



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

February 5, 2019

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

RE: Notice of Exempt Modification for AT&T / Crown Site BU: 876313
AT&T Site ID: CTL05264
1394 Meriden Waterbury Turnpike, Southington, CT 06489
Latitude: 41° 33' 51.39" / Longitude: -72° 53' 30.70"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 158-foot level of the existing 160-foot monopole tower at 1394 Meriden Waterbury Turnpike in Southington, CT. The tower is owned by Crown Castle and property is owned by Southington Tower Development LLC (Crown Castle). AT&T intends to add three (3) antennas, nine (9) RRHs, and two (2) DC6 squids. AT&T also intends to add eight (8) DC cables and one (1) fiber cable.

The Town of Southington has not responded to a request for original zoning documents, at this time.

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.S.C.A. § 16-50j-73, a copy of this letter is being sent to Mr. Mark Sciota, Town Manager of the Town of Southington; Robert Phillips, Southington Director of Planning Community Development; Southington Tower Development LLC (Crown Castle), the Property owner; and Crown, 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.

The Foundation for a Wireless World.
CrownCastle.com

Melanie A. Bachman

Page 2

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.

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: William Stone.

Sincerely,

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

Attachments:

- Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
- Tab 2: Exhibit-2: Structural Modification Report
- Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc:

Mr. Mark Sciota, Town Manager
Town of Southington
75 Main Street
Southington, CT 06489
860-276-6200

Robert Phillips
Planning & Zoning
Municipal Center
196 North Main Street
Southington, CT 06489
860-276-6248

ORIGIN ID: GFLA (518) 373-3523
ANNE MARIE ZSAMBA
CROWN CASTLE
3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065
UNITED STATES US

SHIP DATE: 08FEB19
ACTWGT: 3.50 LB
CAD: 104924194/NET/4100

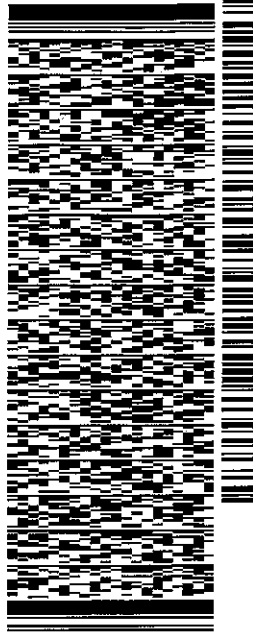
BILL SENDER

TO **MELANIE BACHMAN**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE

NEW BRITAIN CT 06051

(860) 827-2951 REF: 17650980
INV: PO: DEPT:

565J2/0E3D/23AD

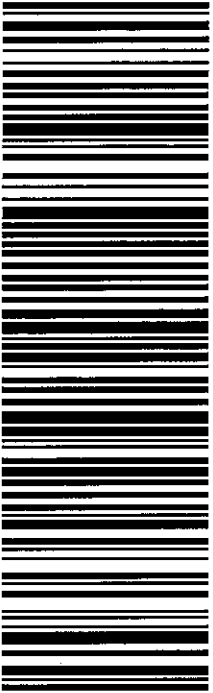


THU - 07 FEB 10:30A

PRIORITY OVERNIGHT

TRK# 7744 0246 6672
0201

EB BDLA
06051
CT-US BDL



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. 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: GFLA (518) 373-3523
ANNE MARIE ZSAMBA
CROWN CASTLE
3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065
UNITED STATES US

SHIP DATE: 06FEB19
ACTWGT: 1.50 LB
CAD: 104924194/IN/ET/4100
BILL SENDER

TO ROBERT PHILLIPS - PLANNING AND ZONI

MUNICIPAL CENTER

196 NORTH MAIN STREET

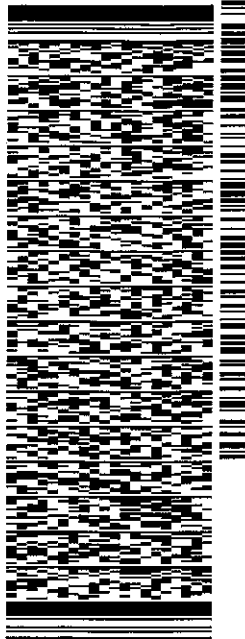
SOUTHINGTON CT 06489

(860) 276-6248

REF: 17347880

NOV

DEPT:



J191019010701uv

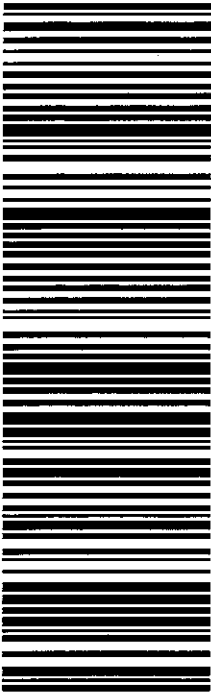
565J20E3D/23AD

TRK# 7744 0245 3948
0201

THU - 07 FEB 10:30A
PRIORITY OVERNIGHT

EB BNHA

06489
BDL
CT-US



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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.

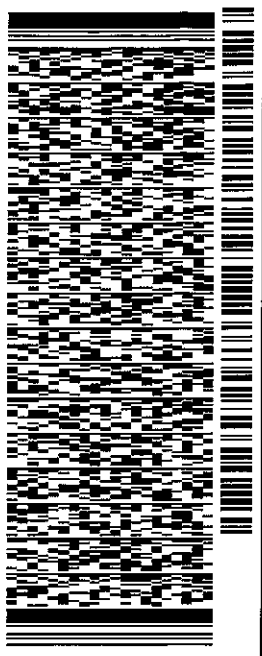
ORIGIN: GFLA (518) 373-3523
ANNE MARIE ZSAMBA
CROMM CASTLE
3 CORPORATE PARK DRIVE
SUITE 101
CLIFTON PARK, NY 12065
UNITED STATES US

SHIP DATE: 09FEB19
ACTWTG: 1.50 LB
CAD: 104924194/NET4100
BILL SENDER

TO MR. MARK SCIOTA, TOWN MANAGER

TOWN OF SOUTHWINGTON
75 MAIN STREET
SOUTHWINGTON CT 06489
(860) 276-6200
REF: 17347680
PO. DEPT:

565J20E3D/23AD



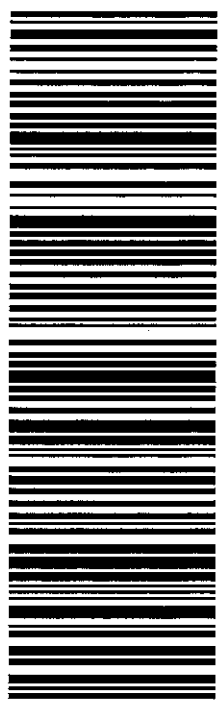
THU - 07 FEB 10:30A

PRIORITY OVERNIGHT

TRK# 7744 0243 7780
0201

EB BNHA

06489
BDL
CT-US



After printing this label:

