.2	0.0	529.16	455.66	984.82
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	21.75	97.24	0.00	3,971.0	0.0	484.60	480.30	964.89
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	19.89	92.80	0.00	3,512.0	0.0	446.16	500.57	946.73
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.40	32.96	0.00	1,320.2	0.0	189.79	190.49	380.29
8	140.0	10.63	0.000	14.29	0.00	0.15	2.79	0.85	1.00	0.00	8.25	51.83	0.00	2,039.1	0.0	207.72	274.56	482.28
9	160.0	10.93	0.000	10.26	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	818.0	0.0	158.10	31.76	189.86
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	406.8	0.0	81.05	5.46	86.51
														34,884.5	**0.0**			**6,784.86**

Force/Stress Compression Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	



Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	-289.23	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	56.3	Member X
2	40	12B - 12"BD 2.25"	-260.89	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	50.8	Member X
3	60	12B - 12"BD 2"	-228.09	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	56.2	Member X
4	80	12B - 12"BD 2"	-194.51	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	47.9	Member X
5	100	12B - 12"BD 1.75"	-158.29	1.2D + 1.0W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	51.3	Member X
6	120	12B - 12"BD 1.5"	-119.21	1.2D + 1.0W Normal Wind	10.02	100	100	100	30.32	50.00	222.99	53.5	Member X
7	130	12B - 12"BD 1.25"	-74.50	1.2D + 1.0W Normal Wind	10.02	100	100	100	36.38	50.00	150.33	49.6	Member X
8	150	SOL - 2" SOLID	-65.83	1.2D + 1.0W Normal Wind	2.37	100	100	100	56.88	50.00	111.59	59.0	Member X
9	170	SOL - 1 1/2" SOLID	-23.03	1.2D + 1.0W Normal Wind	2.37	100	100	100	75.84	50.00	52.22	44.1	Member X
10	180	SOL - 1 1/2" SOLID	-5.61	1.2D + 1.0W Normal Wind	2.24	100	100	100	71.67	50.00	54.62	10.3	Member X

Splices

		Top Splice					Bottom Splice				
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	1.2D + 1.0W Normal Wind	268.85	0.00	0.0			1.2D + 1.0W Normal Wind	297.53	0.00			
2	40	1.2D + 1.0W Normal Wind	236.96	0.00	0.0			1.2D + 1.0W Normal Wind	268.85	0.00		1/4 A325	6
3	60	1.2D + 1.0W Normal Wind	203.56	0.00	0.0			1.2D + 1.0W Normal Wind	236.96	0.00		1/4 A325	6
4	80	1.2D + 1.0W Normal Wind	168.36	0.00	0.0			1.2D + 1.0W Normal Wind	203.56	0.00		1/4 A325	6
5	100	1.2D + 1.0W Normal Wind	130.45	0.00	0.0			1.2D + 1.0W Normal Wind	168.36	0.00		1 A325	6
6	120	1.2D + 1.0W Normal Wind	88.22	0.00	0.0			1.2D + 1.0W Normal Wind	130.45	0.00		1 A325	6
7	130	1.2D + 1.0W Normal Wind	69.80	0.00	0.0			1.2D + 1.0W Normal Wind	88.22	0.00		1 A325	6
8	150	1.2D + 1.0W Normal Wind	25.12	0.00	0.0			1.2D + 1.0W Normal Wind	69.80	0.00		1 A325	6
9	170	1.2D + 1.0W Normal Wind	6.41	0.00	0.0			1.2D + 1.0W Normal Wind	25.12	0.00			
10	180	1.2D + 1.0Di + 1.0Wi 90° Wind	0.93	0.00	0.0			1.2D + 1.0W Normal Wind	6.41	0.00			

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20										0.00	0	0				
2	40										0.00	0	0				
3	60										0.00	0	0				
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	130										0.00	0	0				
8	150	SOL - 1" SOLID	-1.54	1.2D + 1.0W 60° Wind	4.52	100	100	100	151.72	50.00	7.71	0	0			20.0	Member X
9	170	SOL - 3/4" SOLID	-0.72	1.2D + 1.0W 90° Wind	4.49	100	100	100	201.13	50.00	2.47	0	0			29.3	Member X
10	180	SOL - 3/4" SOLID	-0.89	1.2D + 1.0W 60° Wind	4.00	100	100	100	179.20	50.00	3.11	0	0			28.6	Member X

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.3125	-7.71	1.2D + 1.0W Normal Wind	20.16	50	50	50	175.28	36.00	19.47	1	1	48.32	37.5	39.6	Member Z
2	40	SAE - 3.5X3.5X0.3125	-7.63	1.2D + 1.0W 90° Wind	18.45	50	50	50	160.42	36.00	23.25	1	1	48.32	37.5	32.8	Member Z
3	60	SAE - 3X3X0.3125	-7.20	1.2D + 1.0W 90° Wind	16.80	50	50	50	171.17	36.00	17.39	1	1	48.32	33.1	41.4	Member Z
4	80	SAE - 3X3X0.3125	-7.00	1.2D + 1.0W 90° Wind	15.24	50	50	50	155.27	36.00	21.13	1	1	48.32	33.1	33.1	Member Z
5	100	SAE - 3X3X0.1875	-6.85	1.2D + 1.0W 90° Wind	13.80	50	50	50	138.89	36.00	16.17	1	1	35.34	17.9	42.4	Member Z
6	120	SAE - 3X3X0.1875	-7.48	0.9D + 1.0W 90° Wind	11.93	50	50	50	120.10	36.00	21.44	1	1	35.34	17.9	41.7	Bolt Bear

Force/Stress Compression Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	

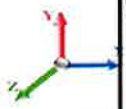
Tower Engineering Solutions

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
7	130	SAE - 2.5X2.5X0.1875	-7.13	1.2D + 1.0W Normal Wind	11.42	50	50	50	138.38	36.00	13.48	1	1	35.34	17.9	52.9	Member Z
8	150	SOL - 1" SOLID	-4.47	1.2D + 1.0W 90° Wind	5.50	50	50	50	118.74	50.00	12.59	0	0			35.5	Member X
9	170	SOL - 3/4" SOLID	-2.31	1.2D + 1.0W Normal Wind	4.74	50	50	50	136.50	50.00	5.36	0	0			43.1	Member X
10	180	SOL - 3/4" SOLID	-1.51	1.2D + 1.0W Normal Wind	4.58	50	50	50	132.03	50.00	5.73	0	0			26.4	Member X

Force/Stress Tension Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	



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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	250.64	0.9D + 1.0W 60° Wind	50	536.85	46.7	Member
2	40	12B - 12"BD 2.25"	226.31	0.9D + 1.0W 60° Wind	50	536.85	42.2	Member
3	60	12B - 12"BD 2"	199.07	0.9D + 1.0W 60° Wind	50	423.90	47.0	Member
4	80	12B - 12"BD 2"	170.37	0.9D + 1.0W 60° Wind	50	423.90	40.2	Member
5	100	12B - 12"BD 1.75"	138.56	0.9D + 1.0W 60° Wind	50	324.45	42.7	Member
6	120	12B - 12"BD 1.5"	103.65	0.9D + 1.0W 60° Wind	50	238.50	43.5	Member
7	130	12B - 12"BD 1.25"	63.18	0.9D + 1.0W 60° Wind	50	165.60	38.2	Member
8	150	SOL - 2" SOLID	57.30	0.9D + 1.0W 60° Wind	50	141.37	40.5	Member
9	170	SOL - 1 1/2" SOLID	16.91	0.9D + 1.0W 60° Wind	50	79.52	21.3	Member
10	180	SOL - 1 1/2" SOLID	3.47	0.9D + 1.0W 60° Wind	50	79.52	5.2	Bolt Shear

Splices

		Top Splice					Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	0.9D + 1.0W 60° Wind	232.23	0.00	0.0			0.9D + 1.0W 60° Wind	258.0	0.00			
2	40	0.9D + 1.0W 60° Wind	205.18	0.00	0.0			0.9D + 1.0W 60° Wind	232.2	457.92	50.7	1 1/4 A325	6
3	60	0.9D + 1.0W 60° Wind	177.10	0.00	0.0			0.9D + 1.0W 60° Wind	205.1	457.92	44.8	1 1/4 A325	6
4	80	0.9D + 1.0W 60° Wind	146.25	0.00	0.0			0.9D + 1.0W 60° Wind	177.1	457.92	38.7	1 1/4 A325	6
5	100	0.9D + 1.0W 60° Wind	112.62	0.00	0.0			0.9D + 1.0W 60° Wind	146.2	318.06	46.0	1 A325	6
6	120	0.9D + 1.0W 60° Wind	73.20	0.00	0.0			0.9D + 1.0W 60° Wind	112.6	318.06	35.4	1 A325	6
7	130	0.9D + 1.0W 60° Wind	56.76	0.00	0.0			0.9D + 1.0W 60° Wind	73.20	318.06	23.0	1 A325	6
8	150	0.9D + 1.0W 60° Wind	16.37	0.00	0.0			0.9D + 1.0W 60° Wind	56.76	318.06	17.8	1 A325	6
9	170	0.9D + 1.0W 60° Wind	3.46	0.00	0.0			0.9D + 1.0W 60° Wind	16.37	0.00			
10	180		0.00	0.00	0.0			0.9D + 1.0W 60° Wind	3.46	0.00			

HORIZONTAL MEMBERS

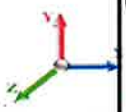
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	130	-			36	0.00	0	0					
8	150	SOL - 1" SOLID	1.56	1.2D + 1.0W Normal Wi	50	35.34	0	0				4.4	Member
9	170	SOL - 3/4" SOLID	0.92	1.2D + 1.0W 90° Wind	50	19.88	0	0				4.6	Member
10	180	SOL - 3/4" SOLID	1.05	1.2D + 1.0W Normal Wi	50	19.88	0	0				5.3	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.3125	7.30	1.2D + 1.0W 90° Wind	36	54.17	1	1	48.32	37.52	25.60	28.5	Blck Shear
2	40	SAE - 3.5X3.5X0.3125	7.33	0.9D + 1.0W 90° Wind	36	54.17	1	1	48.32	37.52	25.60	28.6	Blck Shear
3	60	SAE - 3X3X0.3125	6.97	0.9D + 1.0W 90° Wind	36	44.05	1	1	48.32	33.17	20.56	33.9	Blck Shear
4	80	SAE - 3X3X0.3125	6.79	1.2D + 1.0W 90° Wind	36	44.05	1	1	48.32	33.17	20.56	33.0	Blck Shear
5	100	SAE - 3X3X0.1875	6.66	1.2D + 1.0W 90° Wind	36	28.68	1	1	35.34	17.94	12.62	52.8	Blck Shear
6	120	SAE - 3X3X0.1875	7.42	1.2D + 1.0W 90° Wind	36	28.68	1	1	35.34	17.94	12.62	58.8	Blck Shear
7	130	SAE - 2.5X2.5X0.1875	6.73	0.9D + 1.0W 60° Wind	36	22.55	1	1	35.34	17.94	11.52	58.5	Blck Shear

Force/Stress Tension Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 16	



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DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
8	150	SOL - 1" SOLID	4.41	1.2D + 1.0W 90° Wind	50	35.34	0	0				12.5	Member
9	170	SOL - 3/4" SOLID	2.72	1.2D + 1.0W Normal Wi	50	19.88	0	0				13.7	Member
10	180	SOL - 3/4" SOLID	1.62	1.2D + 1.0W Normal Wi	50	19.88	0	0				8.1	Member

Seismic Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor	1.20	**Sds**	0.195	**Ss**	0.1830	**Fa**	1.6000	**Ke**	1.1362	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.083	**S1**	0.0520	**Fv**	2.4000	**Kg**	0.0000	**Cs**	0.0359
Seismic Importance Factor	1.00	**W1**	19.03	**R**	3.0000	**Vs**	1.5899	**T**	0.7724	**f1**	1.2946

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	10.00	6306.8	21.70	246.34
2	30.00	6160.4	73.61	240.63
3	50.00	5411.6	113.51	211.38
4	70.00	5135.2	156.74	200.58
5	90.00	4041.0	158.84	157.84
6	110.00	6118.3	319.64	238.98
7	125.00	1320.2	64.72	51.57
8	140.00	7247.5	509.61	283.08
9	160.00	1200.0	76.87	46.87
10	175.00	1317.7	94.66	51.47

Load Case: 0.9D + 1.0Ev + 1.0Eh

Dead Load Factor	0.90	**Sds**	0.195	**Ss**	0.1830	**Fa**	1.6000	**Ke**	1.1362	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.083	**S1**	0.0520	**Fv**	2.4000	**Kg**	0.0000	**Cs**	0.0359
Seismic Importance Factor	1.00	**W1**	19.03	**R**	3.0000	**Vs**	1.5899	**T**	0.7724	**f1**	1.2946

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	10.00	6306.8	21.70	246.34
2	30.00	6160.4	73.61	240.63
3	50.00	5411.6	113.51	211.38
4	70.00	5135.2	156.74	200.58
5	90.00	4041.0	158.84	157.84
6	110.00	6118.3	319.64	238.98
7	125.00	1320.2	64.72	51.57
8	140.00	7247.5	509.61	283.08
9	160.00	1200.0	76.87	46.87
10	175.00	1317.7	94.66	51.47

Support Forces Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	12/10/2019	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal Wind	1	0.01	297.18	-29.58	
	1a	10.39	-122.00	-7.66	
	1b	-10.40	-122.07	-7.65	
1.2D + 1.0W 60° Wind	1	-1.35	153.68	-14.95	
	1a	-13.49	151.77	6.45	
	1b	-22.42	-252.34	-13.01	
1.2D + 1.0W 90° Wind	1	-1.64	17.77	-1.35	
	1a	-22.02	252.62	11.98	
	1b	-19.82	-217.27	-10.63	
0.9D + 1.0W Normal Wind	1	0.01	292.34	-29.23	
	1a	10.68	-126.23	-7.84	
	1b	-10.69	-126.28	-7.82	
0.9D + 1.0W 60° Wind	1	-1.35	149.05	-14.61	
	1a	-13.19	147.15	6.27	
	1b	-22.71	-256.36	-13.18	
0.9D + 1.0W 90° Wind	1	-1.65	13.33	-1.01	
	1a	-21.72	247.86	11.80	
	1b	-20.11	-221.35	-10.80	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.01	102.72	-4.69	
	1a	4.92	-5.91	-3.12	
	1b	-4.93	-5.99	-3.11	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.27	66.03	-1.12	
	1a	-1.04	64.93	0.38	
	1b	-7.93	-40.15	-4.59	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.32	30.38	2.31	
	1a	-3.19	91.10	1.73	
	1b	-7.21	-30.66	-4.04	
1.2D + 1.0Ev + 1.0Eh	1	0.00	29.52	7.59	
	1a	7.89	12.66	-4.56	
	1b	-7.89	12.66	-4.56	
0.9D + 1.0Ev + 1.0Eh	1	0.00	25.08	7.93	
	1a	8.19	8.24	-4.74	
	1b	-8.19	8.24	-4.74	
1.0D + 1.0W Normal Wind	1	0.00	76.48	-7.45	
	1a	1.57	-16.08	-1.29	
	1b	-1.58	-16.14	-1.29	
1.0D + 1.0W 60° Wind	1	-0.32	44.82	-4.19	
	1a	-3.76	44.37	1.84	
	1b	-4.26	-44.93	-2.47	
1.0D + 1.0W 90° Wind	1	-0.39	14.80	-1.15	
	1a	-5.66	66.64	3.09	
	1b	-3.68	-37.18	-1.94	

Max Reactions

Leg			Overturning		
Max Uplift:	-256.36	(kips)	Moment:	4356.67	(ft-kips)
Max Down:	297.18	(kips)	Total Down:	53.11	(kips)
Max Shear:	29.58	(kips)	Total Shear:	44.89	(kips)

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Leg			Overturning		
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Max Shear:	29.58	(kips)	Total Shear:	44.89	(kips)

Anchor Bolts

Bolt Size (in.):	1.25	Number Bolts:	6
Yield Strength (Ksi):	105.00	Tensile Strength (Ksi):	150.00
		Length:	1.75

Interaction Ratios:

Tensile: **0.52** Compression: **0.57**

Max Usages

Max Leg: 59.0% (1.2D + 1.0W Normal Wind - Sect 8)
Max Diag: 58.8% (1.2D + 1.0W 90° Wind - Sect 6)
Max Horiz: 29.3% (1.2D + 1.0W 90° Wind - Sect 9)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0Ev + 1.0Eh - Normal To Face	40.00	0.0051	0.0003	0.0098
	50.00	0.0018	0.0000	0.0098
	60.00	0.0081	-0.0005	0.0129
	70.00	0.0103	0.0006	0.0152
	90.00	0.0135	0.0000	0.0216
	100.00	0.0200	-0.0009	0.0243
	120.00	0.0296	0.0012	0.0321
	139.90	0.0427	0.0011	0.0410
	150.00	0.0502	0.0011	0.0587
	164.64	0.0617	0.0005	0.0467
	177.14	0.0721	-0.0004	0.0457
	180.00	0.0744	-0.0003	0.0494
0.9D + 1.0W 129 mph Wind at 60° From Face	40.00	0.0690	-0.0135	0.1846
	50.00	0.1063	-0.0175	0.2395
	60.00	0.1554	0.0040	0.2946
	70.00	0.2120	0.0246	0.3498
	90.00	0.3548	-0.0309	0.4828
	100.00	0.4480	-0.0326	0.5483
	120.00	0.6737	0.0546	0.7293
	139.90	0.9657	0.5708	0.9431
	150.00	1.1411	1.0905	1.4994
	164.64	1.4079	3.4018	1.9923
	177.14	1.6462	1.5111	1.1222
	180.00	1.6974	3.9177	2.7149

