



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

July 27, 2020

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

RE: Notice of Exempt Modification for AT&T - 803843
200 Stanley Street, New Britain, CT 06053
Latitude: 41° 39' 16.40" / Longitude: -72° 46' 9.59"

Dear Ms. Bachman:

AT&T currently maintains twelve (12) antennas at the 193-foot mount on the existing 195-foot Monopole Tower, located at 200 Stanley Street, New Britain, CT. The property is owned by Harry and Nancy Pragl and the Tower is owned by Crown Castle. AT&T now intends to remove and replace nine (9) existing antennas with six (6) new antennas. The new antennas will be installed at the 193-ft level of the tower.

The facility was approved by the City of New Britain Planning and Zoning Board on June 7, 2001. This approval was given without conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Erin E. Stewart, First Selectwoman for the City of New Britain, David D. Zajac, Zoning Enforcement Officer, Downes Investments LLC as the property owners and Crown Castle is the tower owner.

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

Melanie A. Bachman

Page 2

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.
Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc: The Honorable Erin E. Stewart, Mayor (*via email only to mayor@newbritainct.gov*)
City of New Britain
27 West Main Street
New Britain, CT 06051

David D. Zajac, Zoning Enforcement Officer
City of New Britain
27 West Main Street, Room 404
New Britain, CT 06051

Downes Investments LLC
200 Stanley Street
New Britain, CT 06051

Crown Castle, Tower Owner

From: [Zsamba, Anne Marie](#)
To: ["mayor@newbritainct.gov"](mailto:mayor@newbritainct.gov)
Subject: Notice of Exempt Modification - 200 Stanley Street - AT&T
Date: Monday, July 27, 2020 11:47:00 AM
Attachments: [EM-AT&T-200 STANLEY STREET NEW BRITAIN-803843_notice.pdf](#)

Dear Mayor Stewart:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today July 27, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

ORIGIN ID: SCHA (518) 350-3639
ANNE MARIE ZSAMBA
CROWN CASTLE
21 HEATHER DRIVE
GANSEVOORT, NY 12831
UNITED STATES US

SHIP DATE: 27 JUL 20
ACTWGT: 1.00 LB
CAD: 104924194/IN/ET4280

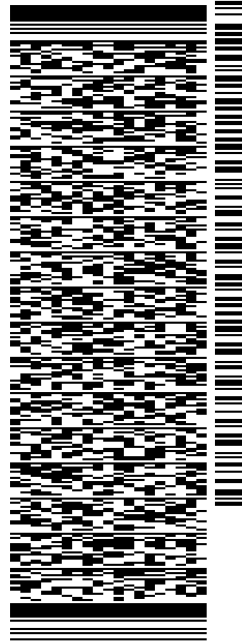
BILL SENDER

TO **DOWNES INVESTMENT LLC**

200 STANLEY STREET

NEW BRITAIN CT 06051

(518) 373-3543 REF: 1766 668
INV: DEPT:
PO:

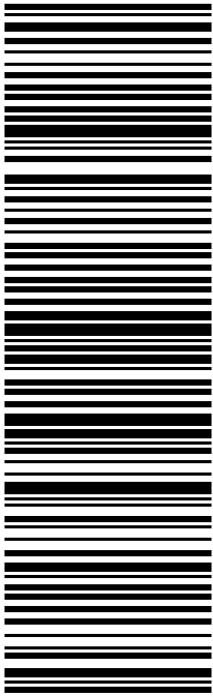


J202020070601uv

56BJ3/C6A6/B766

TRK# 7710 9739 2200
0201
TUE - 28 JUL 10:30A
PRIORITY OVERNIGHT

EB BDLA
06051
CT-US BDL



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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID: SCHA (518) 350-3639
ANNE MARIE ZSAMBRA
CROWN CASTLE
21 HEATHER DRIVE

SHIP DATE: 27 JUL 20
ACTWGT: 1.00 LB
CAD: 104924194/NET4280

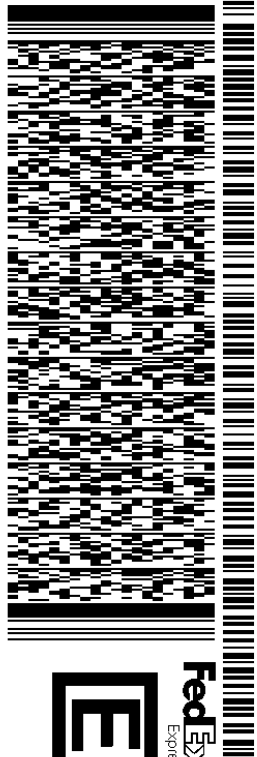
GANSEVOORT, NY 12831
UNITED STATES US

BILL SENDER

TO **DAVID D. ZAJAC, ZEO**
CITY OF NEW BRITAIN
27 WEST MAIN STREET, ROOM 404

NEW BRITAIN CT 06051

(201) 236-9224 REF: 1734.7890
INV: DEPT:
PO:



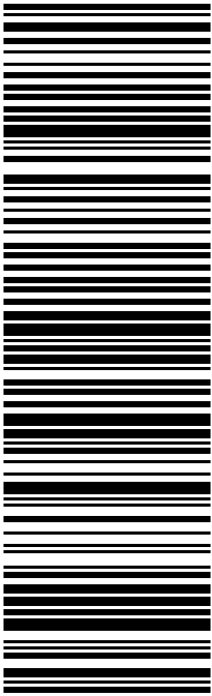
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56BJ3/C6A6/B766

TRK# 7710 9741 6748
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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Exhibit A

Original Facility Approval

Date: 10/12/01

A request has been made for a Certificate of Occupancy :

Project location: 200 STANLEY STREET (TOWER/PLATFORM)

The Final Inspection by the Building Department is scheduled on 10/17/01 at 10:00
Please adjust your inspections accordingly.

Any comments regarding corrections please forward directly to the applicant.

Applicant: CROWN CASTLE INTERNATIONAL, LLC **Tel:** 1 860 558-3178

Applicant address: 703 HEBRON AVENUE, GLASTONBURY, CT

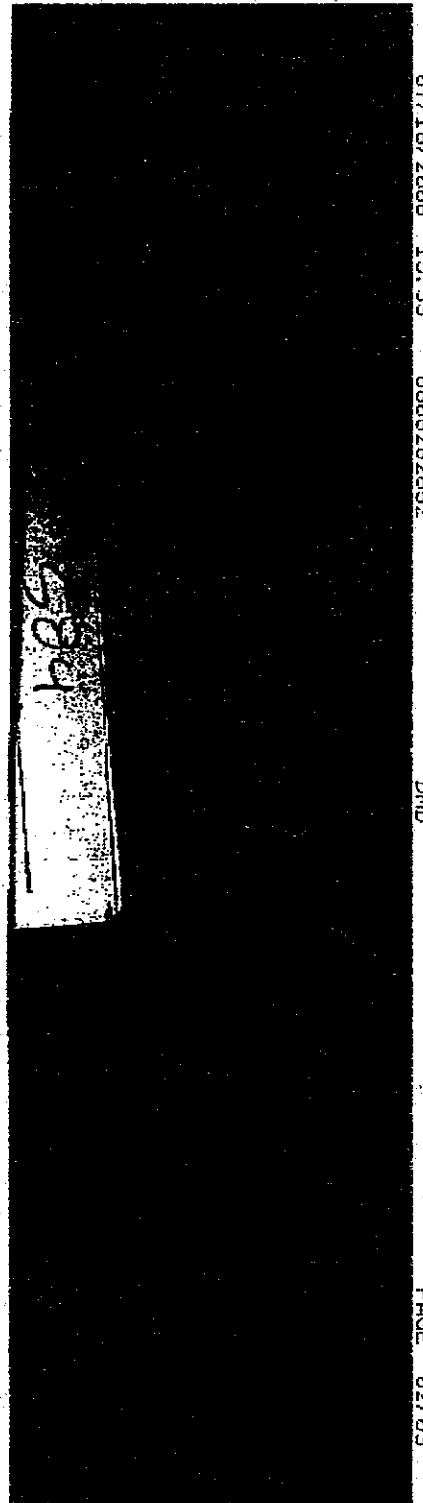
Prompt return of this form with your recommendation is greatly appreciated.
Thank you for your attention and consideration in this matter.

Recommended

C.O. T.C.O Denied

<u>Recommended</u>		<u>C.O. T.C.O Denied</u>		
<input type="checkbox"/>	James Belladonna : <i>Acting Fire Marshal</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Joseph F. Carilli, <i>Director of Public Works (PT)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Kenneth A. Malinowski <i>Director of Department of Municipal Development (SS)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Hudson Elden, Jr., <i>Director of Health Department</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CT New Britain 803843



TO: Frank M. Wiatr, Director, LP&I
FROM: Clarence Corbin, City Engineer *CC*
DATE: 7 Jun 01
RE: Site Plan Review - 200 Stanley Street - Tower

This site plan is approved as submitted.

cc: S. Schiller

Exhibit B

Property Card



Property Information

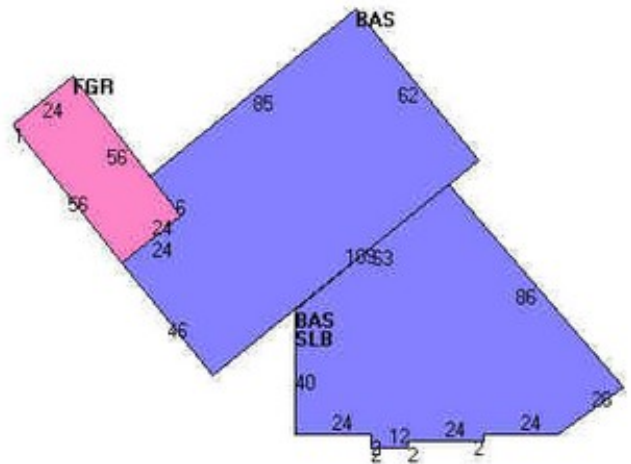
Property Location	200 STANLEY ST
Owner	DOWNES INVESTMENTS LLC
Co-Owner	
Mailing Address	200 STANLEY ST NEW BRITAIN CT 06051
Land Use	3400 Office Bld MDL-94
Land Class	C
Zoning Code	I2
Census Tract	415500

Neighborhood	107H
Acreage	2.18
Utilities	All Public
Lot Setting/Desc	Level
Fire District	
Book / Page	1827/0193

Photo



Sketch



Primary Construction Details

Year Built	1954
Building Desc.	Office Bld MDL-94
Building Style	Office
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Block/Concrete
Exterior Walls 2	NA
Roof Style	Flat
Roof Cover	T&G/Rubber
Interior Walls	Drywall
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	NA

Heating Fuel	Yes
Heating Type	99
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Rec Rm Area	0
Rec Rm Quality	NA
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Comm/Ind
Building Condition	A
Sprinkler %	NA
Heat / AC	Heat/AC Pkgs
Frame Type	Masonry
Baths / Plumbing	Average
Ceiling / Wall	Sus-Ceil & WL
Rooms / Prtns	Average
Wall Height	12.00
First Floor Use	3400
Foundation	

Exhibit C

Construction Drawings

SHEET INDEX	
NO.	DESCRIPTION
T1	TITLE PAGE
N1	GENERAL NOTES
C1	SITE PLAN
C2	EQUIPMENT LAYOUT
C3	ELEVATION VIEW AND RF SCHEDULE
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	RF PLUMBING DIAGRAM
C7	GROUNDING DETAILS

SCOPE OF WORK

- TOWER SCOPE**
- REMOVE (9) PANEL ANTENNAS
 - INSTALL (6) PANEL ANTENNAS
 - REMOVE (3) TMA
 - REMOVE (9) RRUS
 - INSTALL (6) RRUS
- GROUND SCOPE**
- ADD (1) 6630

LOCATION MAP



NOTE: COORDINATE ALL CONSTRUCTION THROUGH FCM: FRED JOYCE - FRED.JOYCE@CROWNCastle.COM
WORKING HOURS BASED ON TOWN HALL BEING OPENED. NO AFTER HOURS ACCESS.

GENERAL NOTES

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRH AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON STORMWATER DRAINAGE.
- NO SANITARY SEWER, POTABLE WATER, OR TRASH DISPOSAL SERVICE IS REQUIRED
- NO COMMERCIAL SIGNAGE IS PROPOSED

CODE COMPLIANCE

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT ADOPTED EDITIONS OF THE FOLLOWING CODES WITH ANY LOCAL AMENDMENTS BY THE LOCAL GOVERNING AUTHORITIES:
- CONNECTICUT STATE BUILDING CODE
 - 2015 INTERNATIONAL BUILDING CODE
 - 2017 NATIONAL ELECTRICAL CODE (NFPA 70)
 - LOCAL BUILDING CODES
 - CITY/COUNTY ORDINANCES
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS (AISC)
 - UNDERWRITERS LABORATORIES APPROVED ELECTRICAL PRODUCTS.
 - ANSI EIA/TIA 222 REV. H
 - TIA 607
 - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
 - IEEE C2 (LATEST EDITION)
 - TELCORDIA GR-1275
 - ANSI T1.311



SITE NUMBER
CTL05194
SITE NAME
NEW BRITIAN SE
CROWN BU
803843
FA SITE NUMBER
10091780
SITE ADDRESS
**200 STANLEY STREET
 NEW BRITAIN, CT 06053**
STRUCTURE TYPE
MONOPOLE

PROJECT SITE INFORMATION

SITE NAME: CT NEW BRITAIN 4 CAC
CROWN BU: 803843
FA SITE #: 10072455
SITE ADDRESS: 200 STANLEY STREET
 NEW BRITAIN, CT 06053
JURISDICTION: HARTFORD COUNTY
SITE COORDINATES:
LATITUDE: N 41° 39' 14.01" (41.6538919°) (NAD 83)
LONGITUDE: W 72° 46' 09.48" (-72.7692989°)(NAD 83)
APPLICANT: AT&T MOBILITY
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701
PROJECT: LTE RETROFIT ,LTE 5G NR UPGRADE, LTE RRH
 ADD
PAGE ID: MRCTB045368, MRCTB045377, MRCTB045364
RFDS: VERSION #1 - 12/03/19

STRUCTURAL ANALYSIS INFORMATION

TOWER ANALYSIS

INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF A PASSING STRUCTURAL ANALYSIS.

ANTENNA MOUNTS

INFINIGY ENGINEERING HAS NOT EVALUATED THE MOUNT LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF A PASSING STRUCTURAL ANALYSIS.

PROJECT TEAM INFORMATION

CLIENT REPRESENTATIVE: CROWN CASTLE
 3 CORPORATE PARK DRIVE, SUITE 101
 CLIFTON PARK, NY 12065
CLIENT REP. CONTACT: NICHOLAS CURRY
 NICHOLAS.CURRY@CROWNCastle.COM
ENGINEER: INFINIGY SOLUTIONS
 1033 WATERVLIET SHAKER ROAD
 ALBANY, NY 12205
ENGINEER CONTACT: ALEX WELLER
 AWELLER@INFINIGY.COM
 518-690-0790

TOWER OWNER NOTIFICATION

ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.

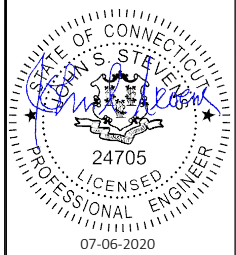
TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR www.cbyd.com

CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

**Know what's below.
Call before you dig.**



INFINIGY &
ENGINEERING, PLLC
1033 WATERVLIET SHAKER RD
 ALBANY, NY 12205

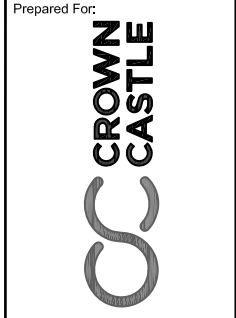


UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
1	REVISED PER COMMENTS	BMM	07/02/20
0	ISSUED FOR PERMIT	BMM	06/09/20
A	ISSUED FOR CLIENT REVIEW	BMM	05/12/20

Drawn: BMM
 Designed: ASW
 Checked: AJD
 Project Number: 406-000

Project Title:
NEW BRITIAN SE
803843
FA # 10091780
 200 STANLEY STREET
 NEW BRITAIN, CT 06053



Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
 - D. AND NFPA 101 (LIFE SAFETY CODE).
 - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
 - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
 - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
 - B. COMPANY: AT&T CORPORATION
 - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
 - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
 - A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 - A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
 - A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
 - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
 - A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
 - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
 - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
 - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
 - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
 - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
 - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

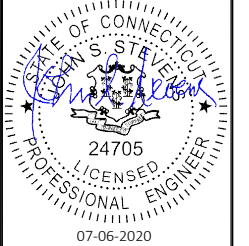
SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
	REPRESENTS DETAIL NUMBER
	REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL



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Drawn: BMM
Designed: ASW
Checked: AJD

Project Number:
406-000

Project Title:
NEW BRITAIN SE

803843

FA # 10091780

200 STANLEY STREET
NEW BRITAIN, CT 06053

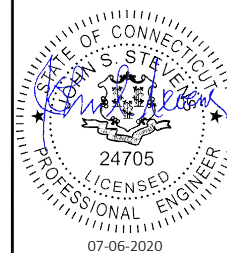
Prepared For:
CROWN CASTLE

Drawing Title
GENERAL NOTES

Drawing Number
N1



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Prepared For:

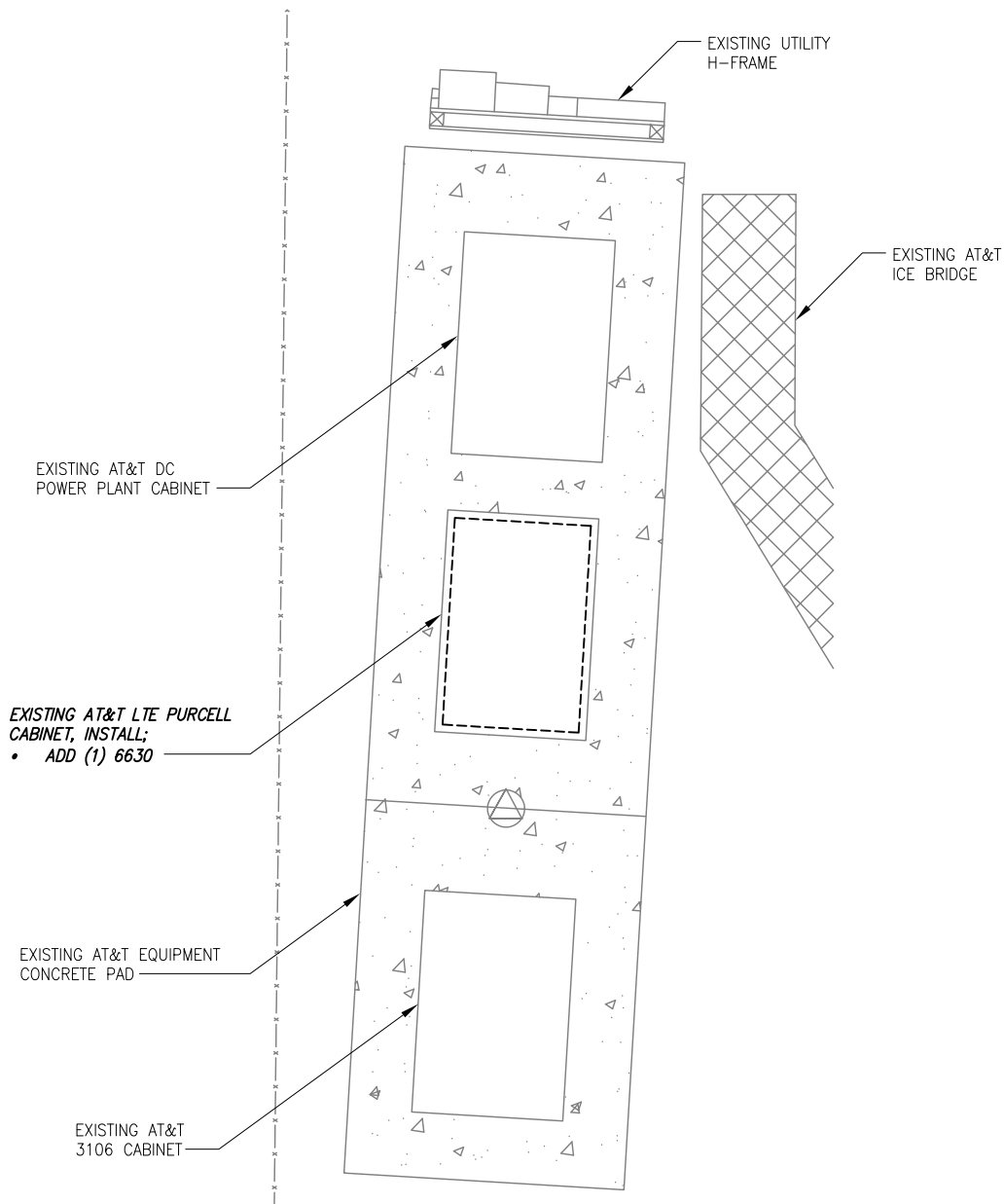


Drawing Title

**EQUIPMENT
LAYOUT**

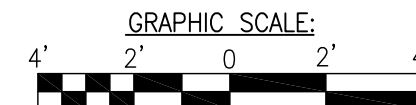
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C2

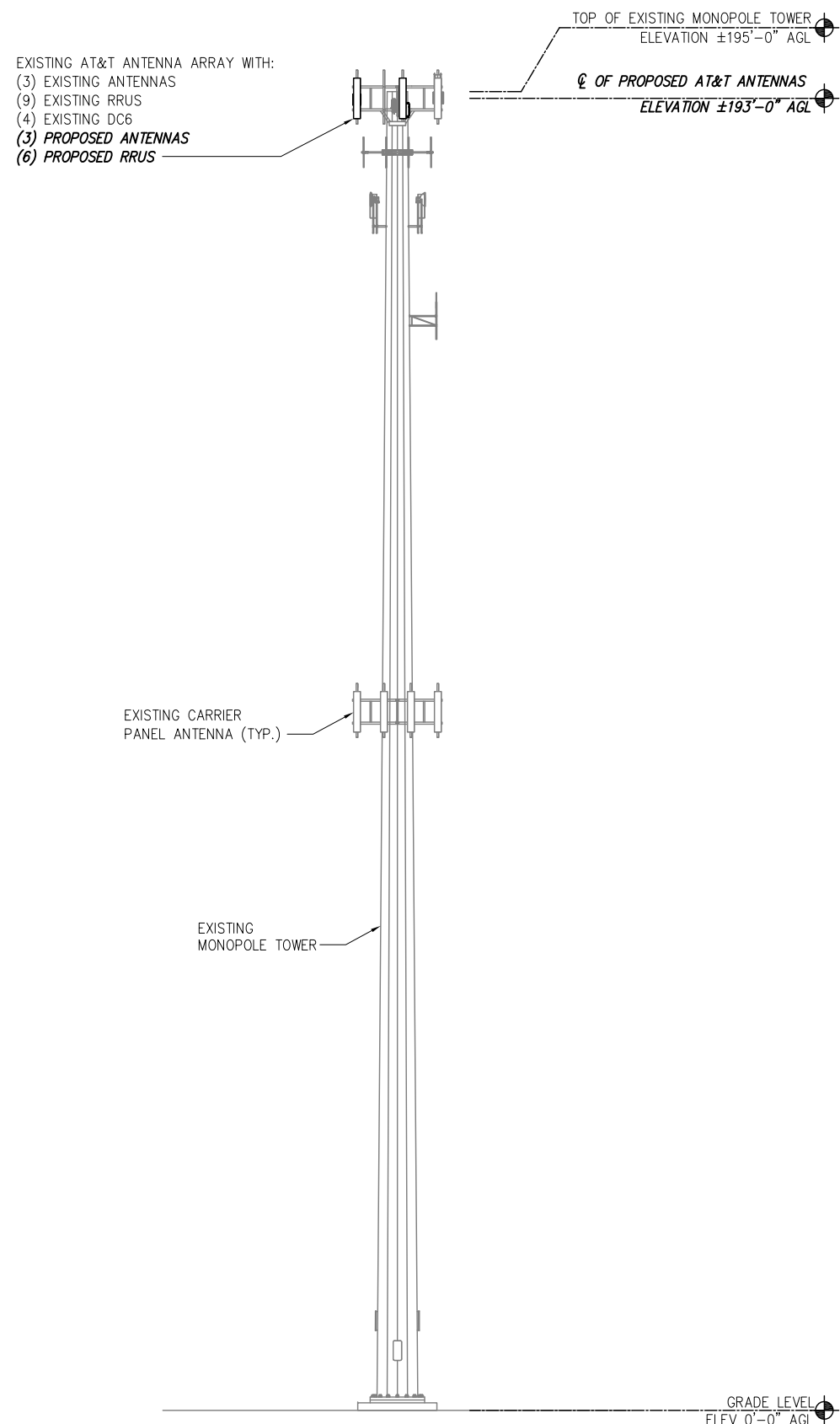


NORTH

1 EQUIPMENT LAYOUT
C2 SCALE: AS NOTED



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



1 ELEVATION VIEW
C3 SCALE: NOT TO SCALE

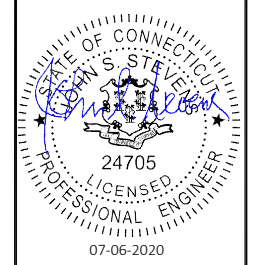
EXISTING AND PROPOSED ANTENNA, TMA AND DIPLEXER MODEL NUMBERS

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	ANTENNA HEIGHT	AZIMUTH	TMA/DIPLEXER	RRU	FEEDER	RAYCAP
ALPHA	EXISTING	UMTS 850 LTE 700 DE/WCS	OPA-65R-LCUU-H8	±193'	0°	--	(E) (1) RRUS-E2 B29 (E) (1) RRUS-32 B30	(2) (E) 1-5/8" COAX	(4) DC6 'SQUID'
	PROPOSED	LTE PCS/AWS/ 700 B14	TPA-65R-BU8DA-K	±193'	0°	--	(E) (1) B14 4478 (P) (1) 8843 B2/B66A	--	
	PROPOSED	LTE 700 BC/850	DMP65R-BU8DA	±193'	0°	--	(P) (1) 4449 B5/B12	--	
	--	--	--	--	--	--	--	--	
BETA	EXISTING	UMTS 850 LTE 700/WCS	OPA-65R-LCUU-H8	±193'	110°	--	(E) (1) RRUS-E2 B29 (E) (1) RRUS-32 B30	(2) (E) 1-5/8" COAX	
	PROPOSED	LTE PCS/AWS/ 700 B14	TPA-65R-BU8DA-K	±193'	110°	--	(E) (1) B14 4478 (P) (1) 8843 B2/B66A	--	
	PROPOSED	LTE 700 BC/850	DMP65R-BU8DA	±193'	110°	--	(P) (1) 4449 B5/B12	--	
	--	--	--	--	--	--	--	--	
GAMMA	EXISTING	UMTS 850 LTE 700/WCS	OPA-65R-LCUU-H8	±193'	240°	--	(E) (1) RRUS-E2 B29 (E) (1) RRUS-32 B30	(2) (E) 1-5/8" COAX	
	PROPOSED	LTE PCS/AWS/ 700 B14	TPA-65R-BU8DA-K	±193'	240°	--	(E) (1) B14 4478 (P) (1) 8843 B2/B66A	--	
	PROPOSED	LTE 700 BC/850	DMP65R-BU8DA	±193'	240°	--	(P) (1) 4449 B5/B12	--	
	--	--	--	--	--	--	--	--	