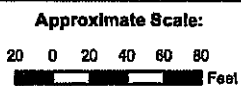
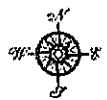
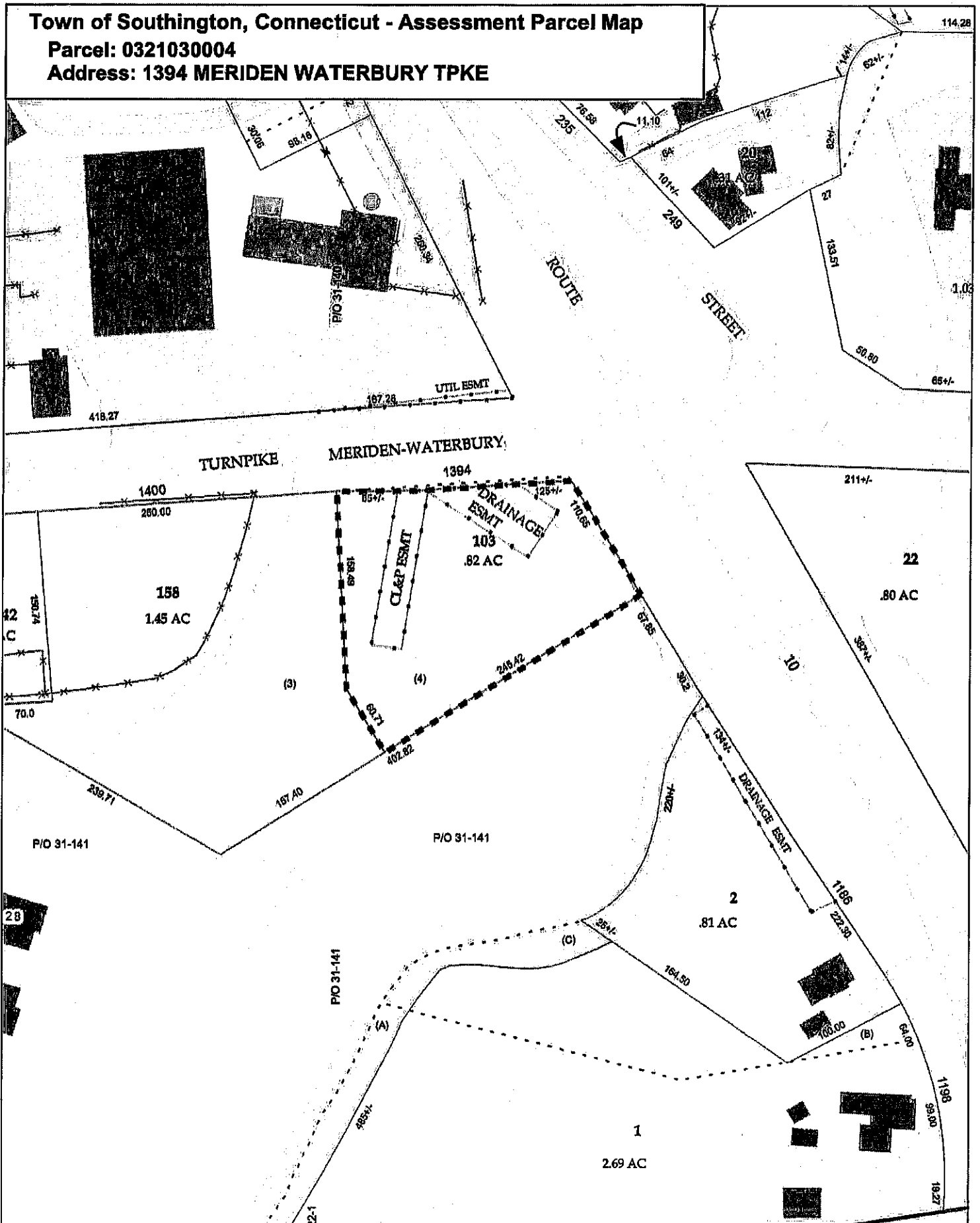
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
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.

Town of Southington, Connecticut - Assessment Parcel Map

Parcel: 0321030004

Address: 1394 MERIDEN WATERBURY TPKE



Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Southington and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced November 2016



Property Information

Property Location	1394 MERIDEN WATERBURY TPKE
Owner	SOUTHINGTON TOWER DEVELOPMENT LLC
Co-Owner	%GLOBAL SIGNAL
Mailing Address	PMB331 CANONSBURG PA 15317-252
Land Use	391 Vac Com Lnd wAcc
Land Class	C
Water Service	

Sewer Service	
Census Tract	4303
Neighborhood	1135
Zoning Code	B
Acreage	0.83
Book / Page	997/1112
Lot Setting/Desc	Level
Trash Day	

Photo

No Photo Available

Sketch

Primary Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Floors	
Total Rooms	

Bedrooms	0
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	0
Total Living Area	0



Town of Southington, CT
Property Listing Report

GIS PIN 0321030004

Account 18522

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings		0
Outbuildings	0	0
Improvements	0	0
Extras	0	0
Land	204320	143020
Total	204320	143020

Outbuilding and Extra Items

Type	Description

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
SOUTHINGTON TOWER DEVELOPMENT LLC	997/1112	2005-01-18	90000

SHEET INDEX

NO.	DESCRIPTION
11	TITLE PAGE
12	GENERAL NOTES
13	COMPOUND PLAN
14	EQUIPMENT LAYOUT
15	ELEVATION VIEW AND RF SCHEDULE
16	ANTENNA ORIENTATION PLAN
17	EQUIPMENT DETAILS
18	RF PLUMBING DIAGRAM
19	GROUNDING DETAILS

SCOPE OF WORK

- INSTALL (3) MERRIDEN 600-10586 (AND IN POS. 3 ALL SECTIONS)
- INSTALL (1) TRUSS TRUNK
- INSTALL (1) POWER TRUNK
- INSTALL (3) 85/812 448 (POS. 2)
- INSTALL (3) 814 4478 (POS. 3)
- INSTALL (3) 82/888A 8843 (POS. 4)
- INSTALL (1) 6030
- INSTALL (1) 5210
- INSTALL (1) 5241
- INSTALL (1) 5251



SITE NAME
WEST JOHNSON AVE. BURNT HOUSE
CROWN BU
876313
FA SITE NUMBER
10092035
SITE ADDRESS
1394 MERRIDEN WATERBURY TPK
SOUTHINGTON, CT 06489
STRUCTURE TYPE
MONOPOLE

PROJECT SITE INFORMATION

SITE NAME: WEST JOHNSON AVE. BURNT HOUSE
CROWN BU: 876313
FA SITE #: 10092035
SITE ADDRESS: 1394 MERRIDEN WATERBURY TPK
 SOUTHINGTON, CT 06489
APPROXIMATE COORDINATES:
 N 41° 33' 31.10" (41.564194°) (NAD 83)
 W 72° 03' 30.80" (-72.061668°) (NAD 83)
ANTENNA HEIGHT: 575 MOROSSO DRIVE
 ATLANTA, GA 30324

STRUCTURAL ANALYSIS INFORMATION

TOWER ANALYSIS
 BASED ON THE STRUCTURAL ANALYSIS COMPLETED BY PAUL J. FORD AND COMPANY LIMITED COMPANY. THE EXISTING TOWER IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT CONFIGURATION.
ANTENNA MOUNTS
 AIRNET ENGINEERING HAS NOT EVALUATED THE EXISTING TOWER FOR ANTENNA MOUNTS. ANALYSES FROM TOWER OWNER PRIOR TO ANY CONSTRUCTION.