0.9D + 1.0W 129 mph Wind at 90° From Face	40.00	0.0703	-0.0243	0.1852
	50.00	0.1061	-0.0317	0.2383
	60.00	0.1550	0.0078	0.2956
	70.00	0.2117	-0.0441	0.3500
	90.00	0.3547	-0.0590	0.4780
	100.00	0.4473	-0.0646	0.5466
	120.00	0.6720	-0.0782	0.7264
	139.90	0.9641	-0.4341	0.9309
	150.00	1.1373	-0.7929	1.4749
	164.64	1.3987	-2.3703	1.0820
	177.14	1.6290	0.0654	1.2238
	180.00	1.6701	-2.4050	1.6244
0.9D + 1.0W 129 mph Wind at Normal To Face	40.00	0.0733	0.0046	0.1909
	50.00	0.1122	0.0000	0.2509
	60.00	0.1582	-0.0114	0.3063
	70.00	0.2190	-0.0134	0.3611
	90.00	0.3686	0.0000	0.5075
	100.00	0.4624	-0.0206	0.5665
	120.00	0.6951	-0.0273	0.7539
	139.90	0.9979	-0.2687	0.9863
	150.00	1.1821	-0.5498	1.5466
	164.64	1.4692	-1.8507	3.2654
	177.14	1.7299	-0.1067	0.8458
	180.00	1.8155	-1.8466	4.3011
1.0D + 1.0W 60 mph Wind at 60° From Face	40.00	0.0154	-0.0042	0.0407
	50.00	0.0236	-0.0055	0.0527
	60.00	0.0342	0.0004	0.0651
	70.00	0.0467	-0.0076	0.0770
	90.00	0.0783	-0.0101	0.1058
	100.00	0.0984	-0.0110	0.1202
	120.00	0.1477	-0.0130	0.1595
	139.90	0.2118	-0.0507	0.2061
	150.00	0.2501	-0.0889	0.3269
	164.64	0.3084	-0.2533	0.3977
	177.14	0.3604	0.0674	0.2476
	180.00	0.3715	-0.2141	0.5557
1.0D + 1.0W 60 mph Wind at 90° From Face	40.00	0.0157	-0.0053	0.0409
	50.00	0.0235	-0.0069	0.0526
	60.00	0.0341	0.0017	0.0653
	70.00	0.0469	-0.0096	0.0770
	90.00	0.0782	-0.0128	0.1049
	100.00	0.0983	-0.0140	0.1198
	120.00	0.1480	-0.0170	0.1588
	139.90	0.2114	-0.0931	0.2035
	150.00	0.2493	-0.1700	0.3216
	164.64	0.3064	-0.5071	0.2304
	177.14	0.3566	0.0100	0.2667
	180.00	0.3657	-0.5113	0.3493
1.0D + 1.0W 60 mph Wind at Normal To Face	40.00	0.0164	0.0010	0.0422
	50.00	0.0250	0.0000	0.0553
	60.00	0.0349	-0.0025	0.0676
	70.00	0.0485	-0.0029	0.0795
	90.00	0.0815	0.0000	0.1116
	100.00	0.1021	-0.0045	0.1244
	120.00	0.1533	-0.0060	0.1652
	139.90	0.2191	-0.0589	0.2157
	150.00	0.2594	-0.1206	0.3363
	164.64	0.3221	-0.4055	0.7088
	177.14	0.3791	-0.0193	0.1853
	180.00	0.3978	-0.4045	0.9330

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	40.00	0.0173	-0.0061	0.0489
	50.00	0.0272	-0.0080	0.0627
	60.00	0.0417	0.0007	0.0786
	70.00	0.0566	-0.0110	0.0933
	90.00	0.0937	-0.0147	0.1298
	100.00	0.1196	-0.0161	0.1488
	120.00	0.1812	-0.0199	0.2025
	139.90	0.2650	-0.1285	0.2767
	150.00	0.3173	-0.2382	0.4813
	164.64	0.3978	-0.7156	1.3344
	177.14	0.4713	0.1252	0.3353
	180.00	0.4873	0.7550	0.7377
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	40.00	0.0178	-0.0085	0.0491
	50.00	0.0275	-0.0111	0.0620
	60.00	0.0411	0.0021	0.0782
	70.00	0.0560	-0.0154	0.0927
	90.00	0.0934	-0.0207	0.1275
	100.00	0.1185	-0.0230	0.1470
	120.00	0.1796	-0.0296	0.1996
	139.90	0.2620	-0.2742	0.2690
	150.00	0.3130	-0.5202	0.4672
	164.64	0.3906	-1.6099	1.1630
	177.14	0.4586	0.0148	0.3518
	180.00	0.4713	-1.6254	0.4085
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	40.00	0.0189	-0.0003	0.0508
	50.00	0.0281	0.0000	0.0661
	60.00	0.0417	-0.0028	0.0814
	70.00	0.0572	-0.0033	0.0966
	90.00	0.0971	0.0000	0.1376
	100.00	0.1228	-0.0052	0.1551
	120.00	0.1882	-0.0072	0.2132
	139.90	0.2767	-0.2042	0.2993
	150.00	0.3334	-0.4050	0.5088
	164.64	0.4254	-1.3212	1.8388
	177.14	0.5091	-0.0322	0.2864
	180.00	0.5370	-1.3241	1.2987
1.2D + 1.0Ev + 1.0Eh - Normal To Face	40.00	0.0051	0.0003	0.0098
	50.00	0.0018	0.0000	0.0098
	60.00	0.0080	-0.0005	0.0130
	70.00	0.0103	0.0006	0.0153
	90.00	0.0136	0.0000	0.0217
	100.00	0.0200	-0.0009	0.0243
	120.00	0.0296	0.0012	0.0322
	139.90	0.0428	-0.0011	0.0411
	150.00	0.0503	0.0011	0.0588
	164.64	0.0618	0.0005	0.0468
	177.14	0.0722	-0.0004	0.0458
	180.00	0.0746	0.0003	0.0495
1.2D + 1.0W 129 mph Wind at 60° From Face	40.00	0.0691	-0.0134	0.1849
	50.00	0.1065	-0.0175	0.2399
	60.00	0.1556	0.0040	0.2952
	70.00	0.2123	0.0246	0.3505
	90.00	0.3555	-0.0309	0.4839
	100.00	0.4488	-0.0326	0.5496
	120.00	0.6750	0.0547	0.7312
	139.90	0.9679	0.5727	0.9460
	150.00	1.1439	1.0942	1.5050
	164.64	1.4116	3.4134	1.9936
	177.14	1.6506	1.5166	1.1254
	180.00	1.7020	3.9312	2.7181

1.2D + 1.0W 129 mph Wind at 90° From Face	40.00	0.0705	-0.0243	0.1855
	50.00	0.1062	-0.0317	0.2387
	60.00	0.1552	0.0078	0.2962
	70.00	0.2121	-0.0442	0.3507
	90.00	0.3553	-0.0591	0.4790
	100.00	0.4481	-0.0646	0.5479
	120.00	0.6734	-0.0783	0.7283
	139.90	0.9663	-0.4341	0.9337
	150.00	1.1400	-0.7929	1.4804
	164.64	1.4022	-2.3699	1.0786
	177.14	1.6333	0.0659	1.2271
	180.00	1.6746	-2.4046	1.6221
1.2D + 1.0W 129 mph Wind at Normal To Face	40.00	0.0734	0.0046	0.1912
	50.00	0.1124	0.0000	0.2513
	60.00	0.1585	-0.0115	0.3069
	70.00	0.2194	-0.0134	0.3618
	90.00	0.3693	0.0000	0.5087
	100.00	0.4633	-0.0206	0.5679
	120.00	0.6968	-0.0273	0.7559
	139.90	1.0002	-0.2685	0.9893
	150.00	1.1850	-0.5494	1.5524
	164.64	1.4730	-1.8497	3.2691
	177.14	1.7346	-0.1069	0.8487
	180.00	1.8203	-1.8455	4.3086

Last revised on March 27, 2019

Mat Foundation Design for Self Supporting Tower

			Date: 12/10/2019
Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-H
Site Name:		Structure Height (Ft.):	180
Site Nmber:	CT03241-S-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	90357	Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Analysis or Design? Analysis

Number of Tower Legs: 3 Legs

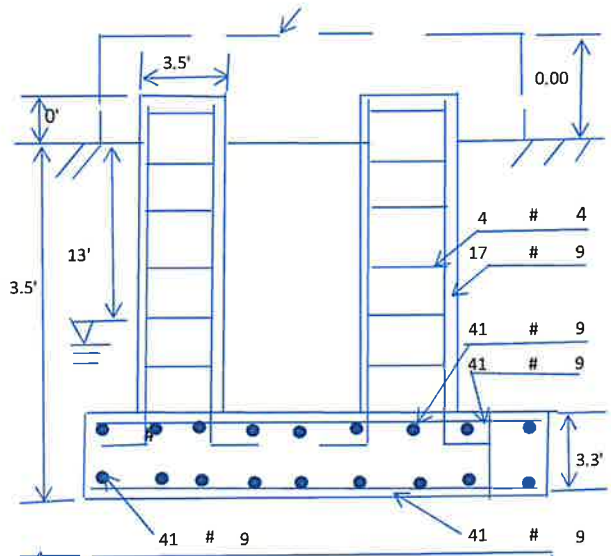
Base Reactions (Factored):

(1). Individual Leg:

Axial Load (Kips):	297.2	Uplift Force (Kips):	256.4
Shear Force (Kips):	29.6		
(2). Tower Base:			
Total Vertical Load (Kips):	53.1	Total Shear Force (Kips):	44.9
Moment (Kips-ft):	4356.7		

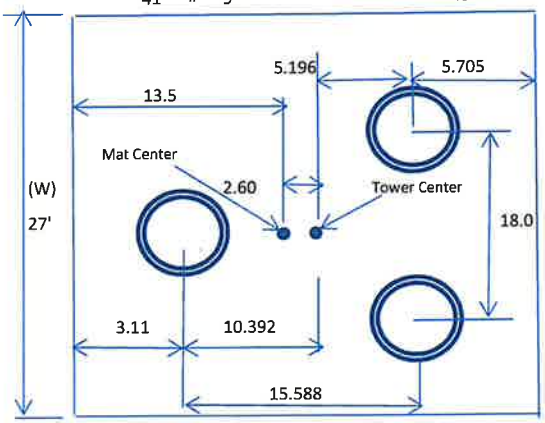
Foundation Geometries:

Leg distance (Center-to-Center ft.):		18.0	Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	Round	3.5	Pier Height A. G. (ft.):	0.00
Tower center to mat center (ft):		2.60	Depth of Base BG (ft.):	3.5
Length of Pad (ft.):		27	Width of Pad (ft.):	27
Thickness of Pad (ft):		3.25		



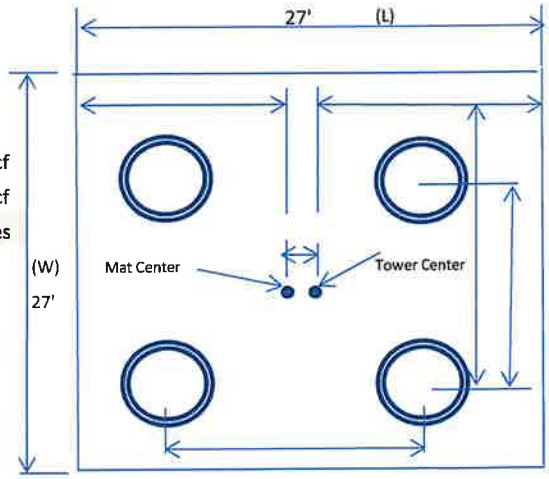
Material Properties and Reabr Info:

Concrete Strength (psi):	4500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	17	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	41	Qty. of Rebar in Pad (W):	41	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	41	Qty. of Rebar in Pad (W):	41	



Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	13.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	12000	Consider ties in concrete shear strength:	Yes	



Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	175.03	Total Dry Soil Weight (Kips):	21.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	21.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2376.61	Total Dry Concrete Weight (Kips):	356.49
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	356.49	Total Vertical Load on Base (Kips):	430.61

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3000.93	<	Allowable Factored Soil Bearing (psf):	9000	0.33	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5303.6	>	Design Factored Momont (kips-ft):	4635	0.87	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.14	OK!				

Check the capacities of Reinforceing Concrete:

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

(1) Concrete Pier:

					Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	884.3	>	Design Factored Moment (Mu, Kips-Ft):	7.5	0.01	OK!
Calculated Shear Capacity (Kips):	129.9	>	Design Factored Shear (Kips):	29.6	0.23	OK!
Calculated Tension Capacity (Tn, Kips):	918.0	>	Design Factored Tension (Tu Kips):	256.4	0.28	OK!
Calculated Compression Capacity (Pn, Kips):	2721.8	>	Design Factored Axial Load (Pu Kips):	297.2	0.11	OK!
Moment & Tension Strength Combination:	0.01	OK!	Check Tie Spacing (Design/Req'd):	1		OK!
Pier Reinforcement Ratio:	0.012	Reinforcement Ratio is satisfied per ACI				

(2).Concrete Pad:

One-Way Design Shear Capacity (L or W Direction, Kips):	1155.3	>	One-Way Factored Shear (L/W-Dir Kips)	187.9	0.16	OK!
One-Way Design Shear Capacity (Diagonal Dir., Kips):	869.3	>	One-Way Factored Shear (Dia. Dir, Kips	161.3	0.19	OK!
Lower Steel Pad Reinforcement Ratio (L or W-Direct.):	0.0036		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0033		
Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	6349.6	>	Moment at Bottom (L-Direct. K-Ft):	756.5	0.12	OK!
Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	5950.3	>	Moment at Bottom (Dia. Dir. K-Ft):	1561.5	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0036		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0033		
Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	6349.6	>	Moment at the top (L-Dir Kips-Ft):	315.9	0.05	OK!
Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	5950.3	>	Moment at the top (Dia. Dir., K-Ft):	533.3	0.09	OK!
Punching Failure Capacity From Down Load (Kips):	1735.0	>	Punch. Failure Factored Shear (K):	297.2	0.17	OK!
Punching Failure Capacity From Uplift (Kips):	1575.3	>	Punch. Failure Factored Shear (K):	256.4	0.16	OK!

(3). Check Max. eccentricity of Loading:

The maximum eccentricity of Loading:	10.80	ft.	Allowable eccentricity (0.45 W, ft.):	12.15	OK!

nexius

Mount Modification Design & Analysis Report

Property Owner	SBA Communications Corp
Structural Type	180 ft SELF-SUPPORTING TOWER
Site Address	173 SOUTH BROAD STREET PAWCATUCK, CT 06379
Site ID	N/A
Site Name	N/A
Latitude	41.369056
Longitude	-71.862361

Client	**Verizon Wireless** *118 Flanders Road, 3rd Floor* *Westborough, MA 01581*
Site Type	MACRO
Site ID	324661
Site Name	PAWCATUCK_CT
Location Code	468000
Mount Type	15 ft T-Frame Mount w/ Proposed Modifications
Elevation(s)	150.0 ft

Prepared by	Nexius Solutions, Inc. *2595 North Dallas Parkway Suite 300* *Frisco, TX 75034*
Job/Task Numbers	VZW468000A01-NX060
Rev	1
Email	structurals@nexius.com
Phone	972-581-9888
Date	01-10-2020
Result	**Pass (81 %)**

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Dear Sir / Madam:

Nexius Solutions is pleased to submit this analysis to determine the structural integrity of the referred structure.

Referenced documents used for this analysis are listed in the section DOCUMENTS & REFERENCES. This analysis has been performed in compliance with

- *2018 Connecticut State Building Code (IBC 2015 w/ State Amendments)*
- *ANSI/TIA-222-G w/ Addendums, Structural Standard for Antenna Supporting Structures and Antennas.*

Detailed design parameters are listed in Table 1. Analysis loading is detailed in Table 2

Based on our analysis we have determined the following result:

Antenna mounting structure w/ proposed modifications	**Adequate (81 %)**

Nexius Solutions appreciates the opportunity of providing continued engineering services. Should you have any questions, comments or require additional information, please do not hesitate to contact us.

Sincerely,

Prepared by:

Akshay Doddamani
Structural Engineer

Approved by:

Jiazhu Hu, P.E.
Engineering Manager
License #: 31530

Digitally signed by Jiazhu Hu, Ph.D., P.E.
DN: cn=Jiazhu Hu, Ph.D., P.E., o=Nexius, ou=Engineering, email=Jiazhu.Hu@Nexius.com, c=US
Date: 2020.01.10 12:49:27 -05'00'

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DOCUMENTS & REFERENCES

- Construction Drawings (FOR CONSTRUCTION), Location Code: 468000, Verizon Site Name: PAWCATUCK_CT, by Nexius, dated 01/10/2020.
- Mount Mapping , Location Code: 468000, Verizon Site Name: PAWCATUCK_CT, by Nexius, dated 12/19/2019.
- RFDS, Location Code: 468000, Site Name: PAWCATUCK_CT, by Verizon Wireless, dated 01/09/2020.

DESIGN STANDARDS & PARAMETERS

TABLE 1 STANDARDS & DESIGN PARAMETERS

Codes and Standards	
Building Code	2018 Connecticut State Building Code (IBC 2015 w/ State Amendments)
TIA Standard	ANSI/TIA-222-G w/ Addendums
Wind Parameters	
Ultimate Wind Speed	136 mph
Nominal Wind Speed	105 mph
Nominal Wind Speed with Ice	50 mph
Radial Ice Thickness	0.75 in
Exposure Category	C
Structure Class	II
Topographic Category	1
Seismic Design Parameters*	
S_S	0.158
S_1	0.057

* In accordance with Section 2.7.3 of TIA-222-G, seismic effects need not to be considered for site with Ss values less than 1, therefore no further seismic analysis is needed at this time.

RESULTS & RECOMMENDATIONS

Based on our analysis, it is determined that the existing antenna mounting structure w/ proposed modifications to be **adequate** to support the proposed and existing loading. See construction drawings for the proposed modifications design.

Additionally, it is required that:

- All structural components and connections should be checked for tightness and good condition prior to installing the proposed equipment.

If the site conditions are different or do not meet requirements, the analysis result would not be valid and Nexius should be notified for re-evaluation.