2 RF SCHEDULE
C3 NOT TO SCALE



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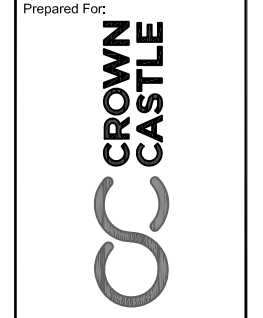
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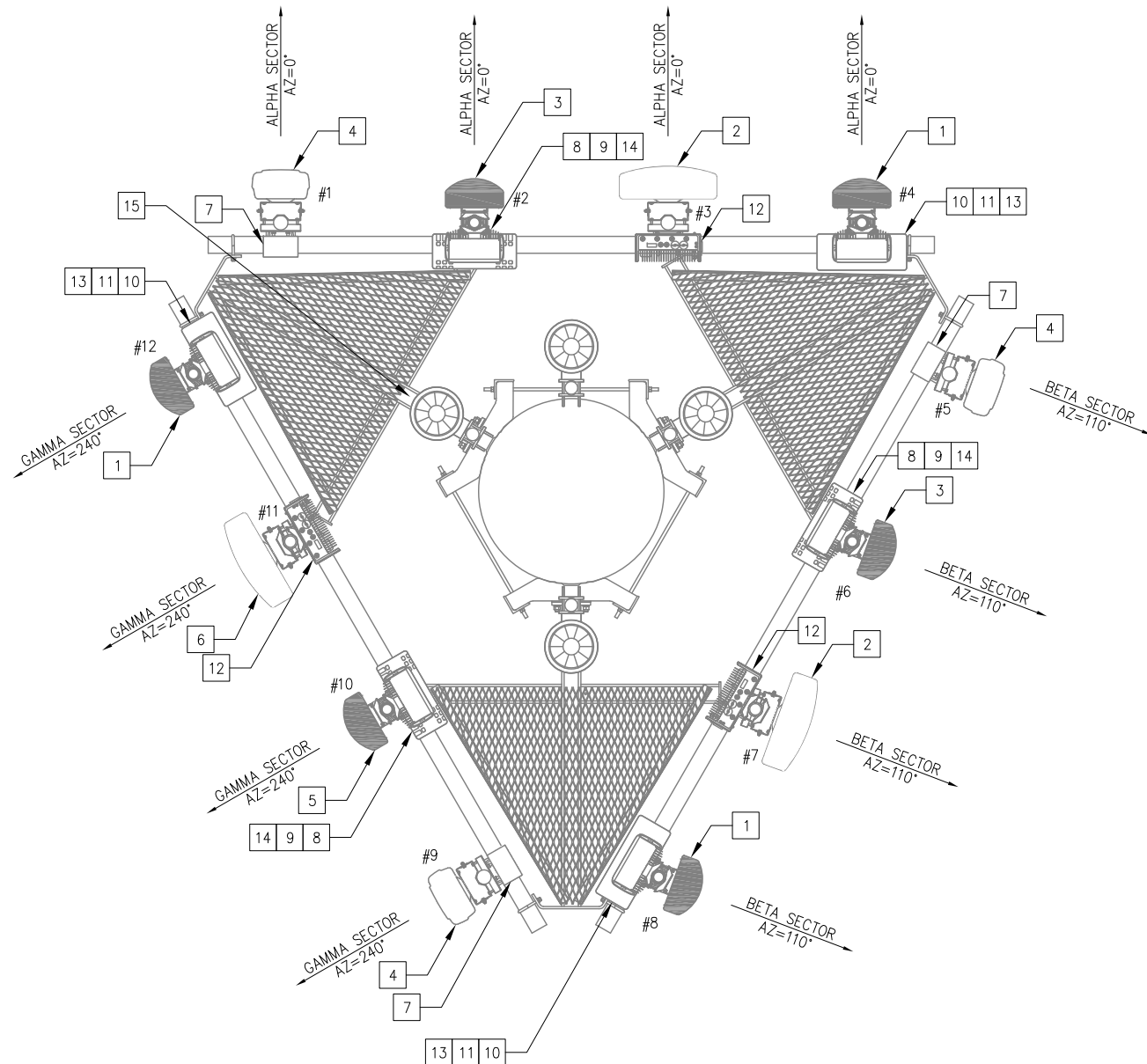
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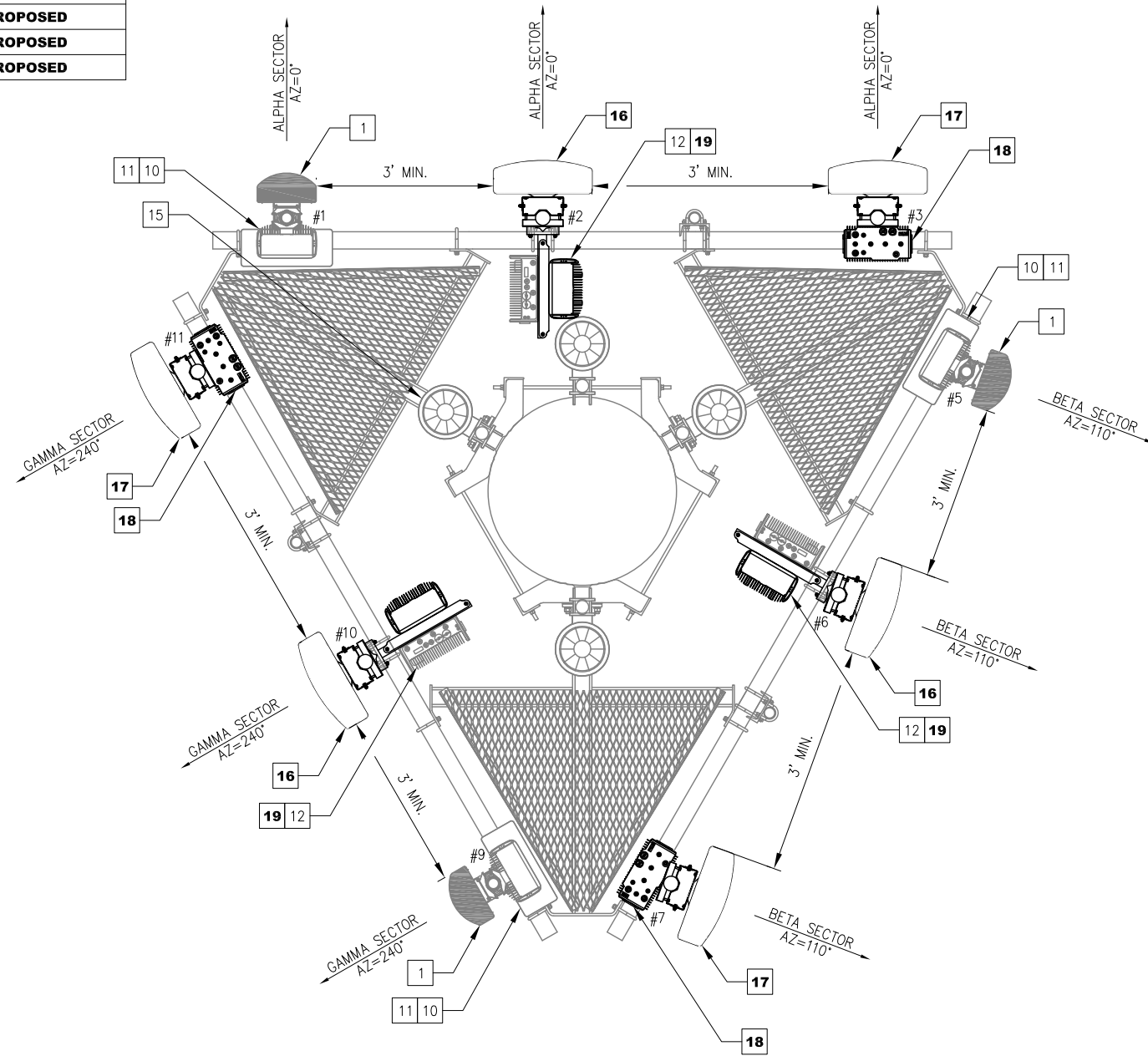
Drawing Title
**ELEVATION
AND
RF SCHEDULE**

Drawing Number
C3

ORIENTATION PLAN KEY				
KEY	DESCRIPTION	TYPE	QTY	STATUS
1	OPA-65R-LCUU-H8	ANTENNA	3	RELOCATED
2	800-10966	ANTENNA	2	REMOVED
3	TPA-65R-LCUUUU-H8	ANTENNA	2	REMOVED
4	800-10121	ANTENNA	3	REMOVED
5	QS66512-2	ANTENNA	1	REMOVED
6	800-10965	ANTENNA	1	REMOVED
7	LGP 21401	TMA	3	REMOVED
8	RRUS-32 B2	RRU	3	REMOVED
9	RRUS-32 B66A	RRU	3	REMOVED
10	RRUS-E2 B29	RRU	3	RELOCATED
11	RRUS-32 B30	RRU	3	RELOCATED
12	B14 4478	RRU	3	REMAIN
13	RRUS-11 B12	RRU	3	REMOVED
14	RRUS-12 B5	RRU	3	REMOVED
15	DC6-48-60-0-8F	RAYCAP	4	REMAIN
16	TPA-65R-BU8DA-K	ANTENNA	3	PROPOSED
17	DMP65R-BU8DA	ANTENNA	3	PROPOSED
18	4449 B5/B12	RRU	3	PROPOSED
19	8843 B2/B66A	RRU	3	PROPOSED



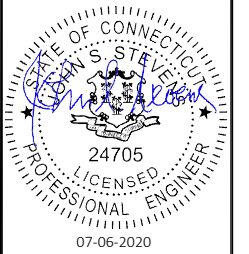
1 ANTENNA ORIENTATION PLAN (EXISTING)
C4 NOT TO SCALE



2 ANTENNA ORIENTATION PLAN (PROPOSED)
C4 NOT TO SCALE



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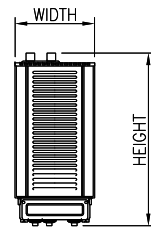


Drawing Title:
ANTENNA ORIENTATION PLAN

Drawing Number:

C4

REMOTE RADIO HEAD (RRH)
aka
REMOTE RADIO UNIT (RRU)



SIZE AND WEIGHT TABLE

RRH MODEL	HEIGHT x WIDTH x DEPTH	WEIGHT
ERICSSON B5/B12 4449	17.90"x13.19"x9.44"	71.0 LBS
ERICSSON RRUS-32 B2	26.7"x12.1"x6.8"	50.8 LBS
-	-	-
-	-	-

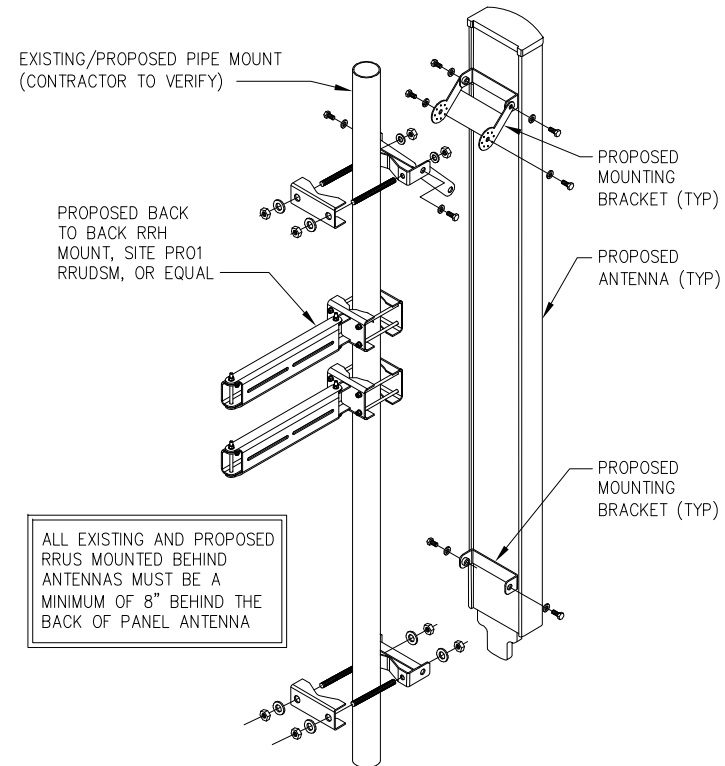
CLEARANCE TABLE

	CLEARANCE REQ'D
FRONT	36" FOR INSTALLATION ACCESS
REAR	2" (0" WITH SUPPLIED MOUNTING BRACKETS)
RIGHT	4" FOR AIR FLOW
LEFT	4" FOR AIR FLOW
TOP	12" FOR AIR FLOW
BOTTOM	12" FOR CONDUIT ROUTING

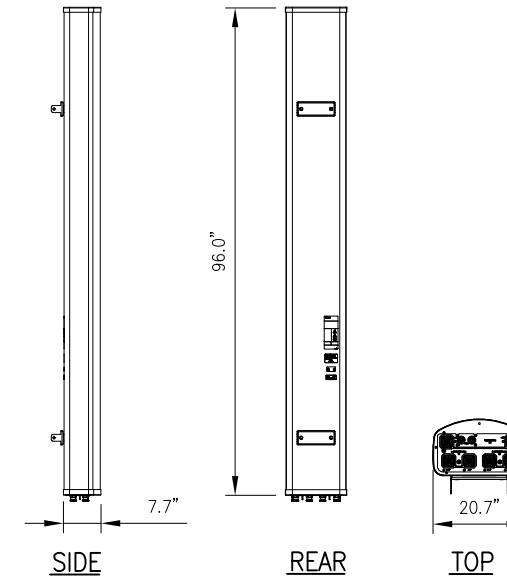
NOTES:

- AT&T SUPPLIES RRH AND RRH MOUNTING BRACKET. SUBCONTRACTOR SHALL SUPPLY UNISTRUT AND INSTALL RRHS AND ALL MOUNTING HARDWARE INCLUDING ERICSSON RRH WALL MOUNTING BRACKET IF NECESSARY. ERICSSON MAKES CABLE TERMINATIONS.
- DIMENSIONS AND WEIGHTS ARE FOR RRH WITHOUT MOUNTING BRACKET
- RRH BANDS (E.G. 4478 B14) DENOTE OPERATING FREQUENCY ONLY AND DO NOT CONSTITUTE A CHANGE IN SIZE OR WEIGHT.

1 RRH DETAIL
-- NOT TO SCALE

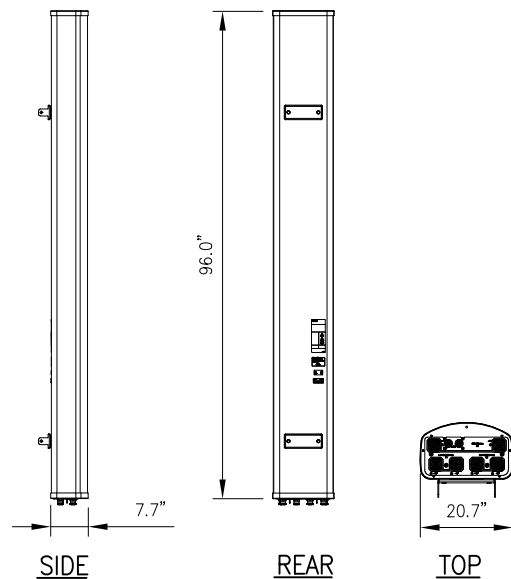


2 ANTENNA MOUNTING DETAIL
-- NOT TO SCALE



CCI MODEL NO.:	DMP65R-BU8DA
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.7"x7.7"
WEIGHT, W/	
PRE-MOUNTED BRACKETS:	95.7 LBS
CONNECTOR:	7-16 DIN FEMALE

3 ANTENNA DETAIL
-- NOT TO SCALE



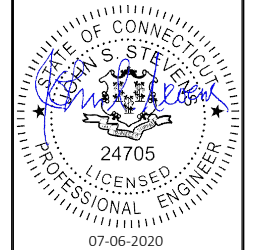
CCI MODEL NO.:	TPA-65R-BU8DA-K
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.7"x7.7"
WEIGHT, W/	
PRE-MOUNTED BRACKETS:	87.1 LBS
CONNECTOR:	7-16 DIN FEMALE

4 ANTENNA DETAIL
-- NOT TO SCALE

5 DETAIL NOT USED
-- NOT TO SCALE



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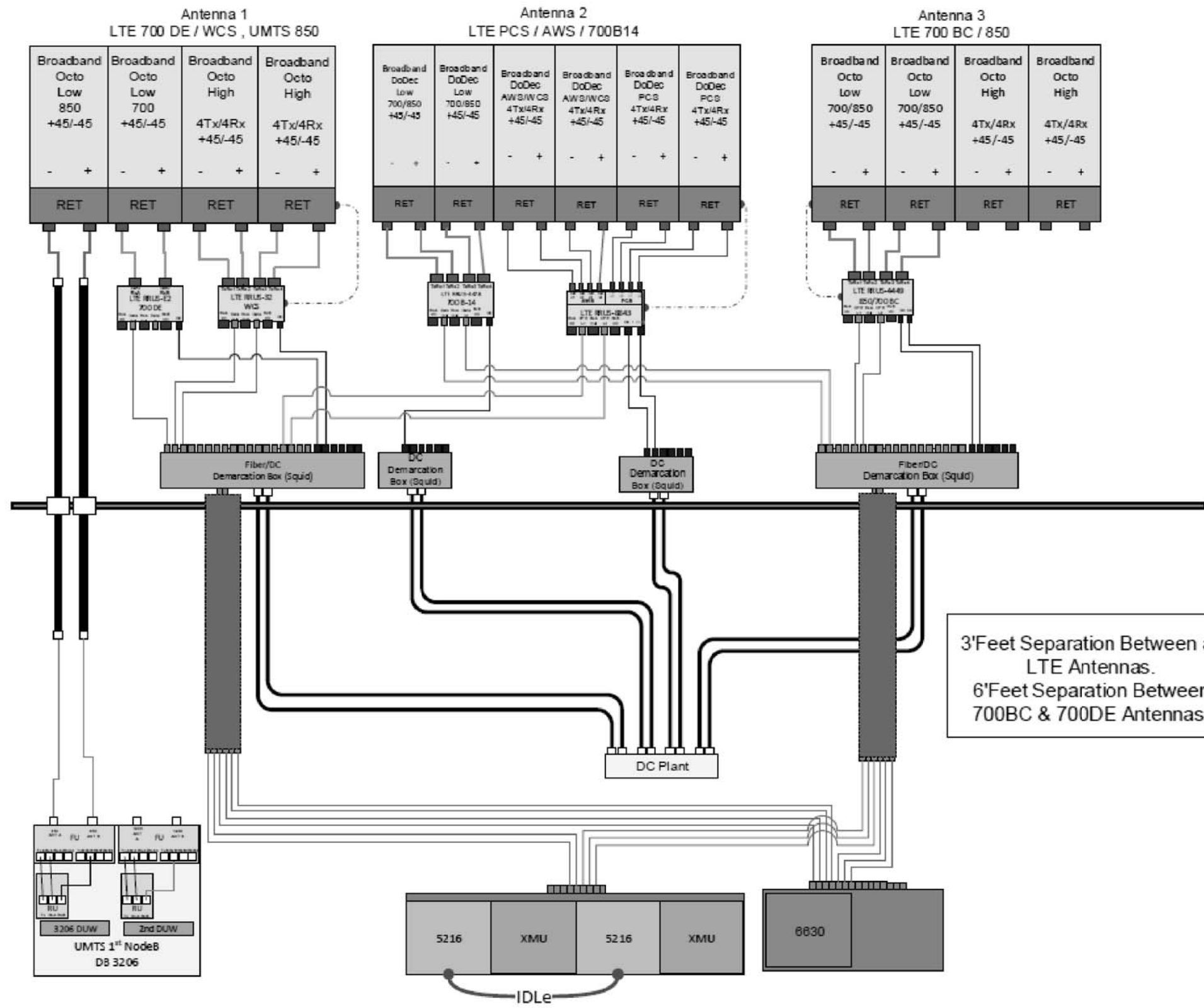
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Drawing Title
EQUIPMENT DETAILS

Drawing Number
C5

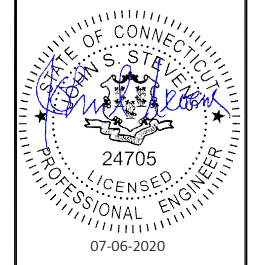


ALPHA/BETA/GAMMA SECTOR

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
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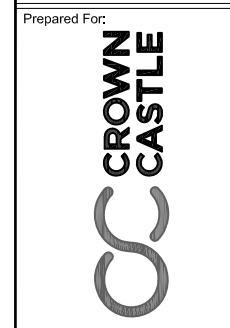
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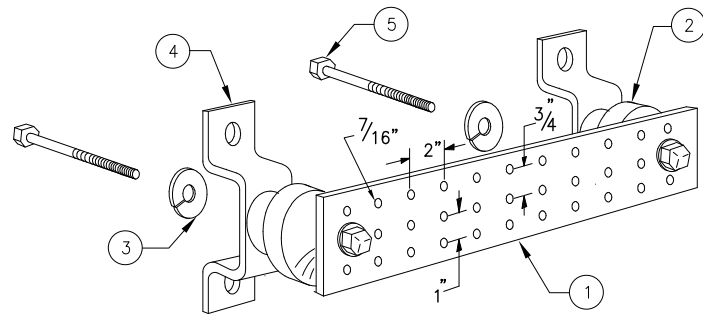
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Drawing Title:
RF PLUMBING DIAGRAM

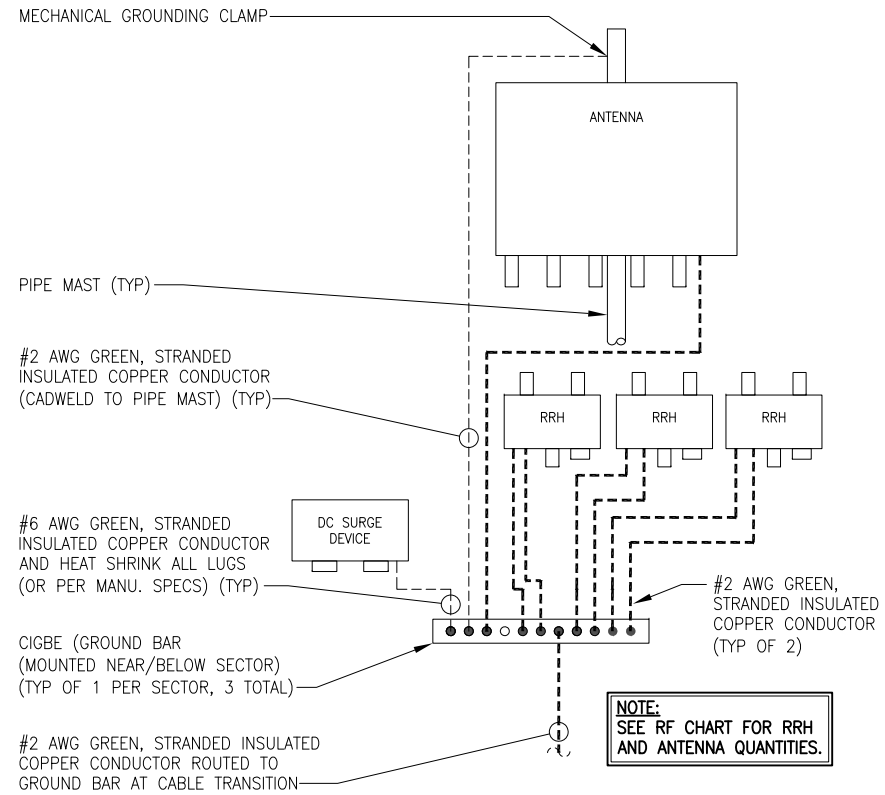
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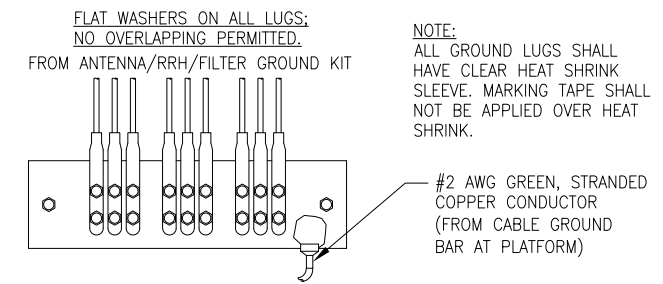
LEGEND

- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
- 5 - 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
- 7 - GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
- 8 - GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
- 9 - HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

1
GROUND BAR
SCALE: NTS



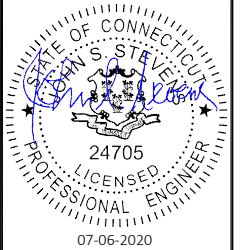
2
CONNECTION OF SECTOR EQUIPMENT
TO GROUNDING BAR DETAIL
SCALE: NTS



3
INSTALLATION OF GROUND WIRE
TO GROUND BAR DETAIL
SCALE: NTS



INFINIGY & ENGINEERING, PLLC
1033 WATERLIET SHAKER RD
ALBANY, NY 12205



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1	REVISED PER COMMENTS	BMM	07/02/20
0	ISSUED FOR PERMIT	BMM	06/09/20
A	ISSUED FOR CLIENT REVIEW	BMM	05/12/20

No.	Submittal / Revision	App'd	Date

Drawn: BMM
Designed: ASW
Checked: AJD

Project Number:
406-000

Project Title:
NEW BRITAIN SE
803843
FA # 10091780
200 STANLEY STREET
NEW BRITAIN, CT 06053

Prepared For:



Drawing Title
**GROUNDING
DETAILS**

Drawing Number
C7

Exhibit D

Structural Analysis Report

Date: **April 30, 2020**

Denice Nicholson
Crown Castle
3 Corporate Dr
Clifton Park, NY 12065



Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: 25889
Carrier Site Name: CTL05194

Crown Castle Designation: **Crown Castle BU Number:** 803843
Crown Castle Site Name: CT NEW BRITAIN 4 CAC 803843
Crown Castle JDE Job Number: 596312
Crown Castle Work Order Number: 1847693
Crown Castle Order Number: 509326 Rev. 1

Engineering Firm Designation: **Crown Castle Project Number:** 1847693

Site Data: **200 Stanley Street, New Britain, Hartford County, CT**
Latitude 41° 39' 16.4", Longitude -72° 46' 9.59"
192 Foot - Monopole Tower

Dear Denice Nicholson,

Crown Castle is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

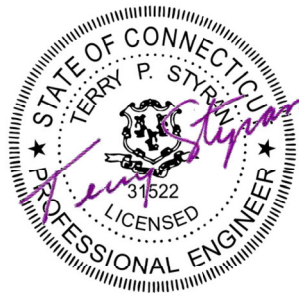
LC7: Proposed Equipment Configuration

Sufficient Capacity - 40.4%

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Matthew Schmitt

Respectfully submitted by:



Terry P. Styran, P.E.
Senior Project Engineer

4/30/2020

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1) INTRODUCTION

This tower is a 192 ft Monopole tower designed by Summit Manufacturing, LLC.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
193.0	193.0	1	cci antennas	DMP65R-BU6D w/ Mount Pipe	6 8 2 3	1-5/8 3/4 3/8 2 Conduit
		2	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		3	cci antennas	OPA-65R-LCUU-H8 w/ Mount Pipe		
		3	cci antennas	TPA65R-BU8D_CCIV2 w/ Mount Pipe		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		3	ericsson	RRUS E2 B29		
		2	raycap	DC6-48-60-0-8F		
		2	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 1201-1_KCKR-HR-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
186.0	188.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	1-5/8
	186.0	1	tower mounts	Platform Mount [LP 1201-1]		
175.0	179.0	1	dragonwave	HORIZON COMPACT	3 1 3 7 2	1-5/8 5/8 1/2 5/16 2 Conduit
	175.0	3	argus technologies	LLPX310R-V4 w/ Mount Pipe		
		3	commscope	NNVV-65B-R4 w/ Mount Pipe		
		1	andrew	VHLP2-23		
		1	motorola	TIMING 2000		
		3	nokia	AHCC		
		3	nokia	AHFIB_CCIV2		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	tower mounts	Platform Mount [LP 301-1]		
	172.0	3	samsung telecommunications	RRH-2WB		
161.0	164.0	1	sigfox	CXL 900-3LW	1	1/2
	161.0	1	sigfox	CAVITY FILTER		
		1	sigfox	LNA		
		1	tower mounts	Side Arm Mount [SO 306-1]		
103.0	104.0	3	antel	BXA-70063-6CF-EDIN-6	7 1	1-5/8 1-1/4
		2	antel	BXA-80080/4CF		
		1	antel	BXA-80090/4CF		
	103.0	6	andrew	SBNHH-1D65B		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	tower mounts	Platform Mount [LP 301-1]		
100.0	1	raycap	RRFDC-3315-PF-48			