PROJECT TEAM INFORMATION

CLIENT REPRESENTATIVE: CROWN CASTLE
 3 CORPORATE PARK DRIVE, SUITE 101
 CLIFTON PARK, NY 12065
CLIENT REP. CONTACT: ALISSON SOURCES
 ALISSON.SOURCES.CONTRACTOR@CROWNCASTLE.COM
ENGINEER: AIRNET SOLUTIONS
 1000 WASHINGTON ROAD, SUITE 119
 FARMINGDALE, NY 11737
ENGINEER CONTACT: WEST JOHNSON AVE. BURNT HOUSE
 CROWN BU: 876313
 FA # 10092035
 1394 MERRIDEN WATERBURY TPK
 SOUTHINGTON, CT 06489

TOWER OWNER NOTIFICATION

ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED FROM THE TOWER OWNER, THE CONTRACTOR SHALL ADVISE THE TOWER OWNER OF THE NUMBER OF SECTIONS (LIMITED ON THE FIRST PHASE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED TO CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE INS. WORK HAS BEGUN.



CODE COMPLIANCE

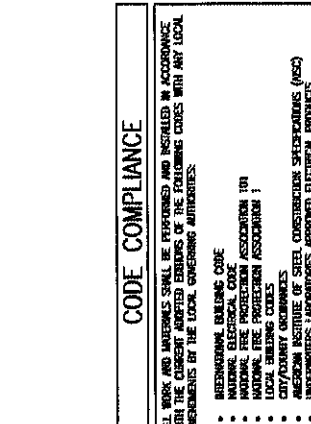
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT ADAPTED EDITIONS OF THE FOLLOWING CODES WITH ANY LOCAL AMENDMENTS BY THE LOCAL GOVERNING AUTHORITIES:

- INTERNATIONAL BUILDING CODE
- NATIONAL ELECTRICAL CODE
- NATIONAL FIRE PROTECTION ASSOCIATION 101
- NATIONAL FIRE PROTECTION ASSOCIATION 1
- LOCAL BUILDING CODES
- CITY/TOWNY CODES OF STEEL CONSTRUCTION SPECIFICATIONS (AISC)
- INTERNATIONAL WIRELESS LABORATORIES APPROVED ELECTRICAL PRODUCTS
- AISC EN/VA Z22 SER. 6
- TIA 967
- REQUIRE FOR ELECTRICAL AND ELECTRONICS BUSINESS OR COMMERCIAL (NFPA 70)
- ELECTRICAL CODES
- AISC T1-311

GENERAL NOTES

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- 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, ACCESSORIES AND CHAINS FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.
- THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DEGRADATION OF EFFECT OR STORMWATER DRAINAGE.
- NO SANITARY SEWER, POTABLE WATER, OR WASH DISPOSAL SERVICE IS REQUIRED.
- NO COMMERCIAL STORAGE IS PROPOSED.

LOCATION MAP



CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT ADAPTED EDITIONS OF THE FOLLOWING CODES WITH ANY LOCAL AMENDMENTS BY THE LOCAL GOVERNING AUTHORITIES:

- INTERNATIONAL BUILDING CODE
- NATIONAL ELECTRICAL CODE
- NATIONAL FIRE PROTECTION ASSOCIATION 101
- NATIONAL FIRE PROTECTION ASSOCIATION 1
- LOCAL BUILDING CODES
- CITY/TOWNY CODES OF STEEL CONSTRUCTION SPECIFICATIONS (AISC)
- INTERNATIONAL WIRELESS LABORATORIES APPROVED ELECTRICAL PRODUCTS
- AISC EN/VA Z22 SER. 6
- TIA 967
- REQUIRE FOR ELECTRICAL AND ELECTRONICS BUSINESS OR COMMERCIAL (NFPA 70)
- ELECTRICAL CODES
- AISC T1-311



INFINIGY
 9565 Edgemoor Road, Suite 102
 Bethesda, MD 20814
 301.281.1313
 info@infinigy.com



NO.	REVISION	DATE	BY	CHKD.

PROJECT TITLE: WEST JOHNSON AVE. BURNT HOUSE
CROWN BU: 876313
FA #: 10092035
PROJECT NO.: 10092035



TITLE PAGE
T1

GENERAL NOTES

PART 1 - GENERAL REQUIREMENTS

- THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 - CONSTRUCTION REQUIREMENTS: PERSONAL PROTECTION
 - OSHA - OSHA GENERAL REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 - NATIONAL THE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC"), NFPA 70B (SAFETY CODE FOR TESTING OF MATERIALS (ASMA)), AND NFPA 70E (SAFETY CODE FOR TESTING OF MATERIALS (IEEE)).
 - MANUFACTURE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

- DEFINITIONS:
 - THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT.
 - COMPANY: AS THE CONTRACTOR.
 - ENGINEER: SYNCHRONOUS WITH ARCHITECT & ENGINEER AND "A&E".
 - DESIGN PROFESSIONAL: PERSONAL PROFESSIONAL RESPONSIBILITY FOR THE DESIGN OF THE PROJECT.
 - CONTRACTOR: CONSTRUCTION VENDOR, INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
 - THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED BY THE CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

- POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION AND THE 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.

- DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE PROVIDED TO THE CONTRACTOR AT THE JOBSITE AT CONSTRUCTION COMPLETION. THIS ASBITE MARSHUP 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.

- 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.
- NOTICE TO PROCEED:
 - NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
 - CONTRACTOR SHALL FULLY FULFILL ALL WORK NECESSARY TO PROVIDE A&E WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 - EXECUTION

- TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY TO SUPPORT THE WORK. TEMPORARY UTILITIES AND FACILITIES INCLUDE, BUT NOT LIMITED TO, 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE LESSOR OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORWARDED EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 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.

- TESTING REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREIN, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY PERSONNEL AND/OR ARCHITECT/ENGINEER REQUIRE TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

- 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 THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
 - CONTRACTOR SHALL PROTECT ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY A&E TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- DIMENSIONS: VERIFY DIMENSIONS ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

- EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF ANY 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

 - RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS AND EQUIPMENT RECEIVED AT THE JOBSITE. CONTRACTOR SHALL VERIFY QUANTITIES, SPECIFICATIONS AND CONDITION OF ALL DELIVERIES.
 - VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 - TAKE RESPONSIBILITY FOR AGREEMENT AND PROMISE INSURANCE PROTECTION AS REQUIRED BY AGREEMENT.
 - IF MATERIALS ARE DAMAGED, REPORT TO A&E OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH DAMAGE.
 - PROVIDE SECURE AND NECESSARY WEATHER PROTECTED UNDERSTORAGE FOR ALL MATERIALS AND EQUIPMENT AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

- GENERAL REQUIREMENTS FOR CONSTRUCTION:
 - 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 DEBRIS, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS, AND CLEAR OF DEBRIS.
 - CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO REDUCE AND MINIMIZE ANY HAZARDOUS CONDITIONS.
 - IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITIONS WHICH HAS NOT BEEN ADEQUATELY OR OTHERWISE IDENTIFIED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN INSTRUCTIONS FROM THE COMPANY.
 - CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN DAMAGE TO THE ENVIRONMENT, OR TO FURTHER EMPLOYEES INDIVIDUALS TO THE HAZARDOUS.