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LOADING

TABLE 2 LOADING

Mount Elev. ft	Ant. Ctr. Elev. ft	Qty	Description	Carrier	Mount Type	Status
150.0	150.0	**3**	**JMA MX06FRO660-03**	VERIZON WIRELESS	15 ft T-Frame Mount w/ Proposed Modifications	**Proposed**
		3	**CommScope CBC426T-DS-43**			
		3	**CommScope CBC1923T-DS-43**			
		3*	DB DB844H90-XY			Existing to Remain
		3*	Amphenol WPA-80090-4CF-EDIN-5			
		3	*Antel BXA-70063/6CF EDIN-2*			*Existing to be Removed*
		3	*RYMSA MGD5-800T2*			
		6	*RFS FD9R6004/2C-3L*			
Shelter		**3**	**CommScope CBC426T-DS-43**		**Proposed**	
		3	**CommScope CBC1923T-DS-43**			
		3	**Samsung B2/B66A RRH-BR049**			
		3	**Samsung B5/B13 RRH-BR04C**			
		3	*ALU B13 RRH 4X30*		*Existing to be Removed*	

* total three (3) placeholders

ANALYSIS

RISA-3D, a commercially available finite element method-based software package for structural analysis, was used to create a three-dimensional model of the structure and calculate member stresses for required loading cases. Selected output from the analysis is included in APPENDICES.

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Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. Mounting hardware is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorized by client). If the existing conditions are not as we have represented in this analysis, we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.
2. The structural analysis has been performed assuming that the hardware is in "like new" condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.
3. The structural analysis provided is an assessment of the primary load carrying capacity of the hardware. We provided a limited scope of service. In some cases, we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.
4. We cannot be held responsible for mounting hardware that is installed improperly or hardware that is loose or has a tendency of working loose over the lifetime of the mounting hardware. Our analysis has been performed assuming fully tightened connections, and proper installation and symmetry of the mounting hardware per manufacturer's instructions.
5. The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a mounting arrangement for all telecommunications equipment, including antennas RRH's, TMA's, RRU's, diplexers, surge protection devices, etc. Our analysis has been based upon a particular mounting arrangement. We are not responsible for deviations in the mounting arrangements that may occur over time. If deviations in equipment type or mounting arrangements are proposed, then we should be contacted to revise the recommendations of this structural report.
6. We cannot be held responsible for temporary and unbalanced loads on mounting hardware. Our analysis is based on a particular mounting arrangement or as-build field condition. We are not responsible for the methods and means of how the mounting arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.
7. Steel grade and strength is unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. It is assumed all welded connections are performed in the shop under the latest American
8. Welding Society Code. No field welds are permitted or assumed for the existing pre-manufactured equipment. In case no accurate info available, following material assumptions were used:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM 500 (GR B-46)
HSS (Round)	ASTM 500 (GR B-42)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325
U-Bolts	SAE 429 Gr.2

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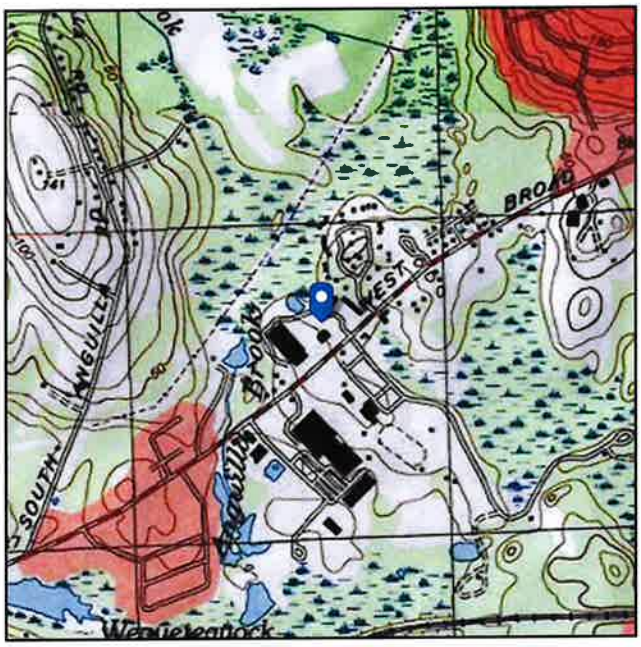
Appendix #1: Loading Parameters and Calculations

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 39.04 ft (NAVD 88)
Latitude: 41.369056
Longitude: -71.862361



Wind

Results:

Wind Speed:	136 Vmph
10-year MRI	80 Vmph
25-year MRI	90 Vmph
50-year MRI	100 Vmph
100-year MRI	111 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Thu Dec 12 2019

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 7-10 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 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.158	S_{DS} :	0.169
S_1 :	0.057	S_{D1} :	0.092
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.079
S_{MS} :	0.253	PGA_M :	0.126
S_{M1} :	0.138	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B

Data Accessed: Thu Dec 12 2019

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Dec 12 2019

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 50-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.

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Mount Analysis Loading Calculations

Site Name	PAWCATUCK_CT
Site ID	324661
Job Number	VZW468000A01
TIA-222 Code Rev.	G

Legend
Input
Calculated
Notes

Maximum Capacity		
Controlling Capacity	81.3%	PASS

Basic Parameters		
Mount Height	150	ft
Exposure Category	C	(B,C, or D)
Nominal Wind Speed	105.345147	mph
Ice Wind Speed	50	mph
Design Ice Thickness, t_i	0.75	in
Maintenance Wind Speed	30	mph
Run Earthquake Analysis?	No	

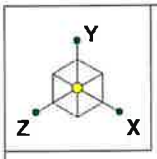
Wind Parameters		
Gust Effect Factor, G_h	1.000	2.6.9
K_z	1.378	2.6.5.2
K_{zt}	1.000	2.6.6.4
K_d	0.950	Table 2-2
I	1.000	Table 2-3
q_z	37.202	psf, 2.6.9.6
C/D	123.681	Table 2-8
t_{iz}	1.745	in, 2.6.8
q_{iz}	8.381	psf, 2.6.9.6
C/D_{iz}	58.703	Table 2-8
$q_{Maintenance}$	2.715	psf, 2.6.9.6
$C/D_{Maintenance}$	35.222	Table 2-8
Ice Dead, Grating	0.016288675	ksf

Mounting Pipes (Orientation Drawn Top-Down)			
Risa 3D Label	Elevation (ft)	Length (in)	Diameter (in)
M30	150	84	2.375
M32	150	84	2.375
M36	150	84	2.375
M34	150	84	2.375

Appurtenances					
Model	Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
AMPHENOL WPA-80090-4CF-EDIN-0	Antenna	47.5	8	5.9	12
JMA WIRELESS MX06FRO660-03	Antenna	71.3	15.4	10.7	60
COMMSCOPE CBC1923T-DS-43	RRU, TMA, Etc.	6.9	5.5	4	8.4
COMMSCOPE CBC426T-DS-43	RRU, TMA, Etc.	6	4.8	3.4	6
DB PRODUCTS DB844H90-XY	Antenna	48	6	8.5	10

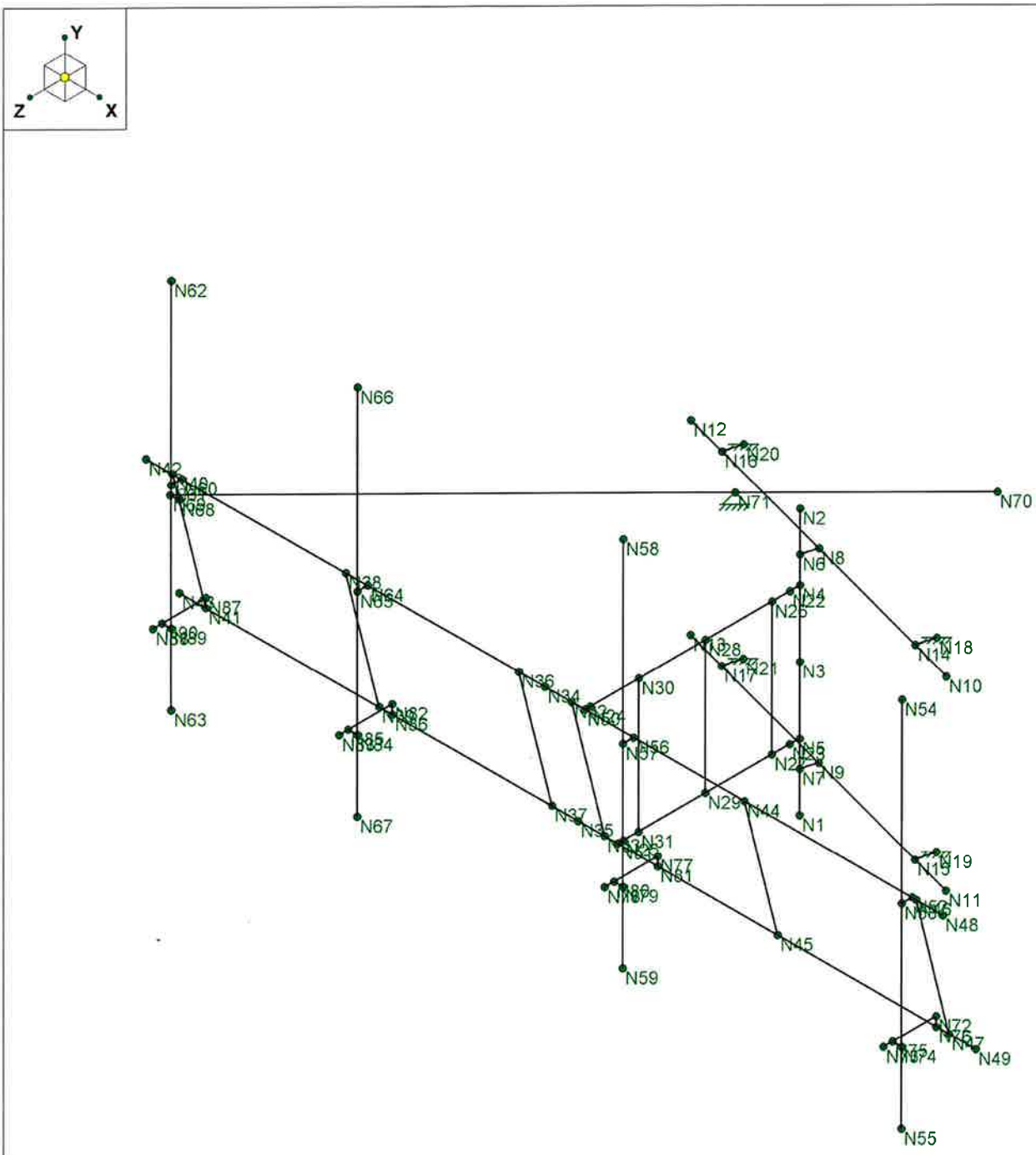
Pipe Mount	Antenna	Elevation (ft)	Quantity	Orientation (deg)	Front Exposed (%)	Side Exposed (%)	Front CaAa (ft^2)	Side CaAa (ft^2)	Front F_A (kips)	Side F_A (kips)	Top %	Bottom %
M30	AMPHENOL WPA-80090-4CF-EDIN-0	150	1	0	100.0%	100.0%	3.570	2.793	0.133	0.104	5.0%	62.0%
M36	JMA WIRELESS MX06FRO660-03	150	1	0	100.0%	100.0%	9.872	7.338	0.367	0.273	7.6%	92.4%
M36	COMMSCOPE CBC1923T-DS-43	151	1	0	100.0%	100.0%	0.316	0.230	0.012	0.009	31.6%	39.8%
M36	COMMSCOPE CBC426T-DS-43	150	1	0	100.0%	100.0%	0.240	0.170	0.009	0.006	46.4%	53.6%
M34	AMPHENOL WPA-80090-4CF-EDIN-0	150	1	0	100.0%	100.0%	3.570	2.793	0.133	0.104	5.0%	62.0%

Appendix #2: RISA-3D Output



Envelope Only Solution

Nexius	PAWCATUCK_CT	Rendered
ADB		Jan 10, 2020 at 11:37 AM
VZW468000A01_NX064		VZW468000A01_PAWCATUCK_C...



Envelope Only Solution

Nexius	PAWCATUCK_CT	Nodes
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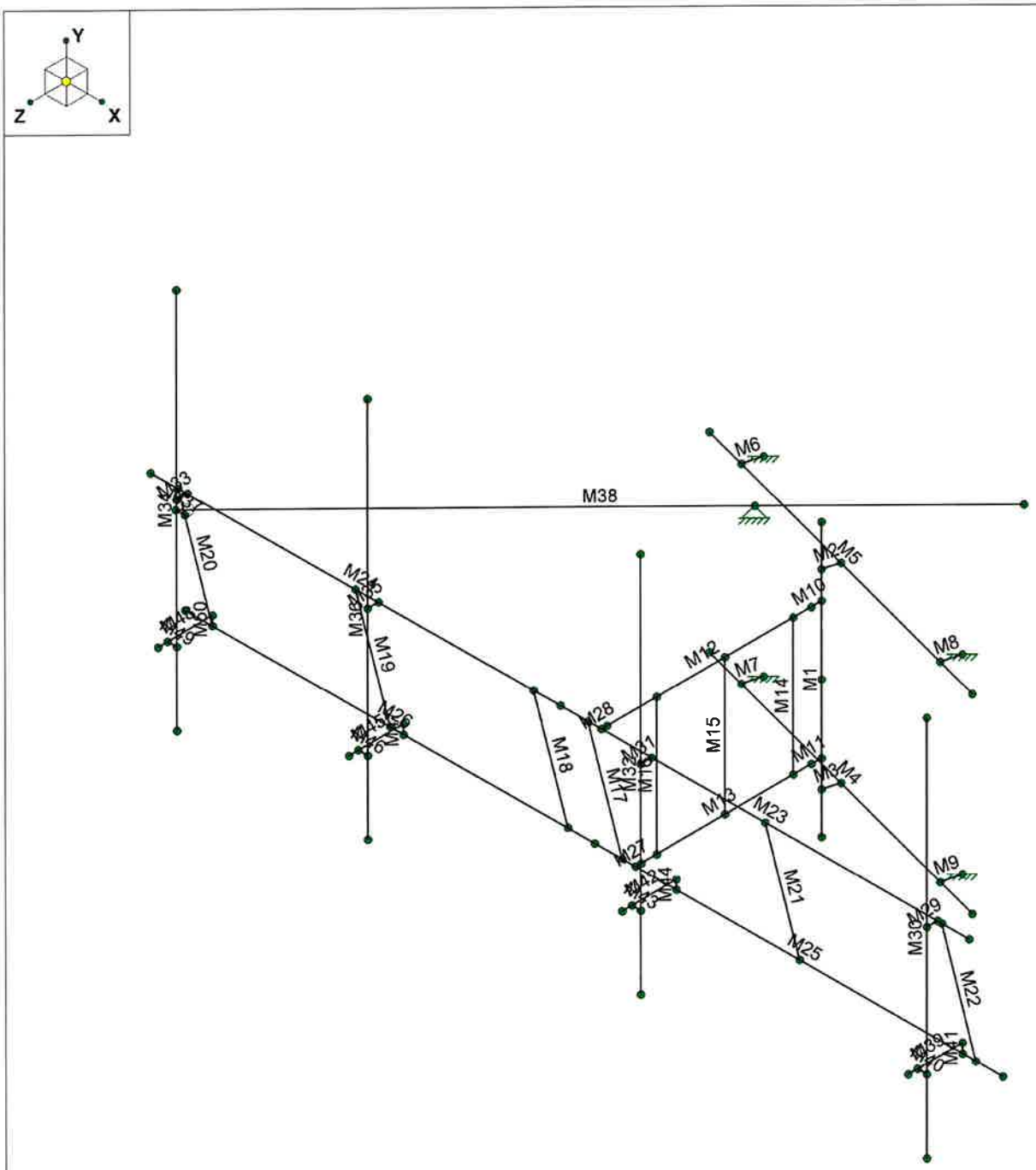

Envelope Only Solution

Nexius	PAWCATUCK_CT	Member Label
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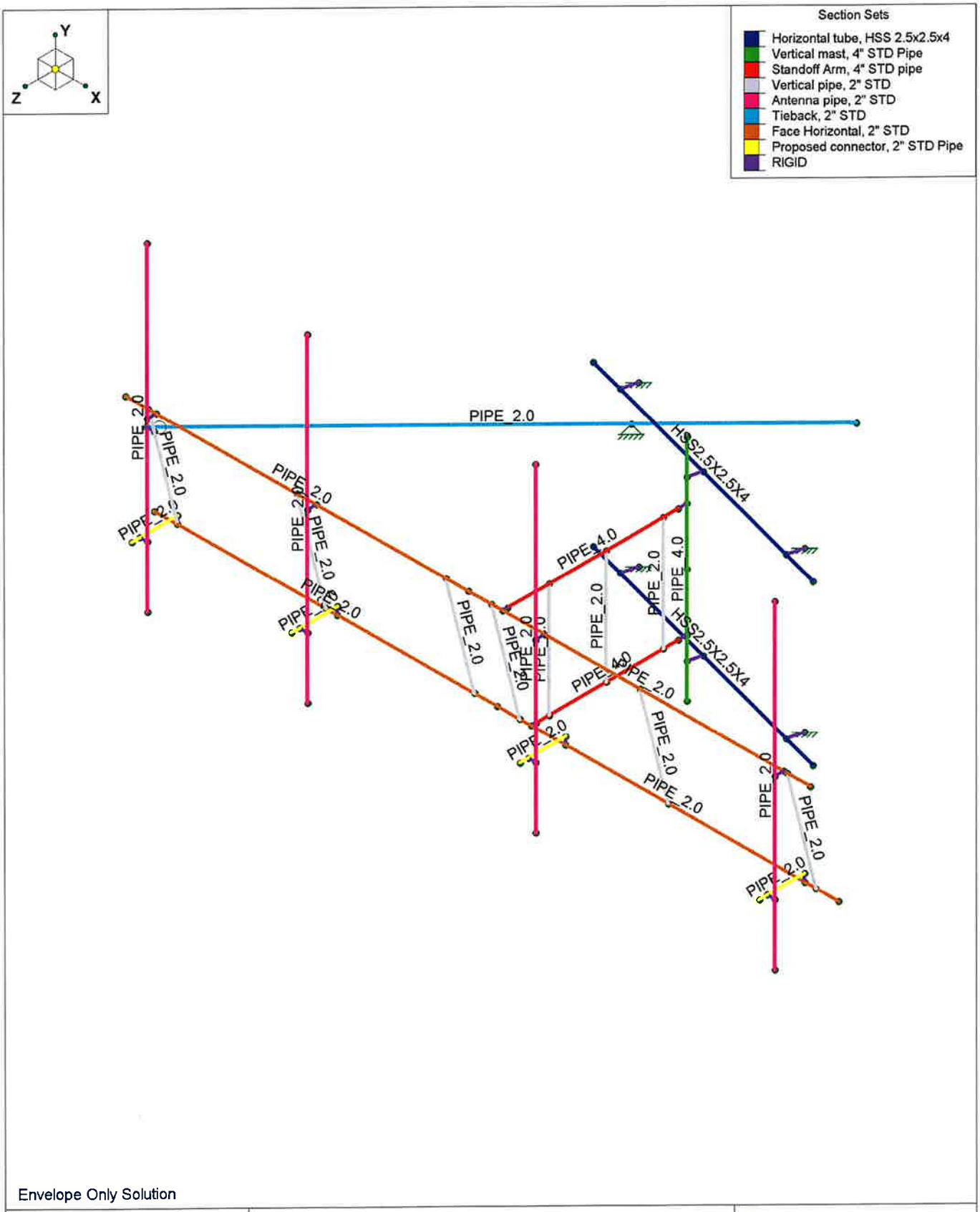