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti, P.E., P.C.	2384583	CCSITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Summit	1118798	CCSITES
4-TOWER MANUFACTURER DRAWINGS	Summit	925033	CCSITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	192 - 151.25	Pole	TP39.245x26x0.3125	1	-17.3323	2272.9874	24.1	Pass
L2	151.25 - 111.25	Pole	TP51.621x36.9948x0.4375	2	-29.3186	4185.5623	24.1	Pass
L3	111.25 - 72.75	Pole	TP63.259x48.6333x0.5	3	-49.5581	5864.3757	25.5	Pass
L4	72.75 - 35.75	Pole	TP74.285x59.6589x0.5625	4	-71.8446	7755.1946	25.3	Pass
L5	35.75 - 0	Pole	TP84.78x70.1535x0.5625	5	-104.7630	9235.8521	28.5	Pass
							Summary	
						Pole (L5)	28.5	Pass
						Rating =	28.5	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	38.2	Pass
1	Base Plate	0	31.5	Pass
1,2	Base Foundation (Structural)	0	33.1	Pass
1,2	Base Foundation (Soil Interaction)	0	34.4	Pass
1,2	Pier and Pad Base Foundation (Structural)	0	21.2	Pass
1,2	Pier and Pad Base Foundation (Soil Interaction)	0	40.4	Pass

Structure Rating (max from all components) =	40.4%
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Notes:

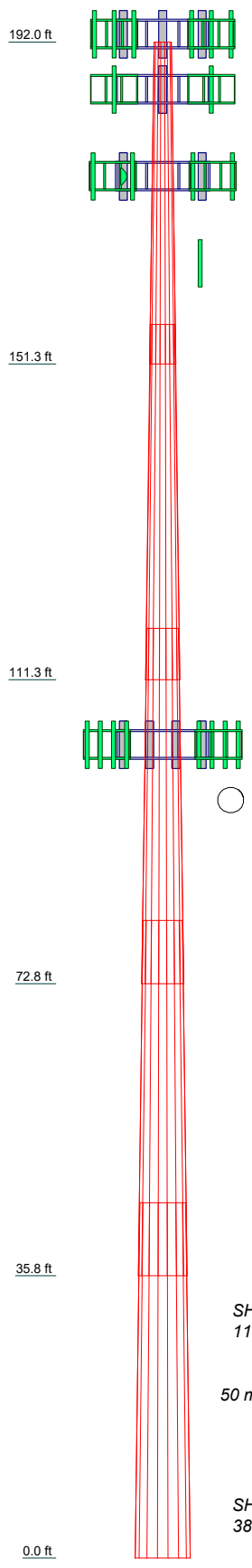
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) It is unknown whether the foundation is a drilled shaft or pier and pad. Both designs were analyzed and determined to be sufficient.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	5
Length (ft)	40.7500	45.0000	45.0000	45.0000	45.0000
Number of Sides	18	18	18	18	18
Thickness (in)	0.3125	0.4375	0.5000	0.5625	0.5625
Socket Length (ft)	5.0000	6.5000	8.0000	9.2500	9.2500
Top Dia (in)	26.0000	36.9948	48.6333	59.6569	70.1535
Bot Dia (in)	39.2450	51.6210	63.2590	74.2850	84.7800
Grade			A607-65		
Weight (K)	4.4	9.3	13.5	18.2	21.0



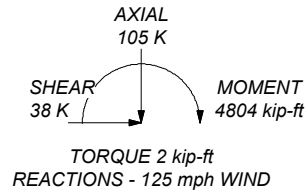
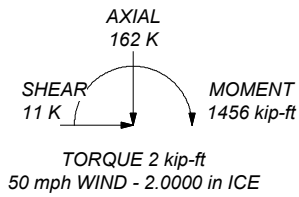
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TOWER RATING: 28.5%

ALL REACTIONS
ARE FACTORED



CROWN CASTLE
The Foundation for a Wireless World

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
Phone: (724) 416-2000
FAX:

Job:	BU# 803843		
Project:			
Client:	Crown Castle	Drawn by:	Matthew Schmitt
Code:	TIA-222-H	Date:	04/30/20
Path:			Scale: NTS
			Dwg No. E-1

R:\SA Models - Letters\Work Area\MSchmitt\1.0_WIP\803843_WO 1847893\Production\803843.dwg

Tower Input Data

The tower is a monopole.
 This tower is designed using the TIA-222-H standard.
 The following design criteria apply:

- 3) Tower is located in Hartford County, Connecticut.
- 4) Tower base elevation above sea level: 111.6600 ft.
- 5) Basic wind speed of 125 mph.
- 6) Risk Category II.
- 7) Exposure Category B.
- 8) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- 9) Topographic Category: 1.
- 10) Crest Height: 0.0000 ft.
- 11) Nominal ice thickness of 2.0000 in.
- 12) Ice thickness is considered to increase with height.
- 13) Ice density of 56.0000 pcf.
- 14) A wind speed of 50 mph is used in combination with ice.
- 15) Temperature drop of 50.0000 °F.
- 16) Deflections calculated using a wind speed of 60 mph.
- 17) A non-linear (P-delta) analysis was used.
- 18) Pressures are calculated at each section.
- 19) Stress ratio used in pole design is 1.05.
- 20) Tower analysis based on target reliabilities in accordance with Annex S.
- 21) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- 22) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile
 Include Bolts In Member Capacity
 Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt.
 Autocalc Torque Arm Areas
 Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption
 <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets √ Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|--|

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	192.0000- 151.2500	40.7500	5.0000	18	26.0000	39.2450	0.3125	1.2500	A607-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L2	151.2500- 111.2500	45.0000	6.5000	18	36.9948	51.6210	0.4375	1.7500	A607-65 (65 ksi)
L3	111.2500- 72.7500	45.0000	8.0000	18	48.6333	63.2590	0.5000	2.0000	A607-65 (65 ksi)
L4	72.7500- 35.7500	45.0000	9.2500	18	59.6589	74.2850	0.5625	2.2500	A607-65 (65 ksi)
L5	35.7500- 0.0000	45.0000		18	70.1535	84.7800	0.5625	2.2500	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	26.3529	25.4788	2124.0264	9.1191	13.2080	160.8136	4250.8477	12.7418	4.0260	12.883
	39.8022	38.6162	7394.8824	13.8210	19.9365	370.9225	14799.495	19.3118	6.3571	20.343
L2	39.1483	50.7644	8571.2947	12.9779	18.7934	456.0805	17153.867	25.3870	5.7411	13.122
	52.3498	71.0747	23524.065	18.1701	26.2235	897.0616	47079.083	35.5441	8.3153	19.006
L3	51.4516	76.3876	22358.990	17.0873	24.7057	905.0122	44747.401	38.2011	7.6795	15.359
	64.1577	99.5985	49561.269	22.2794	32.1356	1542.2557	99187.752	49.8087	10.2536	20.507
L4	63.1328	105.5092	46553.203	20.9792	30.3067	1536.0691	93167.662	52.7646	9.5100	16.907
	75.3442	131.6223	90378.902	26.1715	37.7368	2394.9818	180876.72	65.8237	12.0842	21.483
L5	74.2019	124.2461	76019.762	24.7048	35.6380	2133.1104	152139.55	62.1348	11.3570	20.19
	86.0011	150.3598	134732.98	29.8972	43.0682	3128.3606	269643.25	75.1942	13.9313	24.767

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 192.0000- 151.2500				1	1	1			
L2 151.2500- 111.2500				1	1	1			
L3 111.2500- 72.7500				1	1	1			
L4 72.7500- 35.7500				1	1	1			
L5 35.7500- 0.0000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter r in	Perimete r in	Weight plf

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		CAAA ft ² /ft	Weight plf
197									
2" Rigid Conduit	C	No	No	Inside Pole	192.0000 - 0.0000	3	No Ice	0.0000	2.8000
							1/2" Ice	0.0000	2.8000
							1" Ice	0.0000	2.8000
							2" Ice	0.0000	2.8000
LDF7-50A(1-5/8)	C	No	No	Inside Pole	192.0000 - 0.0000	6	No Ice	0.0000	0.8200
							1/2" Ice	0.0000	0.8200
							1" Ice	0.0000	0.8200
							2" Ice	0.0000	0.8200
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	192.0000 - 0.0000	2	No Ice	0.0000	0.0500
							1/2" Ice	0.0000	0.0500
							1" Ice	0.0000	0.0500
							2" Ice	0.0000	0.0500
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	192.0000 - 0.0000	4	No Ice	0.0000	0.5840
							1/2" Ice	0.0000	0.5840
							1" Ice	0.0000	0.5840
							2" Ice	0.0000	0.5840
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	192.0000 - 0.0000	4	No Ice	0.0000	0.5840
							1/2" Ice	0.0000	0.5840
							1" Ice	0.0000	0.5840
							2" Ice	0.0000	0.5840
186									
LCF158-50JL(1-5/8)	B	No	No	Inside Pole	186.0000 - 0.0000	6	No Ice	0.0000	0.5200
							1/2" Ice	0.0000	0.5200
							1" Ice	0.0000	0.5200
							2" Ice	0.0000	0.5200
175									
2" Rigid Conduit	B	No	No	Inside Pole	175.0000 - 0.0000	2	No Ice	0.0000	2.8000
							1/2" Ice	0.0000	2.8000
							1" Ice	0.0000	2.8000
							2" Ice	0.0000	2.8000
9207(5/16)	B	No	No	Inside Pole	175.0000 - 0.0000	7	No Ice	0.0000	0.6000
							1/2" Ice	0.0000	0.6000
							1" Ice	0.0000	0.6000
							2" Ice	0.0000	0.6000
HJ4.5-50(5/8)	B	No	No	Inside Pole	175.0000 - 0.0000	1	No Ice	0.0000	0.4000
							1/2" Ice	0.0000	0.4000
							1" Ice	0.0000	0.4000
							2" Ice	0.0000	0.4000
FSJ4-50B(1/2)	B	No	No	Inside Pole	175.0000 - 0.0000	3	No Ice	0.0000	0.1400
							1/2" Ice	0.0000	0.1400
							1" Ice	0.0000	0.1400
							2" Ice	0.0000	0.1400
HB158-21U6M48-30F(1-5/8)	B	No	No	Inside Pole	175.0000 - 0.0000	3	No Ice	0.0000	2.3900
							1/2" Ice	0.0000	2.3900
							1" Ice	0.0000	2.3900
							2" Ice	0.0000	2.3900
161									
EC4-50(1/2)	B	No	No	Inside Pole	161.0000 - 0.0000	1	No Ice	0.0000	0.1600
							1/2" Ice	0.0000	0.1600
							1" Ice	0.0000	0.1600
							2" Ice	0.0000	0.1600
103									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	103.0000 - 0.0000	6	No Ice	0.0000	0.8200
							1/2" Ice	0.0000	0.8200
							1" Ice	0.0000	0.8200
							2" Ice	0.0000	0.8200
HB158-1-08U8-S8J18(1-5/8)	B	No	No	Inside Pole	103.0000 - 0.0000	1	No Ice	0.0000	1.3000
							1/2" Ice	0.0000	1.3000
							1" Ice	0.0000	1.3000
							2" Ice	0.0000	1.3000
HB114-U6S12-xxx-LI(1-1/4")	B	No	No	Inside Pole	103.0000 - 0.0000	1	No Ice	0.0000	1.7000
							1/2" Ice	0.0000	1.7000
							1" Ice	0.0000	1.7000
							2" Ice	0.0000	1.7000

Safety Line 3/8	C	No	No	CaAa (Out)	192.0000 -	1	No Ice	0.0375	0.2200

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf	
				Of Face)	0.0000		1/2" Ice	0.1375	0.7500
							1" Ice	0.2375	1.2800
							2" Ice	0.4375	2.3400
5/8 rod/step	C	No	No	CaAa (Out Of Face)	192.0000 - 0.0000	1	No Ice	0.0200	0.2740
							1/2" Ice	0.1200	0.7016
							1" Ice	0.2200	1.7401
							2" Ice	0.4200	5.6496

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	192.0000-151.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.5325
		C	0.000	0.000	0.000	2.343	0.7574
L2	151.2500-111.2500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.8428
		C	0.000	0.000	0.000	2.300	0.7434
L3	111.2500-72.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	1.0508
		C	0.000	0.000	0.000	2.214	0.7156
L4	72.7500-35.7500	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	1.0726
		C	0.000	0.000	0.000	2.128	0.6877
L5	35.7500-0.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	1.0364
		C	0.000	0.000	0.000	2.056	0.6644

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	192.0000-151.2500	A	2.003	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.5325
		C		0.000	0.000	0.000	34.997	1.0640
L2	151.2500-111.2500	A	1.951	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.8428
		C		0.000	0.000	0.000	34.353	1.0444
L3	111.2500-72.7500	A	1.883	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	1.0508
		C		0.000	0.000	0.000	32.252	0.9947
L4	72.7500-35.7500	A	1.786	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	1.0726
		C		0.000	0.000	0.000	29.991	0.9434
L5	35.7500-0.0000	A	1.595	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	1.0364
		C		0.000	0.000	0.000	27.600	0.8945

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	192.0000- 151.2500	-0.4527	0.2614	-2.8490	1.6449
L2	151.2500- 111.2500	-0.4568	0.2637	-3.0960	1.7875
L3	111.2500-72.7500	-0.4590	0.2650	-3.1840	1.8383
L4	72.7500-35.7500	-0.4604	0.2658	-3.1939	1.8440
L5	35.7500-0.0000	-0.4612	0.2663	-3.1271	1.8055

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	CA _{AA} Front ft ²	CA _{AA} Side ft ²	Weight K	
Lightning Rod 1"x10'	C	None		0.0000	192.0000	No Ice	1.0000	1.0000	0.0400
						1/2" Ice	2.0167	2.0167	0.0493
						Ice	3.0500	3.0500	0.0649
						1" Ice	5.1475	5.1475	0.1158
* OPA-65R-LCUU-H8 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	11.9300	8.0600	0.1028
						1/2" Ice	12.8800	8.9600	0.1907
						Ice	13.8400	9.8900	0.2920
						1" Ice	15.8200	11.7800	0.5359
OPA-65R-LCUU-H8 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	11.9300	8.0600	0.1028
						1/2" Ice	12.8800	8.9600	0.1907
						Ice	13.8400	9.8900	0.2920
						1" Ice	15.8200	11.7800	0.5359
OPA-65R-LCUU-H8 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	11.9300	8.0600	0.1028
						1/2" Ice	12.8800	8.9600	0.1907
						Ice	13.8400	9.8900	0.2920
						1" Ice	15.8200	11.7800	0.5359
RRUS 32 B30	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	2.6923	1.5727	0.0600
						1/2" Ice	2.9115	1.7556	0.0804
						Ice	3.1382	1.9455	0.1039
						1" Ice	3.6137	2.3462	0.1612
RRUS 32 B30	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	2.6923	1.5727	0.0600
						1/2" Ice	2.9115	1.7556	0.0804
						Ice	3.1382	1.9455	0.1039
						1" Ice	3.6137	2.3462	0.1612
RRUS 32 B30	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	2.6923	1.5727	0.0600
						1/2" Ice	2.9115	1.7556	0.0804
						Ice	3.1382	1.9455	0.1039
						1" Ice	3.6137	2.3462	0.1612

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	CA _A Front ft ²	CA _A Side ft ²	Weight K	
RRUS 4478 B14	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.8425	1.0588	0.0599
						1/2"	2.0123	1.1969	0.0758
						Ice	2.1895	1.3425	0.0943
RRUS 4478 B14	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1" Ice	2.5662	1.6558	0.1400
						2" Ice			
						No Ice	1.8425	1.0588	0.0599
						1/2"	2.0123	1.1969	0.0758
RRUS 4478 B14	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	Ice	2.1895	1.3425	0.0943
						1" Ice	2.5662	1.6558	0.1400
						2" Ice			
						No Ice	1.8425	1.0588	0.0599
RRUS E2 B29	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1/2"	2.0123	1.1969	0.0758
						Ice	2.1895	1.3425	0.0943
						1" Ice	2.5662	1.6558	0.1400
						2" Ice			
RRUS E2 B29	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	1.8425	1.0588	0.0599
						1/2"	2.0123	1.1969	0.0758
						Ice	2.1895	1.3425	0.0943
						1" Ice	2.5662	1.6558	0.1400
RRUS E2 B29	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.8425	1.0588	0.0599
						1/2"	2.0123	1.1969	0.0758
						Ice	2.1895	1.3425	0.0943
(2) DC6-48-60-0-8F	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1" Ice	2.5662	1.6558	0.1400
						2" Ice			
						No Ice	0.9167	0.9167	0.0328
						1/2"	1.4583	1.4583	0.0505
DC6-48-60-18-8F	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	Ice	1.6431	1.6431	0.0707
						1" Ice	2.0417	2.0417	0.1192
						2" Ice			
						No Ice	1.2117	1.2117	0.0200
DC6-48-60-18-8F	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1/2"	1.8924	1.8924	0.0420
						Ice	2.1051	2.1051	0.0668
						1" Ice	2.5703	2.5703	0.1256
						2" Ice			
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	No Ice	1.2117	1.2117	0.0200
						1/2"	1.8924	1.8924	0.0420
						Ice	2.1051	2.1051	0.0668
						1" Ice	2.5703	2.5703	0.1256
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	15.8900	7.8900	0.1385
						1/2"	16.8100	8.7400	0.2520
						Ice	17.7600	9.6000	0.3797
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1" Ice	19.7000	11.3700	0.6789
						2" Ice			
						No Ice	11.9600	5.9700	0.1147
						1/2"	12.7000	6.6300	0.2009
TPA65R-BU8D_CCIV2 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	Ice	13.4600	7.3000	0.2985
						1" Ice	15.0200	8.6900	0.5288
						2" Ice			
						No Ice	18.1086	10.2597	0.1200
TPA65R-BU8D_CCIV2 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	1/2"	18.8430	11.7813	0.2412
						Ice	19.5863	13.3269	0.3731
						1" Ice	21.0084	15.6716	0.6727
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	CA _A Front ft ²	CA _A Side ft ²	Weight K	
TPA65R-BU8D_CCIV2 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	18.1086	10.2597	0.1200
						1/2"	18.8430	11.7813	0.2412
						Ice	19.5863	13.3269	0.3731
						1" Ice	21.0084	15.6716	0.6727
TPA65R-BU8D_CCIV2 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	18.1086	10.2597	0.1200
						1/2"	18.8430	11.7813	0.2412
						Ice	19.5863	13.3269	0.3731
						1" Ice	21.0084	15.6716	0.6727
RRUS 4449 B5/B12	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.9675	1.4081	0.0710
						1/2"	2.1439	1.5637	0.0895
						Ice	2.3278	1.7267	0.1108
						1" Ice	2.7177	2.0749	0.1627
RRUS 4449 B5/B12	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.9675	1.4081	0.0710
						1/2"	2.1439	1.5637	0.0895
						Ice	2.3278	1.7267	0.1108
						1" Ice	2.7177	2.0749	0.1627
RRUS 4449 B5/B12	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.9675	1.4081	0.0710
						1/2"	2.1439	1.5637	0.0895
						Ice	2.3278	1.7267	0.1108
						1" Ice	2.7177	2.0749	0.1627
RRUS 8843 B2/B66A	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.6390	1.3534	0.0720
						1/2"	1.7988	1.5005	0.0896
						Ice	1.9660	1.6549	0.1099
						1" Ice	2.3227	1.9860	0.1595
RRUS 8843 B2/B66A	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.6390	1.3534	0.0720
						1/2"	1.7988	1.5005	0.0896
						Ice	1.9660	1.6549	0.1099
						1" Ice	2.3227	1.9860	0.1595
RRUS 8843 B2/B66A	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.6390	1.3534	0.0720
						1/2"	1.7988	1.5005	0.0896
						Ice	1.9660	1.6549	0.1099
						1" Ice	2.3227	1.9860	0.1595
Platform Mount [LP 1201-1_KCKR-HR-1]	C	None		0.0000	193.0000	2" Ice			
						No Ice	37.6100	37.6100	2.6307
						1/2"	45.6200	45.6200	3.4778
						Ice	53.5900	53.5900	4.4618
						1" Ice	69.6500	69.6500	6.8485
6' x 2" Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.4250	1.4250	0.0220
						1/2"	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
6' x 2" Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.4250	1.4250	0.0220
						1/2"	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
6' x 2" Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	193.0000	2" Ice			
						No Ice	1.4250	1.4250	0.0220
						1/2"	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
186									
APXV18-206517S-C w/ Mount Pipe	A	From Leg	4.0000 0.0000 2.0000	0.0000	186.0000	2" Ice			
						No Ice	3.7900	3.1600	0.0532
						1/2"	4.3800	3.7500	0.0938
						Ice	4.9900	4.3500	0.1451

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
						1" Ice	6.2500	5.5900	0.2809
						2" Ice			
APXV18-206517S-C w/ Mount Pipe	B	From Leg	4.0000 0.0000 2.0000	0.0000	186.0000	No Ice	3.7900	3.1600	0.0532
						1/2" Ice	4.3800	3.7500	0.0938
						Ice	4.9900	4.3500	0.1451
						1" Ice	6.2500	5.5900	0.2809
						2" Ice			
APXV18-206517S-C w/ Mount Pipe	C	From Leg	4.0000 0.0000 2.0000	0.0000	186.0000	No Ice	3.7900	3.1600	0.0532
						1/2" Ice	4.3800	3.7500	0.0938
						Ice	4.9900	4.3500	0.1451
						1" Ice	6.2500	5.5900	0.2809
						2" Ice			
Platform Mount [LP 1201-1]	C	None		0.0000	186.0000	No Ice	18.3800	18.3800	2.1000
						1/2" Ice	22.1100	22.1100	2.6519
						Ice	25.8700	25.8700	3.2630
						1" Ice	33.4700	33.4700	4.6624
						2" Ice			
(3) 6' x 2" Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	186.0000	No Ice	1.4250	1.4250	0.0220
						1/2" Ice	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
						2" Ice			
(3) 6' x 2" Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	186.0000	No Ice	1.4250	1.4250	0.0220
						1/2" Ice	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
						2" Ice			
(3) 6' x 2" Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	186.0000	No Ice	1.4250	1.4250	0.0220
						1/2" Ice	1.9250	1.9250	0.0328
						Ice	2.2939	2.2939	0.0477
						1" Ice	3.0596	3.0596	0.0903
						2" Ice			
175									
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	7.5500	4.2300	0.1102
						1/2" Ice	8.0400	4.6700	0.1975
						Ice	8.5300	5.1200	0.2961
						1" Ice	9.5600	6.0500	0.5290
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	7.5500	4.2300	0.1102
						1/2" Ice	8.0400	4.6700	0.1975
						Ice	8.5300	5.1200	0.2961
						1" Ice	9.5600	6.0500	0.5290
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	7.5500	4.2300	0.1102
						1/2" Ice	8.0400	4.6700	0.1975
						Ice	8.5300	5.1200	0.2961
						1" Ice	9.5600	6.0500	0.5290
						2" Ice			
LLPX310R-V4 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	3.8800	2.3600	0.0573
						1/2" Ice	4.2900	2.7300	0.0913
						Ice	4.7200	3.1200	0.1325
						1" Ice	5.6100	3.9400	0.2376
						2" Ice			
LLPX310R-V4 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	3.8800	2.3600	0.0573
						1/2" Ice	4.2900	2.7300	0.0913
						Ice	4.7200	3.1200	0.1325
						1" Ice	5.6100	3.9400	0.2376
						2" Ice			
LLPX310R-V4 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	175.0000	No Ice	3.8800	2.3600	0.0573
						1/2" Ice	4.2900	2.7300	0.0913
						Ice	4.7200	3.1200	0.1325
						1" Ice	5.6100	3.9400	0.2376
						2" Ice			
TIMING 2000	B	From Leg	4.0000 0.0000	0.0000	175.0000	No Ice	0.1079	0.1079	0.0007
						1/2" Ice	0.1518	0.1518	0.0024

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	CA _A Front ft ²	CA _A Side ft ²	Weight K
			0.0000			Ice 0.2031	0.2031	0.0051
						1" Ice 0.3280	0.3280	0.0141
						2" Ice No Ice		
HORIZON COMPACT	A	From Leg	4.0000	0.0000	175.0000	1/2" 0.7208	0.3681	0.0115
			0.0000			Ice 0.8278	0.4499	0.0180
			4.0000			1" Ice 0.9422	0.5391	0.0261
						2" Ice 1.1933	0.7396	0.0483
RRH-2WB	A	From Leg	4.0000	0.0000	175.0000	No Ice 2.3047	0.7831	0.0440
			0.0000			1/2" 2.4961	0.9170	0.0591
			-3.0000			Ice 2.6949	1.0579	0.0768
						1" Ice 3.1147	1.3607	0.1210
						2" Ice		
RRH-2WB	B	From Leg	4.0000	0.0000	175.0000	No Ice 2.3047	0.7831	0.0440
			0.0000			1/2" 2.4961	0.9170	0.0591
			-3.0000			Ice 2.6949	1.0579	0.0768
						1" Ice 3.1147	1.3607	0.1210
						2" Ice		
RRH-2WB	C	From Leg	4.0000	0.0000	175.0000	No Ice 2.3047	0.7831	0.0440
			0.0000			1/2" 2.4961	0.9170	0.0591
			-3.0000			Ice 2.6949	1.0579	0.0768
						1" Ice 3.1147	1.3607	0.1210
						2" Ice		
AHCC	A	From Leg	4.0000	0.0000	175.0000	No Ice 1.6283	1.1388	0.0452
			0.0000			1/2" 1.7900	1.2811	0.0602
			0.0000			Ice 1.9591	1.4309	0.0778
						1" Ice 2.3196	1.7525	0.1215
						2" Ice		
AHCC	B	From Leg	4.0000	0.0000	175.0000	No Ice 1.6283	1.1388	0.0452
			0.0000			1/2" 1.7900	1.2811	0.0602
			0.0000			Ice 1.9591	1.4309	0.0778
						1" Ice 2.3196	1.7525	0.1215
						2" Ice		
AHCC	C	From Leg	4.0000	0.0000	175.0000	No Ice 1.6283	1.1388	0.0452
			0.0000			1/2" 1.7900	1.2811	0.0602
			0.0000			Ice 1.9591	1.4309	0.0778
						1" Ice 2.3196	1.7525	0.1215
						2" Ice		
AHFIB_CCIV2	A	From Leg	4.0000	0.0000	175.0000	No Ice 2.7930	1.5258	0.0661
			0.0000			1/2" 3.0145	1.7071	0.0867
			0.0000			Ice 3.2434	1.8954	0.1105
						1" Ice 3.7234	2.2930	0.1683
						2" Ice		
AHFIB_CCIV2	B	From Leg	4.0000	0.0000	175.0000	No Ice 2.7930	1.5258	0.0661
			0.0000			1/2" 3.0145	1.7071	0.0867
			0.0000			Ice 3.2434	1.8954	0.1105
						1" Ice 3.7234	2.2930	0.1683
						2" Ice		
AHFIB_CCIV2	C	From Leg	4.0000	0.0000	175.0000	No Ice 2.7930	1.5258	0.0661
			0.0000			1/2" 3.0145	1.7071	0.0867
			0.0000			Ice 3.2434	1.8954	0.1105
						1" Ice 3.7234	2.2930	0.1683
						2" Ice		
Platform Mount [LP 301-1]	C	None		0.0000	175.0000	No Ice 23.8100	23.8100	1.5885
						1/2" 30.2400	30.2400	2.0992
						Ice 36.3300	36.3300	2.7283
						1" Ice 48.0500	48.0500	4.3394
						2" Ice		
161								
CXL 900-3LW	B	From Leg	4.0000	0.0000	161.0000	No Ice 0.1447	0.1447	0.0015
			0.0000			1/2" 0.3342	0.3342	0.0031
			3.0000			Ice 0.4828	0.4828	0.0064
						1" Ice 0.8077	0.8077	0.0184
						2" Ice		
LNA	B	From Leg	4.0000	0.0000	161.0000	No Ice 0.1424	0.0541	0.0015