- 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 NOTIFY THE ARCHITECT/ENGINEER.
- CONDUCT TESTING AS REQUIRED HEREIN.

- TESTS, INSPECTIONS AND PROJECT DOCUMENTATION:
 - CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH TESTING AT THE JOBSITE AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE. EVIDENCE TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - SITE RESISTANCE TO GROUND TESTING FOR CONCRETE: CELL SITE GROUNDING SYSTEM DESIGN.

- TESTS AND INSPECTIONS:
 - CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH TESTING AT THE JOBSITE AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE. EVIDENCE TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - SITE RESISTANCE TO GROUND TESTING FOR CONCRETE: CELL SITE GROUNDING SYSTEM DESIGN.

- TESTS AND INSPECTIONS:
 - CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
 - WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH TESTING AT THE JOBSITE AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
 - THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE. EVIDENCE TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
 - SITE RESISTANCE TO GROUND TESTING FOR CONCRETE: CELL SITE GROUNDING SYSTEM DESIGN.

- ANTENNA AND CABLE SHEET TESTS FOR EXTERNAL ANTENNA TRANSMISSION LINE ACCEPTANCE SIGNATURES.
- ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

- TRENCHING AND BACKFILLING:
 - CONTRACTOR SHALL PERFORM ALL TRENCHING AND BACKFILLING OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCE ENCOUNTERED TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
 - PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES BEFORE TRENCHING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES.

- GROUNDING:
 - GROUNDING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING AND RESOURCES OR OTHER ELECTRICAL EQUIPMENT FROM BEING DAMAGED. ALL WORK SHALL BE DONE BY HAND.
 - GROUNDING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR.

- SHIELDING:
 - SHIELDING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR.

- CONSTRUCTION:
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR.

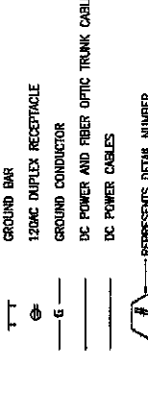
- CONSTRUCTION:
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR.

- CONSTRUCTION:
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF THE CONTRACTOR.

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:
 - CMGE
 - MGB
 - SS
 - GPS
 - TYP.
 - DMG
 - BCW
 - BFG
 - PVC
 - CAB
 - SS
 - CS
 - AMG
 - RGS
 - TRM
 - INL
 - EMT
 - AGL

- ABBREVIATIONS:
 - CMGE
 - MGB
 - SS
 - GPS
 - TYP.
 - DMG
 - BCW
 - BFG
 - PVC
 - CAB
 - SS
 - CS
 - AMG
 - RGS
 - TRM
 - INL
 - EMT
 - AGL

- ABBREVIATIONS:
 - CMGE
 - MGB
 - SS
 - GPS
 - TYP.
 - DMG
 - BCW
 - BFG
 - PVC
 - CAB
 - SS
 - CS
 - AMG
 - RGS
 - TRM
 - INL
 - EMT
 - AGL

- ABBREVIATIONS:
 - CMGE
 - MGB
 - SS
 - GPS
 - TYP.
 - DMG
 - BCW
 - BFG
 - PVC
 - CAB
 - SS
 - CS
 - AMG
 - RGS
 - TRM
 - INL
 - EMT
 - AGL



INFINIGY
 8885 Deerpark Road, Suite 102
 Raleigh, NC 27617
 Tel: 919.488.1414
 Fax: 919.488.1415
 Email: info@infinigy.com



NO.	DESCRIPTION	DATE
1	Issue to Contractor	10/20/09
2	Issue to Contractor	10/20/09
3	Issue to Contractor	10/20/09
4	Issue to Contractor	10/20/09
5	Issue to Contractor	10/20/09
6	Issue to Contractor	10/20/09
7	Issue to Contractor	10/20/09
8	Issue to Contractor	10/20/09
9	Issue to Contractor	10/20/09
10	Issue to Contractor	10/20/09

Project Name: _____
 Project Number: _____
 Contract No.: _____
 Drawing Title: _____
 WEST JOHNSON, INC. BURNETT HOUSE
 CROWN DU: 876313
 FA # 10092036
 PROJECT FOR: _____