Envelope Only Solution

Nexius	PAWCATUCK_CT	Shape
ADB		Jan 10, 2020 at 11:37 AM
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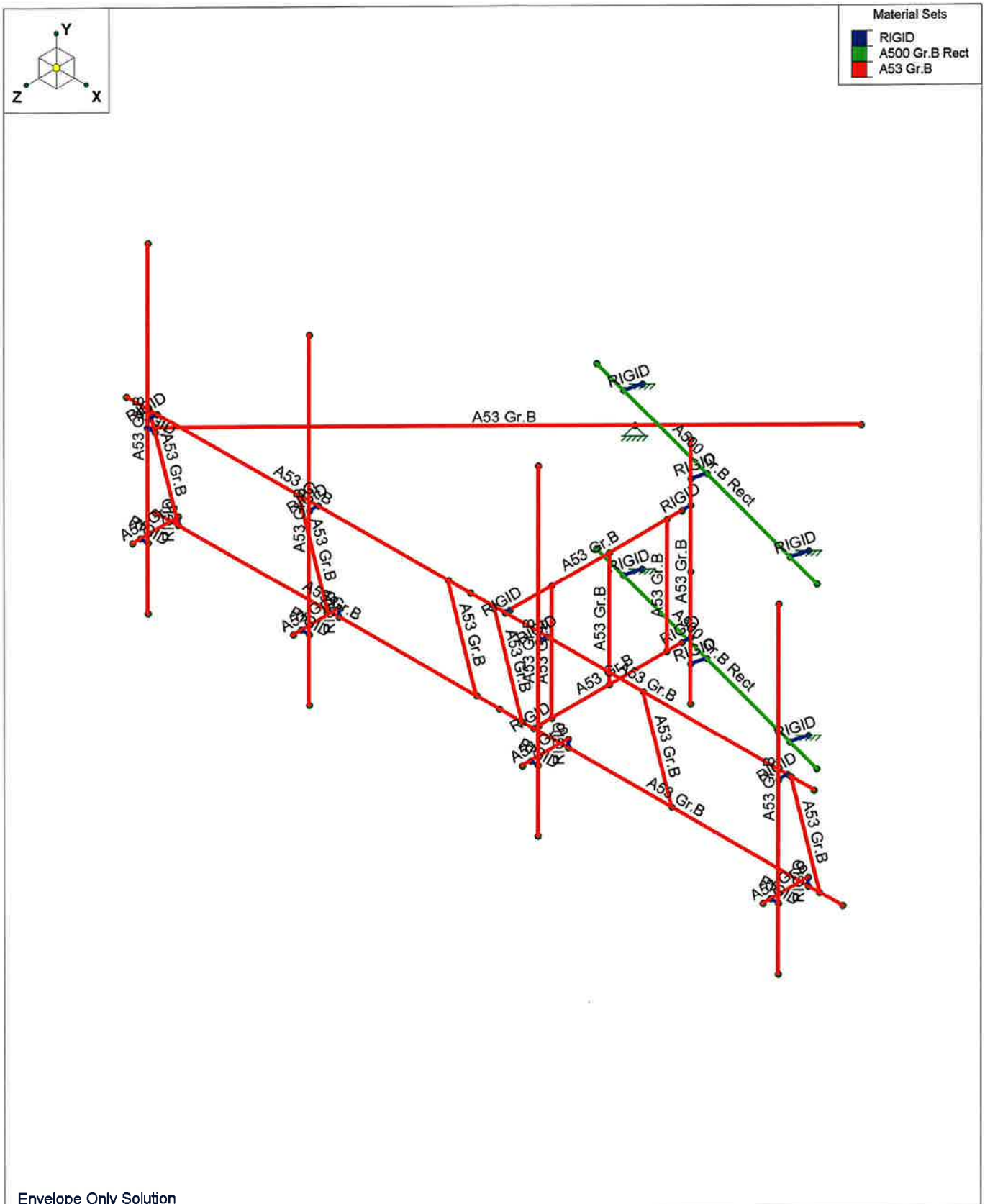

Envelope Only Solution

Nexius	PAWCATUCK_CT	Material Properties
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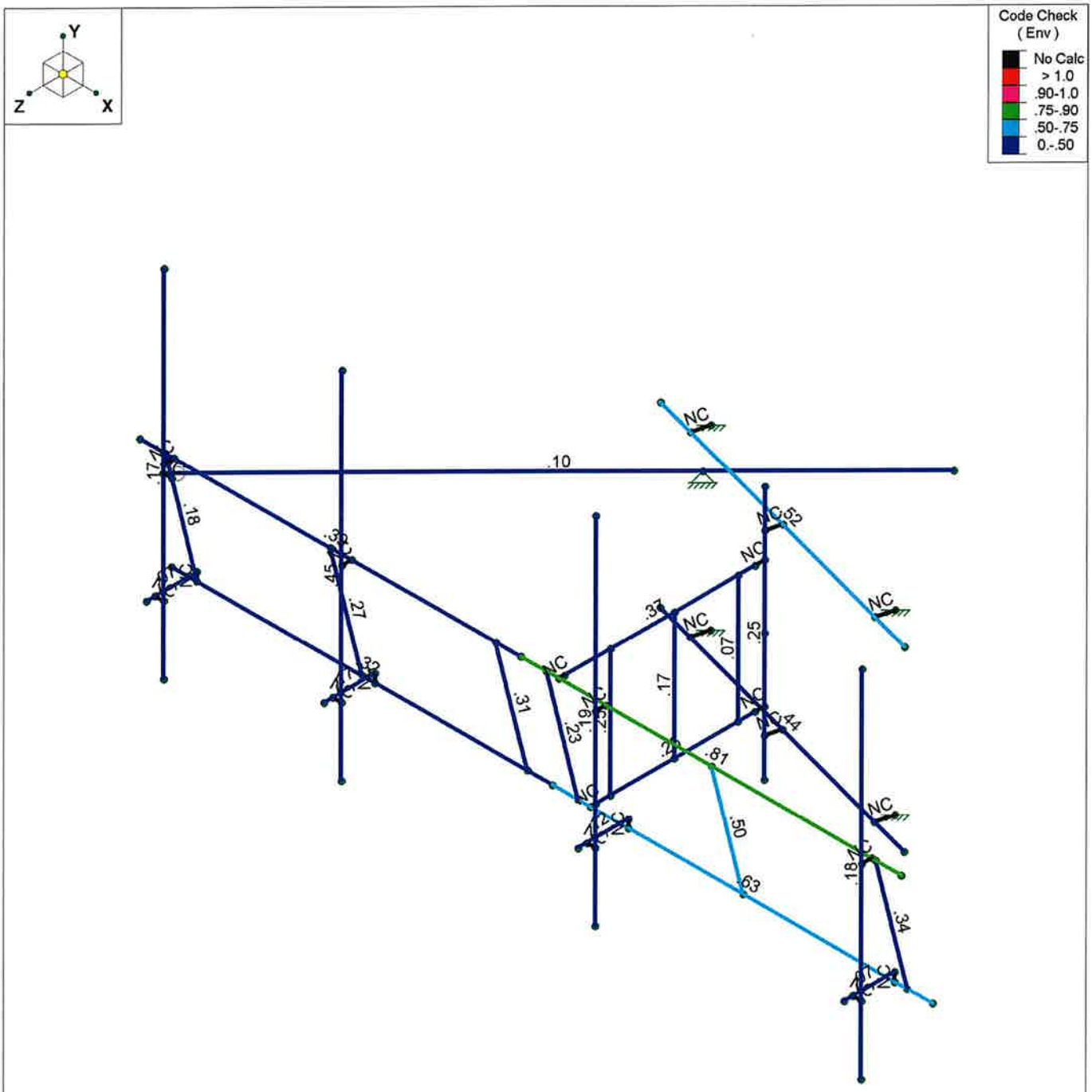

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Nexius	PAWCATUCK_CT	Ration_Flexural
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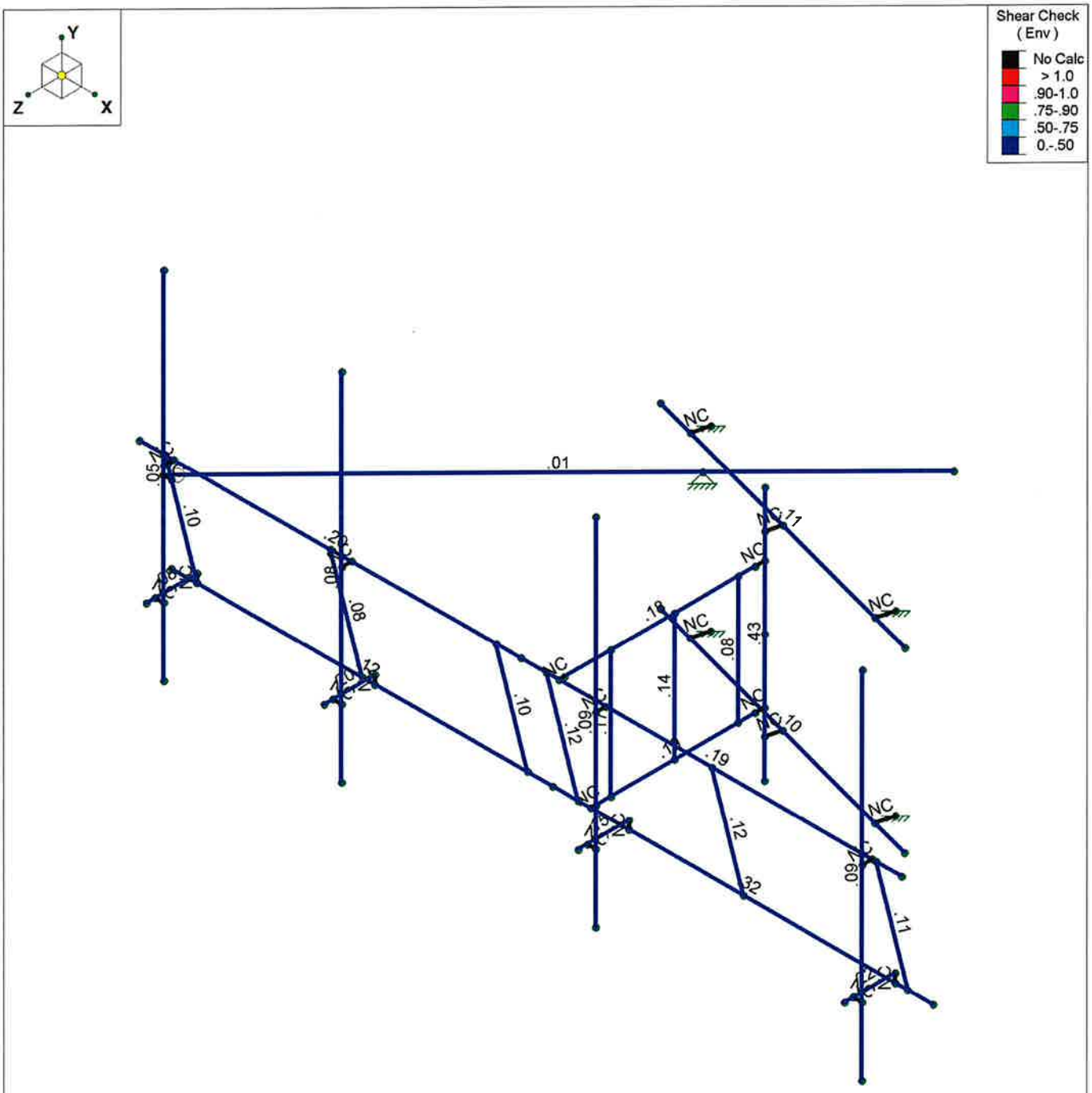

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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Hot Rolled Steel Properties

	Label	E [k...	G [k...	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	290...	111...	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr....	290...	111...	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr..	290...	111...	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr..	290...	111...	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr..	290...	111...	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	290...	111...	.3	.65	.49	35	1.6	60	1.2
7	A1085	290...	111...	.3	.65	.49	50	1.4	65	1.3
8	A913 Gr..	290...	111...	.3	.65	.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Horizontal tube, HSS 2...	HSS2.5X2.5X4	Beam	Tube	A500 Gr.B ...	Typical	1.97	1.63	1.63	2.79
2	Vertical mast, 4" STD ...	PIPE_4.0	Column	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
3	Standoff Arm, 4" STD ...	PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
4	Vertical pipe, 2" STD	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Antenna pipe, 2" STD	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Tieback, 2" STD	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Face Horizontal, 2" STD	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	Proposed connector, 2...	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	5	0	0	
3	N3	0	2.5	0	0	
4	N4	0	3.75	0	0	
5	N5	0	1.25	0	0	
6	N6	0	4.25	0	0	
7	N7	0	.75	0	0	
8	N8	0.075489	4.25	-0.281728	0	
9	N9	0.075489	.75	-0.281728	0	
10	N10	3.375735	4.25	0.60257	0	
11	N11	3.375735	.75	0.60257	0	
12	N12	-3.224758	4.25	-1.166027	0	
13	N13	-3.224758	.75	-1.166027	0	
14	N14	2.570797	4.25	0.386888	0	
15	N15	2.570797	.75	0.386888	0	
16	N16	-2.419819	4.25	-0.950344	0	
17	N17	-2.419819	.75	-0.950344	0	
18	N18	2.65707	4.25	0.064912	0	
19	N19	2.65707	.75	0.064912	0	
20	N20	-2.333546	4.25	-1.27232	0	
21	N21	-2.333546	.75	-1.27232	0	
22	N22	0	3.75	0.1875	0	
23	N23	0	1.25	0.1875	0	
24	N24	0	3.75	3.9375	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
25	N25	0	1.25	3.3125	0	
26	N26	0	3.75	0.520833	0	
27	N27	0	1.25	0.520833	0	
28	N28	0	3.75	1.770833	0	
29	N29	0	1.25	1.770833	0	
30	N30	0	3.75	3.020833	0	
31	N31	0	1.25	3.020833	0	
32	N32	-.25	3.75	4.036458	0	
33	N33	-.25	1.25	3.411458	0	
34	N34	-.75	3.75	4.036458	0	
35	N35	-.75	1.25	3.411458	0	
36	N36	-1.25	3.75	4.036458	0	
37	N37	-1.25	1.25	3.411458	0	
38	N38	-4.5	3.75	4.036458	0	
39	N39	-4.5	1.25	3.411458	0	
40	N40	-7.75	3.75	4.036458	0	
41	N41	-7.75	1.25	3.411458	0	
42	N42	-8.25	3.75	4.036458	0	
43	N43	-8.25	1.25	3.411458	0	
44	N44	3	3.75	4.036458	0	
45	N45	3	1.25	3.411458	0	
46	N46	6.25	3.75	4.036458	0	
47	N47	6.25	1.25	3.411458	0	
48	N48	6.75	3.75	4.036458	0	
49	N49	6.75	1.25	3.411458	0	
50	N50	0	3.75	4.036458	0	
51	N51	0	1.25	3.411458	0	
52	N52	6.166667	3.75	4.036458	0	
53	N53	6.166667	3.75	4.234375	0	
54	N54	6.166667	7.083333	4.234375	0	
55	N55	6.166667	0.083333	4.234375	0	
56	N56	0.916667	3.75	4.036458	0	
57	N57	0.916667	3.75	4.234375	0	
58	N58	0.916667	7.083333	4.234375	0	
59	N59	0.916667	0.083333	4.234375	0	
60	N60	-7.583333	3.75	4.036458	0	
61	N61	-7.583333	3.75	4.234375	0	
62	N62	-7.583333	7.083333	4.234375	0	
63	N63	-7.583333	0.083333	4.234375	0	
64	N64	-4.083333	3.75	4.036458	0	
65	N65	-4.083333	3.75	4.234375	0	
66	N66	-4.083333	7.083333	4.234375	0	
67	N67	-4.083333	0.083333	4.234375	0	
68	N68	-7.75	3.264929	3.915191	0	
69	N69	-7.916667	3.264929	3.915191	0	
70	N70	-0.138492	3.264929	-3.862984	0	
71	N71	-2.613366	3.264929	-1.38811	0	
72	N72	6.	1.416667	3.411458	0	
73	N73	6.	1.416667	4.411458	0	
74	N74	6.166667	1.416667	4.234375	0	
75	N75	6.	1.416667	4.234375	0	
76	N76	6.	1.25	3.411458	0	
77	N77	0.75	1.416667	3.411458	0	
78	N78	0.75	1.416667	4.411458	0	
79	N79	0.916667	1.416667	4.234375	0	
80	N80	0.75	1.416667	4.234375	0	
81	N81	0.75	1.25	3.411458	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
82	N82	-4.25	1.416667	3.411458	0	
83	N83	-4.25	1.416667	4.411458	0	
84	N84	-4.083333	1.416667	4.234375	0	
85	N85	-4.25	1.416667	4.234375	0	
86	N86	-4.25	1.25	3.411458	0	
87	N87	-7.75	1.416667	3.411458	0	
88	N88	-7.75	1.416667	4.411458	0	
89	N89	-7.583333	1.416667	4.234375	0	
90	N90	-7.75	1.416667	4.234375	0	