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _A A _{Front} ft ²	C _A A _{Side} ft ²	Weight K	
			0.0000			1/2"	0.1923	0.0895	0.0028
			0.0000			Ice	0.2496	0.1335	0.0049
						1" Ice	0.3864	0.2440	0.0123
						2" Ice			
CAVITY FILTER	B	From Leg	4.0000	0.0000	161.0000	No Ice	0.1945	0.0838	0.0015
			0.0000			1/2"	0.2531	0.1236	0.0036
			0.0000			Ice	0.3190	0.1708	0.0066
						1" Ice	0.4731	0.2873	0.0164
						2" Ice			
Side Arm Mount [SO 306-1]	B	None		0.0000	161.0000	No Ice	0.4100	2.2600	0.0420
						1/2"	0.8100	3.8300	0.0624
						Ice	1.2300	5.4800	0.0935
						1" Ice	2.0800	9.3700	0.1872
						2" Ice			
103									
(2) SBNHH-1D65B	A	From Leg	4.0000	0.0000	103.0000	No Ice	4.1600	2.4900	0.0406
			0.0000			1/2"	4.5700	2.8800	0.0912
			0.0000			Ice	4.9900	3.2700	0.1480
						1" Ice	5.8500	4.0900	0.2808
						2" Ice			
(2) SBNHH-1D65B	B	From Leg	4.0000	0.0000	103.0000	No Ice	4.1600	2.4900	0.0406
			0.0000			1/2"	4.5700	2.8800	0.0912
			0.0000			Ice	4.9900	3.2700	0.1480
						1" Ice	5.8500	4.0900	0.2808
						2" Ice			
(2) SBNHH-1D65B	C	From Leg	4.0000	0.0000	103.0000	No Ice	4.1600	2.4900	0.0406
			0.0000			1/2"	4.5700	2.8800	0.0912
			0.0000			Ice	4.9900	3.2700	0.1480
						1" Ice	5.8500	4.0900	0.2808
						2" Ice			
BXA-80080/4CF	A	From Leg	4.0000	0.0000	103.0000	No Ice	4.7992	2.8418	0.0143
			0.0000			1/2"	5.1220	3.1526	0.0453
			1.0000			Ice	5.4517	3.4666	0.0807
						1" Ice	6.1323	4.0937	0.1656
						2" Ice			
BXA-80080/4CF	B	From Leg	4.0000	0.0000	103.0000	No Ice	4.7992	2.8418	0.0143
			0.0000			1/2"	5.1220	3.1526	0.0453
			1.0000			Ice	5.4517	3.4666	0.0807
						1" Ice	6.1323	4.0937	0.1656
						2" Ice			
BXA-80090/4CF	C	From Leg	4.0000	0.0000	103.0000	No Ice	3.5967	2.7090	0.0120
			0.0000			1/2"	3.8995	3.0142	0.0367
			1.0000			Ice	4.2093	3.3248	0.0656
						1" Ice	4.8498	3.9412	0.1366
						2" Ice			
BXA-70063-6CF-EDIN-6	A	From Leg	4.0000	0.0000	103.0000	No Ice	7.5690	4.1581	0.0170
			0.0000			1/2"	8.0160	4.5953	0.0595
			1.0000			Ice	8.4701	5.0399	0.1078
						1" Ice	9.3993	5.9513	0.2229
						2" Ice			
BXA-70063-6CF-EDIN-6	B	From Leg	4.0000	0.0000	103.0000	No Ice	7.5690	4.1581	0.0170
			0.0000			1/2"	8.0160	4.5953	0.0595
			1.0000			Ice	8.4701	5.0399	0.1078
						1" Ice	9.3993	5.9513	0.2229
						2" Ice			
BXA-70063-6CF-EDIN-6	C	From Leg	4.0000	0.0000	103.0000	No Ice	7.5690	4.1581	0.0170
			0.0000			1/2"	8.0160	4.5953	0.0595
			1.0000			Ice	8.4701	5.0399	0.1078
						1" Ice	9.3993	5.9513	0.2229
						2" Ice			
(2) RFV01U-D2A	A	From Leg	4.0000	0.0000	103.0000	No Ice	1.8750	1.0125	0.0703
			0.0000			1/2"	2.0454	1.1445	0.0867
			0.0000			Ice	2.2231	1.2840	0.1058
						1" Ice	2.6009	1.5851	0.1528
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
RFV01U-D2A	B	From Leg	4.0000	0.0000	0.0000	103.0000	No Ice	1.8750	1.0125	0.0703
			0.0000				1/2"	2.0454	1.1445	0.0867
			0.0000				Ice	2.2231	1.2840	0.1058
							1" Ice	2.6009	1.5851	0.1528
							2" Ice			
RRFDC-3315-PF-48	A	From Leg	4.0000	0.0000	0.0000	103.0000	No Ice	3.3636	2.1921	0.0320
			0.0000				1/2"	3.5972	2.3950	0.0605
			-3.0000				Ice	3.8383	2.6056	0.0926
							1" Ice	4.3426	3.0491	0.1682
							2" Ice			
RFV01U-D1A	B	From Leg	4.0000	0.0000	0.0000	103.0000	No Ice	1.8750	1.2500	0.0844
			0.0000				1/2"	2.0454	1.3926	0.1027
			0.0000				Ice	2.2231	1.5426	0.1239
							1" Ice	2.6009	1.8648	0.1753
							2" Ice			
(2) RFV01U-D1A	C	From Leg	4.0000	0.0000	0.0000	103.0000	No Ice	1.8750	1.2500	0.0844
			0.0000				1/2"	2.0454	1.3926	0.1027
			0.0000				Ice	2.2231	1.5426	0.1239
							1" Ice	2.6009	1.8648	0.1753
							2" Ice			
RVZDC-6627-PF-48	C	From Leg	4.0000	0.0000	0.0000	103.0000	No Ice	3.7922	2.5137	0.0320
			0.0000				1/2"	4.0441	2.7270	0.0635
			0.0000				Ice	4.3033	2.9472	0.0987
							1" Ice	4.8439	3.4168	0.1813
							2" Ice			
(4) 8' x 2" Mount Pipe	A	None			0.0000	103.0000	No Ice	1.9000	1.9000	0.0293
							1/2"	2.7281	2.7281	0.0436
							Ice	3.4009	3.4009	0.0632
							1" Ice	4.3962	4.3962	0.1189
							2" Ice			
(4) 8' x 2" Mount Pipe	B	None			0.0000	103.0000	No Ice	1.9000	1.9000	0.0293
							1/2"	2.7281	2.7281	0.0436
							Ice	3.4009	3.4009	0.0632
							1" Ice	4.3962	4.3962	0.1189
							2" Ice			
(4) 8' x 2" Mount Pipe	C	None			0.0000	103.0000	No Ice	1.9000	1.9000	0.0293
							1/2"	2.7281	2.7281	0.0436
							Ice	3.4009	3.4009	0.0632
							1" Ice	4.3962	4.3962	0.1189
							2" Ice			
Platform Mount [LP 301-1]	C	None			0.0000	103.0000	No Ice	23.8100	23.8100	1.5885
							1/2"	30.2400	30.2400	2.0992
							Ice	36.3300	36.3300	2.7283
							1" Ice	48.0500	48.0500	4.3394
							2" Ice			

**										
*										

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz	Lateral							ft
* VHLP2-23	C	Paraboloid w/o Radome	From Leg	4.0000	0.0000	0.0000		175.0000	2.1750	No Ice 1/2" Ice	3.7200 4.0000	0.0300 0.0300

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
				0.0000					1" Ice 4.3100 2" Ice 4.9400	0.0400 0.0700
*										

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	192 - 151.25	Pole	Max Tension	26	0.0000	-0.0000	-0.0000
			Max. Compression	26	-41.7610	-0.2895	2.8151
			Max. Mx	8	-17.3336	-481.7031	1.7502
			Max. My	2	-17.3323	-2.7256	483.5063
			Max. Vy	8	16.6217	-481.7031	1.7502
			Max. Vx	2	-16.6282	-2.7256	483.5063
			Max. Torque	8			1.3510
L2	151.25 - 111.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-58.7446	0.2010	2.5319
			Max. Mx	8	-29.3195	-	5.4034
			Max. My	2	-29.3186	-9.7321	1198.5231
			Max. Vy	8	20.5907	-	5.4034
			Max. Vx	2	-20.5971	-9.7321	1198.5231
			Max. Torque	8			1.2738
L3	111.25 - 72.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-91.7249	1.7304	2.5336
			Max. Mx	8	-49.5596	-	8.8539
			Max. My	2	-49.5581	-16.1741	2123.3023
			Max. Vy	8	28.5417	-	8.8539
			Max. Vx	2	-28.5928	-16.1741	2123.3023
			Max. Torque	16			-1.3216
L4	72.75 - 35.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-120.7193	2.3725	2.1628
			Max. Mx	8	-71.8454	-	12.2044
			Max. My	2	-71.8446	-22.6399	3221.4502
			Max. Vy	8	32.6978	-	12.2044
			Max. Vx	2	-32.7486	-22.6399	3221.4502
			Max. Torque	16			-1.4170
L5	35.75 - 0	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-162.2482	3.2594	1.6508
			Max. Mx	8	-104.7626	-	16.3526
			Max. My	2	-104.7626	-30.6607	4804.3873
			Max. Vy	8	37.4949	-	16.3526
			Max. Vx	2	-37.5449	-30.6607	4804.3873
			Max. Torque	32			-1.8933

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	162.2482	0.0000	0.0000
	Max. H _x	20	104.7689	37.3979	0.0371
	Max. H _z	2	104.7689	-0.1776	37.5273
	Max. M _x	2	4804.3873	-0.1776	37.5273
	Max. M _z	8	4796.7558	-37.4774	0.0919
	Max. Torsion	38	1.8931	5.7044	9.8866
	Min. Vert	19	78.5767	32.3929	-18.7261
	Min. H _x	8	104.7689	-37.4774	0.0919
	Min. H _z	14	104.7689	-0.0168	-37.4574
	Min. M _x	14	-4790.7403	-0.0168	-37.4574
	Min. M _z	20	-4783.5618	37.3979	0.0371
	Min. Torsion	32	-1.8933	-5.7037	-9.8870

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	87.3074	0.0000	0.0000	-0.4298	0.4349	0.0000
1.2 Dead+1.0 Wind 0 deg - No Ice	104.7689	0.1776	-37.5273	-4804.3873	-30.6608	-0.9508
0.9 Dead+1.0 Wind 0 deg - No Ice	78.5767	0.1776	-37.5273	-4775.6259	-30.5932	-0.9503
1.2 Dead+1.0 Wind 30 deg - No Ice	104.7689	18.8183	-32.4522	-4151.9213	-2411.7990	-1.1028
0.9 Dead+1.0 Wind 30 deg - No Ice	78.5767	18.8183	-32.4522	-4127.0558	-2397.5579	-1.0987
1.2 Dead+1.0 Wind 60 deg - No Ice	104.7689	32.4662	-18.7685	-2402.7249	-4155.4585	-1.2212
0.9 Dead+1.0 Wind 60 deg - No Ice	78.5767	32.4662	-18.7685	-2388.2737	-4130.8343	-1.2145
1.2 Dead+1.0 Wind 90 deg - No Ice	104.7689	37.4774	-0.0919	-16.3525	-4796.7558	-1.0121
0.9 Dead+1.0 Wind 90 deg - No Ice	78.5767	37.4773	-0.0919	-16.1084	-4768.3125	-1.0047
1.2 Dead+1.0 Wind 120 deg - No Ice	104.7689	32.5466	18.6099	2374.3562	-4170.6080	-0.2699
0.9 Dead+1.0 Wind 120 deg - No Ice	78.5767	32.5466	18.6099	2360.3672	-4145.8806	-0.2637
1.2 Dead+1.0 Wind 150 deg - No Ice	104.7689	18.6920	32.4213	4145.9878	-2390.3378	0.5320
0.9 Dead+1.0 Wind 150 deg - No Ice	78.5767	18.6920	32.4213	4121.4365	-2376.2328	0.5353
1.2 Dead+1.0 Wind 180 deg - No Ice	104.7689	0.0168	37.4574	4790.7403	-3.1871	1.2244
0.9 Dead+1.0 Wind 180 deg - No Ice	78.5767	0.0168	37.4574	4762.3496	-3.2942	1.2240
1.2 Dead+1.0 Wind 210 deg - No Ice	104.7689	-18.6668	32.4478	4150.0576	2385.6681	1.5354
0.9 Dead+1.0 Wind 210 deg - No Ice	78.5767	-18.6668	32.4478	4125.4834	2371.3359	1.5313
1.2 Dead+1.0 Wind 240 deg - No Ice	104.7689	-32.3929	18.7262	2394.0307	4143.3637	1.2203
0.9 Dead+1.0 Wind 240 deg - No Ice	78.5767	-32.3929	18.7261	2379.9176	4118.5566	1.2137
1.2 Dead+1.0 Wind 270 deg - No Ice	104.7689	-37.3979	-0.0371	-7.9126	4783.5618	0.5786
0.9 Dead+1.0 Wind 270 deg - No Ice	78.5767	-37.3979	-0.0371	-7.7156	4754.9401	0.5712
1.2 Dead+1.0 Wind 300 deg - No Ice	104.7689	-32.3889	-18.7433	-2399.4159	4143.3529	-0.0033
0.9 Dead+1.0 Wind 300 deg - No Ice	78.5767	-32.3889	-18.7433	-2384.9800	4118.5410	-0.0095
1.2 Dead+1.0 Wind 330 deg - No Ice	104.7689	-18.6955	-32.4193	-4146.7243	2392.0335	-0.5313
0.9 Dead+1.0 Wind 330 deg - No Ice	78.5767	-18.6955	-32.4193	-4121.8888	2377.6501	-0.5346
1.2 Dead+1.0 Ice+1.0 Temp	162.2482	0.0000	-0.0000	-1.6508	3.2594	0.0000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	162.2482	0.0399	-11.4370	-1455.5182	-3.8517	-1.8029
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	162.2482	5.7342	-9.8957	-1259.0380	-726.4531	-1.2275
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	162.2482	9.9026	-5.7214	-729.1169	-1255.4387	-0.3792
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	162.2482	11.4309	-0.0217	-5.7487	-1449.5781	0.5708
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	162.2482	9.9176	5.6840	718.6821	-1258.3270	1.4236
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	162.2482	5.7037	9.8870	1253.8183	-721.0254	1.8933
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	162.2482	0.0015	11.4221	1449.0373	3.0044	1.8621

Load Combination	Vertical	Shear _x	Shear _z	Overturing Moment, M _x	Overturing Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	162.2482	-5.7020	9.8948	1255.1336	727.2933	1.3205
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	162.2482	-9.8870	5.7124	723.7193	1259.3484	0.3792
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	162.2482	-11.4140	-0.0058	-3.0537	1453.2469	-0.6637
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	162.2482	-9.8841	-5.7123	-727.6581	1258.9209	-1.4828
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	162.2482	-5.7044	-9.8866	-1257.4768	727.9484	-1.8931
Dead+Wind 0 deg - Service	87.3074	0.0385	-8.1433	-1038.9014	-6.2961	-0.2056
Dead+Wind 30 deg - Service	87.3074	4.0835	-7.0420	-897.8585	-521.0296	-0.2384
Dead+Wind 60 deg - Service	87.3074	7.0451	-4.0727	-519.7329	-897.9578	-0.2644
Dead+Wind 90 deg - Service	87.3074	8.1325	-0.0199	-3.8684	-1036.5877	-0.2196
Dead+Wind 120 deg - Service	87.3074	7.0625	4.0383	512.9338	-901.2315	-0.0589
Dead+Wind 150 deg - Service	87.3074	4.0561	7.0353	895.9064	-516.3911	0.1158
Dead+Wind 180 deg - Service	87.3074	0.0036	8.1282	1035.2833	-0.3586	0.2660
Dead+Wind 210 deg - Service	87.3074	-4.0507	7.0411	896.7861	516.0418	0.3332
Dead+Wind 240 deg - Service	87.3074	-7.0292	4.0635	517.1851	896.0027	0.2644
Dead+Wind 270 deg - Service	87.3074	-8.1152	-0.0080	-2.0434	1034.3942	0.1247
Dead+Wind 300 deg - Service	87.3074	-7.0283	-4.0672	-519.0165	895.9999	-0.0017
Dead+Wind 330 deg - Service	87.3074	-4.0569	-7.0349	-896.7339	517.4159	-0.1157

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.0000	-87.3074	0.0000	0.0000	87.3074	0.0000	0.000%
2	0.1776	-104.7689	-37.5273	-0.1776	104.7689	37.5273	0.000%
3	0.1776	-78.5767	-37.5273	-0.1776	78.5767	37.5273	0.000%
4	18.8183	-104.7689	-32.4522	-18.8183	104.7689	32.4522	0.000%
5	18.8183	-78.5767	-32.4522	-18.8183	78.5767	32.4522	0.000%
6	32.4662	-104.7689	-18.7685	-32.4662	104.7689	18.7685	0.000%
7	32.4662	-78.5767	-18.7685	-32.4662	78.5767	18.7685	0.000%
8	37.4773	-104.7689	-0.0919	-37.4773	104.7689	0.0919	0.000%
9	37.4773	-78.5767	-0.0919	-37.4773	78.5767	0.0919	0.000%
10	32.5466	-104.7689	18.6099	-32.5466	104.7689	-18.6099	0.000%
11	32.5466	-78.5767	18.6099	-32.5466	78.5767	-18.6099	0.000%
12	18.6920	-104.7689	32.4213	-18.6920	104.7689	-32.4213	0.000%
13	18.6920	-78.5767	32.4213	-18.6920	78.5767	-32.4213	0.000%
14	0.0168	-104.7689	37.4574	-0.0168	104.7689	-37.4574	0.000%
15	0.0168	-78.5767	37.4574	-0.0168	78.5767	-37.4574	0.000%
16	-18.6668	-104.7689	32.4478	18.6668	104.7689	-32.4478	0.000%
17	-18.6668	-78.5767	32.4478	18.6668	78.5767	-32.4478	0.000%
18	-32.3929	-104.7689	18.7261	32.3929	104.7689	-18.7261	0.000%
19	-32.3929	-78.5767	18.7261	32.3929	78.5767	-18.7261	0.000%
20	-37.3979	-104.7689	-0.0371	37.3979	104.7689	0.0371	0.000%
21	-37.3979	-78.5767	-0.0371	37.3979	78.5767	0.0371	0.000%
22	-32.3889	-104.7689	-18.7433	32.3889	104.7689	18.7433	0.000%
23	-32.3889	-78.5767	-18.7433	32.3889	78.5767	18.7433	0.000%
24	-18.6955	-104.7689	-32.4193	18.6955	104.7689	32.4193	0.000%
25	-18.6955	-78.5767	-32.4193	18.6955	78.5767	32.4193	0.000%
26	0.0000	-162.2482	0.0000	0.0000	162.2482	0.0000	0.000%
27	0.0399	-162.2482	-11.4370	-0.0399	162.2482	11.4370	0.000%
28	5.7342	-162.2482	-9.8957	-5.7342	162.2482	9.8957	0.000%
29	9.9026	-162.2482	-5.7214	-9.9026	162.2482	5.7214	0.000%
30	11.4309	-162.2482	-0.0217	-11.4309	162.2482	0.0217	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
31	9.9176	-162.2482	5.6839	-9.9176	162.2482	-5.6840	0.000%
32	5.7037	-162.2482	9.8870	-5.7037	162.2482	-9.8870	0.000%
33	0.0015	-162.2482	11.4221	-0.0015	162.2482	-11.4221	0.000%
34	-5.7020	-162.2482	9.8948	5.7020	162.2482	-9.8948	0.000%
35	-9.8870	-162.2482	5.7124	9.8870	162.2482	-5.7124	0.000%
36	-11.4140	-162.2482	-0.0058	11.4140	162.2482	0.0058	0.000%
37	-9.8840	-162.2482	-5.7123	9.8841	162.2482	5.7123	0.000%
38	-5.7044	-162.2482	-9.8866	5.7044	162.2482	9.8866	0.000%
39	0.0385	-87.3074	-8.1433	-0.0385	87.3074	8.1433	0.000%
40	4.0835	-87.3074	-7.0420	-4.0835	87.3074	7.0420	0.000%
41	7.0451	-87.3074	-4.0727	-7.0451	87.3074	4.0727	0.000%
42	8.1325	-87.3074	-0.0199	-8.1325	87.3074	0.0199	0.000%
43	7.0625	-87.3074	4.0383	-7.0625	87.3074	-4.0383	0.000%
44	4.0561	-87.3074	7.0353	-4.0561	87.3074	-7.0353	0.000%
45	0.0036	-87.3074	8.1282	-0.0036	87.3074	-8.1282	0.000%
46	-4.0507	-87.3074	7.0411	4.0507	87.3074	-7.0411	0.000%
47	-7.0292	-87.3074	4.0635	7.0292	87.3074	-4.0635	0.000%
48	-8.1152	-87.3074	-0.0080	8.1152	87.3074	0.0080	0.000%
49	-7.0283	-87.3074	-4.0672	7.0283	87.3074	4.0672	0.000%
50	-4.0569	-87.3074	-7.0349	4.0569	87.3074	7.0349	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	4	0.0000001	0.00009164
3	Yes	4	0.0000001	0.00004893
4	Yes	4	0.0000001	0.00096084
5	Yes	4	0.0000001	0.00065314
6	Yes	5	0.0000001	0.00003074
7	Yes	4	0.0000001	0.00068642
8	Yes	4	0.0000001	0.00012130
9	Yes	4	0.0000001	0.00007394
10	Yes	4	0.0000001	0.00094553
11	Yes	4	0.0000001	0.00064301
12	Yes	4	0.0000001	0.00096850
13	Yes	4	0.0000001	0.00065941
14	Yes	4	0.0000001	0.00009666
15	Yes	4	0.0000001	0.00005364
16	Yes	4	0.0000001	0.00099516
17	Yes	4	0.0000001	0.00067849
18	Yes	4	0.0000001	0.00093604
19	Yes	4	0.0000001	0.00063635
20	Yes	4	0.0000001	0.00010405
21	Yes	4	0.0000001	0.00005984
22	Yes	4	0.0000001	0.00098425
23	Yes	4	0.0000001	0.00067009
24	Yes	4	0.0000001	0.00096385
25	Yes	4	0.0000001	0.00065580
26	Yes	4	0.0000001	0.00000090
27	Yes	5	0.0000001	0.00010434
28	Yes	5	0.0000001	0.00010709
29	Yes	5	0.0000001	0.00010689
30	Yes	5	0.0000001	0.00010345
31	Yes	5	0.0000001	0.00010609
32	Yes	5	0.0000001	0.00010560
33	Yes	5	0.0000001	0.00010285
34	Yes	5	0.0000001	0.00010597
35	Yes	5	0.0000001	0.00010614
36	Yes	5	0.0000001	0.00010356
37	Yes	5	0.0000001	0.00010689
38	Yes	5	0.0000001	0.00010707
39	Yes	4	0.0000001	0.00001539
40	Yes	4	0.0000001	0.00002116

41	Yes	4	0.00000001	0.00002216
42	Yes	4	0.00000001	0.00001566
43	Yes	4	0.00000001	0.00002093
44	Yes	4	0.00000001	0.00002129
45	Yes	4	0.00000001	0.00001535
46	Yes	4	0.00000001	0.00002197
47	Yes	4	0.00000001	0.00002083
48	Yes	4	0.00000001	0.00001543
49	Yes	4	0.00000001	0.00002166
50	Yes	4	0.00000001	0.00002126

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	9.8297	39	0.5238	0.0011
L2	156.25 - 111.25	6.2156	39	0.4167	0.0004
L3	117.75 - 72.75	3.3593	39	0.2849	0.0002
L4	80.75 - 35.75	1.5348	39	0.1793	0.0001
L5	45 - 0	0.4815	39	0.0955	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
193.0000	OPA-65R-LCUU-H8 w/ Mount Pipe	39	9.8297	0.5238	0.0014	92803
192.0000	Lightning Rod 1"x10'	39	9.8297	0.5238	0.0014	92803
186.0000	APXV18-206517S-C w/ Mount Pipe	39	9.1910	0.5067	0.0013	77336
175.0000	VHLP2-23	39	8.0386	0.4748	0.0009	27295
161.0000	CXL 900-3LW	39	6.6534	0.4320	0.0005	14968
103.0000	(2) SBNHH-1D65B	39	2.5376	0.2395	0.0002	20607

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	45.4646	2	2.4184	0.0053
L2	156.25 - 111.25	28.7611	2	1.9281	0.0017
L3	117.75 - 72.75	15.5449	2	1.3184	0.0009
L4	80.75 - 35.75	7.1013	2	0.8300	0.0005
L5	45 - 0	2.2272	2	0.4420	0.0002

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
193.0000	OPA-65R-LCUU-H8 w/ Mount Pipe	2	45.4646	2.4184	0.0067	20211
192.0000	Lightning Rod 1"x10'	2	45.4646	2.4184	0.0067	20211
186.0000	APXV18-206517S-C w/ Mount	2	42.5134	2.3401	0.0058	16842

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	Pipe					
175.0000	VHLP2-23	2	37.1881	2.1944	0.0042	5943
161.0000	CXL 900-3LW	2	30.7854	1.9986	0.0025	3258
103.0000	(2) SBNHH-1D65B	2	11.7420	1.1086	0.0007	4452

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	192 - 151.25 (1)	TP39.245x26x0.3125	40.750	0.0000	0.0	37.004	-17.3323	2164.7500	0.008
L2	151.25 - 111.25 (2)	TP51.621x36.9948x0.437	45.000	0.0000	0.0	68.141	-29.3186	3986.2500	0.007
L3	111.25 - 72.75 (3)	TP63.259x48.6333x0.5	45.000	0.0000	0.0	95.472	-49.5581	5585.1200	0.009
L4	72.75 - 35.75 (4)	TP74.285x59.6589x0.562	45.000	0.0000	0.0	126.25	-71.8446	7385.9000	0.010
L5	35.75 - 0 (5)	TP84.78x70.1535x0.5625	45.000	0.0000	0.0	150.36	-104.7630	8796.0500	0.012