GENERAL NOTES

N1



INFINIGY8

8888 Deerpath Road Suite 122
Bridgewater, MA 01923
Office: (401) 882-1144
info@www.infinigy.com

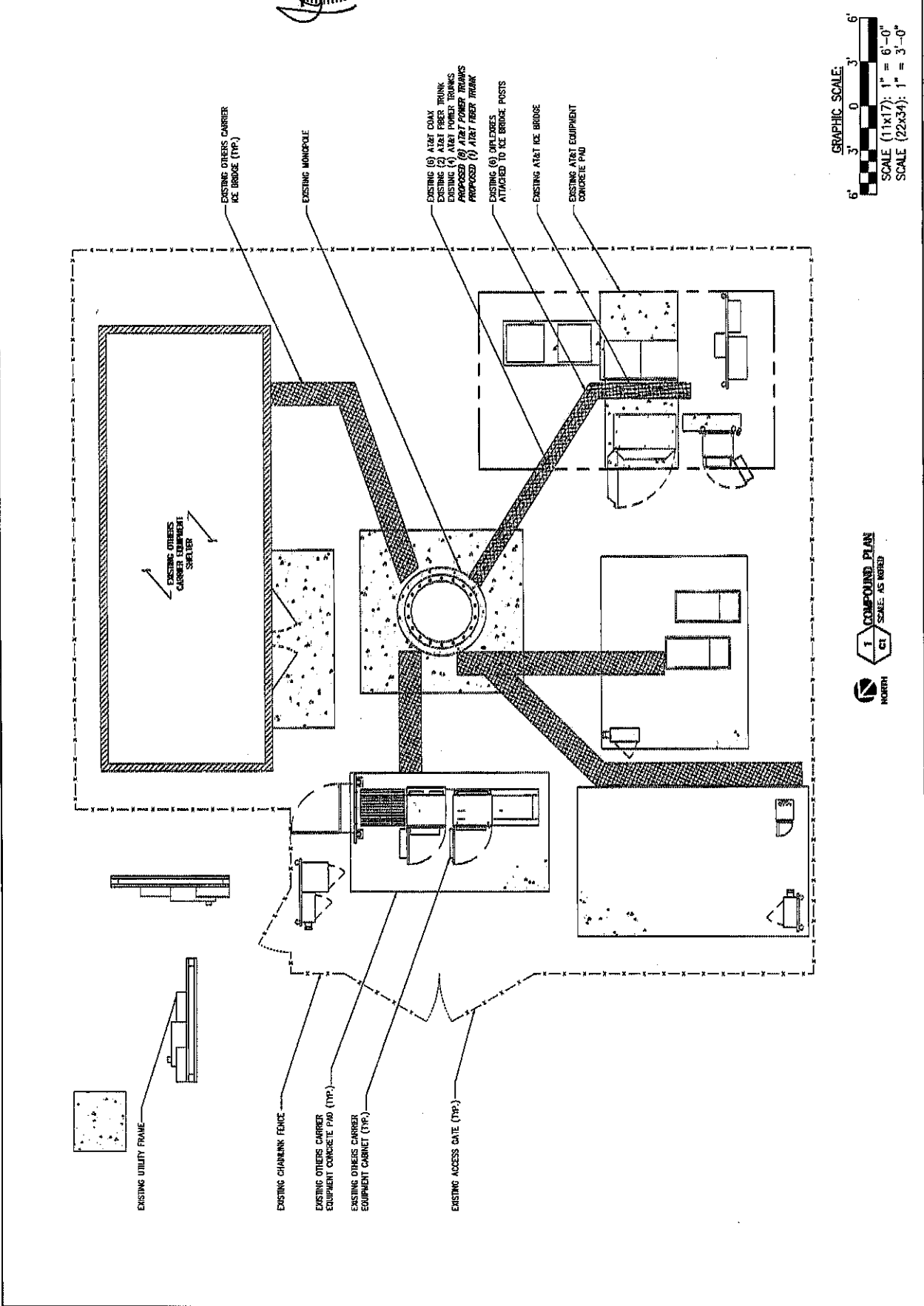


1	PROJECT SHEET
2	GENERAL NOTES
3	EXISTING UTILITIES
4	PROPOSED UTILITIES
5	PROPOSED STRUCTURES
6	PROPOSED ELECTRICAL
7	PROPOSED MECHANICAL
8	PROPOSED PLUMBING
9	PROPOSED ROOFING
10	PROPOSED FLOORING
11	PROPOSED PAINTING
12	PROPOSED FINISHES
13	PROPOSED SCHEDULE
14	PROPOSED SPECIFICATIONS
15	PROPOSED CONTRACT DOCUMENTS

Project Number: 488-002
 Project Title: WEST ZEPHYRUS BURNING RANGE
 CROWN BU: 876313
 FA # 10092035
 100 MILLBURN ROAD, SUITE 100
 BRIDGEWATER, MA 01923



Compound Title
COMPOUND PLAN
 Drawing Number
C1



GRAPHIC SCALE:
 6' 3' 0' 3' 6"
 SCALE (11x17): 1" = 6'-0"
 SCALE (22x34): 1" = 3'-0"



NORTH

1 COMPOUND PLAN
C1 SCALE: AS NOTED



INFINIGY
 8865 Deepwater Road Suite 112
 Rockledge, MA 01765
 978.282.7600
 info@infinigy.com

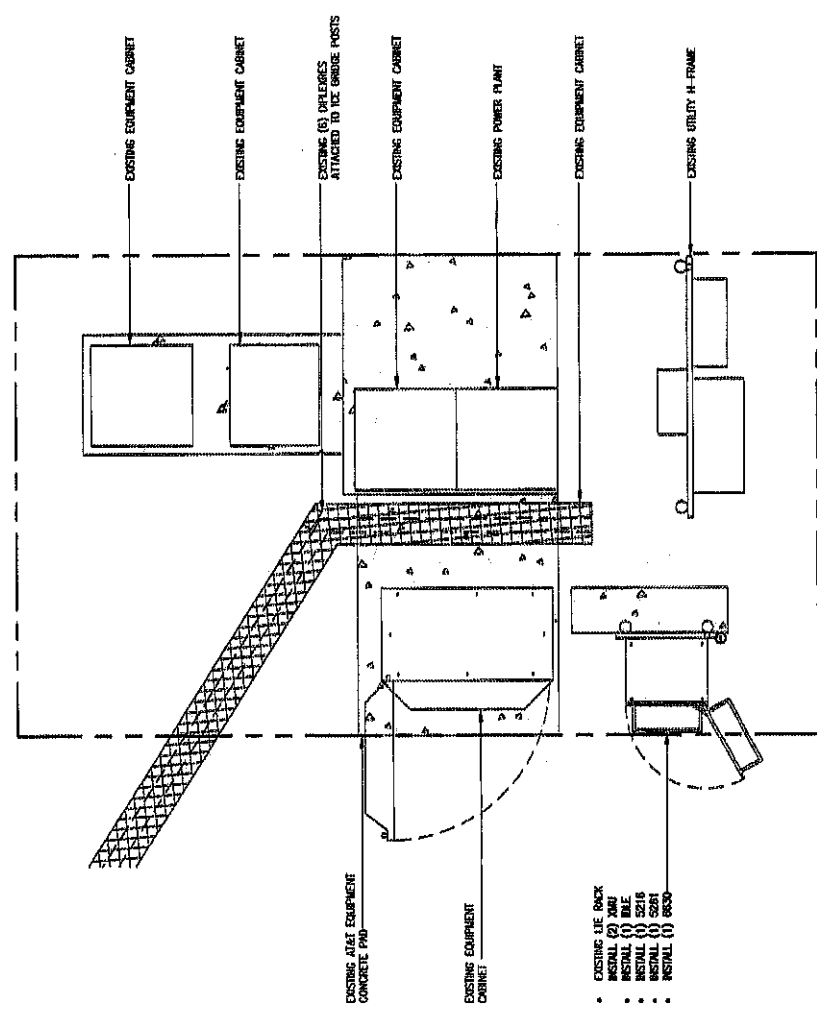


NO.	REVISION	DATE
1	ISSUED FOR CONSTRUCTION	11/10/17
2	ISSUED FOR CONSTRUCTION	11/10/17
3	ISSUED FOR CONSTRUCTION	11/10/17
4	ISSUED FOR CONSTRUCTION	11/10/17
5	ISSUED FOR CONSTRUCTION	11/10/17
6	ISSUED FOR CONSTRUCTION	11/10/17
7	ISSUED FOR CONSTRUCTION	11/10/17
8	ISSUED FOR CONSTRUCTION	11/10/17
9	ISSUED FOR CONSTRUCTION	11/10/17
10	ISSUED FOR CONSTRUCTION	11/10/17
11	ISSUED FOR CONSTRUCTION	11/10/17
12	ISSUED FOR CONSTRUCTION	11/10/17
13	ISSUED FOR CONSTRUCTION	11/10/17
14	ISSUED FOR CONSTRUCTION	11/10/17
15	ISSUED FOR CONSTRUCTION	11/10/17
16	ISSUED FOR CONSTRUCTION	11/10/17
17	ISSUED FOR CONSTRUCTION	11/10/17
18	ISSUED FOR CONSTRUCTION	11/10/17
19	ISSUED FOR CONSTRUCTION	11/10/17
20	ISSUED FOR CONSTRUCTION	11/10/17

PROJECT TITLE: WEST JONASWAKE BARNHOUSE
 PROJECT NO.: 8776313
 PROJECT ADDRESS: 1009 JONASWAKE ROAD
 WEST JONASWAKE, CT 06241
 DRAWN BY: J.B.
 CHECKED BY: J.B.
 PROJECT NUMBER: 8776313