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Y	-.012	%33.5
2	M36	Y	-.06	%50
3	M36	Y	-.008	%35.7
4	M36	Y	-.006	%50
5	M34	Y	-.012	%33.5

Member Point Loads (BLC 2 : Ice Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Y	-.099	%33.5
2	M36	Y	-.26	%50
3	M36	Y	-.01	%35.7
4	M36	Y	-.008	%50
5	M34	Y	-.099	%33.5

Member Point Loads (BLC 3 : Full Wind Antenna (0 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.066	%5
2	M36	Z	-.184	%7.6
3	M36	Z	-.012	%35.7
4	M36	Z	-.009	%50
5	M34	Z	-.066	%5
6	M30	Z	-.066	%62
7	M36	Z	-.184	%92.4
8	M34	Z	-.066	%62

Member Point Loads (BLC 4 : Full Wind Antenna (30 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.054	%5
2	M36	Z	-.149	%7.6
3	M36	Z	-.009	%35.7
4	M36	Z	-.007	%50
5	M34	Z	-.054	%5
6	M30	Z	-.054	%62
7	M36	Z	-.149	%92.4
8	M34	Z	-.054	%62
9	M30	X	.031	%5
10	M36	X	.086	%7.6
11	M36	X	.005	%35.7
12	M36	X	.004	%50
13	M34	X	.031	%5
14	M30	X	.031	%62
15	M36	X	.086	%92.4

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
16	M34	X	.031	%62

Member Point Loads (BLC 5 : Full Wind Antenna (60 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.028	%5
2	M36	Z	-.074	%7.6
3	M36	Z	-.005	%35.7
4	M36	Z	-.003	%50
5	M34	Z	-.028	%5
6	M30	Z	-.028	%62
7	M36	Z	-.074	%92.4
8	M34	Z	-.028	%62
9	M30	X	.048	%5
10	M36	X	.128	%7.6
11	M36	X	.008	%35.7
12	M36	X	.006	%50
13	M34	X	.048	%5
14	M30	X	.048	%62
15	M36	X	.128	%92.4
16	M34	X	.048	%62

Member Point Loads (BLC 6 : Full Wind Antenna (90 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	0	%5
2	M36	Z	0	%7.6
3	M36	Z	0	%35.7
4	M36	Z	0	%50
5	M34	Z	0	%5
6	M30	Z	0	%62
7	M36	Z	0	%92.4
8	M34	Z	0	%62
9	M30	X	.052	%5
10	M36	X	.136	%7.6
11	M36	X	.009	%35.7
12	M36	X	.006	%50
13	M34	X	.052	%5
14	M30	X	.052	%62
15	M36	X	.136	%92.4
16	M34	X	.052	%62

Member Point Loads (BLC 7 : Full Wind Antenna (120 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	.028	%5
2	M36	Z	.074	%7.6
3	M36	Z	.005	%35.7
4	M36	Z	.003	%50
5	M34	Z	.028	%5
6	M30	Z	.028	%62
7	M36	Z	.074	%92.4
8	M34	Z	.028	%62
9	M30	X	.048	%5
10	M36	X	.128	%7.6
11	M36	X	.008	%35.7
12	M36	X	.006	%50
13	M34	X	.048	%5

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
14	M30	X	.048	%62
15	M36	X	.128	%92.4
16	M34	X	.048	%62

Member Point Loads (BLC 8 : Full Wind Antenna (150 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	.054	%5
2	M36	Z	.149	%7.6
3	M36	Z	.009	%35.7
4	M36	Z	.007	%50
5	M34	Z	.054	%5
6	M30	Z	.054	%62
7	M36	Z	.149	%92.4
8	M34	Z	.054	%62
9	M30	X	.031	%5
10	M36	X	.086	%7.6
11	M36	X	.005	%35.7
12	M36	X	.004	%50
13	M34	X	.031	%5
14	M30	X	.031	%62
15	M36	X	.086	%92.4
16	M34	X	.031	%62

Member Point Loads (BLC 15 : Ice Wind Antenna (0 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.022	%5
2	M36	Z	-.052	%7.6
3	M36	Z	-.007	%35.7
4	M36	Z	-.005	%50
5	M34	Z	-.022	%5
6	M30	Z	-.022	%62
7	M36	Z	-.052	%92.4
8	M34	Z	-.022	%62

Member Point Loads (BLC 16 : Ice Wind Antenna (30 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.018	%5
2	M36	Z	-.043	%7.6
3	M36	Z	-.005	%35.7
4	M36	Z	-.005	%50
5	M34	Z	-.018	%5
6	M30	Z	-.018	%62
7	M36	Z	-.043	%92.4
8	M34	Z	-.018	%62
9	M30	X	.011	%5
10	M36	X	.025	%7.6
11	M36	X	.003	%35.7
12	M36	X	.003	%50
13	M34	X	.011	%5
14	M30	X	.011	%62
15	M36	X	.025	%92.4
16	M34	X	.011	%62

Member Point Loads (BLC 17 : Ice Wind Antenna (60 Deg))

Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	-.01	%5
2	M36	Z	-.022	%7.6
3	M36	Z	-.003	%35.7
4	M36	Z	-.002	%50
5	M34	Z	-.01	%5
6	M30	Z	-.01	%62
7	M36	Z	-.022	%92.4
8	M34	Z	-.01	%62
9	M30	X	.017	%5
10	M36	X	.038	%7.6
11	M36	X	.005	%35.7
12	M36	X	.004	%50
13	M34	X	.017	%5
14	M30	X	.017	%62
15	M36	X	.038	%92.4
16	M34	X	.017	%62

Member Point Loads (BLC 18 : Ice Wind Antenna (90 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	0	%5
2	M36	Z	0	%7.6
3	M36	Z	0	%35.7
4	M36	Z	0	%50
5	M34	Z	0	%5
6	M30	Z	0	%62
7	M36	Z	0	%92.4
8	M34	Z	0	%62
9	M30	X	.019	%5
10	M36	X	.041	%7.6
11	M36	X	.005	%35.7
12	M36	X	.005	%50
13	M34	X	.019	%5
14	M30	X	.019	%62
15	M36	X	.041	%92.4
16	M34	X	.019	%62

Member Point Loads (BLC 19 : Ice Wind Antenna (120 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	.01	%5
2	M36	Z	.022	%7.6
3	M36	Z	.003	%35.7
4	M36	Z	.002	%50
5	M34	Z	.01	%5
6	M30	Z	.01	%62
7	M36	Z	.022	%92.4
8	M34	Z	.01	%62
9	M30	X	.017	%5
10	M36	X	.038	%7.6
11	M36	X	.005	%35.7
12	M36	X	.004	%50
13	M34	X	.017	%5
14	M30	X	.017	%62
15	M36	X	.038	%92.4
16	M34	X	.017	%62

Member Point Loads (BLC 20 : Ice Wind Antenna (150 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	.018	%5
2	M36	Z	.022	%7.6
3	M36	Z	.003	%35.7
4	M36	Z	.002	%50
5	M34	Z	.01	%5
6	M30	Z	.018	%62
7	M36	Z	.022	%92.4
8	M34	Z	.01	%62
9	M30	X	.011	%5
10	M36	X	.038	%7.6
11	M36	X	.005	%35.7
12	M36	X	.004	%50
13	M34	X	.017	%5
14	M30	X	.011	%62
15	M36	X	.038	%92.4
16	M34	X	.017	%62

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Z	0	%33.5
2	M36	Z	-.002	%50
3	M36	Z	0	%35.7
4	M36	Z	0	%50
5	M34	Z	0	%33.5

Member Point Loads (BLC 28 : Seismic Antenna (90 Deg))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	X	0	%33.5
2	M36	X	.002	%50
3	M36	X	0	%35.7
4	M36	X	0	%50
5	M34	X	0	%33.5

Member Point Loads (BLC 41 : Seismic Vertical Antennas)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M30	Y	-.002	%33.5
2	M36	Y	-.012	%50
3	M36	Y	-.002	%35.7
4	M36	Y	-.001	%50
5	M34	Y	-.002	%33.5

Member Distributed Loads (BLC 2 : Ice Dead)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PY	-.013	-.013	0	%100
2	M2	PY	-.004	-.004	0	%100
3	M3	PY	-.004	-.004	0	%100
4	M4	PY	-.011	-.011	0	%100
5	M5	PY	-.011	-.011	0	%100
6	M6	PY	-.004	-.004	0	%100
7	M7	PY	-.004	-.004	0	%100
8	M8	PY	-.004	-.004	0	%100
9	M9	PY	-.004	-.004	0	%100
10	M10	PY	-.004	-.004	0	%100
11	M11	PY	-.004	-.004	0	%100

Member Distributed Loads (BLC 2 : Ice Dead) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
12	M12	PY	-.013	-.013	0	%100
13	M13	PY	-.013	-.013	0	%100
14	M14	PY	-.009	-.009	0	%100
15	M15	PY	-.009	-.009	0	%100
16	M16	PY	-.009	-.009	0	%100
17	M17	PY	-.009	-.009	0	%100
18	M18	PY	-.009	-.009	0	%100
19	M19	PY	-.009	-.009	0	%100
20	M20	PY	-.009	-.009	0	%100
21	M21	PY	-.009	-.009	0	%100
22	M22	PY	-.009	-.009	0	%100
23	M23	PY	-.009	-.009	0	%100
24	M24	PY	-.009	-.009	0	%100
25	M25	PY	-.009	-.009	0	%100
26	M26	PY	-.009	-.009	0	%100
27	M27	PY	-.004	-.004	0	%100
28	M28	PY	-.004	-.004	0	%100
29	M29	PY	-.004	-.004	0	%100
30	M30	PY	-.009	-.009	0	%100
31	M31	PY	-.004	-.004	0	%100
32	M32	PY	-.009	-.009	0	%100
33	M33	PY	-.004	-.004	0	%100
34	M34	PY	-.009	-.009	0	%100
35	M35	PY	-.004	-.004	0	%100
36	M36	PY	-.009	-.009	0	%100
37	M37	PY	-.004	-.004	0	%100
38	M38	PY	-.009	-.009	0	%100
39	M39	PY	-.009	-.009	0	%100
40	M40	PY	-.004	-.004	0	%100
41	M41	PY	-.004	-.004	0	%100
42	M42	PY	-.009	-.009	0	%100
43	M43	PY	-.004	-.004	0	%100
44	M44	PY	-.004	-.004	0	%100
45	M45	PY	-.009	-.009	0	%100
46	M46	PY	-.004	-.004	0	%100
47	M47	PY	-.004	-.004	0	%100
48	M48	PY	-.009	-.009	0	%100
49	M49	PY	-.004	-.004	0	%100
50	M50	PY	-.004	-.004	0	%100

Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	-.017	-.017	0	%100
2	M4	PZ	-.014	-.014	0	%100
3	M5	PZ	-.014	-.014	0	%100
4	M12	PZ	0	0	0	%100
5	M13	PZ	0	0	0	%100
6	M14	PZ	-.009	-.009	0	%100
7	M15	PZ	-.009	-.009	0	%100
8	M16	PZ	-.009	-.009	0	%100
9	M17	PZ	-.009	-.009	0	%100
10	M18	PZ	-.009	-.009	0	%100
11	M19	PZ	-.009	-.009	0	%100
12	M20	PZ	-.009	-.009	0	%100
13	M21	PZ	-.009	-.009	0	%100
14	M22	PZ	-.009	-.009	0	%100

Member Distributed Loads (BLC 9 : Full Wind Members (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
15	M23	PZ	-.009	-.009	0	%100
16	M24	PZ	-.009	-.009	0	%100
17	M25	PZ	-.009	-.009	0	%100
18	M26	PZ	-.009	-.009	0	%100
19	M30	PZ	-.009	-.009	0	%5
20	M34	PZ	-.009	-.009	0	%5
21	M36	PZ	-.009	-.009	0	%7.6
22	M38	PZ	-.004	-.004	0	%100
23	M39	PZ	0	0	0	%100
24	M42	PZ	0	0	0	%100
25	M45	PZ	0	0	0	%100
26	M48	PZ	0	0	0	%100
27	M30	PZ	-.009	-.009	%62	%100
28	M32	PZ	-.009	-.009	0	%100
29	M34	PZ	-.009	-.009	%62	%100
30	M36	PZ	-.009	-.009	%92.4	%100
31	M1	PX	0	0	0	%100
32	M4	PX	0	0	0	%100
33	M5	PX	0	0	0	%100
34	M12	PX	0	0	0	%100
35	M13	PX	0	0	0	%100
36	M14	PX	0	0	0	%100
37	M15	PX	0	0	0	%100
38	M16	PX	0	0	0	%100
39	M17	PX	0	0	0	%100
40	M18	PX	0	0	0	%100
41	M19	PX	0	0	0	%100
42	M20	PX	0	0	0	%100
43	M21	PX	0	0	0	%100
44	M22	PX	0	0	0	%100
45	M23	PX	0	0	0	%100
46	M24	PX	0	0	0	%100
47	M25	PX	0	0	0	%100
48	M26	PX	0	0	0	%100
49	M30	PX	0	0	0	%100
50	M34	PX	0	0	0	%100
51	M36	PX	0	0	0	%100
52	M38	PX	0	0	0	%100
53	M39	PX	0	0	0	%100
54	M42	PX	0	0	0	%100
55	M45	PX	0	0	0	%100
56	M48	PX	0	0	0	%100
57	M32	PX	0	0	0	%100

Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	-.014	-.014	0	%100
2	M4	PZ	-.013	-.013	0	%100
3	M5	PZ	-.013	-.013	0	%100
4	M12	PZ	-.004	-.004	0	%100
5	M13	PZ	-.004	-.004	0	%100
6	M14	PZ	-.008	-.008	0	%100
7	M15	PZ	-.008	-.008	0	%100
8	M16	PZ	-.008	-.008	0	%100
9	M17	PZ	-.007	-.007	0	%100
10	M18	PZ	-.007	-.007	0	%100

Member Distributed Loads (BLC 10 : Full Wind Members (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
11	M19	PZ	-.007	-.007	0	%100
12	M20	PZ	-.007	-.007	0	%100
13	M21	PZ	-.007	-.007	0	%100
14	M22	PZ	-.007	-.007	0	%100
15	M23	PZ	-.006	-.006	0	%100
16	M24	PZ	-.006	-.006	0	%100
17	M25	PZ	-.006	-.006	0	%100
18	M26	PZ	-.006	-.006	0	%100
19	M30	PZ	-.008	-.008	0	%5
20	M34	PZ	-.008	-.008	0	%5
21	M36	PZ	-.008	-.008	0	%7.6
22	M38	PZ	-.001	-.001	0	%100
23	M39	PZ	-.002	-.002	0	%100
24	M42	PZ	-.002	-.002	0	%100
25	M45	PZ	-.002	-.002	0	%100
26	M48	PZ	-.002	-.002	0	%100
27	M30	PZ	-.008	-.008	%62	%100
28	M32	PZ	-.008	-.008	0	%100
29	M34	PZ	-.008	-.008	%62	%100
30	M36	PZ	-.008	-.008	%92.4	%100
31	M1	PX	.008	.008	0	%100
32	M4	PX	.007	.007	0	%100
33	M5	PX	.007	.007	0	%100
34	M12	PX	.002	.002	0	%100
35	M13	PX	.002	.002	0	%100
36	M14	PX	.004	.004	0	%100
37	M15	PX	.004	.004	0	%100
38	M16	PX	.004	.004	0	%100
39	M17	PX	.004	.004	0	%100
40	M18	PX	.004	.004	0	%100
41	M19	PX	.004	.004	0	%100
42	M20	PX	.004	.004	0	%100
43	M21	PX	.004	.004	0	%100
44	M22	PX	.004	.004	0	%100
45	M23	PX	.003	.003	0	%100
46	M24	PX	.003	.003	0	%100
47	M25	PX	.003	.003	0	%100
48	M26	PX	.003	.003	0	%100
49	M30	PX	.004	.004	0	%100
50	M34	PX	.004	.004	0	%100
51	M36	PX	.004	.004	0	%100
52	M38	PX	0	0	0	%100
53	M39	PX	.001	.001	0	%100
54	M42	PX	.001	.001	0	%100
55	M45	PX	.001	.001	0	%100
56	M48	PX	.001	.001	0	%100
57	M32	PX	.004	.004	0	%100

Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	-.008	-.008	0	%100
2	M4	PZ	-.004	-.004	0	%100
3	M5	PZ	-.004	-.004	0	%100
4	M12	PZ	-.006	-.006	0	%100
5	M13	PZ	-.006	-.006	0	%100
6	M14	PZ	-.004	-.004	0	%100

Member Distributed Loads (BLC 11 : Full Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
7	M15	PZ	-.004	-.004	0	%100
8	M16	PZ	-.004	-.004	0	%100
9	M17	PZ	-.004	-.004	0	%100
10	M18	PZ	-.004	-.004	0	%100
11	M19	PZ	-.004	-.004	0	%100
12	M20	PZ	-.004	-.004	0	%100
13	M21	PZ	-.004	-.004	0	%100
14	M22	PZ	-.004	-.004	0	%100
15	M23	PZ	-.001	-.001	0	%100
16	M24	PZ	-.001	-.001	0	%100
17	M25	PZ	-.001	-.001	0	%100
18	M26	PZ	-.001	-.001	0	%100
19	M30	PZ	-.004	-.004	0	%5
20	M34	PZ	-.004	-.004	0	%5
21	M36	PZ	-.004	-.004	0	%7.6
22	M38	PZ	0	0	0	%100
23	M39	PZ	-.003	-.003	0	%100
24	M42	PZ	-.003	-.003	0	%100
25	M45	PZ	-.003	-.003	0	%100
26	M48	PZ	-.003	-.003	0	%100
27	M30	PZ	-.004	-.004	%62	%100
28	M32	PZ	-.004	-.004	0	%100
29	M34	PZ	-.004	-.004	%62	%100
30	M36	PZ	-.004	-.004	%92.4	%100
31	M1	PX	.014	.014	0	%100
32	M4	PX	.007	.007	0	%100
33	M5	PX	.007	.007	0	%100
34	M12	PX	.011	.011	0	%100
35	M13	PX	.011	.011	0	%100
36	M14	PX	.008	.008	0	%100
37	M15	PX	.008	.008	0	%100
38	M16	PX	.008	.008	0	%100
39	M17	PX	.008	.008	0	%100
40	M18	PX	.008	.008	0	%100
41	M19	PX	.008	.008	0	%100
42	M20	PX	.008	.008	0	%100
43	M21	PX	.008	.008	0	%100
44	M22	PX	.008	.008	0	%100
45	M23	PX	.002	.002	0	%100
46	M24	PX	.002	.002	0	%100
47	M25	PX	.002	.002	0	%100
48	M26	PX	.002	.002	0	%100
49	M30	PX	.008	.008	0	%100
50	M34	PX	.008	.008	0	%100
51	M36	PX	.008	.008	0	%100
52	M38	PX	.001	.001	0	%100
53	M39	PX	.006	.006	0	%100
54	M42	PX	.006	.006	0	%100
55	M45	PX	.006	.006	0	%100
56	M48	PX	.006	.006	0	%100
57	M32	PX	.008	.008	0	%100

Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	0	0	0	%100
2	M4	PZ	0	0	0	%100

Member Distributed Loads (BLC 12 : Full Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
3	M5	PZ	0	0	0	%100
4	M12	PZ	0	0	0	%100
5	M13	PZ	0	0	0	%100
6	M14	PZ	0	0	0	%100
7	M15	PZ	0	0	0	%100
8	M16	PZ	0	0	0	%100
9	M17	PZ	0	0	0	%100
10	M18	PZ	0	0	0	%100
11	M19	PZ	0	0	0	%100
12	M20	PZ	0	0	0	%100
13	M21	PZ	0	0	0	%100
14	M22	PZ	0	0	0	%100
15	M23	PZ	0	0	0	%100
16	M24	PZ	0	0	0	%100
17	M25	PZ	0	0	0	%100
18	M26	PZ	0	0	0	%100
19	M30	PZ	0	0	0	%5
20	M34	PZ	0	0	0	%5
21	M36	PZ	0	0	0	%7.6
22	M38	PZ	0	0	0	%100
23	M39	PZ	0	0	0	%100
24	M42	PZ	0	0	0	%100
25	M45	PZ	0	0	0	%100
26	M48	PZ	0	0	0	%100
27	M30	PZ	0	0	%62	%100
28	M32	PZ	0	0	0	%100
29	M34	PZ	0	0	%62	%100
30	M36	PZ	0	0	%92.4	%100
31	M1	PX	.017	.017	0	%100
32	M4	PX	.001	.001	0	%100
33	M5	PX	.001	.001	0	%100
34	M12	PX	.017	.017	0	%100
35	M13	PX	.017	.017	0	%100
36	M14	PX	.009	.009	0	%100
37	M15	PX	.009	.009	0	%100
38	M16	PX	.009	.009	0	%100
39	M17	PX	.009	.009	0	%100
40	M18	PX	.009	.009	0	%100
41	M19	PX	.009	.009	0	%100
42	M20	PX	.009	.009	0	%100
43	M21	PX	.009	.009	0	%100
44	M22	PX	.009	.009	0	%100
45	M23	PX	0	0	0	%100
46	M24	PX	0	0	0	%100
47	M25	PX	0	0	0	%100
48	M26	PX	0	0	0	%100
49	M30	PX	.009	.009	0	%100
50	M34	PX	.009	.009	0	%100
51	M36	PX	.009	.009	0	%100
52	M38	PX	.004	.004	0	%100
53	M39	PX	.009	.009	0	%100
54	M42	PX	.009	.009	0	%100
55	M45	PX	.009	.009	0	%100
56	M48	PX	.009	.009	0	%100
57	M32	PX	.009	.009	0	%100

Member Distributed Loads (BLC 13 : Full Wind Members (120 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	.008	.008	0	%100
2	M4	PZ	.001	.001	0	%100
3	M5	PZ	.001	.001	0	%100
4	M12	PZ	.006	.006	0	%100
5	M13	PZ	.006	.006	0	%100
6	M14	PZ	.004	.004	0	%100
7	M15	PZ	.004	.004	0	%100
8	M16	PZ	.004	.004	0	%100
9	M17	PZ	.004	.004	0	%100
10	M18	PZ	.004	.004	0	%100
11	M19	PZ	.004	.004	0	%100
12	M20	PZ	.004	.004	0	%100
13	M21	PZ	.004	.004	0	%100
14	M22	PZ	.004	.004	0	%100
15	M23	PZ	.001	.001	0	%100
16	M24	PZ	.001	.001	0	%100
17	M25	PZ	.001	.001	0	%100
18	M26	PZ	.001	.001	0	%100
19	M30	PZ	.004	.004	0	%5
20	M34	PZ	.004	.004	0	%5
21	M36	PZ	.004	.004	0	%7.6
22	M38	PZ	.004	.004	0	%100
23	M39	PZ	.003	.003	0	%100
24	M42	PZ	.003	.003	0	%100
25	M45	PZ	.003	.003	0	%100
26	M48	PZ	.003	.003	0	%100
27	M30	PZ	.004	.004	%62	%100
28	M32	PZ	.004	.004	0	%100
29	M34	PZ	.004	.004	%62	%100
30	M36	PZ	.004	.004	%92.4	%100
31	M1	PX	.014	.014	0	%100
32	M4	PX	.001	.001	0	%100
33	M5	PX	.001	.001	0	%100
34	M12	PX	.011	.011	0	%100
35	M13	PX	.011	.011	0	%100
36	M14	PX	.008	.008	0	%100
37	M15	PX	.008	.008	0	%100
38	M16	PX	.008	.008	0	%100
39	M17	PX	.008	.008	0	%100
40	M18	PX	.008	.008	0	%100
41	M19	PX	.008	.008	0	%100
42	M20	PX	.008	.008	0	%100
43	M21	PX	.008	.008	0	%100
44	M22	PX	.008	.008	0	%100
45	M23	PX	.002	.002	0	%100
46	M24	PX	.002	.002	0	%100
47	M25	PX	.002	.002	0	%100
48	M26	PX	.002	.002	0	%100
49	M30	PX	.008	.008	0	%100
50	M34	PX	.008	.008	0	%100
51	M36	PX	.008	.008	0	%100
52	M38	PX	.007	.007	0	%100
53	M39	PX	.006	.006	0	%100
54	M42	PX	.006	.006	0	%100
55	M45	PX	.006	.006	0	%100
56	M48	PX	.006	.006	0	%100
57	M32	PX	.008	.008	0	%100

Member Distributed Loads (BLC 14 : Full Wind Members (150 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	.014	.014	0	%100
2	M4	PZ	.007	.007	0	%100
3	M5	PZ	.007	.007	0	%100
4	M12	PZ	.004	.004	0	%100
5	M13	PZ	.004	.004	0	%100
6	M14	PZ	.008	.008	0	%100
7	M15	PZ	.008	.008	0	%100
8	M16	PZ	.008	.008	0	%100
9	M17	PZ	.007	.007	0	%100
10	M18	PZ	.007	.007	0	%100
11	M19	PZ	.007	.007	0	%100
12	M20	PZ	.007	.007	0	%100
13	M21	PZ	.007	.007	0	%100
14	M22	PZ	.007	.007	0	%100
15	M23	PZ	.006	.006	0	%100
16	M24	PZ	.006	.006	0	%100
17	M25	PZ	.006	.006	0	%100
18	M26	PZ	.006	.006	0	%100
19	M30	PZ	.008	.008	0	%5
20	M34	PZ	.008	.008	0	%5
21	M36	PZ	.008	.008	0	%7.6
22	M38	PZ	.007	.007	0	%100
23	M39	PZ	.002	.002	0	%100
24	M42	PZ	.002	.002	0	%100
25	M45	PZ	.002	.002	0	%100
26	M48	PZ	.002	.002	0	%100
27	M30	PZ	.008	.008	%62	%100
28	M32	PZ	.008	.008	0	%100
29	M34	PZ	.008	.008	%62	%100
30	M36	PZ	.008	.008	%92.4	%100
31	M1	PX	.008	.008	0	%100
32	M4	PX	.004	.004	0	%100
33	M5	PX	.004	.004	0	%100
34	M12	PX	.002	.002	0	%100
35	M13	PX	.002	.002	0	%100
36	M14	PX	.004	.004	0	%100
37	M15	PX	.004	.004	0	%100
38	M16	PX	.004	.004	0	%100
39	M17	PX	.004	.004	0	%100
40	M18	PX	.004	.004	0	%100
41	M19	PX	.004	.004	0	%100
42	M20	PX	.004	.004	0	%100
43	M21	PX	.004	.004	0	%100
44	M22	PX	.004	.004	0	%100
45	M23	PX	.003	.003	0	%100
46	M24	PX	.003	.003	0	%100
47	M25	PX	.003	.003	0	%100
48	M26	PX	.003	.003	0	%100
49	M30	PX	.004	.004	0	%100
50	M34	PX	.004	.004	0	%100
51	M36	PX	.004	.004	0	%100
52	M38	PX	.004	.004	0	%100
53	M39	PX	.001	.001	0	%100
54	M42	PX	.001	.001	0	%100
55	M45	PX	.001	.001	0	%100
56	M48	PX	.001	.001	0	%100
57	M32	PX	.004	.004	0	%100

Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	-.007	-.007	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	-.006	-.006	0	%100
5	M5	PZ	-.006	-.006	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	0	0	0	%100
13	M13	PZ	0	0	0	%100
14	M14	PZ	-.006	-.006	0	%100
15	M15	PZ	-.006	-.006	0	%100
16	M16	PZ	-.006	-.006	0	%100
17	M17	PZ	-.006	-.006	0	%100
18	M18	PZ	-.006	-.006	0	%100
19	M19	PZ	-.006	-.006	0	%100
20	M20	PZ	-.006	-.006	0	%100
21	M21	PZ	-.006	-.006	0	%100
22	M22	PZ	-.006	-.006	0	%100
23	M23	PZ	-.005	-.005	0	%100
24	M24	PZ	-.005	-.005	0	%100
25	M25	PZ	-.005	-.005	0	%100
26	M26	PZ	-.005	-.005	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100
29	M29	PZ	0	0	0	%100
30	M30	PZ	-.005	-.005	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	-.005	-.005	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	-.005	-.005	0	%7.6
36	M37	PZ	-.008	-.008	0	%100
37	M38	PZ	-.003	-.003	0	%100
38	M39	PZ	0	0	0	%100
39	M40	PZ	-.008	-.008	0	%100
40	M41	PZ	-.013	-.013	0	%100
41	M42	PZ	0	0	0	%100
42	M43	PZ	-.008	-.008	0	%100
43	M44	PZ	-.013	-.013	0	%100
44	M45	PZ	0	0	0	%100
45	M46	PZ	-.008	-.008	0	%100
46	M47	PZ	-.013	-.013	0	%100
47	M48	PZ	0	0	0	%100
48	M49	PZ	-.008	-.008	0	%100
49	M50	PZ	-.013	-.013	0	%100
50	M30	PZ	-.005	-.005	%62	%100
51	M32	PZ	-.005	-.005	0	%100
52	M34	PZ	-.005	-.005	%62	%100
53	M36	PZ	-.005	-.005	%92.4	%100
54	M1	PX	0	0	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	0	0	0	%100

Member Distributed Loads (BLC 21 : Ice Wind Members (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
58	M5	PX	0	0	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100
65	M12	PX	0	0	0	%100
66	M13	PX	0	0	0	%100
67	M14	PX	0	0	0	%100
68	M15	PX	0	0	0	%100
69	M16	PX	0	0	0	%100
70	M17	PX	0	0	0	%100
71	M18	PX	0	0	0	%100
72	M19	PX	0	0	0	%100
73	M20	PX	0	0	0	%100
74	M21	PX	0	0	0	%100
75	M22	PX	0	0	0	%100
76	M23	PX	0	0	0	%100
77	M24	PX	0	0	0	%100
78	M25	PX	0	0	0	%100
79	M26	PX	0	0	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	0	0	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100
86	M34	PX	0	0	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	0	0	0	%100
89	M37	PX	0	0	0	%100
90	M38	PX	0	0	0	%100
91	M39	PX	0	0	0	%100
92	M40	PX	0	0	0	%100
93	M41	PX	0	0	0	%100
94	M42	PX	0	0	0	%100
95	M43	PX	0	0	0	%100
96	M44	PX	0	0	0	%100
97	M45	PX	0	0	0	%100
98	M46	PX	0	0	0	%100
99	M47	PX	0	0	0	%100
100	M48	PX	0	0	0	%100
101	M49	PX	0	0	0	%100
102	M50	PX	0	0	0	%100
103	M32	PX	0	0	0	%100

Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	-.006	-.006	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	-.005	-.005	0	%100
5	M5	PZ	-.005	-.005	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100

Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	-.001	-.001	0	%100
13	M13	PZ	-.001	-.001	0	%100
14	M14	PZ	-.005	-.005	0	%100
15	M15	PZ	-.005	-.005	0	%100
16	M16	PZ	-.005	-.005	0	%100
17	M17	PZ	-.005	-.005	0	%100
18	M18	PZ	-.005	-.005	0	%100
19	M19	PZ	-.005	-.005	0	%100
20	M20	PZ	-.005	-.005	0	%100
21	M21	PZ	-.005	-.005	0	%100
22	M22	PZ	-.005	-.005	0	%100
23	M23	PZ	-.004	-.004	0	%100
24	M24	PZ	-.004	-.004	0	%100
25	M25	PZ	-.004	-.004	0	%100
26	M26	PZ	-.004	-.004	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100
29	M29	PZ	0	0	0	%100
30	M30	PZ	-.005	-.005	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	-.005	-.005	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	-.005	-.005	0	%7.6
36	M37	PZ	-.007	-.007	0	%100
37	M38	PZ	-.001	-.001	0	%100
38	M39	PZ	0	0	0	%100
39	M40	PZ	-.007	-.007	0	%100
40	M41	PZ	-.011	-.011	0	%100
41	M42	PZ	0	0	0	%100
42	M43	PZ	-.007	-.007	0	%100
43	M44	PZ	-.011	-.011	0	%100
44	M45	PZ	0	0	0	%100
45	M46	PZ	-.007	-.007	0	%100
46	M47	PZ	-.011	-.011	0	%100
47	M48	PZ	0	0	0	%100
48	M49	PZ	-.007	-.007	0	%100
49	M50	PZ	-.011	-.011	0	%100
50	M30	PZ	-.005	-.005	%62	%100
51	M32	PZ	-.005	-.005	0	%100
52	M34	PZ	-.005	-.005	%62	%100
53	M36	PZ	-.005	-.005	%92.4	%100
54	M1	PX	.004	.004	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	.003	.003	0	%100
58	M5	PX	.003	.003	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100

Member Distributed Loads (BLC 22 : Ice Wind Members (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
65	M12	PX	0	0	0	%100
66	M13	PX	0	0	0	%100
67	M14	PX	.003	.003	0	%100
68	M15	PX	.003	.003	0	%100
69	M16	PX	.003	.003	0	%100
70	M17	PX	.003	.003	0	%100
71	M18	PX	.003	.003	0	%100
72	M19	PX	.003	.003	0	%100
73	M20	PX	.003	.003	0	%100
74	M21	PX	.003	.003	0	%100
75	M22	PX	.003	.003	0	%100
76	M23	PX	.002	.002	0	%100
77	M24	PX	.002	.002	0	%100
78	M25	PX	.002	.002	0	%100
79	M26	PX	.002	.002	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	.003	.003	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100
86	M34	PX	.003	.003	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	.003	.003	0	%100
89	M37	PX	.004	.004	0	%100
90	M38	PX	.001	.001	0	%100
91	M39	PX	0	0	0	%100
92	M40	PX	.004	.004	0	%100
93	M41	PX	.007	.007	0	%100
94	M42	PX	0	0	0	%100
95	M43	PX	.004	.004	0	%100
96	M44	PX	.007	.007	0	%100
97	M45	PX	0	0	0	%100
98	M46	PX	.004	.004	0	%100
99	M47	PX	.007	.007	0	%100
100	M48	PX	0	0	0	%100
101	M49	PX	.004	.004	0	%100
102	M50	PX	.007	.007	0	%100
103	M32	PX	.003	.003	0	%100

Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	-.004	-.004	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	-.002	-.002	0	%100
5	M5	PZ	-.002	-.002	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	-.001	-.001	0	%100
13	M13	PZ	-.001	-.001	0	%100
14	M14	PZ	-.003	-.003	0	%100

Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
15	M15	PZ	-.003	-.003	0	%100
16	M16	PZ	-.003	-.003	0	%100
17	M17	PZ	-.003	-.003	0	%100
18	M18	PZ	-.003	-.003	0	%100
19	M19	PZ	-.003	-.003	0	%100
20	M20	PZ	-.003	-.003	0	%100
21	M21	PZ	-.003	-.003	0	%100
22	M22	PZ	-.003	-.003	0	%100
23	M23	PZ	-.002	-.002	0	%100
24	M24	PZ	-.002	-.002	0	%100
25	M25	PZ	-.002	-.002	0	%100
26	M26	PZ	-.002	-.002	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100
29	M29	PZ	0	0	0	%100
30	M30	PZ	-.003	-.003	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	-.003	-.003	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	-.003	-.003	0	%7.6
36	M37	PZ	-.004	-.004	0	%100
37	M38	PZ	-.001	-.001	0	%100
38	M39	PZ	-.001	-.001	0	%100
39	M40	PZ	-.004	-.004	0	%100
40	M41	PZ	-.007	-.007	0	%100
41	M42	PZ	-.001	-.001	0	%100
42	M43	PZ	-.004	-.004	0	%100
43	M44	PZ	-.007	-.007	0	%100
44	M45	PZ	-.001	-.001	0	%100
45	M46	PZ	-.004	-.004	0	%100
46	M47	PZ	-.007	-.007	0	%100
47	M48	PZ	-.001	-.001	0	%100
48	M49	PZ	-.004	-.004	0	%100
49	M50	PZ	-.007	-.007	0	%100
50	M30	PZ	-.003	-.003	%62	%100
51	M32	PZ	-.003	-.003	0	%100
52	M34	PZ	-.003	-.003	%62	%100
53	M36	PZ	-.003	-.003	%92.4	%100
54	M1	PX	.006	.006	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	.004	.004	0	%100
58	M5	PX	.004	.004	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100
65	M12	PX	.002	.002	0	%100
66	M13	PX	.002	.002	0	%100
67	M14	PX	.005	.005	0	%100
68	M15	PX	.005	.005	0	%100
69	M16	PX	.005	.005	0	%100
70	M17	PX	.005	.005	0	%100
71	M18	PX	.005	.005	0	%100