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	192 - 151.25 (1)	TP39.245x26x0.3125	483.5142	1979.4583	0.244	0.0000	1979.4583	0.000
L2	151.25 - 111.25 (2)	TP51.621x36.9948x0.437	1198.5667	4884.2250	0.245	0.0000	4884.2250	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.6333x0.5	2123.3667	8215.2333	0.258	0.0000	8215.2333	0.000
L4	72.75 - 35.75 (4)	TP74.285x59.6589x0.562	3221.5333	12590.3333	0.256	0.0000	12590.3333	0.000
L5	35.75 - 0 (5)	TP84.78x70.1535x0.5625	4804.4833	16713.8333	0.287	0.0000	16713.8333	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	192 - 151.25 (1)	TP39.245x26x0.3125	16.6292	649.4240	0.026	0.1841	2121.7917	0.000
L2	151.25 - 111.25 (2)	TP51.621x36.9948x0.437	20.5980	1195.8700	0.017	0.0380	5139.1250	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.6333x0.5	28.5934	1675.5400	0.017	0.5801	8827.4167	0.000
L4	72.75 - 35.75 (4)	TP74.285x59.6589x0.562	32.7491	2215.7700	0.015	0.7455	13722.1667	0.000
L5	35.75 - 0 (5)	TP84.78x70.1535x0.5625	37.5453	2638.8100	0.014	0.9509	19462.1667	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	192 - 151.25 (1)	0.008	0.244	0.000	0.026	0.000	0.253	1.050	4.8.2
L2	151.25 - 111.25 (2)	0.007	0.245	0.000	0.017	0.000	0.253	1.050	4.8.2
L3	111.25 - 72.75 (3)	0.009	0.258	0.000	0.017	0.000	0.268	1.050	4.8.2
L4	72.75 - 35.75 (4)	0.010	0.256	0.000	0.015	0.000	0.266	1.050	4.8.2
L5	35.75 - 0 (5)	0.012	0.287	0.000	0.014	0.000	0.300	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	192 - 151.25	Pole	TP39.245x26x0.3125	1	-17.3323	2272.9874	24.1	Pass	
L2	151.25 - 111.25	Pole	TP51.621x36.9948x0.4375	2	-29.3186	4185.5623	24.1	Pass	
L3	111.25 - 72.75	Pole	TP63.259x48.6333x0.5	3	-49.5581	5864.3757	25.5	Pass	
L4	72.75 - 35.75	Pole	TP74.285x59.6589x0.5625	4	-71.8446	7755.1946	25.3	Pass	
L5	35.75 - 0	Pole	TP84.78x70.1535x0.5625	5	-104.7630	9235.8521	28.5	Pass	
							Summary		
							Pole (L5)	28.5	Pass
							RATING =	28.5	Pass

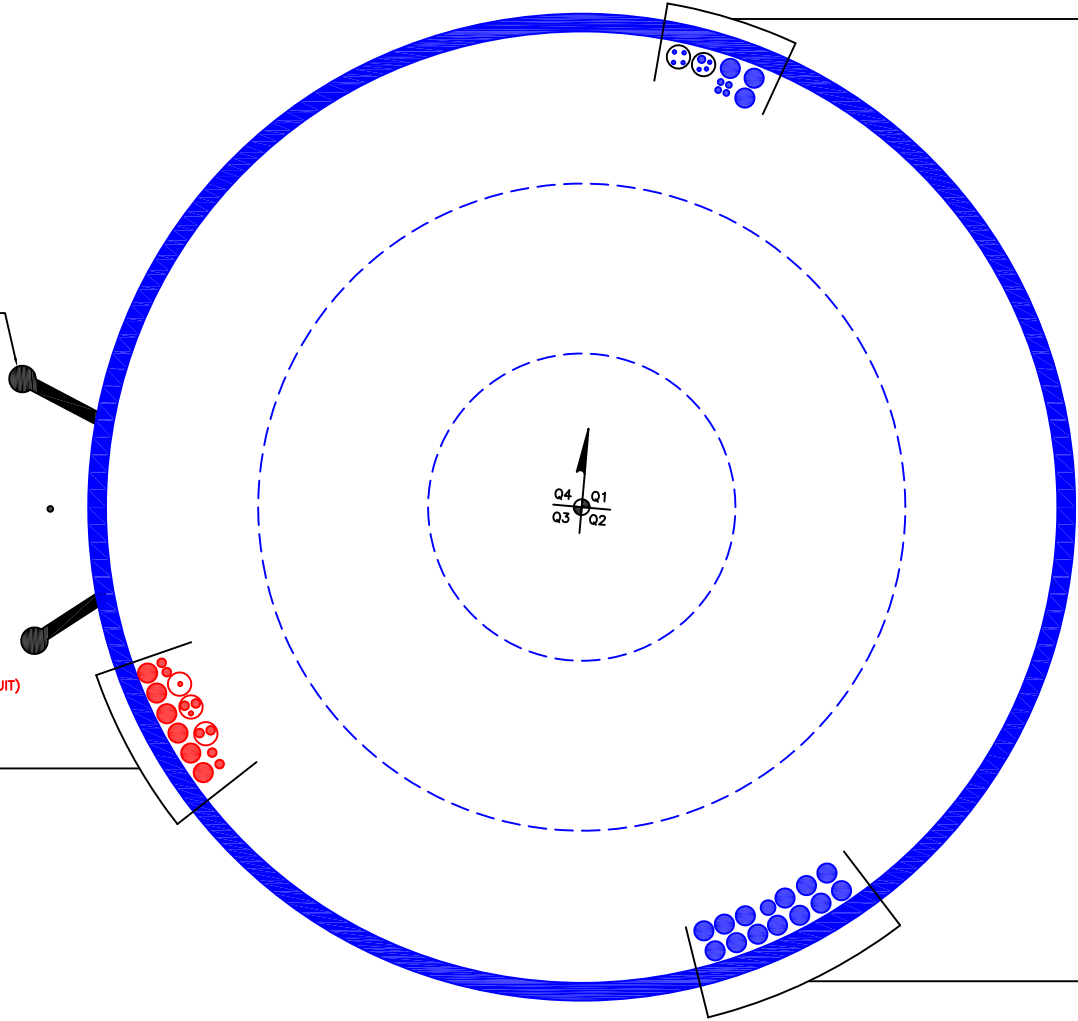
APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT—IN CONDUIT)
(7) 5/16" TO 175 FT LEVEL
(1) 5/8" TO 175 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 1/2" TO 175 FT LEVEL
(3) 1-5/8" TO 175 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 161 FT LEVEL

CLIMBING PEGS
W/ SAFETY CLIMB



(PROPOSED EQUIPMENT CONFIGURATION—IN CONDUIT)
(2) 3/8" TO 193 FT LEVEL
(4) 3/4" TO 193 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(4) 3/4" TO 193 FT LEVEL
(6) 1-5/8" TO 193 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/4" TO 103 FT LEVEL
(7) 1-5/8" TO 103 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 186 FT LEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

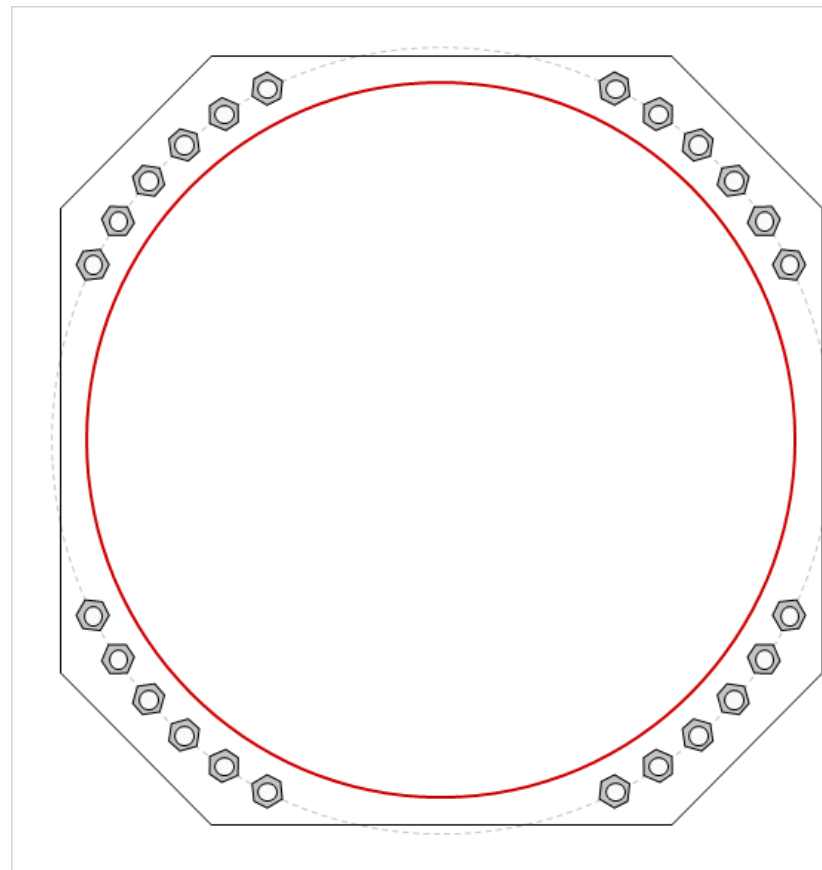


Site Info	
BU #	803843
Site Name	EW BRITAIN 4 CAC 803
Order #	509326 Rev 1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.75

Applied Loads	
Moment (kip-ft)	4804.49
Axial Force (kips)	104.76
Shear Force (kips)	37.55

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(24) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 93" BC <i>Anchor Spacing: 6 in</i>
Base Plate Data
91" OD x 3.25" Plate (A572-55; $F_y=55$ ksi, $F_u=70$ ksi)
Stiffener Data
N/A
Pole Data
84.78" x 0.5625" 18-sided pole (A607-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary			<i>(units of kips, kip-in)</i>
P_{u_c} = 107.66	ϕP_{n_c} = 268.39	Stress Rating	
V_u = 1.56	ϕV_n = 120.77	38.2%	
M_u = n/a	ϕM_n = n/a	Pass	
Base Plate Summary			
Max Stress (ksi):	16.36	(Flexural)	
Allowable Stress (ksi):	49.5		
Stress Rating:	31.5%	Pass	

Drilled Pier Foundation



BU #:	803843
Site Name:	CT NEW BRITAIN 4 C
Order Number:	509326 Rev 1

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	4804	
Axial Force (kips)	105	
Shear Force (kips)	38	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	28.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 28.5' below grade</i>		
Pier Diameter	10	ft
Rebar Quantity	40	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check		
	Compression	Uplift
D _{v=0} (ft from TOC)	7.71	-
Soil Safety Factor	3.68	-
Max Moment (kip-ft)	5089.56	-
Rating*	34.4%	-
Soil Vertical Check		
	Compression	Uplift
Skin Friction (kips)	553.71	-
End Bearing (kips)	1413.72	-
Weight of Concrete (kips)	318.82	-
Total Capacity (kips)	1967.42	-
Axial (kips)	423.82	-
Rating*	20.5%	-
Reinforced Concrete Check		
	Compression	Uplift
Critical Depth (ft from TOC)	7.40	-
Critical Moment (kip-ft)	5088.57	-
Critical Moment Capacity	14652.92	-
Rating*	33.1%	-
Soil Interaction Rating*		34.4%
Structural Foundation Rating*		33.1%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>

Soil Profile				
Groundwater Depth	13	# of Layers	5	

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	5	5	115	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	5	13	8	115	150	0	30	0.000	0.000	1.00	1.00			Cohesionless
3	13	15	2	52.6	87.6	0	30	0.000	0.000	1.00	1.00			Cohesionless
4	15	23	8	70	87.6	0	34	0.000	0.000	1.00	1.00			Cohesionless
5	23	28.5	5.5	70	87.6	0	34	0.000	0.000	1.00	1.00	24		Cohesionless

Pier and Pad Foundation



BU #: 803843
 Site Name: CT NEW BRITAIN
 App. Number: 509326 Rev 1

TIA-222 Revision: H
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:
 Block Foundation?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	105	kips
Base Shear, V_{u_comp} :	38	kips
Moment, M_u :	4804	ft-kips
Tower Height, H :	192	ft
BP Dist. Above Fdn, bp_{dist} :	4	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	500.08	38.00	7.2%	Pass
<i>Bearing Pressure (ksf)</i>	4.50	1.91	40.4%	Pass
<i>Overturing (kip*ft)</i>	12922.86	5101.67	39.5%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	22134.53	4937.00	21.2%	Pass
<i>Pier Compression (kip)</i>	37491.77	154.48	0.4%	Pass
<i>Pad Flexure (kip*ft)</i>	16873.89	1642.65	9.3%	Pass
<i>Pad Shear - 1-way (kips)</i>	1374.11	198.05	13.7%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.022	12.7%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	22895.15	2962.20	12.3%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, d_{pier} :	10	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, S_c :	11	
Pier Rebar Quantity, mc :	64	
Pier Tie/Spiral Size, S_t :	4	
Pier Tie/Spiral Quantity, mt :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Soil Rating*:	40.4%
Structural Rating*:	21.2%

Pad Properties		
Depth, D :	7	ft
Pad Width, W :	32.5	ft
Pad Thickness, T :	4	ft
Pad Rebar Size (Bottom), S_p :	11	
Pad Rebar Quantity (Bottom), mp :	60	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	3	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	125	pcf
Ultimate Gross Bearing, Q_{ult} :	6.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	32	degrees
SPT Blow Count, N_{blows} :	13	
Base Friction, μ :	0.5	
Neglected Depth, N :	5.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	n/a	ft

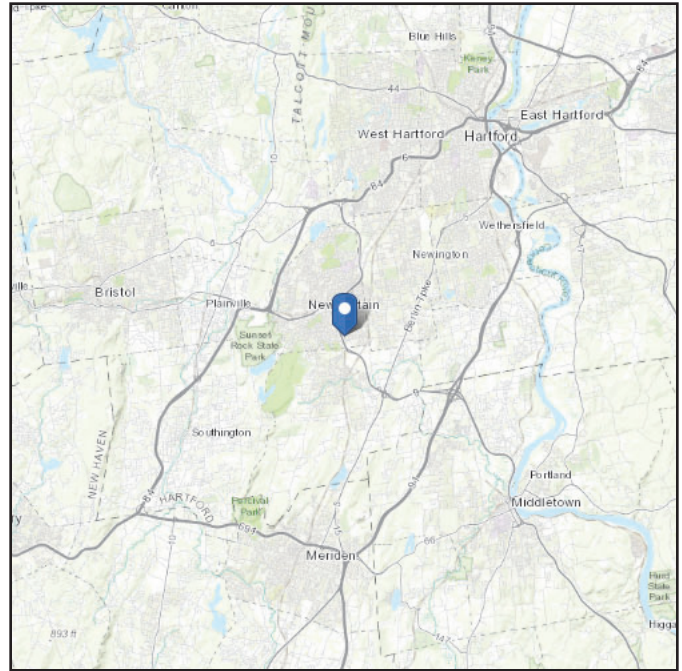
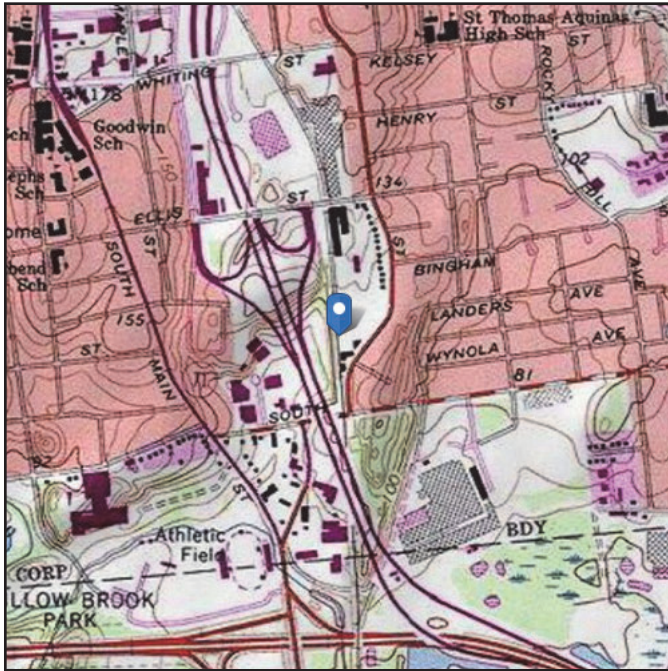
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ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 111.66 ft (NAVD 88)
Latitude: 41.654556
Longitude: -72.769331

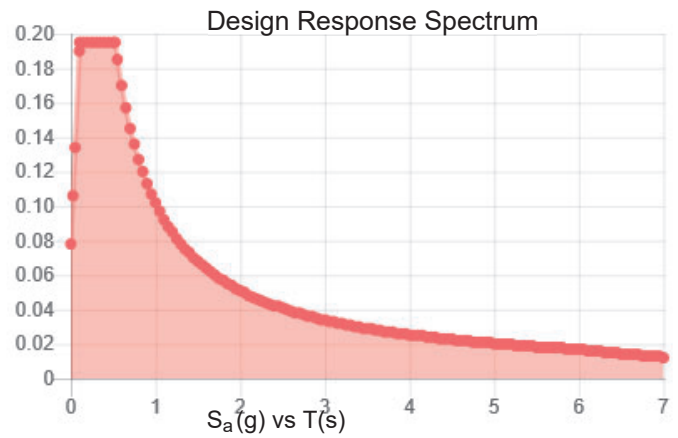
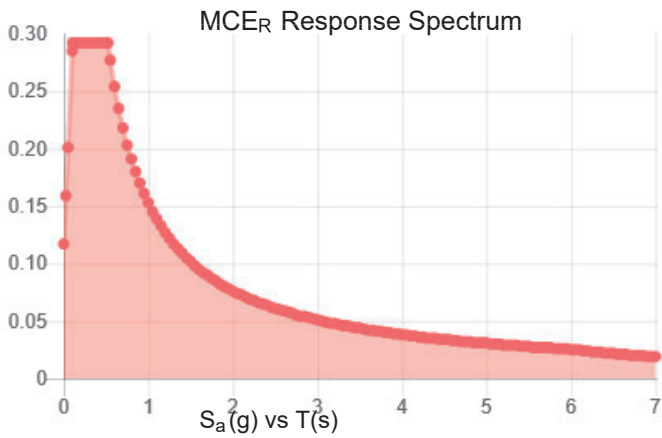


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.183	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.292	PGA _M :	0.149
S_{M1} :	0.153	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Thu Apr 30 2020

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: 1.00 in.
Concurrent Temperature: 5 F
Gust Speed: 50 mph

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

Date Accessed: Thu Apr 30 2020

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.

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

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Exhibit E

Mount Analysis



Date: July 24, 2020

Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6589

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject: Mount Analysis Re-Run Report

Carrier Designation: AT&T Mobility Equipment Change-Out
Carrier Site Number: 25889
Carrier Site Name: CTL05194

Crown Castle Designation: **Crown Castle BU Number:** 803843
Crown Castle Site Name: CT New Britain 4 CAC 803843
Crown Castle JDE Job Number: 596312
Crown Castle Order Number: 509326, Rev.1

Engineering Firm Designation: **B+T Group Report Designation:** 127879.006.01

Site Data: 200 Stanley Street, New Britain, CT, Hartford County, 06053
Latitude 41° 39' 16.40" Longitude -72° 46' 9.59"

Structure Information: **Tower Height & Type:** 192 ft. Monopole
Mount Elevation: 194 ft.
Mount Type: 14 ft. Platform Mount

Dear Ms. Tarr,

B+T Group is pleased to submit this "Mount Analysis Re-Run Report" to determine the structural integrity of AT&T Mobility's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

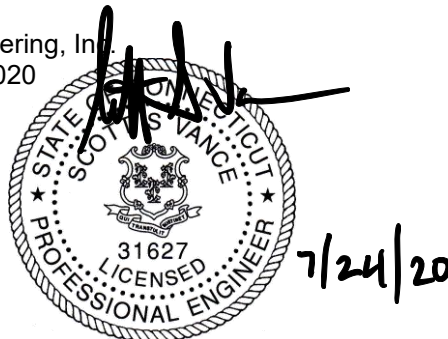
Platform Mount

Sufficient Capacity

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 118 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Suman Rana, E.I.T

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2020



Scott S. Vance, P.E.

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7) APPENDIX C

Software Analysis Output

1) INTRODUCTION

This is a 14' Platform Mount, mapped by B+T Group.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.196
Seismic S_1:	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb.
Man Live Load at Mount Pipes:	500 lb.

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
194	193	1	CCI Antennas	DMP65R-BU6D	14' Platform Mount
		2	CCI Antennas	DMP65R-BU8D	
		3	CCI Antennas	OPA-65R-LCUU-H8	
		3	CCI Antennas	TPA65RBU8D_C CIV2	
		3	ERICSSON	RRUS 32 B30	
		3	ERICSSON	RRUS 4449 B5/ B12	
		3	ERICSSON	RRUS 4478 B14	
		3	ERICSSON	RRUS 8843 B2/ B66A	
		3	ERICSSON	RRUS E2 B29	
		2	Ericsson	DC6-48-60-0-8F	
2	Ericsson	DC6-48-60-18-8F			

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 03/16/2020	Crown Castle
RFDS		Date: 04/13/2020	
Mount Mapping	B+T Group	Date: 01/03/2020	On File

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B “Software Input Calculations”.

This analysis was performed in accordance with Crown Castle’s ENG-SOW-10208 *Tower Mount Analysis* (Revision C). In addition, this analysis is in accordance with *AT&T’s Mount Technical Directive – R14.1*.

3.2) Assumptions

1. The mount was properly fabricated and installed in accordance with its original design and manufacturer’s specifications.
2. The mount has been maintained in accordance with the manufacturer’s specifications and is free of damage.
3. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Raycap Pipes	2” Std. Pipe	1’-6”	In Sectors 1 & 2
		2’-6”	In Sector 3

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
10. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Critical Member	Centerline (ft.)	% Capacity	Pass / Fail
1,2	Main Horizontals	2	194	89.0	Pass
	Support Rails	24	194	75.7	Pass
	Support Arms	16	194	86.1	Pass
	Supporting Angles	7	194	41.3	Pass
	Mount Pipes	48	194	90.1	Pass
	Kicker Angles	28	194	15.9	Pass
	Connection Plates	26	194	11.9	Pass
	Connection Angles	20	194	73.4	Pass

Structure Rating (max from all components) =	90.1%
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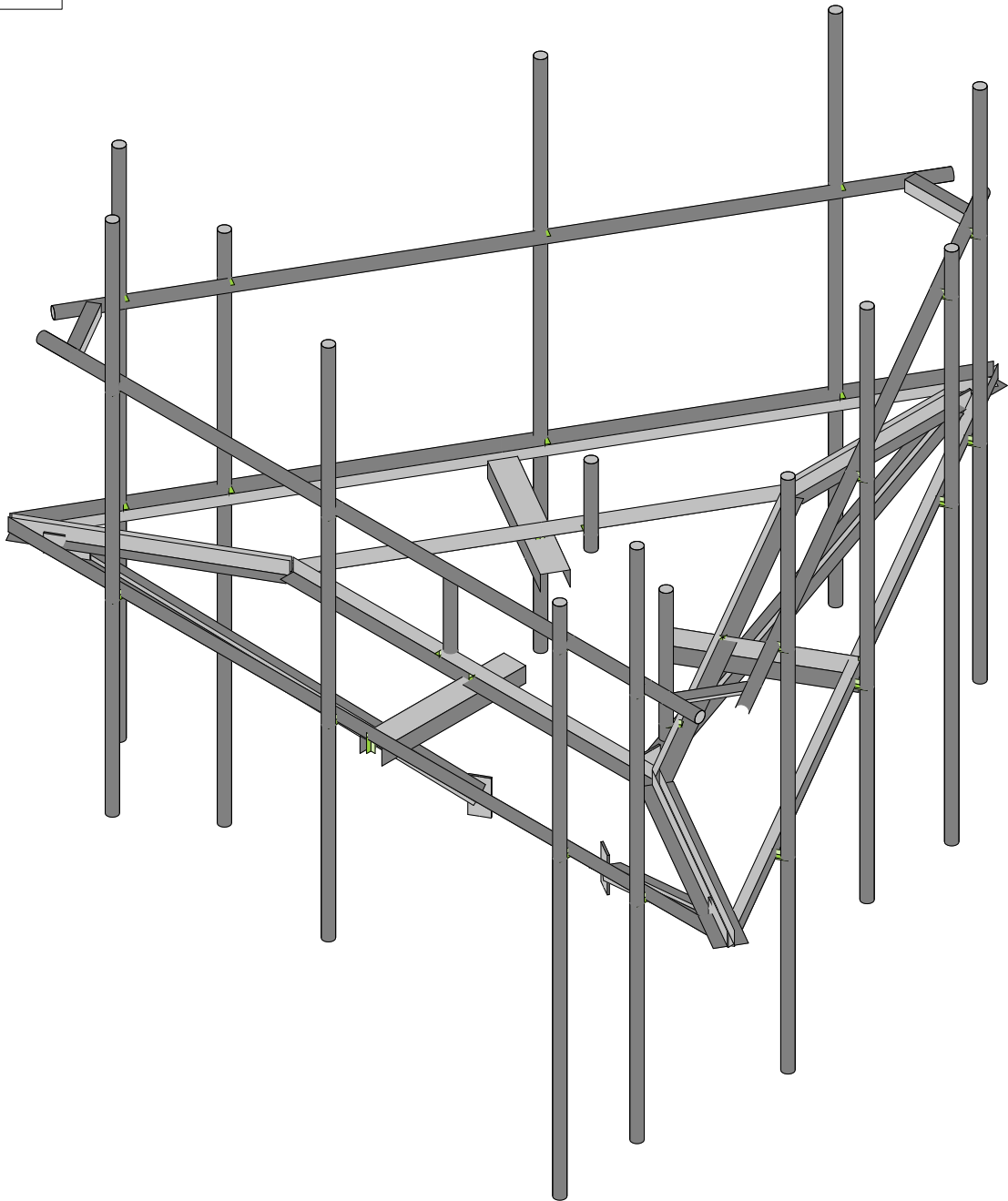
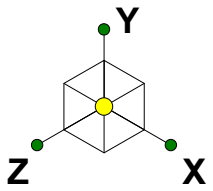
Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) All sectors are typical

4.1) Recommendations

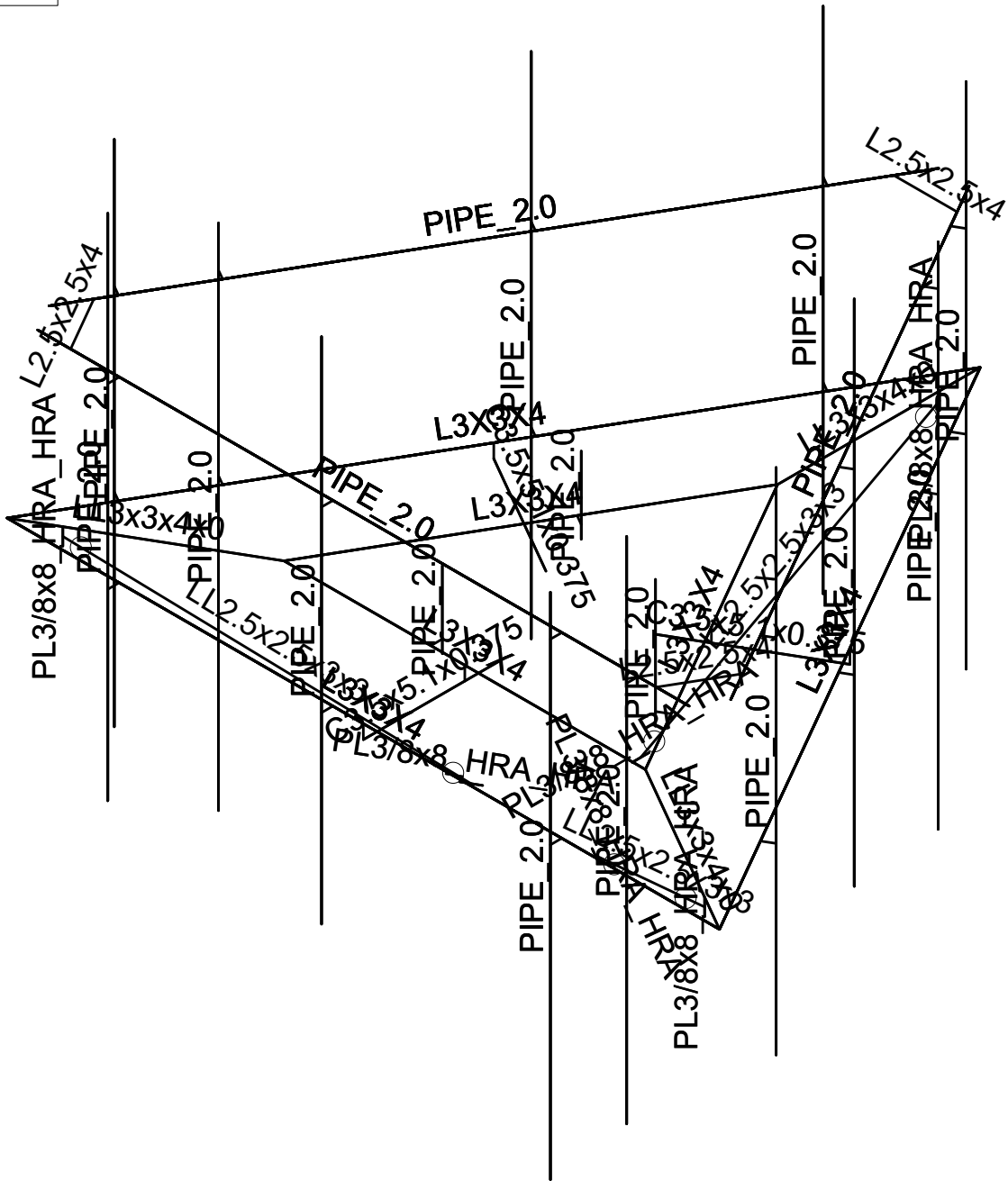
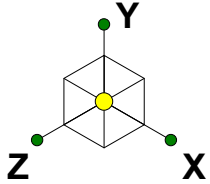
The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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Envelope Only Solution