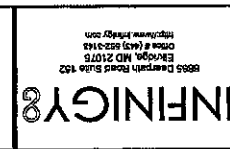


EQUIPMENT LAYOUT
 Drawing Number: **C2**



GRAPHIC SCALE:
 3' 1'-6" 0 1'-6" 3"
 SCALE (11x17): 1" = 3'-0"
 SCALE (22x34): 1" = 1'-6"





PROJECT TITLE: WEST ANSONIA BERT HOUSE
 CROWN BU. 876813
 FA # 10092025
 PROJECT ADDRESS: 100 WEST ANSONIA BERT HOUSE
 WEST ANSONIA, NJ 07081
 DRAWING NO. 10092025-01
 DATE: 08/20/2025

DESIGNED BY: J. O'CONNELL
 CHECKED BY: J. O'CONNELL
 PROJECT NUMBER: 10092025-01

Drawing Title: ELEVATION AND RF SCHEDULE
 Drawing Number: C3

ANTENNA AND RRH SCHEDULE

SECTOR	ANTENNA SYSTEM	ANTENNA NAME	ANTENNA MODEL	HGT. OVER FT. AGL	AZIMUTH	RRH/TWA QTY/MAKE/MODEL	RRH/TWA QTY/MAKE/MODEL	E-TILT	M-TILT
A	F1	RRH500	800-10121	150'-0"	10°	(2) POWERLINE LP21401 (AT GROUND)	(2) PMAV LP21401 (AT GROUND)	4° (UNITS 850)	0°
	F2	CC	184-652-804-1B	150'-0"	10°	(1) RRH5-32 (1) RRH512-4449		2° (LIE 850) 2° (SE 850) 2° (LIE WCS)	0°
	F3	WATTERSON	800-10065	150'-0"	10°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE WCS)	0°
	F4	CC	184-652-804-1B	150'-0"	10°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE 1900) 2° (LIE 1900)	0°
	F5	RRH500	800-10121	150'-0"	140°	(2) POWERLINE LP21401	(2) PMAV LP21401 (AT GROUND)	4° (UNITS 850)	0°
B	F6	CC	184-652-804-1B	150'-0"	140°	(1) RRH5-32 (1) RRH512-4449		2° (LIE 850) 2° (SE 850) 2° (LIE WCS)	0°
	F7	WATTERSON	800-10065	150'-0"	140°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE WCS)	0°
	F8	CC	184-652-804-1B	150'-0"	140°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE 1900)	0°
	F9	RRH500	800-10121	150'-0"	260°	(2) POWERLINE LP21401	(2) PMAV LP21401 (AT GROUND)	4° (UNITS 850)	0°
	F10	CC	184-652-804-1B	150'-0"	260°	(1) RRH5-32 (1) RRH512-4449		2° (LIE 850) 2° (SE 850) 2° (LIE WCS)	0°
C	F11	WATTERSON	800-10065	150'-0"	260°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE 1900)	0°
	F12	CC	184-652-804-1B	150'-0"	260°	(1) RRH5-11 (1) RRH512-4449		2° (LIE 700) 2° (LIE 850) 2° (LIE 1900)	0°

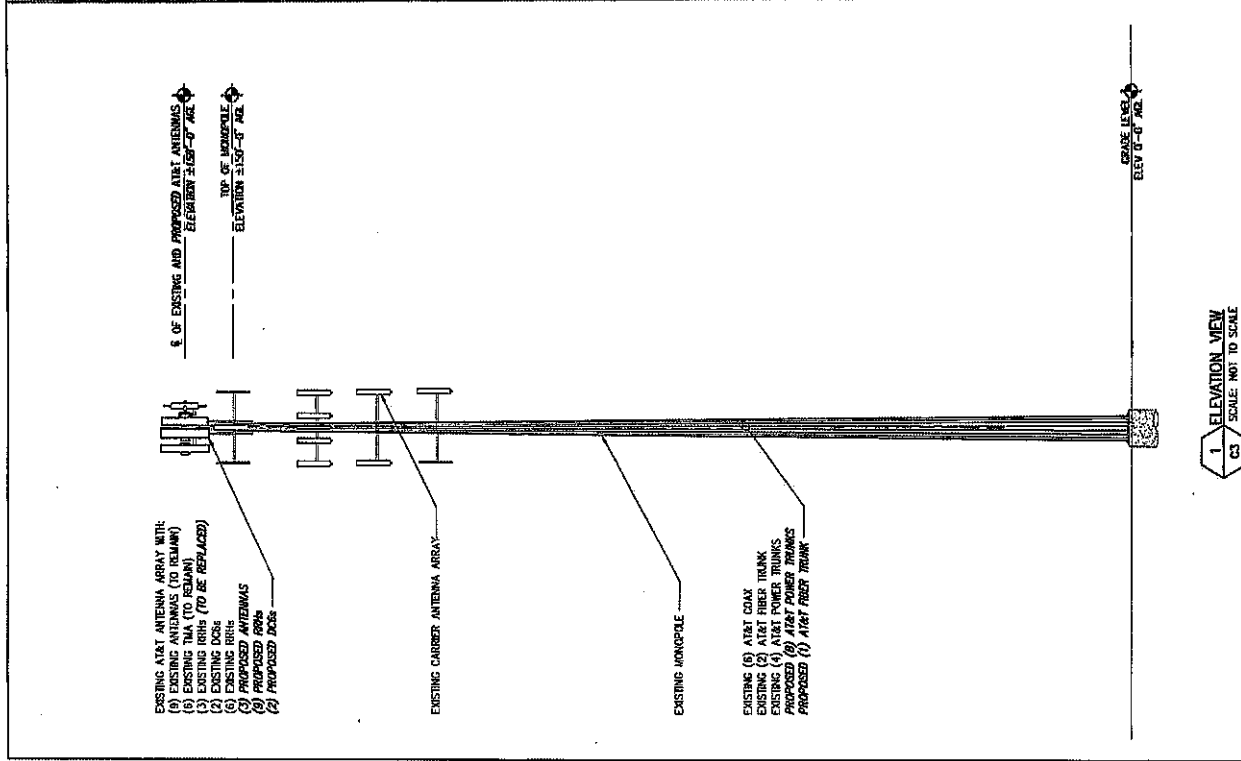
CABLE SCHEDULE

SYSTEM	TYPE	QTY	LENGTH
UNITS	1-1/2" COAX	6	200'±
LIE	POWER TRUNK	4	200'±
LIE	DC TRUNK	2	200'±
LIE	FIBER TRUNK	2	200'±
LIE	FIBER TRUNK	1	200'±
LIE	POWER TRUNK	4	200'±
LIE	DC TRUNK	2	200'±

SURGE PROTECTION DEVICE SCHEDULE

TYPE	LOCATION	QTY
DCS	SECTOR LABEL	2
DCS	SECTOR LEVEL	2

RF DESIGN NOTE:
 THIS ANTENNA AND CABLE SCHEDULE WAS BEEN CREATED USING THE FOLLOWING AWT RRS UNITS: 850/850, 700/700, 1900/1900, 850/850, 700/700, 1900/1900. ALL ANTENNA SECTOR, ZONING, STRUCTURE, ANGLE, FROM, AND CONFIDENCE, SUBSIDIARIES ARE CORRELATED WITH THE REFERENCED DOCUMENT.