Member Distributed Loads (BLC 23 : Ice Wind Members (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
72	M19	PX	.005	.005	0	%100
73	M20	PX	.005	.005	0	%100
74	M21	PX	.005	.005	0	%100
75	M22	PX	.005	.005	0	%100
76	M23	PX	.003	.003	0	%100
77	M24	PX	.003	.003	0	%100
78	M25	PX	.003	.003	0	%100
79	M26	PX	.003	.003	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	.005	.005	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100
86	M34	PX	.005	.005	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	.005	.005	0	%100
89	M37	PX	.007	.007	0	%100
90	M38	PX	.001	.001	0	%100
91	M39	PX	.001	.001	0	%100
92	M40	PX	.007	.007	0	%100
93	M41	PX	.011	.011	0	%100
94	M42	PX	.001	.001	0	%100
95	M43	PX	.007	.007	0	%100
96	M44	PX	.011	.011	0	%100
97	M45	PX	.001	.001	0	%100
98	M46	PX	.007	.007	0	%100
99	M47	PX	.011	.011	0	%100
100	M48	PX	.001	.001	0	%100
101	M49	PX	.007	.007	0	%100
102	M50	PX	.011	.011	0	%100
103	M32	PX	.005	.005	0	%100

Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	0	0	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	0	0	0	%100
5	M5	PZ	0	0	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	0	0	0	%100
13	M13	PZ	0	0	0	%100
14	M14	PZ	0	0	0	%100
15	M15	PZ	0	0	0	%100
16	M16	PZ	0	0	0	%100
17	M17	PZ	0	0	0	%100
18	M18	PZ	0	0	0	%100
19	M19	PZ	0	0	0	%100
20	M20	PZ	0	0	0	%100
21	M21	PZ	0	0	0	%100

Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
22	M22	PZ	0	0	0	%100
23	M23	PZ	0	0	0	%100
24	M24	PZ	0	0	0	%100
25	M25	PZ	0	0	0	%100
26	M26	PZ	0	0	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100
29	M29	PZ	0	0	0	%100
30	M30	PZ	0	0	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	0	0	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	0	0	0	%7.6
36	M37	PZ	0	0	0	%100
37	M38	PZ	0	0	0	%100
38	M39	PZ	0	0	0	%100
39	M40	PZ	0	0	0	%100
40	M41	PZ	0	0	0	%100
41	M42	PZ	0	0	0	%100
42	M43	PZ	0	0	0	%100
43	M44	PZ	0	0	0	%100
44	M45	PZ	0	0	0	%100
45	M46	PZ	0	0	0	%100
46	M47	PZ	0	0	0	%100
47	M48	PZ	0	0	0	%100
48	M49	PZ	0	0	0	%100
49	M50	PZ	0	0	0	%100
50	M30	PZ	0	0	%62	%100
51	M32	PZ	0	0	0	%100
52	M34	PZ	0	0	%62	%100
53	M36	PZ	0	0	%92.4	%100
54	M1	PX	.007	.007	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	.003	.003	0	%100
58	M5	PX	.003	.003	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100
65	M12	PX	.004	.004	0	%100
66	M13	PX	.004	.004	0	%100
67	M14	PX	.006	.006	0	%100
68	M15	PX	.006	.006	0	%100
69	M16	PX	.006	.006	0	%100
70	M17	PX	.006	.006	0	%100
71	M18	PX	.006	.006	0	%100
72	M19	PX	.006	.006	0	%100
73	M20	PX	.006	.006	0	%100
74	M21	PX	.006	.006	0	%100
75	M22	PX	.006	.006	0	%100
76	M23	PX	.003	.003	0	%100
77	M24	PX	.003	.003	0	%100
78	M25	PX	.003	.003	0	%100

Member Distributed Loads (BLC 24 : Ice Wind Members (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
79	M26	PX	.003	.003	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	.005	.005	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100
86	M34	PX	.005	.005	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	.005	.005	0	%100
89	M37	PX	.008	.008	0	%100
90	M38	PX	.003	.003	0	%100
91	M39	PX	.002	.002	0	%100
92	M40	PX	.008	.008	0	%100
93	M41	PX	.013	.013	0	%100
94	M42	PX	.002	.002	0	%100
95	M43	PX	.008	.008	0	%100
96	M44	PX	.013	.013	0	%100
97	M45	PX	.002	.002	0	%100
98	M46	PX	.008	.008	0	%100
99	M47	PX	.013	.013	0	%100
100	M48	PX	.002	.002	0	%100
101	M49	PX	.008	.008	0	%100
102	M50	PX	.013	.013	0	%100
103	M32	PX	.005	.005	0	%100

Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
1	M1	PZ	.004	.004	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	.002	.002	0	%100
5	M5	PZ	.002	.002	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	.001	.001	0	%100
13	M13	PZ	.001	.001	0	%100
14	M14	PZ	.003	.003	0	%100
15	M15	PZ	.003	.003	0	%100
16	M16	PZ	.003	.003	0	%100
17	M17	PZ	.003	.003	0	%100
18	M18	PZ	.003	.003	0	%100
19	M19	PZ	.003	.003	0	%100
20	M20	PZ	.003	.003	0	%100
21	M21	PZ	.003	.003	0	%100
22	M22	PZ	.003	.003	0	%100
23	M23	PZ	.002	.002	0	%100
24	M24	PZ	.002	.002	0	%100
25	M25	PZ	.002	.002	0	%100
26	M26	PZ	.002	.002	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100

Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
29	M29	PZ	0	0	0	%100
30	M30	PZ	.003	.003	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	.003	.003	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	.003	.003	0	%7.6
36	M37	PZ	.004	.004	0	%100
37	M38	PZ	.002	.002	0	%100
38	M39	PZ	.001	.001	0	%100
39	M40	PZ	.004	.004	0	%100
40	M41	PZ	.007	.007	0	%100
41	M42	PZ	.001	.001	0	%100
42	M43	PZ	.004	.004	0	%100
43	M44	PZ	.007	.007	0	%100
44	M45	PZ	.001	.001	0	%100
45	M46	PZ	.004	.004	0	%100
46	M47	PZ	.007	.007	0	%100
47	M48	PZ	.001	.001	0	%100
48	M49	PZ	.004	.004	0	%100
49	M50	PZ	.007	.007	0	%100
50	M30	PZ	.003	.003	%62	%100
51	M32	PZ	.003	.003	0	%100
52	M34	PZ	.003	.003	%62	%100
53	M36	PZ	.003	.003	%92.4	%100
54	M1	PX	.006	.006	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	.003	.003	0	%100
58	M5	PX	.003	.003	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100
65	M12	PX	.002	.002	0	%100
66	M13	PX	.002	.002	0	%100
67	M14	PX	.005	.005	0	%100
68	M15	PX	.005	.005	0	%100
69	M16	PX	.005	.005	0	%100
70	M17	PX	.005	.005	0	%100
71	M18	PX	.005	.005	0	%100
72	M19	PX	.005	.005	0	%100
73	M20	PX	.005	.005	0	%100
74	M21	PX	.005	.005	0	%100
75	M22	PX	.005	.005	0	%100
76	M23	PX	.003	.003	0	%100
77	M24	PX	.003	.003	0	%100
78	M25	PX	.003	.003	0	%100
79	M26	PX	.003	.003	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	.005	.005	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100

Member Distributed Loads (BLC 25 : Ice Wind Members (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
86	M34	PX	.005	.005	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	.005	.005	0	%100
89	M37	PX	.007	.007	0	%100
90	M38	PX	.003	.003	0	%100
91	M39	PX	.001	.001	0	%100
92	M40	PX	.007	.007	0	%100
93	M41	PX	.011	.011	0	%100
94	M42	PX	.001	.001	0	%100
95	M43	PX	.007	.007	0	%100
96	M44	PX	.011	.011	0	%100
97	M45	PX	.001	.001	0	%100
98	M46	PX	.007	.007	0	%100
99	M47	PX	.011	.011	0	%100
100	M48	PX	.001	.001	0	%100
101	M49	PX	.007	.007	0	%100
102	M50	PX	.011	.011	0	%100
103	M32	PX	.005	.005	0	%100

Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
1	M1	PZ	.006	.006	0	%100
2	M2	PZ	0	0	0	%100
3	M3	PZ	0	0	0	%100
4	M4	PZ	.004	.004	0	%100
5	M5	PZ	.004	.004	0	%100
6	M6	PZ	0	0	0	%100
7	M7	PZ	0	0	0	%100
8	M8	PZ	0	0	0	%100
9	M9	PZ	0	0	0	%100
10	M10	PZ	0	0	0	%100
11	M11	PZ	0	0	0	%100
12	M12	PZ	.001	.001	0	%100
13	M13	PZ	.001	.001	0	%100
14	M14	PZ	.005	.005	0	%100
15	M15	PZ	.005	.005	0	%100
16	M16	PZ	.005	.005	0	%100
17	M17	PZ	.005	.005	0	%100
18	M18	PZ	.005	.005	0	%100
19	M19	PZ	.005	.005	0	%100
20	M20	PZ	.005	.005	0	%100
21	M21	PZ	.005	.005	0	%100
22	M22	PZ	.005	.005	0	%100
23	M23	PZ	.004	.004	0	%100
24	M24	PZ	.004	.004	0	%100
25	M25	PZ	.004	.004	0	%100
26	M26	PZ	.004	.004	0	%100
27	M27	PZ	0	0	0	%100
28	M28	PZ	0	0	0	%100
29	M29	PZ	0	0	0	%100
30	M30	PZ	.005	.005	0	%5
31	M31	PZ	0	0	0	%100
32	M33	PZ	0	0	0	%100
33	M34	PZ	.005	.005	0	%5
34	M35	PZ	0	0	0	%100
35	M36	PZ	.005	.005	0	%7.6

Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,..	End Location[ft,...
36	M37	PZ	.007	.007	0	%100
37	M38	PZ	.003	.003	0	%100
38	M39	PZ	0	0	0	%100
39	M40	PZ	.007	.007	0	%100
40	M41	PZ	.011	.011	0	%100
41	M42	PZ	0	0	0	%100
42	M43	PZ	.007	.007	0	%100
43	M44	PZ	.011	.011	0	%100
44	M45	PZ	0	0	0	%100
45	M46	PZ	.007	.007	0	%100
46	M47	PZ	.011	.011	0	%100
47	M48	PZ	0	0	0	%100
48	M49	PZ	.007	.007	0	%100
49	M50	PZ	.011	.011	0	%100
50	M30	PZ	.005	.005	%62	%100
51	M32	PZ	.005	.005	0	%100
52	M34	PZ	.005	.005	%62	%100
53	M36	PZ	.005	.005	%92.4	%100
54	M1	PX	.004	.004	0	%100
55	M2	PX	0	0	0	%100
56	M3	PX	0	0	0	%100
57	M4	PX	.002	.002	0	%100
58	M5	PX	.002	.002	0	%100
59	M6	PX	0	0	0	%100
60	M7	PX	0	0	0	%100
61	M8	PX	0	0	0	%100
62	M9	PX	0	0	0	%100
63	M10	PX	0	0	0	%100
64	M11	PX	0	0	0	%100
65	M12	PX	0	0	0	%100
66	M13	PX	0	0	0	%100
67	M14	PX	.003	.003	0	%100
68	M15	PX	.003	.003	0	%100
69	M16	PX	.003	.003	0	%100
70	M17	PX	.003	.003	0	%100
71	M18	PX	.003	.003	0	%100
72	M19	PX	.003	.003	0	%100
73	M20	PX	.003	.003	0	%100
74	M21	PX	.003	.003	0	%100
75	M22	PX	.003	.003	0	%100
76	M23	PX	.002	.002	0	%100
77	M24	PX	.002	.002	0	%100
78	M25	PX	.002	.002	0	%100
79	M26	PX	.002	.002	0	%100
80	M27	PX	0	0	0	%100
81	M28	PX	0	0	0	%100
82	M29	PX	0	0	0	%100
83	M30	PX	.003	.003	0	%100
84	M31	PX	0	0	0	%100
85	M33	PX	0	0	0	%100
86	M34	PX	.003	.003	0	%100
87	M35	PX	0	0	0	%100
88	M36	PX	.003	.003	0	%100
89	M37	PX	.004	.004	0	%100
90	M38	PX	.002	.002	0	%100
91	M39	PX	0	0	0	%100
92	M40	PX	.004	.004	0	%100

Member Distributed Loads (BLC 26 : Ice Wind Members (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,F,ksf]	Start Location[ft,...	End Location[ft,...
93	M41	PX	.007	.007	0	%100
94	M42	PX	0	0	0	%100
95	M43	PX	.004	.004	0	%100
96	M44	PX	.007	.007	0	%100
97	M45	PX	0	0	0	%100
98	M46	PX	.004	.004	0	%100
99	M47	PX	.007	.007	0	%100
100	M48	PX	0	0	0	%100
101	M49	PX	.004	.004	0	%100
102	M50	PX	.007	.007	0	%100
103	M32	PX	.003	.003	0	%100

Member Area Loads

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

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead	None		-1			5			
2	Ice Dead	None					5	50		
3	Full Wind Antenna (0 Deg)	None					8			
4	Full Wind Antenna (30 Deg)	None					16			
5	Full Wind Antenna (60 Deg)	None					16			
6	Full Wind Antenna (90 Deg)	None					16			
7	Full Wind Antenna (120 Deg)	None					16			
8	Full Wind Antenna (150 Deg)	None					16			
9	Full Wind Members (0 Deg)	None						57		
10	Full Wind Members (30 Deg)	None						57		
11	Full Wind Members (60 Deg)	None						57		
12	Full Wind Members (90 Deg)	None						57		
13	Full Wind Members (120 Deg)	None						57		
14	Full Wind Members (150 Deg)	None						57		
15	Ice Wind Antenna (0 Deg)	None					8			
16	Ice Wind Antenna (30 Deg)	None					16			
17	Ice Wind Antenna (60 Deg)	None					16			
18	Ice Wind Antenna (90 Deg)	None					16			
19	Ice Wind Antenna (120 Deg)	None					16			
20	Ice Wind Antenna (150 Deg)	None					16			
21	Ice Wind Members (0 Deg)	None						103		
22	Ice Wind Members (30 Deg)	None						103		
23	Ice Wind Members (60 Deg)	None						103		
24	Ice Wind Members (90 Deg)	None						103		
25	Ice Wind Members (120 Deg)	None						103		
26	Ice Wind Members (150 Deg)	None						103		
27	Seismic Antenna (0 Deg)	None					5			
28	Seismic Antenna (90 Deg)	None					5			
29	Seismic Members (0 Deg)	None			-.03					
30	Seismic Members (30 Deg)	None	.015		-.026					
31	Seismic Members (60 Deg)	None	.026		-.015					
32	Seismic Members (90 Deg)	None	.03		-1.838e-...					
33	Seismic Members (120 Deg)	None	.026		.015					
34	Seismic Members (150 Deg)	None	.015		.026					
35	Seismic Members (180 Deg)	None	3.675e-18		.03					
36	Seismic Members (210 Deg)	None	-.015		.026					

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
37	Seismic Members (240 Deg)	None	-.026		.015					
38	Seismic Members (270 Deg)	None	-.03		5.513e-18					
39	Seismic Members (300 Deg)	None	-.026		-.015					
40	Seismic Members (330 Deg)	None	-.015		-.026					
41	Seismic Vertical Antennas	None					5			
42	Man 1 (500 lbs)	None				1				
43	Man 2 (500 lbs)	None				1				
44	Man 3 (500 lbs)	None				1				
45	Man 4 (250 lbs)	None				1				
46	Man 5 (250 lbs)	None				1				
47	Man 6 (250 lbs)	None				1				