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APPENDIX B
SOFTWARE INPUT CALCULATIONS

PROJECT	127879.006.01 - CT New Brit		SR
SUBJECT	Platform Mount Mount Analysis		
DATE	07/24/20	PAGE	OF



Tower Type	:	Monopole	
Ground Elevation	Z_s :	112 ft	[ASCE7 Hazard Tool]
Tower Height	:	192.00 ft	
Mount Elevation	:	194.00 ft	
Antenna Elevation	:	193.00 ft	
Crest Height	:	0 ft	
Risk Category	:	II	[Table 2-1]
Exposure Category	:	B	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	118 mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50 mph	[ASCE7 Hazard Tool]
Service Velocity	V_s :	30 mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.50 in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_S :	0.20	
	S_1 :	0.06	
	S_{DS} :	0.21	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.19	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	1.00	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.79 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.105	[Sec. 2.7.7.1]
Amplification	A_s :	3	[Sec. 16.7]

PROJECT	127879.006.01 - CT New Brit	SR
SUBJECT	Platform Mount Mount Analysis	
DATE	07/24/20	PAGE OF



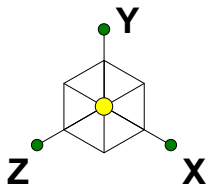
Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _A No Ice (N)	F _A No Ice (T)	F _A Ice (N)	F _A Ice (T)
CCI ANTENNAS	OPA-65R-LCUU-H8	0.5	6.44	7.45	4.64	2.26	6.02	3.54	0.24	0.12	0.05	0.03
CCI ANTENNAS	OPA-65R-LCUU-H8	0.5	6.44	1.38	4.64	2.26	6.02	3.54	0.24	0.12	0.05	0.03
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.85	3.68	0.05	0.11	0.01	0.02
ERICSSON	TME-RRUS-32 B30	1	3.15	1.23	1.97	2.76	3.04	3.93	0.09	0.12	0.02	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.06	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.06	0.02
ERICSSON	TME-RRUS 4478 B14	1	1.23	1.20	1.54	0.88	2.37	1.57	0.07	0.04	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	2.15	1.86	0.06	0.05	0.01	0.01
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.12	1.90	6.30	2.93	0.24	0.09	0.00	0.00
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.12	1.90	6.30	2.93	0.24	0.09	0.00	0.00
ERICSSON	4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.05	0.07	0.01	0.01
CCI ANTENNAS	OPA-65R-LCUU-H8	0.5	6.44	1.38	4.64	2.26	6.02	3.54	0.24	0.12	0.05	0.03
CCI ANTENNAS	OPA-65R-LCUU-H8	0.5	6.44	1.38	4.64	2.26	6.02	3.54	0.24	0.12	0.05	0.03
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.85	3.68	0.05	0.11	0.01	0.02
ERICSSON	TME-RRUS-32 B30	1	3.15	1.23	1.97	2.76	3.04	3.93	0.09	0.12	0.02	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.06	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.06	0.02
ERICSSON	TME-RRUS 4478 B14	1	1.23	1.20	1.54	0.88	2.37	1.57	0.07	0.04	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	2.15	1.86	0.06	0.05	0.01	0.01
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.07	0.03
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.32	0.12	0.07	0.03
ERICSSON	4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.05	0.07	0.01	0.01

PROJECT	127879.006.01 - CT New Brit	SR
SUBJECT	Platform Mount Mount Analysis	
DATE	07/24/20	PAGE 3 OF

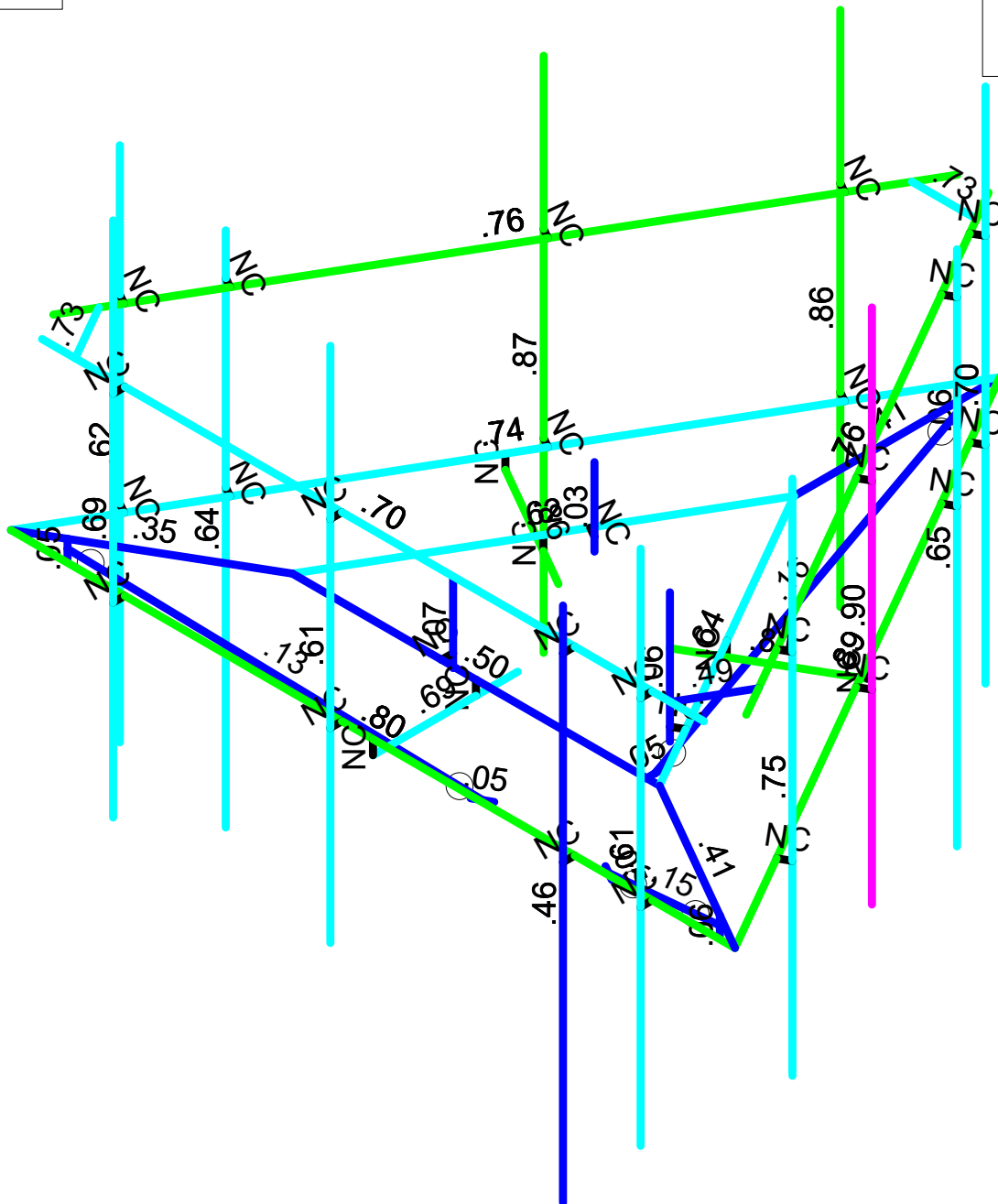
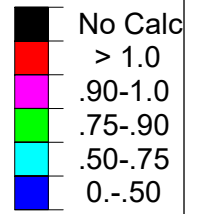


Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _A No Ice (N)	F _A No Ice (T)	F _A Ice (N)	F _A Ice (T)
CCI ANTENNAS	OPA-65R-LCUJ-H8	0.5	6.44	1.38	4.64	2.26	6.02	3.54	0.00	0.12	0.05	0.03
CCI ANTENNAS	OPA-65R-LCUJ-H8	0.5	6.44	1.38	4.64	2.26	6.02	3.54	0.00	0.12	0.05	0.03
ERICSSON	TME-RRUS E2 B29	1	2.72	1.21	1.06	2.62	1.85	3.68	0.00	0.11	0.01	0.02
ERICSSON	TME-RRUS-32 B30	1	3.15	1.23	1.97	2.76	3.04	3.93	0.00	0.12	0.02	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.00	0.12	0.06	0.02
CCI ANTENNAS	TPA65R-BU8D_CCIV2	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.00	0.12	0.06	0.02
ERICSSON	TME-RRUS 4478 B14	1	1.23	1.20	1.54	0.88	2.37	1.57	0.00	0.04	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	2.15	1.86	0.00	0.05	0.01	0.01
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.00	0.12	0.07	0.03
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	8.40	3.90	0.00	0.12	0.07	0.03
ERICSSON	4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.00	0.07	0.01	0.01
RAYCAP	TME-DC6-48-60-0-8F	2	2.18	0.50	3.67	3.67	5.59	5.59	0.00	0.07	0.01	0.01
RAYCAP	TME-DC6-48-60-18-8F	1	2.84	0.51	2.39	2.39	3.53	3.53	0.00	0.04	0.01	0.01
RAYCAP	TME-DC6-48-60-18-8F	1	2.84	0.51	2.39	2.39	3.53	3.53	0.00	0.04	0.01	0.01

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

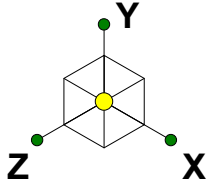


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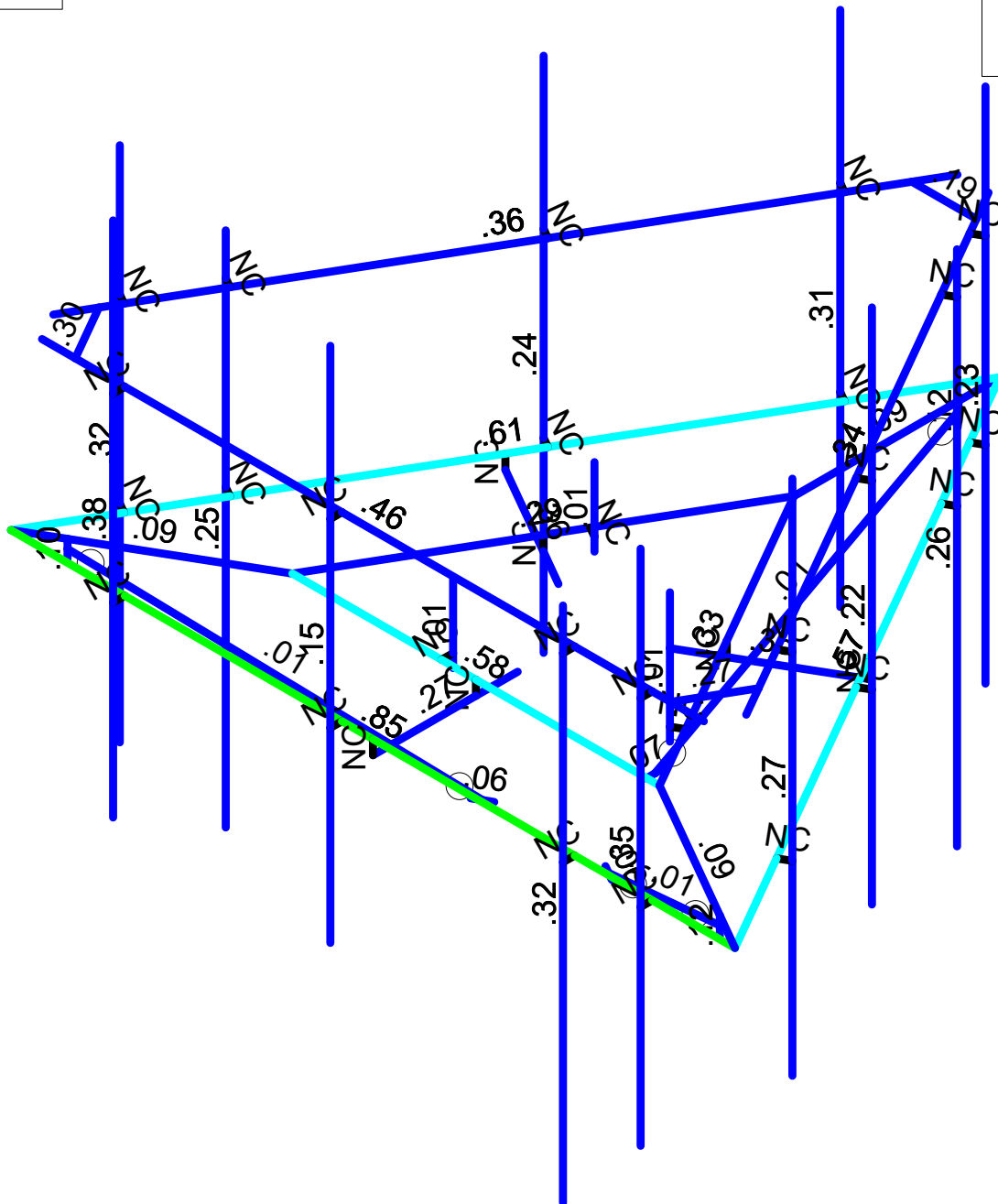
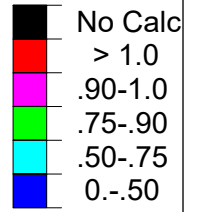


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Shear Check
(Env)



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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Company : B+T Group
 Designer : SR
 Job Number : 127879.006.01
 Model Name : 803843 - CT New Britain 4 CAC 803843

July 24, 2020
 4:43 PM
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Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Grav...	Joint	Point	Distribut...	Area(Me...	Surface(...
19	Maint LL 5	LL					1			
20	Maint LL 6	LL					1			
21	Maint LL 7	LL					1			
22	Maint LL 8	LL					1			
23	Maint LL 9	LL					1			
24	Maint LL 10	LL					1			
25	Maint LL 11	LL					1			
26	Maint LL 12	LL					1			
27	Maint LL 13	LL					1			
28	Maint LL 14	LL					1			
29	Maint LL 15	LL					1			
30	Maint LL 16	LL								
31	Maint LL 17	LL								
32	Maint LL 18	LL								
33	Maint LL 19	LL								
34	Maint LL 20	LL								
35	Maint LL 21	LL								
36	Maint LL 22	LL								
37	Maint LL 23	LL								
38	Maint LL 24	LL								
39	BLC 1 Transient Ar...	None							28	
40	BLC 8 Transient Ar...	None							28	

Load Combinations

	Description	S...	PDelta	S...B..Factor	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...	B..F...
1	1.4 Dead	Y...	Y	1	1.4									
2	1.2 D + 1.0 - 0 W	Y...	Y	1	1.2	2	1							
3	1.2 D + 1.0 - 30 W	Y...	Y	1	1.2	2	.8...	3	.5					
4	1.2 D + 1.0 - 60 W	Y...	Y	1	1.2	3	.8...	2	.5					
5	1.2 D + 1.0 - 90 W	Y...	Y	1	1.2	3	1							
6	1.2 D + 1.0 - 120 W	Y...	Y	1	1.2	3	.8...	2	-.5					
7	1.2 D + 1.0 - 150 W	Y...	Y	1	1.2	2	-.5	3	.5					
8	1.2 D + 1.0 - 180 W	Y...	Y	1	1.2	2	-1							
9	1.2 D + 1.0 - 210 W	Y...	Y	1	1.2	2	-.5	3	-.5					
10	1.2 D + 1.0 - 240 W	Y...	Y	1	1.2	3	-.5	2	-.5					
11	1.2 D + 1.0 - 270 W	Y...	Y	1	1.2	3	-1							
12	1.2 D + 1.0 - 300 W	Y...	Y	1	1.2	3	-.5	2	.5					
13	1.2 D + 1.0 - 330 W	Y...	Y	1	1.2	2	.8...	3	-.5					
14	1.2 D + 1.0 - 0 W/Ice	Y...	Y	1	1.2	4	1		8	1				
15	1.2 D + 1.0 - 30 W/Ice	Y...	Y	1	1.2	4	.8...	5	.5	8	1			
16	1.2 D + 1.0 - 60 W/Ice	Y...	Y	1	1.2	5	.8...	4	.5	8	1			
17	1.2 D + 1.0 - 90 W/Ice	Y...	Y	1	1.2	5	1		8	1				
18	1.2 D + 1.0 - 120 W/Ice	Y...	Y	1	1.2	5	.8...	4	-.5	8	1			
19	1.2 D + 1.0 - 150 W/Ice	Y...	Y	1	1.2	4	-.5	5	.5	8	1			
20	1.2 D + 1.0 - 180 W/Ice	Y...	Y	1	1.2	4	-1		8	1				
21	1.2 D + 1.0 - 210 W/Ice	Y...	Y	1	1.2	4	-.5	5	-.5	8	1			
22	1.2 D + 1.0 - 240 W/Ice	Y...	Y	1	1.2	5	-.5	4	-.5	8	1			
23	1.2 D + 1.0 - 270 W/Ice	Y...	Y	1	1.2	5	-1		8	1				
24	1.2 D + 1.0 - 300 W/Ice	Y...	Y	1	1.2	5	-.5	4	.5	8	1			
25	1.2 D + 1.0 - 330 W/Ice	Y...	Y	1	1.2	4	.8...	5	-.5	8	1			
26	1.2 D + 1.0 E - 0	Y...	Y	1	1.2	9	1							
27	1.2 D + 1.0 E - 30	Y...	Y	1	1.2	9	.8...	10	.5					
28	1.2 D + 1.0 E - 60	Y...	Y	1	1.2	10	.8...	9	.5					
29	1.2 D + 1.0 E - 90	Y...	Y	1	1.2	10	1							
30	1.2 D + 1.0 E - 120	Y...	Y	1	1.2	10	.8...	9	-.5					



Load Combinations (Continued)

Description	S...	PDelta	S...B...	Factor	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...
31 1.2 D + 1.0 E - 150	Y...	Y	1	1.2	9	-...	10	.5							
32 1.2 D + 1.0 E - 180	Y...	Y	1	1.2	9	-1									
33 1.2 D + 1.0 E - 210	Y...	Y	1	1.2	9	-...	10	-.5							
34 1.2 D + 1.0 E - 240	Y...	Y	1	1.2	10	-...	9	-.5							
35 1.2 D + 1.0 E - 270	Y...	Y	1	1.2	10	-1									
36 1.2 D + 1.0 E - 300	Y...	Y	1	1.2	10	-...	9	.5							
37 1.2 D + 1.0 E - 330	Y...	Y	1	1.2	9	.8...	10	-.5							
38 1.2 D + 1.5 LL a + Service - 0 W	Y...	Y	1	1.2	6	1		11	1.5						
39 1.2 D + 1.5 LL a + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	11	1.5					
40 1.2 D + 1.5 LL a + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	11	1.5					
41 1.2 D + 1.5 LL a + Service - 90 W	Y...	Y	1	1.2	7	1		11	1.5						
42 1.2 D + 1.5 LL a + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	11	1.5					
43 1.2 D + 1.5 LL a + Service - 150 W	Y...	Y	1	1.2	6	-...	7	.5	11	1.5					
44 1.2 D + 1.5 LL a + Service - 180 W	Y...	Y	1	1.2	6	-1		11	1.5						
45 1.2 D + 1.5 LL a + Service - 210 W	Y...	Y	1	1.2	6	-...	7	-.5	11	1.5					
46 1.2 D + 1.5 LL a + Service - 240 W	Y...	Y	1	1.2	7	-...	6	-.5	11	1.5					
47 1.2 D + 1.5 LL a + Service - 270 W	Y...	Y	1	1.2	7	-1		11	1.5						
48 1.2 D + 1.5 LL a + Service - 300 W	Y...	Y	1	1.2	7	-...	6	.5	11	1.5					
49 1.2 D + 1.5 LL a + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	11	1.5					
50 1.2 D + 1.5 LL b + Service - 0 W	Y...	Y	1	1.2	6	1		12	1.5						
51 1.2 D + 1.5 LL b + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	12	1.5					
52 1.2 D + 1.5 LL b + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	12	1.5					
53 1.2 D + 1.5 LL b + Service - 90 W	Y...	Y	1	1.2	7	1		12	1.5						
54 1.2 D + 1.5 LL b + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	12	1.5					
55 1.2 D + 1.5 LL b + Service - 150 W	Y...	Y	1	1.2	6	-...	7	.5	12	1.5					
56 1.2 D + 1.5 LL b + Service - 180 W	Y...	Y	1	1.2	6	-1		12	1.5						
57 1.2 D + 1.5 LL b + Service - 210 W	Y...	Y	1	1.2	6	-...	7	-.5	12	1.5					
58 1.2 D + 1.5 LL b + Service - 240 W	Y...	Y	1	1.2	7	-...	6	-.5	12	1.5					
59 1.2 D + 1.5 LL b + Service - 270 W	Y...	Y	1	1.2	7	-1		12	1.5						
60 1.2 D + 1.5 LL b + Service - 300 W	Y...	Y	1	1.2	7	-...	6	.5	12	1.5					
61 1.2 D + 1.5 LL b + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	12	1.5					
62 1.2 D + 1.5 LL c + Service - 0 W	Y...	Y	1	1.2	6	1		13	1.5						
63 1.2 D + 1.5 LL c + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	13	1.5					
64 1.2 D + 1.5 LL c + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	13	1.5					
65 1.2 D + 1.5 LL c + Service - 90 W	Y...	Y	1	1.2	7	1		13	1.5						
66 1.2 D + 1.5 LL c + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	13	1.5					
67 1.2 D + 1.5 LL c + Service - 150 W	Y...	Y	1	1.2	6	-...	7	.5	13	1.5					
68 1.2 D + 1.5 LL c + Service - 180 W	Y...	Y	1	1.2	6	-1		13	1.5						
69 1.2 D + 1.5 LL c + Service - 210 W	Y...	Y	1	1.2	6	-...	7	-.5	13	1.5					
70 1.2 D + 1.5 LL c + Service - 240 W	Y...	Y	1	1.2	7	-...	6	-.5	13	1.5					
71 1.2 D + 1.5 LL c + Service - 270 W	Y...	Y	1	1.2	7	-1		13	1.5						
72 1.2 D + 1.5 LL c + Service - 300 W	Y...	Y	1	1.2	7	-...	6	.5	13	1.5					
73 1.2 D + 1.5 LL c + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	13	1.5					
74 1.2 D + 1.5 LL d + Service - 0 W	Y...	Y	1	1.2	6	1		14	1.5						
75 1.2 D + 1.5 LL d + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	14	1.5					
76 1.2 D + 1.5 LL d + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	14	1.5					
77 1.2 D + 1.5 LL d + Service - 90 W	Y...	Y	1	1.2	7	1		14	1.5						
78 1.2 D + 1.5 LL d + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	14	1.5					
79 1.2 D + 1.5 LL d + Service - 150 W	Y...	Y	1	1.2	6	-...	7	.5	14	1.5					
80 1.2 D + 1.5 LL d + Service - 180 W	Y...	Y	1	1.2	6	-1		14	1.5						
81 1.2 D + 1.5 LL d + Service - 210 W	Y...	Y	1	1.2	6	-...	7	-.5	14	1.5					
82 1.2 D + 1.5 LL d + Service - 240 W	Y...	Y	1	1.2	7	-...	6	-.5	14	1.5					
83 1.2 D + 1.5 LL d + Service - 270 W	Y...	Y	1	1.2	7	-1		14	1.5						
84 1.2 D + 1.5 LL d + Service - 300 W	Y...	Y	1	1.2	7	-...	6	.5	14	1.5					
85 1.2 D + 1.5 LL d + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	14	1.5					
86 1.2 D + 1.5 LL Maint (1)	Y...	Y	1	1.2				15	1.5						
87 1.2 D + 1.5 LL Maint (2)	Y...	Y	1	1.2				16	1.5						



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Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
31	50	Y	-.035	%5
32	50	Y	-.035	%75
33	50	Y	-.06	%20
34	50	Y	-.077	%20
35	50	Y	0	0
36	48	Y	-.044	%15
37	48	Y	-.044	%50
38	48	Y	-.06	%40
39	48	Y	-.072	%70
40	48	Y	0	0
41	47	Y	-.048	%5
42	47	Y	-.048	%75
43	47	Y	-.071	%50
44	47	Y	0	0
45	47	Y	0	0
46	75	Y	-.066	%20
47	75	Y	0	0
48	75	Y	0	0
49	75	Y	0	0
50	75	Y	0	0
51	75A	Y	-.033	%10
52	75A	Y	0	0
53	75A	Y	0	0
54	75A	Y	0	0
55	75A	Y	0	0
56	72	Y	-.033	%10
57	72	Y	0	0
58	72	Y	0	0
59	72	Y	0	0
60	72	Y	0	0
61	75	Y	-.066	%20
62	75	Y	0	0
63	75	Y	0	0
64	75	Y	0	0
65	75	Y	0	0
66	75A	Y	-.033	%10
67	75A	Y	0	0
68	75A	Y	0	0
69	75A	Y	0	0
70	75A	Y	0	0
71	72	Y	-.033	%10
72	72	Y	0	0
73	72	Y	0	0
74	72	Y	0	0
75	72	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	Z	-.24	%5
2	38	Z	-.24	%75
3	38	Z	-.046	%20
4	38	Z	-.088	%20
5	38	Z	0	0
6	36	Z	-.323	%15
7	36	Z	-.323	%50
8	36	Z	-.067	%40



Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
9	36	Z	-.059	%70
10	36	Z	0	0
11	35	Z	-.24	%5
12	35	Z	-.24	%75
13	35	Z	-.051	%50
14	35	Z	0	0
15	35	Z	0	0
16	62	Z	-.24	%5
17	62	Z	-.24	%75
18	62	Z	-.046	%20
19	62	Z	-.088	%20
20	62	Z	0	0
21	60	Z	-.323	%15
22	60	Z	-.323	%50
23	60	Z	-.067	%40
24	60	Z	-.059	%70
25	60	Z	0	0
26	59	Z	-.319	%5
27	59	Z	-.319	%75
28	59	Z	-.051	%50
29	59	Z	0	0
30	59	Z	0	0
31	50	Z	-.24	%5
32	50	Z	-.24	%75
33	50	Z	-.046	%20
34	50	Z	-.088	%20
35	50	Z	0	0
36	48	Z	-.323	%15
37	48	Z	-.323	%50
38	48	Z	-.067	%40
39	48	Z	-.059	%70
40	48	Z	0	0
41	47	Z	-.319	%5
42	47	Z	-.319	%75
43	47	Z	-.051	%50
44	47	Z	0	0
45	47	Z	0	0
46	75	Z	-.066	%20
47	75	Z	0	0
48	75	Z	0	0
49	75	Z	0	0
50	75	Z	0	0
51	75A	Z	-.044	%10
52	75A	Z	0	0
53	75A	Z	0	0
54	75A	Z	0	0
55	75A	Z	0	0
56	72	Z	-.044	%10
57	72	Z	0	0
58	72	Z	0	0
59	72	Z	0	0
60	72	Z	0	0
61	75	Z	-.066	%20
62	75	Z	0	0
63	75	Z	0	0
64	75	Z	0	0
65	75	Z	0	0



Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
66	75A	Z	0	%10
67	75A	Z	0	0
68	75A	Z	0	0
69	75A	Z	0	0
70	75A	Z	0	0
71	72	Z	0	%10
72	72	Z	0	0
73	72	Z	0	0
74	72	Z	0	0
75	72	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	X	-.121	%5
2	38	X	-.121	%75
3	38	X	-.115	%20
4	38	X	-.123	%20
5	38	X	0	0
6	36	X	-.12	%15
7	36	X	-.12	%50
8	36	X	-.038	%40
9	36	X	-.049	%70
10	36	X	0	0
11	35	X	-.09	%5
12	35	X	-.09	%75
13	35	X	-.071	%50
14	35	X	0	0
15	35	X	0	0
16	62	X	-.121	%5
17	62	X	-.121	%75
18	62	X	-.115	%20
19	62	X	-.123	%20
20	62	X	0	0
21	60	X	-.12	%15
22	60	X	-.12	%50
23	60	X	-.038	%40
24	60	X	-.049	%70
25	60	X	0	0
26	59	X	-.12	%5
27	59	X	-.12	%75
28	59	X	-.071	%50
29	59	X	0	0
30	59	X	0	0
31	50	X	-.121	%5
32	50	X	-.121	%75
33	50	X	-.115	%20
34	50	X	-.123	%20
35	50	X	0	0
36	48	X	-.12	%15
37	48	X	-.12	%50
38	48	X	-.038	%40
39	48	X	-.049	%70
40	48	X	0	0
41	47	X	-.12	%5
42	47	X	-.12	%75
43	47	X	-.071	%50



Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
44	47	X	0	0
45	47	X	0	0
46	75	X	-.066	%20
47	75	X	0	0
48	75	X	0	0
49	75	X	0	0
50	75	X	0	0
51	75A	X	-.044	%10
52	75A	X	0	0
53	75A	X	0	0
54	75A	X	0	0
55	75A	X	0	0
56	72	X	-.044	%10
57	72	X	0	0
58	72	X	0	0
59	72	X	0	0
60	72	X	0	0
61	75	X	-.066	%20
62	75	X	0	0
63	75	X	0	0
64	75	X	0	0
65	75	X	0	0
66	75A	X	0	%10
67	75A	X	0	0
68	75A	X	0	0
69	75A	X	0	0
70	75A	X	0	0
71	72	X	0	%10
72	72	X	0	0
73	72	X	0	0
74	72	X	0	0
75	72	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	Z	-.054	%5
2	38	Z	-.054	%75
3	38	Z	-.008	%20
4	38	Z	-.016	%20
5	38	Z	0	0
6	36	Z	-.058	%15
7	36	Z	-.058	%50
8	36	Z	-.012	%40
9	36	Z	-.011	%70
10	36	Z	0	0
11	35	Z	0	%5
12	35	Z	0	%75
13	35	Z	-.009	%50
14	35	Z	0	0
15	35	Z	0	0
16	62	Z	-.054	%5
17	62	Z	-.054	%75
18	62	Z	-.008	%20
19	62	Z	-.016	%20
20	62	Z	0	0
21	60	Z	-.058	%15



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Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
22	60	Z	-0.058	%50
23	60	Z	-0.012	%40
24	60	Z	-0.011	%70
25	60	Z	0	0
26	59	Z	-0.068	%5
27	59	Z	-0.068	%75
28	59	Z	-0.009	%50
29	59	Z	0	0
30	59	Z	0	0
31	50	Z	-0.054	%5
32	50	Z	-0.054	%75
33	50	Z	-0.008	%20
34	50	Z	-0.016	%20
35	50	Z	0	0
36	48	Z	-0.058	%15
37	48	Z	-0.058	%50
38	48	Z	-0.012	%40
39	48	Z	-0.011	%70
40	48	Z	0	0
41	47	Z	-0.068	%5
42	47	Z	-0.068	%75
43	47	Z	-0.009	%50
44	47	Z	0	0
45	47	Z	0	0
46	75	Z	-0.012	%20
47	75	Z	0	0
48	75	Z	0	0
49	75	Z	0	0
50	75	Z	0	0
51	75A	Z	-0.008	%10
52	75A	Z	0	0
53	75A	Z	0	0
54	75A	Z	0	0
55	75A	Z	0	0
56	72	Z	-0.008	%10
57	72	Z	0	0
58	72	Z	0	0
59	72	Z	0	0
60	72	Z	0	0
61	75	Z	-0.012	%20
62	75	Z	0	0
63	75	Z	0	0
64	75	Z	0	0
65	75	Z	0	0
66	75A	Z	-0.008	%10
67	75A	Z	0	0
68	75A	Z	0	0
69	75A	Z	0	0
70	75A	Z	0	0
71	72	Z	-0.008	%10
72	72	Z	0	0
73	72	Z	0	0
74	72	Z	0	0
75	72	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
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Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.-%]
1	38	X	-.032	%5
2	38	X	-.032	%75
3	38	X	-.021	%20
4	38	X	-.022	%20
5	38	X	0	0
6	36	X	-.022	%15
7	36	X	-.022	%50
8	36	X	-.007	%40
9	36	X	-.009	%70
10	36	X	0	0
11	35	X	0	%5
12	35	X	0	%75
13	35	X	-.013	%50
14	35	X	0	0
15	35	X	0	0
16	62	X	-.032	%5
17	62	X	-.032	%75
18	62	X	-.021	%20
19	62	X	-.022	%20
20	62	X	0	0
21	60	X	-.022	%15
22	60	X	-.022	%50
23	60	X	-.007	%40
24	60	X	-.009	%70
25	60	X	0	0
26	59	X	-.031	%5
27	59	X	-.031	%75
28	59	X	-.013	%50
29	59	X	0	0
30	59	X	0	0
31	50	X	-.032	%5
32	50	X	-.032	%75
33	50	X	-.021	%20
34	50	X	-.022	%20
35	50	X	0	0
36	48	X	-.022	%15
37	48	X	-.022	%50
38	48	X	-.007	%40
39	48	X	-.009	%70
40	48	X	0	0
41	47	X	-.031	%5
42	47	X	-.031	%75
43	47	X	-.013	%50
44	47	X	0	0
45	47	X	0	0
46	75	X	-.012	%20
47	75	X	0	0
48	75	X	0	0
49	75	X	0	0
50	75	X	0	0
51	75A	X	-.008	%10
52	75A	X	0	0
53	75A	X	0	0
54	75A	X	0	0
55	75A	X	0	0
56	72	X	-.008	%10
57	72	X	0	0



Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
58	72	X	0	0
59	72	X	0	0
60	72	X	0	0
61	75	X	-.012	%20
62	75	X	0	0
63	75	X	0	0
64	75	X	0	0
65	75	X	0	0
66	75A	X	-.008	%10
67	75A	X	0	0
68	75A	X	0	0
69	75A	X	0	0
70	75A	X	0	0
71	72	X	-.008	%10
72	72	X	0	0
73	72	X	0	0
74	72	X	0	0
75	72	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	Z	-.015	%5
2	38	Z	-.015	%75
3	38	Z	-.003	%20
4	38	Z	-.006	%20
5	38	Z	0	0
6	36	Z	-.021	%15
7	36	Z	-.021	%50
8	36	Z	-.004	%40
9	36	Z	-.004	%70
10	36	Z	0	0
11	35	Z	-.015	%5
12	35	Z	-.015	%75
13	35	Z	-.003	%50
14	35	Z	0	0
15	35	Z	0	0
16	62	Z	-.015	%5
17	62	Z	-.015	%75
18	62	Z	-.003	%20
19	62	Z	-.006	%20
20	62	Z	0	0
21	60	Z	-.021	%15
22	60	Z	-.021	%50
23	60	Z	-.004	%40
24	60	Z	-.004	%70
25	60	Z	0	0
26	59	Z	-.021	%5
27	59	Z	-.021	%75
28	59	Z	-.003	%50
29	59	Z	0	0
30	59	Z	0	0
31	50	Z	-.015	%5
32	50	Z	-.015	%75
33	50	Z	-.003	%20
34	50	Z	-.006	%20
35	50	Z	0	0



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Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
36	48	Z	-.021	%15
37	48	Z	-.021	%50
38	48	Z	-.004	%40
39	48	Z	-.004	%70
40	48	Z	0	0
41	47	Z	-.021	%5
42	47	Z	-.021	%75
43	47	Z	-.003	%50
44	47	Z	0	0
45	47	Z	0	0
46	75	Z	-.004	%20
47	75	Z	0	0
48	75	Z	0	0
49	75	Z	0	0
50	75	Z	0	0
51	75A	Z	-.003	%10
52	75A	Z	0	0
53	75A	Z	0	0
54	75A	Z	0	0
55	75A	Z	0	0
56	72	Z	-.003	%10
57	72	Z	0	0
58	72	Z	0	0
59	72	Z	0	0
60	72	Z	0	0
61	75	Z	-.004	%20
62	75	Z	0	0
63	75	Z	0	0
64	75	Z	0	0
65	75	Z	0	0
66	75A	Z	-.003	%10
67	75A	Z	0	0
68	75A	Z	0	0
69	75A	Z	0	0
70	75A	Z	0	0
71	72	Z	-.003	%10
72	72	Z	0	0
73	72	Z	0	0
74	72	Z	0	0
75	72	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	X	-.008	%5
2	38	X	-.008	%75
3	38	X	-.007	%20
4	38	X	-.008	%20
5	38	X	0	0
6	36	X	-.008	%15
7	36	X	-.008	%50
8	36	X	-.003	%40
9	36	X	-.003	%70
10	36	X	0	0
11	35	X	-.006	%5
12	35	X	-.006	%75
13	35	X	-.005	%50



Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
14	35	X	0	0
15	35	X	0	0
16	62	X	-0.008	%5
17	62	X	-0.008	%75
18	62	X	-0.007	%20
19	62	X	-0.008	%20
20	62	X	0	0
21	60	X	-0.008	%15
22	60	X	-0.008	%50
23	60	X	-0.003	%40
24	60	X	-0.003	%70
25	60	X	0	0
26	59	X	-0.008	%5
27	59	X	-0.008	%75
28	59	X	-0.005	%50
29	59	X	0	0
30	59	X	0	0
31	50	X	-0.008	%5
32	50	X	-0.008	%75
33	50	X	-0.007	%20
34	50	X	-0.008	%20
35	50	X	0	0
36	48	X	-0.008	%15
37	48	X	-0.008	%50
38	48	X	-0.003	%40
39	48	X	-0.003	%70
40	48	X	0	0
41	47	X	-0.008	%5
42	47	X	-0.008	%75
43	47	X	-0.005	%50
44	47	X	0	0
45	47	X	0	0
46	75	X	-0.004	%20
47	75	X	0	0
48	75	X	0	0
49	75	X	0	0
50	75	X	0	0
51	75A	X	-0.003	%10
52	75A	X	0	0
53	75A	X	0	0
54	75A	X	0	0
55	75A	X	0	0
56	72	X	-0.003	%10
57	72	X	0	0
58	72	X	0	0
59	72	X	0	0
60	72	X	0	0
61	75	X	-0.004	%20
62	75	X	0	0
63	75	X	0	0
64	75	X	0	0
65	75	X	0	0
66	75A	X	-0.003	%10
67	75A	X	0	0
68	75A	X	0	0
69	75A	X	0	0
70	75A	X	0	0



Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
71	72	X	-.003	%10
72	72	X	0	0
73	72	X	0	0
74	72	X	0	0
75	72	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	38	Y	-.158	%5
2	38	Y	-.158	%75
3	38	Y	-.081	%20
4	38	Y	-.099	%20
5	38	Y	0	0
6	36	Y	-.209	%15
7	36	Y	-.209	%50
8	36	Y	-.052	%40
9	36	Y	-.051	%70
10	36	Y	0	0
11	35	Y	0	%5
12	35	Y	0	%75
13	35	Y	-.059	%50
14	35	Y	0	0
15	35	Y	0	0
16	62	Y	-.158	%5
17	62	Y	-.158	%75
18	62	Y	-.081	%20
19	62	Y	-.099	%20
20	62	Y	0	0
21	60	Y	-.209	%15
22	60	Y	-.209	%50
23	60	Y	-.052	%40
24	60	Y	-.051	%70
25	60	Y	0	0
26	59	Y	-.214	%5
27	59	Y	-.214	%75
28	59	Y	-.059	%50
29	59	Y	0	0
30	59	Y	0	0
31	50	Y	-.158	%5
32	50	Y	-.158	%75
33	50	Y	-.081	%20
34	50	Y	-.099	%20
35	50	Y	0	0
36	48	Y	-.209	%15
37	48	Y	-.209	%50
38	48	Y	-.052	%40
39	48	Y	-.051	%70
40	48	Y	0	0
41	47	Y	-.214	%5
42	47	Y	-.214	%75
43	47	Y	-.059	%50
44	47	Y	0	0
45	47	Y	0	0
46	75	Y	-.112	%20
47	75	Y	0	0
48	75	Y	0	0



Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
49	75	Y	0	0
50	75	Y	0	0
51	75A	Y	-.073	%10
52	75A	Y	0	0
53	75A	Y	0	0
54	75A	Y	0	0
55	75A	Y	0	0
56	72	Y	-.073	%10
57	72	Y	0	0
58	72	Y	0	0
59	72	Y	0	0
60	72	Y	0	0
61	75	Y	-.112	%20
62	75	Y	0	0
63	75	Y	0	0
64	75	Y	0	0
65	75	Y	0	0
66	75A	Y	-.073	%10
67	75A	Y	0	0
68	75A	Y	0	0
69	75A	Y	0	0
70	75A	Y	0	0
71	72	Y	-.073	%10
72	72	Y	0	0
73	72	Y	0	0
74	72	Y	0	0
75	72	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	38	Z	-.022	%5
2	38	Z	-.022	%75
3	38	Z	-.019	%20
4	38	Z	-.024	%20
5	38	Z	0	0
6	36	Z	-.027	%15
7	36	Z	-.027	%50
8	36	Z	-.019	%40
9	36	Z	-.023	%70
10	36	Z	0	0
11	35	Z	-.03	%5
12	35	Z	-.03	%75
13	35	Z	-.022	%50
14	35	Z	0	0
15	35	Z	0	0
16	62	Z	-.022	%5
17	62	Z	-.022	%75
18	62	Z	-.019	%20
19	62	Z	-.024	%20
20	62	Z	0	0
21	60	Z	-.027	%15
22	60	Z	-.027	%50
23	60	Z	-.019	%40
24	60	Z	-.023	%70
25	60	Z	0	0
26	59	Z	-.03	%5



Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
27	59	Z	-.03	%75
28	59	Z	-.022	%50
29	59	Z	0	0
30	59	Z	0	0
31	50	Z	-.022	%5
32	50	Z	-.022	%75
33	50	Z	-.019	%20
34	50	Z	-.024	%20
35	50	Z	0	0
36	48	Z	-.027	%15
37	48	Z	-.027	%50
38	48	Z	-.019	%40
39	48	Z	-.023	%70
40	48	Z	0	0
41	47	Z	-.03	%5
42	47	Z	-.03	%75
43	47	Z	-.022	%50
44	47	Z	0	0
45	47	Z	0	0
46	75	Z	-.01	%20
47	75	Z	0	0
48	75	Z	0	0
49	75	Z	0	0
50	75	Z	0	0
51	75A	Z	-.01	%10
52	75A	Z	0	0
53	75A	Z	0	0
54	75A	Z	0	0
55	75A	Z	0	0
56	72	Z	-.01	%10
57	72	Z	0	0
58	72	Z	0	0
59	72	Z	0	0
60	72	Z	0	0
61	75	Z	-.01	%20
62	75	Z	0	0
63	75	Z	0	0
64	75	Z	0	0
65	75	Z	0	0
66	75A	Z	-.01	%10
67	75A	Z	0	0
68	75A	Z	0	0
69	75A	Z	0	0
70	75A	Z	0	0
71	72	Z	-.01	%10
72	72	Z	0	0
73	72	Z	0	0
74	72	Z	0	0
75	72	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
1	38	X	-.022	%5
2	38	X	-.022	%75
3	38	X	-.019	%20
4	38	X	-.024	%20



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Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	38	X	0	0
6	36	X	-.027	%15
7	36	X	-.027	%50
8	36	X	-.019	%40
9	36	X	-.023	%70
10	36	X	0	0
11	35	X	-.03	%5
12	35	X	-.03	%75
13	35	X	-.022	%50
14	35	X	0	0
15	35	X	0	0
16	62	X	-.022	%5
17	62	X	-.022	%75
18	62	X	-.019	%20
19	62	X	-.024	%20
20	62	X	0	0
21	60	X	-.027	%15
22	60	X	-.027	%50
23	60	X	-.019	%40
24	60	X	-.023	%70
25	60	X	0	0
26	59	X	-.03	%5
27	59	X	-.03	%75
28	59	X	-.022	%50
29	59	X	0	0
30	59	X	0	0
31	50	X	-.022	%5
32	50	X	-.022	%75
33	50	X	-.019	%20
34	50	X	-.024	%20
35	50	X	0	0
36	48	X	-.027	%15
37	48	X	-.027	%50
38	48	X	-.019	%40
39	48	X	-.023	%70
40	48	X	0	0
41	47	X	-.03	%5
42	47	X	-.03	%75
43	47	X	-.022	%50
44	47	X	0	0
45	47	X	0	0
46	75	X	-.01	%20
47	75	X	0	0
48	75	X	0	0
49	75	X	0	0
50	75	X	0	0
51	75A	X	-.01	%10
52	75A	X	0	0
53	75A	X	0	0
54	75A	X	0	0
55	75A	X	0	0
56	72	X	-.01	%10
57	72	X	0	0
58	72	X	0	0
59	72	X	0	0
60	72	X	0	0
61	75	X	-.01	%20



Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
62	75	X	0	0
63	75	X	0	0
64	75	X	0	0
65	75	X	0	0
66	75A	X	-.01	%10
67	75A	X	0	0
68	75A	X	0	0
69	75A	X	0	0
70	75A	X	0	0
71	72	X	-.01	%10
72	72	X	0	0
73	72	X	0	0
74	72	X	0	0
75	72	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	22	Y	-.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	1	Y	-.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	22	Y	-.25	%95

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	1	Y	-.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	24	Y	-.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	3	Y	-.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	24	Y	-.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	3	Y	-.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	23	Y	-.25	%5



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Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	2	Y	-.25	%5

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	23	Y	-.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	2	Y	-.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	8	Y	-.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	7	Y	-.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft, %]
1	9	Y	-.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	1	Z	-.018	-.018	0	0
2	2	Z	-.018	-.018	0	0
3	3	Z	-.018	-.018	0	0
4	4	Z	-.018	-.018	0	0
5	5	Z	-.018	-.018	0	0
6	6	Z	-.018	-.018	0	0
7	7	Z	-.015	-.015	0	0
8	8	Z	-.015	-.015	0	0
9	9	Z	-.015	-.015	0	0
10	10	Z	-.015	-.015	0	0
11	13	Z	-.015	-.015	0	0
12	16	Z	-.015	-.015	0	0
13	19	Z	-.01	-.01	0	0
14	20	Z	-.01	-.01	0	0
15	21	Z	-.01	-.01	0	0
16	22	Z	-.009	-.009	0	0
17	23	Z	-.009	-.009	0	0
18	24	Z	-.009	-.009	0	0
19	26	Z	-.029	-.029	0	0
20	27	Z	-.029	-.029	0	0
21	28	Z	-.015	-.015	0	0
22	29	Z	-.029	-.029	0	0
23	30	Z	-.029	-.029	0	0
24	31	Z	-.015	-.015	0	0
25	32	Z	-.029	-.029	0	0
26	33	Z	-.029	-.029	0	0
27	34	Z	-.015	-.015	0	0
28	35	Z	-.009	-.009	0	0
29	36	Z	-.009	-.009	0	0



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Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
30	37	Z	-0.009	-0.009	0	0
31	38	Z	-0.009	-0.009	0	0
32	47	Z	-0.009	-0.009	0	0
33	48	Z	-0.009	-0.009	0	0
34	49	Z	-0.009	-0.009	0	0
35	50	Z	-0.009	-0.009	0	0
36	59	Z	-0.009	-0.009	0	0
37	60	Z	-0.009	-0.009	0	0
38	61	Z	-0.009	-0.009	0	0
39	62	Z	-0.009	-0.009	0	0
40	72	Z	-0.007	-0.007	0	0
41	75	Z	-0.006	-0.006	0	0
42	75A	Z	-0.006	-0.006	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	1	X	-0.018	-0.018	0	0
2	2	X	-0.018	-0.018	0	0
3	3	X	-0.018	-0.018	0	0
4	4	X	-0.018	-0.018	0	0
5	5	X	-0.018	-0.018	0	0
6	6	X	-0.018	-0.018	0	0
7	7	X	-0.015	-0.015	0	0
8	8	X	-0.015	-0.015	0	0
9	9	X	-0.015	-0.015	0	0
10	10	X	-0.015	-0.015	0	0
11	13	X	-0.015	-0.015	0	0
12	16	X	-0.015	-0.015	0	0
13	19	X	-0.01	-0.01	0	0
14	20	X	-0.01	-0.01	0	0
15	21	X	-0.01	-0.01	0	0
16	22	X	-0.009	-0.009	0	0
17	23	X	-0.009	-0.009	0	0
18	24	X	-0.009	-0.009	0	0
19	26	X	-0.029	-0.029	0	0
20	27	X	-0.029	-0.029	0	0
21	28	X	-0.015	-0.015	0	0
22	29	X	-0.029	-0.029	0	0
23	30	X	-0.029	-0.029	0	0
24	31	X	-0.015	-0.015	0	0
25	32	X	-0.029	-0.029	0	0
26	33	X	-0.029	-0.029	0	0
27	34	X	-0.015	-0.015	0	0
28	35	X	-0.009	-0.009	0	0
29	36	X	-0.009	-0.009	0	0
30	37	X	-0.009	-0.009	0	0
31	38	X	-0.009	-0.009	0	0
32	47	X	-0.009	-0.009	0	0
33	48	X	-0.009	-0.009	0	0
34	49	X	-0.009	-0.009	0	0
35	50	X	-0.009	-0.009	0	0
36	59	X	-0.009	-0.009	0	0
37	60	X	-0.009	-0.009	0	0
38	61	X	-0.009	-0.009	0	0
39	62	X	-0.009	-0.009	0	0
40	72	X	-0.007	-0.007	0	0



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Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
41	75	X	-0.006	-0.006	0	0
42	75A	X	-0.006	-0.006	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	Z	-0.007	-0.007	0	0
2	2	Z	-0.007	-0.007	0	0
3	3	Z	-0.007	-0.007	0	0
4	4	Z	-0.007	-0.007	0	0
5	5	Z	-0.007	-0.007	0	0
6	6	Z	-0.007	-0.007	0	0
7	7	Z	-0.006	-0.006	0	0
8	8	Z	-0.006	-0.006	0	0
9	9	Z	-0.006	-0.006	0	0
10	10	Z	-0.006	-0.006	0	0
11	13	Z	-0.006	-0.006	0	0
12	16	Z	-0.006	-0.006	0	0
13	19	Z	-0.005	-0.005	0	0
14	20	Z	-0.005	-0.005	0	0
15	21	Z	-0.005	-0.005	0	0
16	22	Z	-0.002	-0.002	0	0
17	23	Z	-0.002	-0.002	0	0
18	24	Z	-0.002	-0.002	0	0
19	26	Z	-0.014	-0.014	0	0
20	27	Z	-0.014	-0.014	0	0
21	28	Z	-0.007	-0.007	0	0
22	29	Z	-0.014	-0.014	0	0
23	30	Z	-0.014	-0.014	0	0
24	31	Z	-0.007	-0.007	0	0
25	32	Z	-0.014	-0.014	0	0
26	33	Z	-0.014	-0.014	0	0
27	34	Z	-0.007	-0.007	0	0
28	35	Z	-0.002	-0.002	0	0
29	36	Z	-0.002	-0.002	0	0
30	37	Z	-0.002	-0.002	0	0
31	38	Z	-0.002	-0.002	0	0
32	47	Z	-0.002	-0.002	0	0
33	48	Z	-0.002	-0.002	0	0
34	49	Z	-0.002	-0.002	0	0
35	50	Z	-0.002	-0.002	0	0
36	59	Z	-0.002	-0.002	0	0
37	60	Z	-0.002	-0.002	0	0
38	61	Z	-0.002	-0.002	0	0
39	62	Z	-0.002	-0.002	0	0
40	72	Z	-0.002	-0.002	0	0
41	75	Z	-0.002	-0.002	0	0
42	75A	Z	-0.002	-0.002	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	X	-0.007	-0.007	0	0
2	2	X	-0.007	-0.007	0	0
3	3	X	-0.007	-0.007	0	0
4	4	X	-0.007	-0.007	0	0
5	5	X	-0.007	-0.007	0	0
6	6	X	-0.007	-0.007	0	0



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Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
7	7	X	-0.006	-0.006	0	0
8	8	X	-0.006	-0.006	0	0
9	9	X	-0.006	-0.006	0	0
10	10	X	-0.006	-0.006	0	0
11	13	X	-0.006	-0.006	0	0
12	16	X	-0.006	-0.006	0	0
13	19	X	-0.005	-0.005	0	0
14	20	X	-0.005	-0.005	0	0
15	21	X	-0.005	-0.005	0	0
16	22	X	-0.002	-0.002	0	0
17	23	X	-0.002	-0.002	0	0
18	24	X	-0.002	-0.002	0	0
19	26	X	-0.014	-0.014	0	0
20	27	X	-0.014	-0.014	0	0
21	28	X	-0.007	-0.007	0	0
22	29	X	-0.014	-0.014	0	0
23	30	X	-0.014	-0.014	0	0
24	31	X	-0.007	-0.007	0	0
25	32	X	-0.014	-0.014	0	0
26	33	X	-0.014	-0.014	0	0
27	34	X	-0.007	-0.007	0	0
28	35	X	-0.002	-0.002	0	0
29	36	X	-0.002	-0.002	0	0
30	37	X	-0.002	-0.002	0	0
31	38	X	-0.002	-0.002	0	0
32	47	X	-0.002	-0.002	0	0
33	48	X	-0.002	-0.002	0	0
34	49	X	-0.002	-0.002	0	0
35	50	X	-0.002	-0.002	0	0
36	59	X	-0.002	-0.002	0	0
37	60	X	-0.002	-0.002	0	0
38	61	X	-0.002	-0.002	0	0
39	62	X	-0.002	-0.002	0	0
40	72	X	-0.002	-0.002	0	0
41	75	X	-0.002	-0.002	0	0
42	75A	X	-0.002	-0.002	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	1	Z	-0.001	-0.001	0	0
2	2	Z	-0.001	-0.001	0	0
3	3	Z	-0.001	-0.001	0	0
4	4	Z	-0.001	-0.001	0	0
5	5	Z	-0.001	-0.001	0	0
6	6	Z	-0.001	-0.001	0	0
7	7	Z	-0.001	-0.001	0	0
8	8	Z	-0.001	-0.001	0	0
9	9	Z	-0.001	-0.001	0	0
10	10	Z	-0.001	-0.001	0	0
11	13	Z	-0.001	-0.001	0	0
12	16	Z	-0.001	-0.001	0	0
13	19	Z	-0.0006	-0.0006	0	0
14	20	Z	-0.0006	-0.0006	0	0
15	21	Z	-0.0006	-0.0006	0	0
16	22	Z	-0.0003	-0.0003	0	0
17	23	Z	-0.0003	-0.0003	0	0