2. RF SCHEDULE
SCALE: NOT TO SCALE



INFINIGY

8666 Daphn Road Suite 102
Crown Point, IN 46032-3443
Tel: 773.424.8143
www.infinigy.com



1	SEAL	1	1
2	SEAL	2	2
3	SEAL	3	3
4	SEAL	4	4
5	SEAL	5	5
6	SEAL	6	6
7	SEAL	7	7
8	SEAL	8	8
9	SEAL	9	9
10	SEAL	10	10
11	SEAL	11	11
12	SEAL	12	12
13	SEAL	13	13
14	SEAL	14	14
15	SEAL	15	15
16	SEAL	16	16
17	SEAL	17	17
18	SEAL	18	18
19	SEAL	19	19
20	SEAL	20	20
21	SEAL	21	21
22	SEAL	22	22
23	SEAL	23	23
24	SEAL	24	24
25	SEAL	25	25
26	SEAL	26	26
27	SEAL	27	27
28	SEAL	28	28
29	SEAL	29	29
30	SEAL	30	30
31	SEAL	31	31
32	SEAL	32	32
33	SEAL	33	33
34	SEAL	34	34
35	SEAL	35	35
36	SEAL	36	36
37	SEAL	37	37
38	SEAL	38	38
39	SEAL	39	39
40	SEAL	40	40
41	SEAL	41	41
42	SEAL	42	42
43	SEAL	43	43
44	SEAL	44	44
45	SEAL	45	45
46	SEAL	46	46
47	SEAL	47	47
48	SEAL	48	48
49	SEAL	49	49
50	SEAL	50	50
51	SEAL	51	51
52	SEAL	52	52
53	SEAL	53	53
54	SEAL	54	54
55	SEAL	55	55
56	SEAL	56	56
57	SEAL	57	57
58	SEAL	58	58
59	SEAL	59	59
60	SEAL	60	60
61	SEAL	61	61
62	SEAL	62	62
63	SEAL	63	63
64	SEAL	64	64
65	SEAL	65	65
66	SEAL	66	66
67	SEAL	67	67
68	SEAL	68	68
69	SEAL	69	69
70	SEAL	70	70
71	SEAL	71	71
72	SEAL	72	72
73	SEAL	73	73
74	SEAL	74	74
75	SEAL	75	75
76	SEAL	76	76
77	SEAL	77	77
78	SEAL	78	78
79	SEAL	79	79
80	SEAL	80	80
81	SEAL	81	81
82	SEAL	82	82
83	SEAL	83	83
84	SEAL	84	84
85	SEAL	85	85
86	SEAL	86	86
87	SEAL	87	87
88	SEAL	88	88
89	SEAL	89	89
90	SEAL	90	90
91	SEAL	91	91
92	SEAL	92	92
93	SEAL	93	93
94	SEAL	94	94
95	SEAL	95	95
96	SEAL	96	96
97	SEAL	97	97
98	SEAL	98	98
99	SEAL	99	99
100	SEAL	100	100

Project Title: WEST EMBROIDERY BURNHOUSE
CROWN BU: 878313
FA #: 10092035
1341 EMBROIDERY WAREHOUSE PK
SOUTHINGTON, CT 06488
Prepared For:

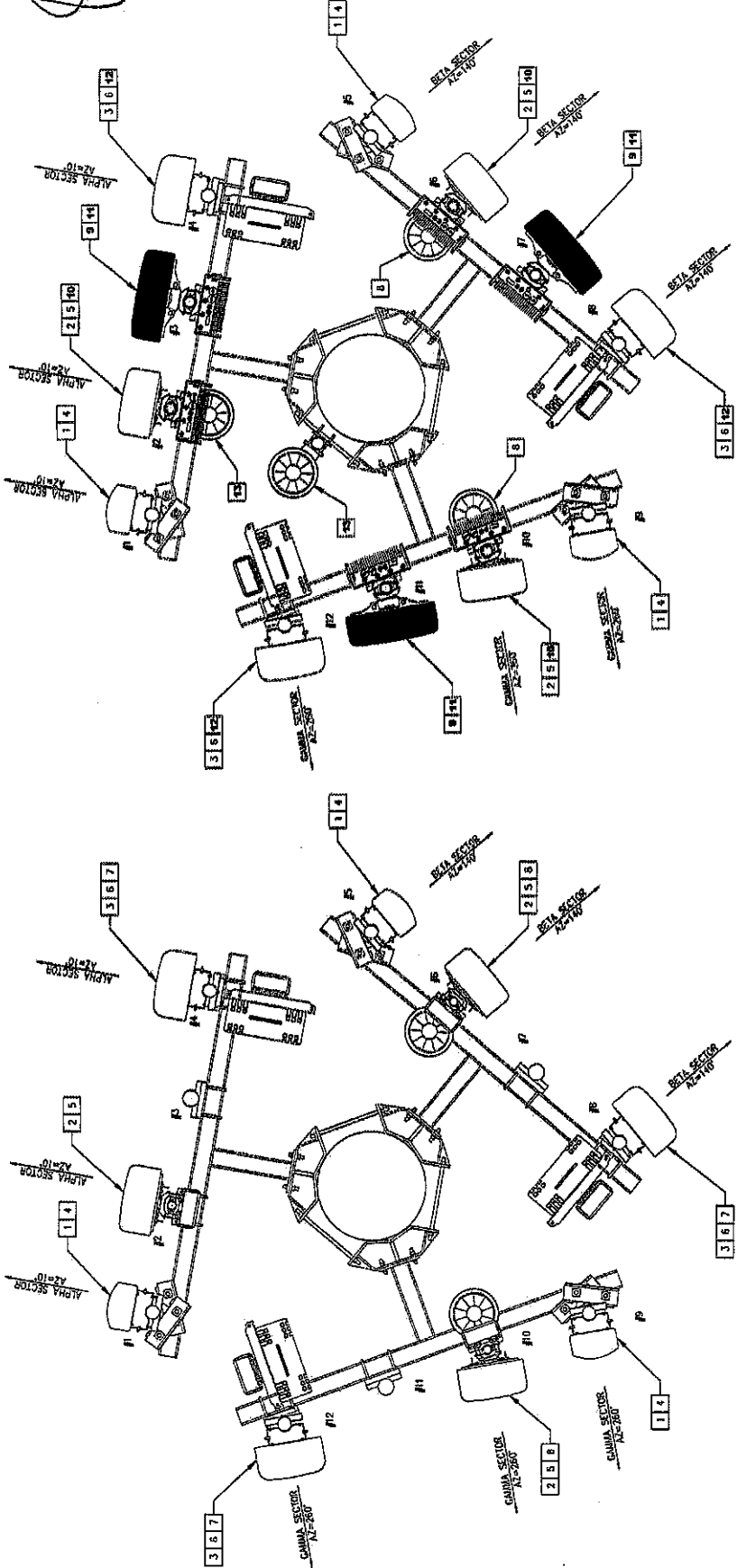


Drawing No: ANTENNA ORIENTATION PLAN
Drawing Number: C-4

OVERSIGHT PLAN KEY

NO.	DESCRIPTION	TYPE	QTY	STATUS
1	800-10021	ANTENNA	3	REMAIN
2	104-550-1001-103	ANTENNA	3	REMAIN
3	104-550-1001-104	ANTENNA	3	REMAIN
4	POWERLINE LCP21001	WIRE	6	REMAIN
5	BRUS-32	BRUSH	3	REMAIN
6	BRUS-11	BRUSH	3	REMAIN
7	BRUS-32 R2	BRUSH	3	REMAIN
8	DC FEED MOUNT	DC FEED MOUNT	2	REMAIN
9	WIRE-ANTENNA	ANTENNA	3	PROPOSED
10	BRUS-32R12-4445	BRUSH	3	PROPOSED
11	BRUS-414-4478	BRUSH	3	PROPOSED
12	BRUS-40000A-0043	BRUSH	3	PROPOSED
13	BRUS	BRUSH	2	PROPOSED