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
1	1.4D	Yes	Y		1	1.4																		
2	1.2D + 1.6W 0°	Yes	Y		1	1.2	3	1.6	9	1.6														
3	1.2D + 1.6W 30°	Yes	Y		1	1.2	4	1.6	10	1.6														
4	1.2D + 1.6W 60°	Yes	Y		1	1.2	5	1.6	11	1.6														
5	1.2D + 1.6W 90°	Yes	Y		1	1.2	6	1.6	12	1.6														
6	1.2D + 1.6W 120°	Yes	Y		1	1.2	7	1.6	13	1.6														
7	1.2D + 1.6W 150°	Yes	Y		1	1.2	8	1.6	14	1.6														
8	1.2D + 1.6W 180°	Yes	Y		1	1.2	3	-1.6	9	-1.6														
9	1.2D + 1.6W 210°	Yes	Y		1	1.2	4	-1.6	10	-1.6														
10	1.2D + 1.6W 240°	Yes	Y		1	1.2	5	-1.6	11	-1.6														
11	1.2D + 1.6W 270°	Yes	Y		1	1.2	6	-1.6	12	-1.6														
12	1.2D + 1.6W 300°	Yes	Y		1	1.2	7	-1.6	13	-1.6														
13	1.2D + 1.6W 330°	Yes	Y		1	1.2	8	-1.6	14	-1.6														
14	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	15	1	21	1												
15	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	16	1	22	1												
16	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	17	1	23	1												
17	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	18	1	24	1												
18	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	19	1	25	1												
19	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	20	1	26	1												
20	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	15	-1	21	-1												
21	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	16	-1	22	-1												
22	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	17	-1	23	-1												
23	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	18	-1	24	-1												
24	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	19	-1	25	-1												
25	1.2D + 1.0Di + 1.0Wi ..	Yes	Y		1	1.2	2	1	20	-1	26	-1												
26	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	3	.073	9	.073	42	1.5												
27	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	4	.073	10	.073	42	1.5												
28	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	5	.073	11	.073	42	1.5												
29	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	6	.073	12	.073	42	1.5												
30	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	7	.073	13	.073	42	1.5												
31	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	8	.073	14	.073	42	1.5												
32	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	3	-.073	9	-.073	42	1.5												
33	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	4	-.073	10	-.073	42	1.5												
34	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	5	-.073	11	-.073	42	1.5												
35	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	6	-.073	12	-.073	42	1.5												
36	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	7	-.073	13	-.073	42	1.5												
37	1.2D + 1.5Lm_1 + 1.0..	Yes	Y		1	1.2	8	-.073	14	-.073	42	1.5												
38	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	3	.073	9	.073	43	1.5												
39	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	4	.073	10	.073	43	1.5												
40	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	5	.073	11	.073	43	1.5												
41	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	6	.073	12	.073	43	1.5												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
42	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	7	.073	13	.073	43	1.5												
43	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	8	.073	14	.073	43	1.5												
44	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	3	-.073	9	-.073	43	1.5												
45	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	4	-.073	10	-.073	43	1.5												
46	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	5	-.073	11	-.073	43	1.5												
47	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	6	-.073	12	-.073	43	1.5												
48	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	7	-.073	13	-.073	43	1.5												
49	1.2D + 1.5Lm_2 + 1.0..	Yes	Y		1	1.2	8	-.073	14	-.073	43	1.5												
50	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	3	.073	9	.073	44	1.5												
51	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	4	.073	10	.073	44	1.5												
52	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	5	.073	11	.073	44	1.5												
53	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	6	.073	12	.073	44	1.5												
54	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	7	.073	13	.073	44	1.5												
55	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	8	.073	14	.073	44	1.5												
56	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	3	-.073	9	-.073	44	1.5												
57	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	4	-.073	10	-.073	44	1.5												
58	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	5	-.073	11	-.073	44	1.5												
59	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	6	-.073	12	-.073	44	1.5												
60	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	7	-.073	13	-.073	44	1.5												
61	1.2D + 1.5Lm_3 + 1.0..	Yes	Y		1	1.2	8	-.073	14	-.073	44	1.5												
62	1.2D + 1.5Lv_1 0°	Yes	Y		1	1.2	45	1.5																
63	1.2D + 1.5Lv_1 30°	Yes	Y		1	1.2	45	1.5																
64	1.2D + 1.5Lv_1 60°	Yes	Y		1	1.2	45	1.5																
65	1.2D + 1.5Lv_1 90°	Yes	Y		1	1.2	45	1.5																
66	1.2D + 1.5Lv_1 120°	Yes	Y		1	1.2	45	1.5																
67	1.2D + 1.5Lv_1 150°	Yes	Y		1	1.2	45	1.5																
68	1.2D + 1.5Lv_1 180°	Yes	Y		1	1.2	45	1.5																
69	1.2D + 1.5Lv_1 210°	Yes	Y		1	1.2	45	1.5																
70	1.2D + 1.5Lv_1 240°	Yes	Y		1	1.2	45	1.5																
71	1.2D + 1.5Lv_1 270°	Yes	Y		1	1.2	45	1.5																
72	1.2D + 1.5Lv_1 300°	Yes	Y		1	1.2	45	1.5																
73	1.2D + 1.5Lv_1 330°	Yes	Y		1	1.2	45	1.5																
74	1.2D + 1.5Lv_2 0°	Yes	Y		1	1.2	46	1.5																
75	1.2D + 1.5Lv_2 30°	Yes	Y		1	1.2	46	1.5																
76	1.2D + 1.5Lv_2 60°	Yes	Y		1	1.2	46	1.5																
77	1.2D + 1.5Lv_2 90°	Yes	Y		1	1.2	46	1.5																
78	1.2D + 1.5Lv_2 120°	Yes	Y		1	1.2	46	1.5																
79	1.2D + 1.5Lv_2 150°	Yes	Y		1	1.2	46	1.5																
80	1.2D + 1.5Lv_2 180°	Yes	Y		1	1.2	46	1.5																
81	1.2D + 1.5Lv_2 210°	Yes	Y		1	1.2	46	1.5																
82	1.2D + 1.5Lv_2 240°	Yes	Y		1	1.2	46	1.5																
83	1.2D + 1.5Lv_2 270°	Yes	Y		1	1.2	46	1.5																
84	1.2D + 1.5Lv_2 300°	Yes	Y		1	1.2	46	1.5																
85	1.2D + 1.5Lv_2 330°	Yes	Y		1	1.2	46	1.5																
86	1.2D + 1.5Lv_3 0°	Yes	Y		1	1.2	47	1.5																
87	1.2D + 1.5Lv_3 30°	Yes	Y		1	1.2	47	1.5																
88	1.2D + 1.5Lv_3 60°	Yes	Y		1	1.2	47	1.5																
89	1.2D + 1.5Lv_3 90°	Yes	Y		1	1.2	47	1.5																
90	1.2D + 1.5Lv_3 120°	Yes	Y		1	1.2	47	1.5																
91	1.2D + 1.5Lv_3 150°	Yes	Y		1	1.2	47	1.5																
92	1.2D + 1.5Lv_3 180°	Yes	Y		1	1.2	47	1.5																
93	1.2D + 1.5Lv_3 210°	Yes	Y		1	1.2	47	1.5																
94	1.2D + 1.5Lv_3 240°	Yes	Y		1	1.2	47	1.5																
95	1.2D + 1.5Lv_3 270°	Yes	Y		1	1.2	47	1.5																
96	1.2D + 1.5Lv_3 300°	Yes	Y		1	1.2	47	1.5																
97	1.2D + 1.5Lv_3 330°	Yes	Y		1	1.2	47	1.5																

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N71	m...	.647	8	.11	20	.624	2	0	97	0	97	0	97
2		m...	-.589	2	.028	13	-.685	8	0	1	0	1	0	1
3	N20	m...	.535	12	.487	18	1.004	12	-.159	2	1.079	7	.448	18
4		m...	-.54	30	.151	12	-1.43	6	-.509	18	-.437	13	.152	12
5	N21	m...	.497	26	.513	24	1.169	12	-.128	4	.247	6	.467	24
6		m...	-.464	74	.112	6	-.639	6	-.529	23	-1.261	24	.124	6
7	N18	m...	1.112	12	.46	23	.8	4	-.055	3	.682	4	-.198	5
8		m...	-.908	6	.136	5	-1.416	10	-.216	22	-1.462	10	-.62	23
9	N19	m...	.646	35	.456	18	1.184	5	-.035	3	1.323	16	-.162	12
10		m...	-.621	5	.089	11	-.598	11	-.221	21	-.402	11	-.616	18
11	Totals:	m...	1.962	11	1.95	14	2.485	2						
12		m...	-1.962	5	.779	8	-2.485	8						

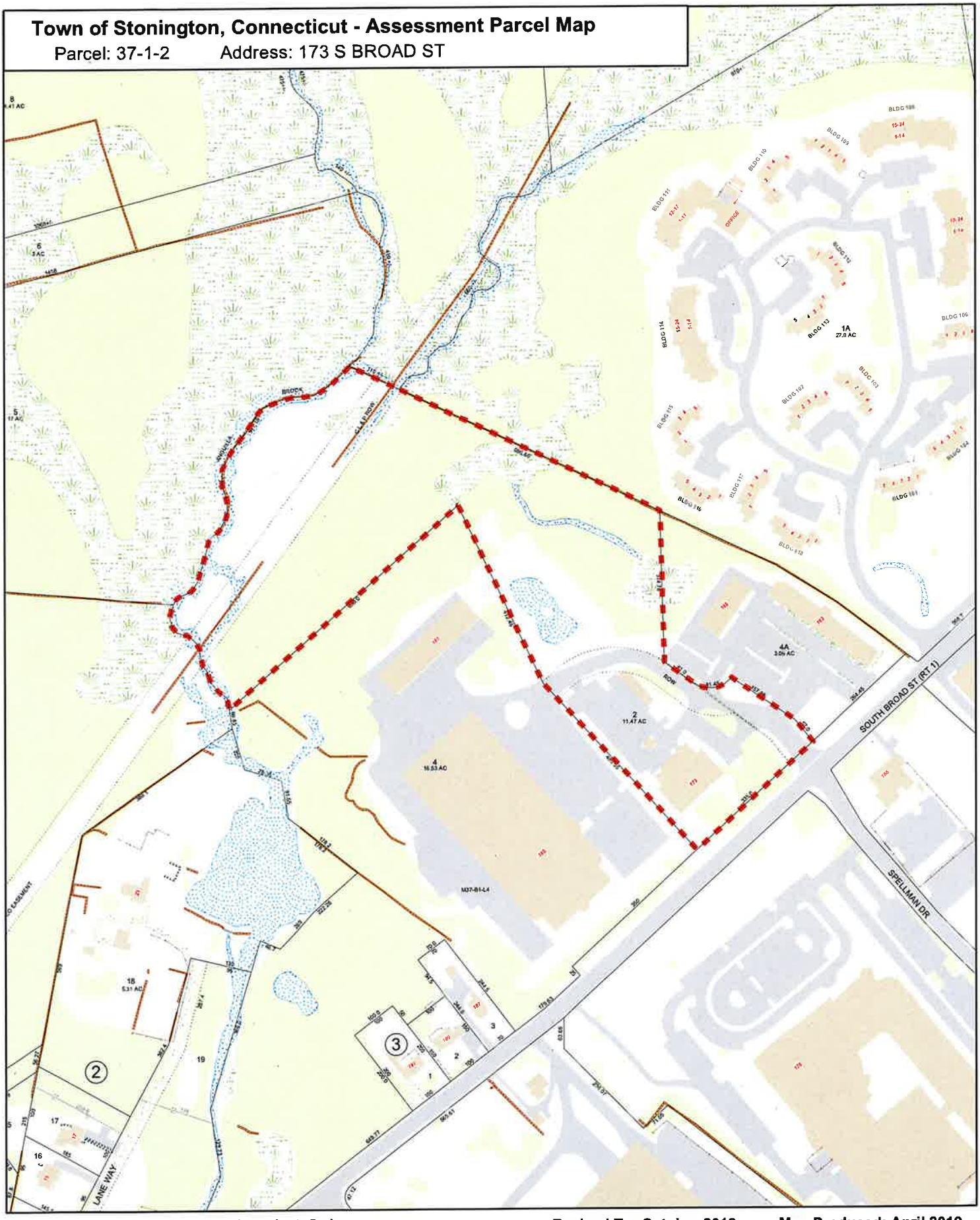
Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
1	M1	PIPE_4.0	.249	1.25	11	.432	.781		11	86.074	93.24	10.631	10.631	1....	H3-6
2	M4	HSS2.5X2.5X4	.439	3.417	5	.098	.854	z	17	47.212	81.558	5.623	5.623	1....	H1-1b
3	M5	HSS2.5X2.5X4	.519	3.417	11	.106	.854	z	22	47.212	81.558	5.623	5.623	1....	H1-1b
4	M12	PIPE_4.0	.370	0	11	.181	.352		30	89.139	93.24	10.631	10.631	2....	H1-1b
5	M13	PIPE_4.0	.254	0	5	.193	.358		30	90.372	93.24	10.631	10.631	2....	H1-1b
6	M14	PIPE_2.0	.072	2.5	14	.084	0		30	29.81	32.13	1.872	1.872	2....	H1-1b
7	M15	PIPE_2.0	.167	0	21	.142	0		30	29.81	32.13	1.872	1.872	2....	H1-1b
8	M16	PIPE_2.0	.247	0	30	.173	2.5		30	29.81	32.13	1.872	1.872	2....	H1-1b
9	M17	PIPE_2.0	.232	2.577	30	.124	2.577		30	29.671	32.13	1.872	1.872	2....	H1-1b
10	M18	PIPE_2.0	.308	0	15	.098	0		2	29.671	32.13	1.872	1.872	2....	H1-1b
11	M19	PIPE_2.0	.273	2.577	85	.080	0		85	29.671	32.13	1.872	1.872	1....	H1-1b
12	M20	PIPE_2.0	.176	.51	8	.098	.483		2	29.671	32.13	1.872	1.872	1....	H1-1b
13	M21	PIPE_2.0	.501	0	26	.125	0		26	29.671	32.13	1.872	1.872	2....	H1-1b
14	M22	PIPE_2.0	.339	2.577	27	.107	0		26	29.671	32.13	1.872	1.872	2....	H1-1b
15	M23	PIPE_2.0	.813	6.719	8	.194	6.953		22	16.369	32.13	1.872	1.872	1....	H1-1b
16	M24	PIPE_2.0	.393	3.281	8	.195	.547		8	16.369	32.13	1.872	1.872	1....	H1-1b
17	M25	PIPE_2.0	.632	6.719	8	.321	6.797		24	16.369	32.13	1.872	1.872	1....	H1-1b
18	M26	PIPE_2.0	.322	.547	25	.117	0		85	16.369	32.13	1.872	1.872	2....	H1-1b
19	M30	PIPE_2.0	.178	3.354	30	.089	3.354		27	17.855	32.13	1.872	1.872	1....	H1-1b
20	M32	PIPE_2.0	.187	3.354	46	.086	5.615		26	17.855	32.13	1.872	1.872	1....	H1-1b
21	M34	PIPE_2.0	.175	3.281	8	.052	3.354		85	17.855	32.13	1.872	1.872	1....	H1-1b
22	M36	PIPE_2.0	.454	3.281	8	.084	3.354		2	17.855	32.13	1.872	1.872	1....	H1-1b
23	M38	PIPE_2.0	.104	7.448	2	.006	7.448		25	8.129	32.13	1.872	1.872	1....	H1-1b*
24	M39	PIPE_2.0	.074	0	8	.218	0		27	31.747	32.13	1.872	1.872	2....	H1-1b
25	M42	PIPE_2.0	.119	0	22	.151	0		48	31.747	32.13	1.872	1.872	1....	H1-1b
26	M45	PIPE_2.0	.170	.823	2	.201	.823		25	31.747	32.13	1.872	1.872	1....	H1-1b
27	M48	PIPE_2.0	.074	0	8	.079	.823		85	31.747	32.13	1.872	1.872	2....	H1-1b

ATTACHMENT 4

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 37-1-2 Address: 173 S BROAD ST



Approximate Scale:

1 inch = 250 feet

0 150 300 450 600 Feet

Revised To: October 2018 **Map Produced: April 2019**

Town of Stonington, CT

Property Listing Report

Map Block Lot	37-1-2	Building #	1	Section #	1	Account	00623600

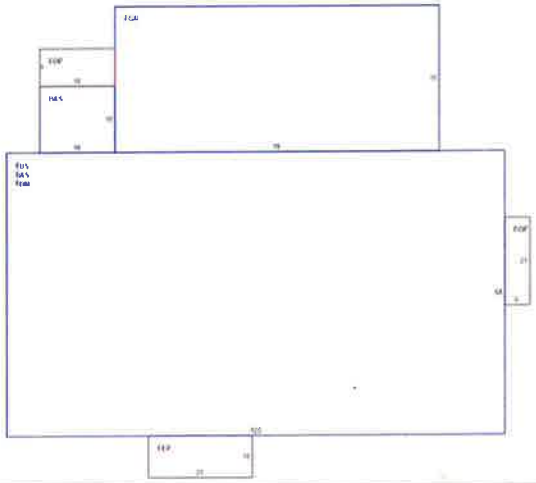
Property Information

Property Location	173 S BROAD ST
Owner	STONINGTON TOWN OF
Co-Owner	POLICE STATION
Mailing Address	152 ELM ST STONINGTON CT 06378
Land Use	9031 MUN POLICE
Land Class	E
Zoning Code	M-1
Census Tract	7051

Street Index	5000
Acreage	11.47
Utilities	
Lot Setting/Desc	Suburban
Survey Map #	NA
School District	
Fire District	Pawcatuck
Trash Day	T
Polling Place (District)	2

Photo

Sketch



Primary Construction Details

Year Built	2000
Stories	2
Building Style	Other Municip
Building Use	Ind/Comm
Building Condition	G
Occupancy	1
Extra Fixtures	
Bath Style	NA
Kitchen Style	NA
AC Type	Central
Heating Type	Forced Air-Duc
Heating Fuel	Gas

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	Flat
Roof Cover	Tar & Gravel
Interior Floors 1	Vinyl/Asphalt
Interior Floors 2	Carpet
Exterior Walls	Brick/Masonry
Exterior Walls 2	NA
Interior Walls	Drywall/Sheet
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	MUN POLICE
Building Grade	Good
Heat / AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths / Plumbing	ABOVE AVERAGE
Ceiling / Wall	SUS-CEIL & WL
Rooms / Prtns	ABOVE AVERAGE
Wall Height	10
First Floor Use	9031

Report Created On 1/3/2020

Town of Stonington, CT

Property Listing Report | Map Block Lot 37-1-2 | Building # 1 | Section # 1 | Account 00623600

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	2454200	1717900
Extras	187100	131000
Improvements		
Outbuildings	277200	194100
Land	1394200	976000
Total	4312700	3019000

Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	37018.00 S.F.
SPRINKLERS-WET	11428.00 S.F.
ELV1	3.00 UNIT
CELL TOWER	1.00 UNIT
COMM MAS	1710.00 SF
GAS TANK	1.00 UNIT
GOOD QUALITY	484.00 S.F.
LIGHTS-IN W/PL	9.00 UNITS
FENCE-6' CHAIN	400.00 L.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	8448	8448
Basement, Finished	8160	5712
Porch, Enclosed	250	0
Garage	2730	2457
Porch, Open	288	0
Upper Story, Finished	8160	8160
Total Area	28036	24777

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
STONINGTON TOWN OF	0432/0629	3/1/1999	0
STONINGTON TOWN OF	0432/0627	3/1/1999	0
OLIVERIO SAMUEL F & MARIE A	0208/0086	9/16/1974	0
OLIVERIO SAMUEL F & MARIE A	0180/0588	3/30/1971	0
OLIVERIO SAMUEL F & MARIE A	0166/0143	4/24/1968	0

Report Created On 1/3/2020

ATTACHMENT 5

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103			neopost 01/17/2020 US POSTAGE $002.79 ZIP 06103 041L12203937 USPS
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Danielle Chesebrough, First Selectman Town of Stonington 152 Elm Street Stonington, CT 06378				
2.	Keith Brynes, AICP, Acting Director of Planning Town of Stonington 152 Elm Street Stonington, CT 06378				
3.					
4.					
5.					
6.					