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Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
18	24	Z	-0.003	-0.003	0	0
19	26	Z	-0.002	-0.002	0	0
20	27	Z	-0.002	-0.002	0	0
21	28	Z	-0.001	-0.001	0	0
22	29	Z	-0.002	-0.002	0	0
23	30	Z	-0.002	-0.002	0	0
24	31	Z	-0.001	-0.001	0	0
25	32	Z	-0.002	-0.002	0	0
26	33	Z	-0.002	-0.002	0	0
27	34	Z	-0.001	-0.001	0	0
28	35	Z	-0.0003	-0.0003	0	0
29	36	Z	-0.0003	-0.0003	0	0
30	37	Z	-0.0003	-0.0003	0	0
31	38	Z	-0.0003	-0.0003	0	0
32	47	Z	-0.0003	-0.0003	0	0
33	48	Z	-0.0003	-0.0003	0	0
34	49	Z	-0.0003	-0.0003	0	0
35	50	Z	-0.0003	-0.0003	0	0
36	59	Z	-0.0003	-0.0003	0	0
37	60	Z	-0.0003	-0.0003	0	0
38	61	Z	-0.0003	-0.0003	0	0
39	62	Z	-0.0003	-0.0003	0	0
40	72	Z	-0.0003	-0.0003	0	0
41	75	Z	-0.0003	-0.0003	0	0
42	75A	Z	-0.0003	-0.0003	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	X	-0.001	-0.001	0	0
2	2	X	-0.001	-0.001	0	0
3	3	X	-0.001	-0.001	0	0
4	4	X	-0.001	-0.001	0	0
5	5	X	-0.001	-0.001	0	0
6	6	X	-0.001	-0.001	0	0
7	7	X	-0.001	-0.001	0	0
8	8	X	-0.001	-0.001	0	0
9	9	X	-0.001	-0.001	0	0
10	10	X	-0.001	-0.001	0	0
11	13	X	-0.001	-0.001	0	0
12	16	X	-0.001	-0.001	0	0
13	19	X	-0.0006	-0.0006	0	0
14	20	X	-0.0006	-0.0006	0	0
15	21	X	-0.0006	-0.0006	0	0
16	22	X	-0.0003	-0.0003	0	0
17	23	X	-0.0003	-0.0003	0	0
18	24	X	-0.0003	-0.0003	0	0
19	26	X	-0.002	-0.002	0	0
20	27	X	-0.002	-0.002	0	0
21	28	X	-0.001	-0.001	0	0
22	29	X	-0.002	-0.002	0	0
23	30	X	-0.002	-0.002	0	0
24	31	X	-0.001	-0.001	0	0
25	32	X	-0.002	-0.002	0	0
26	33	X	-0.002	-0.002	0	0
27	34	X	-0.001	-0.001	0	0
28	35	X	-0.0003	-0.0003	0	0



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Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
29	36	X	-0.003	-0.003	0	0
30	37	X	-0.003	-0.003	0	0
31	38	X	-0.003	-0.003	0	0
32	47	X	-0.003	-0.003	0	0
33	48	X	-0.003	-0.003	0	0
34	49	X	-0.003	-0.003	0	0
35	50	X	-0.003	-0.003	0	0
36	59	X	-0.003	-0.003	0	0
37	60	X	-0.003	-0.003	0	0
38	61	X	-0.003	-0.003	0	0
39	62	X	-0.003	-0.003	0	0
40	72	X	-0.003	-0.003	0	0
41	75	X	-0.003	-0.003	0	0
42	75A	X	-0.003	-0.003	0	0

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	1	Y	-0.013	-0.013	0	0
2	2	Y	-0.013	-0.013	0	0
3	3	Y	-0.013	-0.013	0	0
4	4	Y	-0.013	-0.013	0	0
5	5	Y	-0.013	-0.013	0	0
6	6	Y	-0.013	-0.013	0	0
7	7	Y	-0.017	-0.017	0	0
8	8	Y	-0.017	-0.017	0	0
9	9	Y	-0.017	-0.017	0	0
10	10	Y	-0.017	-0.017	0	0
11	13	Y	-0.017	-0.017	0	0
12	16	Y	-0.017	-0.017	0	0
13	19	Y	-0.012	-0.012	0	0
14	20	Y	-0.012	-0.012	0	0
15	21	Y	-0.012	-0.012	0	0
16	22	Y	-0.009	-0.009	0	0
17	23	Y	-0.009	-0.009	0	0
18	24	Y	-0.009	-0.009	0	0
19	26	Y	-0.021	-0.021	0	0
20	27	Y	-0.021	-0.021	0	0
21	28	Y	-0.016	-0.016	0	0
22	29	Y	-0.021	-0.021	0	0
23	30	Y	-0.021	-0.021	0	0
24	31	Y	-0.016	-0.016	0	0
25	32	Y	-0.021	-0.021	0	0
26	33	Y	-0.021	-0.021	0	0
27	34	Y	-0.016	-0.016	0	0
28	35	Y	-0.009	-0.009	0	0
29	36	Y	-0.009	-0.009	0	0
30	37	Y	-0.009	-0.009	0	0
31	38	Y	-0.009	-0.009	0	0
32	47	Y	-0.009	-0.009	0	0
33	48	Y	-0.009	-0.009	0	0
34	49	Y	-0.009	-0.009	0	0
35	50	Y	-0.009	-0.009	0	0
36	59	Y	-0.009	-0.009	0	0
37	60	Y	-0.009	-0.009	0	0
38	61	Y	-0.009	-0.009	0	0
39	62	Y	-0.009	-0.009	0	0



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Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
40	72	Y	-0.009	-0.009	0	0
41	75	Y	-0.009	-0.009	0	0
42	75A	Y	-0.009	-0.009	0	0

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	Z	-0.002	-0.002	0	0
2	2	Z	-0.002	-0.002	0	0
3	3	Z	-0.002	-0.002	0	0
4	4	Z	-0.002	-0.002	0	0
5	5	Z	-0.002	-0.002	0	0
6	6	Z	-0.002	-0.002	0	0
7	7	Z	-0.003	-0.003	0	0
8	8	Z	-0.003	-0.003	0	0
9	9	Z	-0.003	-0.003	0	0
10	10	Z	-0.004	-0.004	0	0
11	13	Z	-0.004	-0.004	0	0
12	16	Z	-0.004	-0.004	0	0
13	19	Z	-0.001	-0.001	0	0
14	20	Z	-0.001	-0.001	0	0
15	21	Z	-0.001	-0.001	0	0
16	22	Z	-0.001	-0.001	0	0
17	23	Z	-0.001	-0.001	0	0
18	24	Z	-0.001	-0.001	0	0
19	26	Z	-0.003	-0.003	0	0
20	27	Z	-0.003	-0.003	0	0
21	28	Z	-0.005	-0.005	0	0
22	29	Z	-0.003	-0.003	0	0
23	30	Z	-0.003	-0.003	0	0
24	31	Z	-0.005	-0.005	0	0
25	32	Z	-0.003	-0.003	0	0
26	33	Z	-0.003	-0.003	0	0
27	34	Z	-0.005	-0.005	0	0
28	35	Z	-0.001	-0.001	0	0
29	36	Z	-0.001	-0.001	0	0
30	37	Z	-0.001	-0.001	0	0
31	38	Z	-0.001	-0.001	0	0
32	47	Z	-0.001	-0.001	0	0
33	48	Z	-0.001	-0.001	0	0
34	49	Z	-0.001	-0.001	0	0
35	50	Z	-0.001	-0.001	0	0
36	59	Z	-0.001	-0.001	0	0
37	60	Z	-0.001	-0.001	0	0
38	61	Z	-0.001	-0.001	0	0
39	62	Z	-0.001	-0.001	0	0
40	72	Z	-0.001	-0.001	0	0
41	75	Z	-0.001	-0.001	0	0
42	75A	Z	-0.001	-0.001	0	0

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	X	-0.002	-0.002	0	0
2	2	X	-0.002	-0.002	0	0
3	3	X	-0.002	-0.002	0	0
4	4	X	-0.002	-0.002	0	0
5	5	X	-0.002	-0.002	0	0



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Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
6	6	X	-0.002	-0.002	0	0
7	7	X	-0.003	-0.003	0	0
8	8	X	-0.003	-0.003	0	0
9	9	X	-0.003	-0.003	0	0
10	10	X	-0.004	-0.004	0	0
11	13	X	-0.004	-0.004	0	0
12	16	X	-0.004	-0.004	0	0
13	19	X	-0.001	-0.001	0	0
14	20	X	-0.001	-0.001	0	0
15	21	X	-0.001	-0.001	0	0
16	22	X	-0.001	-0.001	0	0
17	23	X	-0.001	-0.001	0	0
18	24	X	-0.001	-0.001	0	0
19	26	X	-0.003	-0.003	0	0
20	27	X	-0.003	-0.003	0	0
21	28	X	-0.005	-0.005	0	0
22	29	X	-0.003	-0.003	0	0
23	30	X	-0.003	-0.003	0	0
24	31	X	-0.005	-0.005	0	0
25	32	X	-0.003	-0.003	0	0
26	33	X	-0.003	-0.003	0	0
27	34	X	-0.005	-0.005	0	0
28	35	X	-0.001	-0.001	0	0
29	36	X	-0.001	-0.001	0	0
30	37	X	-0.001	-0.001	0	0
31	38	X	-0.001	-0.001	0	0
32	47	X	-0.001	-0.001	0	0
33	48	X	-0.001	-0.001	0	0
34	49	X	-0.001	-0.001	0	0
35	50	X	-0.001	-0.001	0	0
36	59	X	-0.001	-0.001	0	0
37	60	X	-0.001	-0.001	0	0
38	61	X	-0.001	-0.001	0	0
39	62	X	-0.001	-0.001	0	0
40	72	X	-0.001	-0.001	0	0
41	75	X	-0.001	-0.001	0	0
42	75A	X	-0.001	-0.001	0	0

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	Y	-0.0002103	-0.006	0	2
2	1	Y	-0.006	-0.01	2	4
3	1	Y	-0.01	-0.009	4	6
4	1	Y	-0.009	-0.009	6	8
5	1	Y	-0.009	-0.01	8	10
6	1	Y	-0.01	-0.006	10	12
7	1	Y	-0.006	-0.0002103	12	14
8	4	Y	-0.01	-0.01	.004	7.096
9	8	Y	-0.017	-0.01	0	1.992
10	8	Y	-0.01	-0.002	1.992	3.984
11	9	Y	-0.017	-0.01	0	1.992
12	9	Y	-0.01	-0.002	1.992	3.984
13	3	Y	-0.002	-0.005	0	2.333
14	3	Y	-0.005	-0.009	2.333	4.667
15	3	Y	-0.009	-0.012	4.667	7
16	3	Y	-0.012	-0.009	7	9.333



Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
17	3	Y	-0.009	-0.005	9.333	11.667
18	3	Y	-0.005	-0.002	11.667	14
19	6	Y	-0.01	-0.01	.004	7.096
20	7	Y	-0.017	-0.01	0	1.992
21	7	Y	-0.01	-0.002	1.992	3.984
22	2	Y	-0.002	-0.005	0	2.333
23	2	Y	-0.005	-0.009	2.333	4.667
24	2	Y	-0.009	-0.012	4.667	7
25	2	Y	-0.012	-0.009	7	9.333
26	2	Y	-0.009	-0.005	9.333	11.667
27	2	Y	-0.005	-0.002	11.667	14
28	5	Y	-0.01	-0.01	.004	7.096

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	1	Y	-0.0001795	-0.005	0	2
2	1	Y	-0.005	-0.008	2	4
3	1	Y	-0.008	-0.008	4	6
4	1	Y	-0.008	-0.008	6	8
5	1	Y	-0.008	-0.008	8	10
6	1	Y	-0.008	-0.005	10	12
7	1	Y	-0.005	-0.0001795	12	14
8	4	Y	-0.009	-0.009	.004	7.096
9	8	Y	-0.015	-0.008	0	1.992
10	8	Y	-0.008	-0.002	1.992	3.984
11	9	Y	-0.015	-0.008	0	1.992
12	9	Y	-0.008	-0.002	1.992	3.984
13	3	Y	-0.002	-0.005	0	2.333
14	3	Y	-0.005	-0.008	2.333	4.667
15	3	Y	-0.008	-0.01	4.667	7
16	3	Y	-0.01	-0.008	7	9.333
17	3	Y	-0.008	-0.005	9.333	11.667
18	3	Y	-0.005	-0.002	11.667	14
19	6	Y	-0.009	-0.009	.004	7.096
20	7	Y	-0.015	-0.009	0	1.992
21	7	Y	-0.009	-0.002	1.992	3.984
22	2	Y	-0.002	-0.005	0	2.333
23	2	Y	-0.005	-0.008	2.333	4.667
24	2	Y	-0.008	-0.01	4.667	7
25	2	Y	-0.01	-0.008	7	9.333
26	2	Y	-0.008	-0.005	9.333	11.667
27	2	Y	-0.005	-0.002	11.667	14
28	5	Y	-0.009	-0.009	.004	7.096

Joint Loads and Enforced Displacements (BLC 11 : Live Load a)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	63	L	Y	-5
2	111	L	Y	-5
3	87	L	Y	-5

Joint Loads and Enforced Displacements (BLC 12 : Live Load b)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	65	L	Y	-5
2	113	L	Y	-5



Joint Loads and Enforced Displacements (BLC 12 : Live Load b) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
3	89	L	Y	-5

Joint Loads and Enforced Displacements (BLC 13 : Live Load c)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	71	L	Y	-5
2	119	L	Y	-5
3	95	L	Y	-5

Joint Loads and Enforced Displacements (BLC 14 : Live Load d)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	73	L	Y	-5
2	121	L	Y	-5
3	97	L	Y	-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	7	max	5.29	5	2.33	20	1.398	2	-238	2	5.001	5	.365	11
2		min	-5.284	11	.431	2	-1.478	8	-4.598	20	-5.029	11	-.384	5
3	17	max	3.379	7	2.213	16	6.242	13	2.449	15	6.602	13	-.59	10
4		min	-3.365	13	.479	10	-6.209	7	.023	8	-6.669	7	-4.029	16
5	12	max	3.442	3	2.207	24	6.319	3	2.384	25	6.913	9	4.135	24
6		min	-3.503	9	.437	6	-6.323	9	.077	7	-6.935	3	.588	6
7	43	max	.598	12	2.144	18	1.915	18	.031	12	.009	3	.054	12
8		min	-3.317	18	-.372	12	-.345	12	-.178	18	-.009	9	-.31	18
9	49	max	3.886	22	2.493	22	2.244	22	.031	4	.009	7	.36	22
10		min	-.587	4	-.366	4	-.339	4	-.208	22	-.009	13	-.053	4
11	37	max	.059	5	2.559	14	1.512	8	.427	14	.009	11	0	11
12		min	-.059	11	-.812	8	-4.613	14	-.135	8	-.01	5	0	5
13	Totals:	max	6.765	5	12.933	14	9.541	2						
14		min	-6.765	11	4.733	8	-9.541	8						

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

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*P...	phi*P...	phi*...	phi*...	Eqn	
1	1	L3X3X4	.796	12.542	9	.850	7	y	2	15.778	46.656	1.688	3.585	H2-1
2	2	L3X3X4	.890	12.542	2	.566	6.854	y	7	15.778	46.656	1.688	3.343	H2-1
3	3	L3X3X4	.739	7	2	.606	7	z	9	15.778	46.656	1.688	2.161	H2-1
4	4	L3X3X4	.497	3.55	6	.579	3.55	z	2	15.337	46.656	1.688	3.234	H2-1
5	5	L3X3X4	.637	3.476	3	.333	0	y	6	15.337	46.656	1.688	3.183	H2-1
6	6	L3X3X4	.625	3.55	8	.287	3.55	y	22	15.337	46.656	1.688	3.074	H2-1
7	7	LL3x3x4x0	.413	3.984	25	.090	3.195	y	24	76.305	93.312	6.48	4.358	H1-...
8	8	LL3x3x4x0	.347	3.984	16	.091	3.195	y	8	76.305	93.312	6.48	4.358	H1-...
9	9	LL3x3x4x0	.411	3.984	20	.093	3.195	y	8	76.305	93.312	6.48	4.358	H1-...
10	10	C3.5x5.1x0.375	.694	2.8	6	.270	2.013	y	5	123....	137....	9.481	21.534	H1-...
11	13	C3.5x5.1x0.375	.838	2.8	2	.363	2.012	y	9	123....	137....	9.481	21.534	H1-...
12	16	C3.5x5.1x0.375	.861	2.8	2	.358	2.012	y	13	123....	137....	9.481	21.534	H1-...
13	19	L2.5x2.5x4	.734	1.245	3	.189	0	z	5	36.654	38.556	1.114	2.537	H2-1
14	20	L2.5x2.5x4	.733	1.245	8	.297	0	z	9	36.654	38.556	1.114	2.537	H2-1
15	21	L2.5x2.5x4	.487	0	9	.271	1.245	z	13	36.654	38.556	1.114	2.537	H2-1
16	22	PIPE 2.0	.703	11.867	7	.457	12.133		8	6.004	32.13	1.872	1.872	H3-6
17	23	PIPE 2.0	.757	1.6	8	.340	11.733		13	6.004	32.13	1.872	1.872	H3-6
18	24	PIPE 2.0	.756	11.867	3	.357	12.133		3	6.004	32.13	1.872	1.872	H3-6
19	26	PL3/8x8_HRA_...	.062	0	15	.119	0	y	14	91.837	98.496	.78	16.416	H1-...
20	27	PL3/8x8_HRA_...	.053	0	15	.065	0	y	14	91.837	98.496	.78	16.416	H1-...

Exhibit F

Power Density/RF Emissions Report



RF EMISSIONS COMPLIANCE REPORT

Crown Castle on behalf of AT&T Mobility, LLC

Crown Castle Site Name: CT NEW BRITAIN 4 CAC 803843
Crown Castle Site BU: 803843
AT&T Mobility, LLC Site FA #: 10091780
200 Stanley Street
New Britain, CT
5/4/2020

Report Status:

AT&T Mobility, LLC is Compliant



Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2021

Signed 04 May 2020

Prepared By:

Site Safe, LLC

Engineering Statement in Re:
Electromagnetic Energy Analysis
Crown Castle
New Britain, CT

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Site Safe, LLC in Vienna, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Crown Castle on behalf of AT&T Mobility, LLC (see attached Site Summary and Carrier documents) and that AT&T Mobility, LLC's installation involves communications equipment, antennas and associated technical equipment at a location referred to as "CT NEW BRITAIN 4 CAC 803843" ("the site"); and

That AT&T Mobility, LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T Mobility, LLC and shown on the worksheet and that worst-case 100% duty cycle has been assumed; and

That in addition to the emitters specified in the worksheet, there are additional collocated point-to-point microwave facilities on this structure, and the antennas used are highly directional and oriented at angles at or just below the horizontal, and that the energy present at ground level is typically so low as to be considered insignificant and has not been included in this analysis (a list of microwave antennas is included); and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio frequency energy must utilize the standards set by the FCC, which is the federal agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," which defines situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and 2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of AT&T Mobility, LLC's operating frequencies as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T Mobility, LLC operation is no more than 1.620% of the maximum permissible exposure limits in any accessible area on the ground; and

That it is understood per FCC Guidelines and OET 65 Appendix A, that regardless of the existent radio frequency environment, only those licensees whose contributions exceed 5% of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 6.512% of the maximum in any accessible area up to two meters above the ground per OET 65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET 65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier(s) and frequency range(s) indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding radio frequency safety; and

In summary, it is stated here that the proposed operation at the site will not result in exposure of the public to excessive levels of radio frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307(b), and that AT&T Mobility, LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals and approved contractor personnel trained in radio frequency safety and that this instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower or in the immediate proximity of the antennas.

**Crown Castle
CT NEW BRITAIN 4 CAC 803843
Site Summary**

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.193 %
AT&T Mobility, LLC	0.102 %
AT&T Mobility, LLC (Proposed)	0.304 %
AT&T Mobility, LLC (Proposed)	0.150 %
AT&T Mobility, LLC (Proposed)	0.185 %
AT&T Mobility, LLC (Proposed)	0.428 %
AT&T Mobility, LLC (Proposed)	0.258 %
SigFox SA	0.000 %
Clearwire	0.075 %
Clearwire	0.086 %
Clearwire	0.086 %
Clearwire	0.112 %
Verizon Wireless	0.805 %
Verizon Wireless	1.450 %
Verizon Wireless	0.929 %
Verizon Wireless	1.349 %
Composite Site MPE:	6.512 %

AT&T Mobility, LLC
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 2300 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.92647 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.19263 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	OPA-65R-LCUU-H8	193	0	2917	1.620431	0.162043	1.901668	0.190167
CCI Antennas	OPA-65R-LCUU-H8	193	110	2917	1.620431	0.162043	1.901668	0.190167
CCI Antennas	OPA-65R-LCUU-H8	193	240	2917	1.620431	0.162043	1.901668	0.190167

AT&T Mobility, LLC
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 722 MHz
Maximum Permissible Exposure (MPE): 481.33 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.4919 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.1022 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	OPA-65R-LCUU-H8	193	0	1343	0.233561	0.048524	0.273311	0.056782
CCI Antennas	OPA-65R-LCUU-H8	193	110	1343	0.233561	0.048524	0.273311	0.056782
CCI Antennas	OPA-65R-LCUU-H8	193	240	1343	0.233561	0.048524	0.273311	0.056782

**AT&T Mobility, LLC (Proposed)
CT NEW BRITAIN 4 CAC 803843
Carrier Summary**

Frequency: 1900 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 3.04484 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.30448 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	DMP65R-BU8D	193	0	4170	2.177417	0.217742	2.796078	0.279608
CCI Antennas	DMP65R-BU8D	193	110	4170	2.177417	0.217742	2.796078	0.279608
CCI Antennas	DMP65R-BU6D	193	240	4075	2.492598	0.249260	3.020710	0.302071

**AT&T Mobility, LLC (Proposed)
CT NEW BRITAIN 4 CAC 803843
Carrier Summary**

Frequency: 850 MHz
 Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 0.84760 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.14958 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	DMP65R-BU8D	193	0	2885	0.418974	0.073937	0.791643	0.139702
CCI Antennas	DMP65R-BU8D	193	110	2885	0.418974	0.073937	0.791643	0.139702
CCI Antennas	DMP65R-BU6D	193	240	2239	0.459845	0.081149	0.835471	0.147436

**AT&T Mobility, LLC (Proposed)
CT NEW BRITAIN 4 CAC 803843
Carrier Summary**

Frequency: 737 MHz
 Maximum Permissible Exposure (MPE): 491.33 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 0.90951 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.18511 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	DMP65R-BU8D	193	0	2692	0.410862	0.083622	0.757873	0.154248
CCI Antennas	DMP65R-BU8D	193	110	2692	0.410863	0.083622	0.757873	0.154248
CCI Antennas	DMP65R-BU6D	193	240	2400	0.493490	0.100439	0.636152	0.129475

**AT&T Mobility, LLC (Proposed)
CT NEW BRITAIN 4 CAC 803843
Carrier Summary**

Frequency: 2100 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 4.27601 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.42760 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	TPA65R-BU8D	193	0	6609	3.437713	0.343771	4.248601	0.424860
CCI Antennas	TPA65R-BU8D	193	110	6609	3.437713	0.343771	4.248601	0.424860
CCI Antennas	TPA65R-BU8D	193	240	6609	3.437713	0.343771	4.248601	0.424860

**AT&T Mobility, LLC (Proposed)
CT NEW BRITAIN 4 CAC 803843
Carrier Summary**

Frequency: 763 MHz
Maximum Permissible Exposure (MPE): 508.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.31454 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.25843 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	TPA65R-BU8D	193	0	3549	0.548848	0.107899	1.070542	0.210460
CCI Antennas	TPA65R-BU8D	193	110	3549	0.548848	0.107899	1.070542	0.210460
CCI Antennas	TPA65R-BU8D	193	240	3549	0.548848	0.107899	1.070542	0.210460

SigFox SA
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 905.2 MHz
Maximum Permissible Exposure (MPE): 603.33 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.00204 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.00034 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Procom	CXL 900-3LW	164	180	1.22	0.002039	0.000338	0.002039	0.000338

Clearwire
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 2500 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.74525 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.07453 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
ARGUS	LLPX310R	175	0	1542	0.382427	0.038243	0.702953	0.070295
ARGUS	LLPX310R	175	120	1542	0.382427	0.038243	0.702953	0.070295
ARGUS	LLPX310R	175	240	1542	0.382427	0.038243	0.702953	0.070295

Clearwire
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 1990 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.85884 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.08588 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	175	0	2472	0.665566	0.066557	0.851852	0.085185
Commscope	NNVV-65B-R4	175	120	2472	0.665566	0.066557	0.851852	0.085185
Commscope	NNVV-65B-R4	175	240	2472	0.665566	0.066557	0.851852	0.085185

Clearwire
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.85884 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.08588 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	175	0	2472	0.665566	0.066557	0.851852	0.085185
Commscope	NNVV-65B-R4	175	120	2472	0.665566	0.066557	0.851852	0.085185
Commscope	NNVV-65B-R4	175	240	2472	0.665566	0.066557	0.851852	0.085185

Clearwire
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Carrier Summary

Frequency: 862 MHz
Maximum Permissible Exposure (MPE): 574.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.64628 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.11246 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	175	0	1901	0.584967	0.101792	0.596335	0.103771
Commscope	NNVV-65B-R4	175	120	1901	0.584967	0.101792	0.596335	0.103771
Commscope	NNVV-65B-R4	175	240	1901	0.584967	0.101792	0.596335	0.103771

Verizon Wireless
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 850 MHz
Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 4.56447 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.80549 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Antel	BXA-80080-4CF	104	30	2536	2.353738	0.415366	3.833396	0.676482
Antel	BXA-80080-4CF	104	150	2536	2.353738	0.415366	3.833396	0.676482
Antel	BXA-80090-4CF	104	270	2014	2.093212	0.36939	3.394638	0.599054

Verizon Wireless
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Carrier Summary

Frequency: 751 MHz
Maximum Permissible Exposure (MPE): 500.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 7.26186 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 1.45044 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Antel	BXA-70063-6CF-EDIN-6	104	30	4019	5.742719	1.147014	7.185010	1.435089
Antel	BXA-70063-6CF-EDIN-6	104	150	4019	5.742719	1.147014	7.185010	1.435089
Antel	BXA-70063-6CF-EDIN-6	104	270	4019	5.742719	1.147014	7.185010	1.435089

Verizon Wireless
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 2100 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 9.29486 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.92949 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
ANDREW	SBNHH-1D65B	103	30	6873	5.722320	0.572232	8.935003	0.893500
ANDREW	SBNHH-1D65B	103	150	6873	5.722320	0.572232	8.935003	0.893500
ANDREW	SBNHH-1D65B	103	270	6873	5.722320	0.572232	8.935003	0.893500

Verizon Wireless
CT NEW BRITAIN 4 CAC 803843
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 13.49466 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 1.34947 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
ANDREW	SBNHH-1D65B	103	30	6111	10.288861	1.028886	13.340870	1.334087
ANDREW	SBNHH-1D65B	103	150	6111	10.288861	1.028886	13.340870	1.334087
ANDREW	SBNHH-1D65B	103	270	6111	10.288861	1.028886	13.340870	1.334087

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Composite Microwave Antenna Summary

Carrier	Antenna Make/Model	Height (feet)
Clearwire	Andrew VHLP2-23	175