NOTE: LAYOUT SHOWN BASED ON AVAILABLE INFORMATION FROM ASSET PHOTOS. DO NOT FIELD ADJUST LAYOUT AS NECESSARY UNLESS ADVISED BY INFINIGY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CONTRACT AND ALL APPLICABLE REGULATIONS. ANY CHANGES TO THE LAYOUT SHALL BE APPROVED BY INFINIGY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CONTRACT AND ALL APPLICABLE REGULATIONS. ANY CHANGES TO THE LAYOUT SHALL BE APPROVED BY INFINIGY.

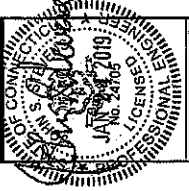


1 ANTENNA ORIENTATION PLAN (EXISTING)
C-4 NOT TO SCALE
NORTH

2 ANTENNA ORIENTATION PLAN (PROPOSED)
C-4 NOT TO SCALE
NORTH

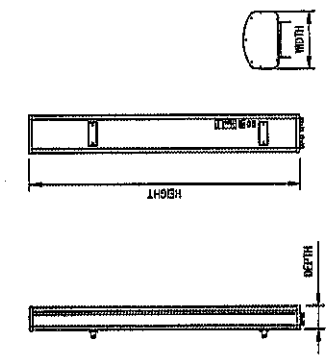


INFINIGY8
 6665 Dargatz Road Suite 102
 Bridgeton, MO 63043
 Phone: (636) 582-1435
 Fax: (636) 582-1436
 www.infinigy.com



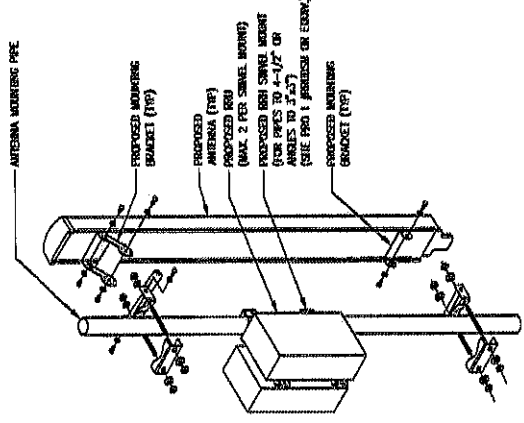
1	DATE OF PRODUCTION	11/17/20
2	DESIGNER	JAMES M. CROWNE
3	CHECKED BY	JAMES M. CROWNE
4	APPROVED BY	JAMES M. CROWNE
5	PROJECT NUMBER	488,002
6	PROJECT TITLE	WEST JOHNSON HOME BIRTH HOUSE
7	CUSTOMER	CROWNE BLDG. 8776313
8	FA #	10082035
9	PROJECT LOCATION	1400 S. JOHNSON BLVD. BRIDGETON, MO 63043

CROWN CASTLE
 Equipment
 Drawing Title
EQUIPMENT DETAILS
 Drawing Number
C5

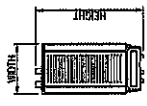


COMMSCOPE MODEL NO.: 800-10966
 DIMENSIONS FROM: 86" x 28.0" x 6.5"
 HEIGHT: 114.0 US

3 ANTENNA DETAIL
 CS NOT TO SCALE



2 ANTENNA/RRH MOUNTING DETAIL
 CS SCALE: NOT TO SCALE



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

SIZE AND WEIGHT TABLE

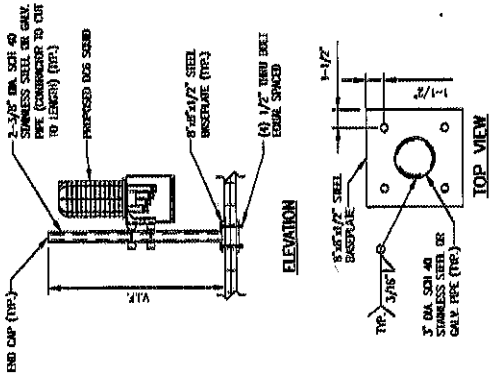
RRH MODEL	HEIGHT x WIDTH x DEPTH	WEIGHT
ERICSSON B2/B12 4449	17.00" x 13.19" x 6.45"	71.0 US
ERICSSON B14 4478	16.50" x 13.57" x 7.7"	56.9 US
ERICSSON B2/BBM 8843	14.00" x 13.7" x 10.9"	72.0 US

CLEARANCE TABLE

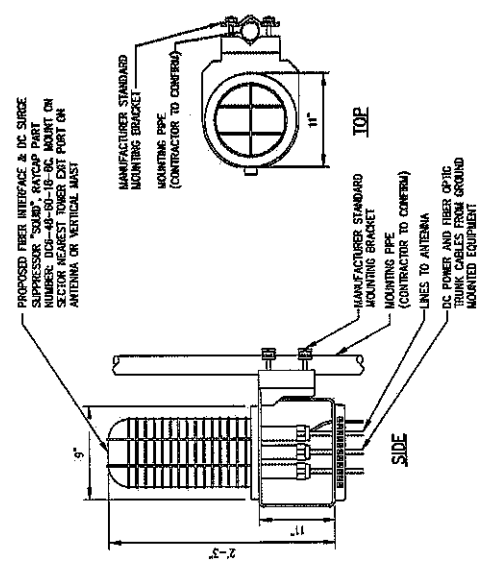
	CLEARANCE REQ'D
FRONT	36" FOR INSTALLATION ACCESS
REAR	2" (0" WITH SUPPLIED MOUNTING BRACKET)
RIGHT	4" FOR AIR FLOW
LEFT	4" FOR AIR FLOW
TOP	12" FOR AIR FLOW
BOTTOM	12" FOR CONDUIT ROUTING

NOTES:
 1. AT&T SUPPLIES BRK AND RRH MOUNTING BRACKET. SUBCONTRACTOR SHALL SUPPLY SUPPRESSOR "SOUND" RAYCAP PART AND ALL MOUNTING HARDWARE INCLUDING ERICSSON RRH WALL MOUNTING BRACKET IF NECESSARY. ERICSSON WIRES & CABLES SHALL BE USED UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 2. RRH WINDS (EG. 4478, B14) REMOTE OPERATING FREQUENCY ONLY AND DO NOT CONSTITUTE A CHANGE IN SIZE OR WEIGHT.

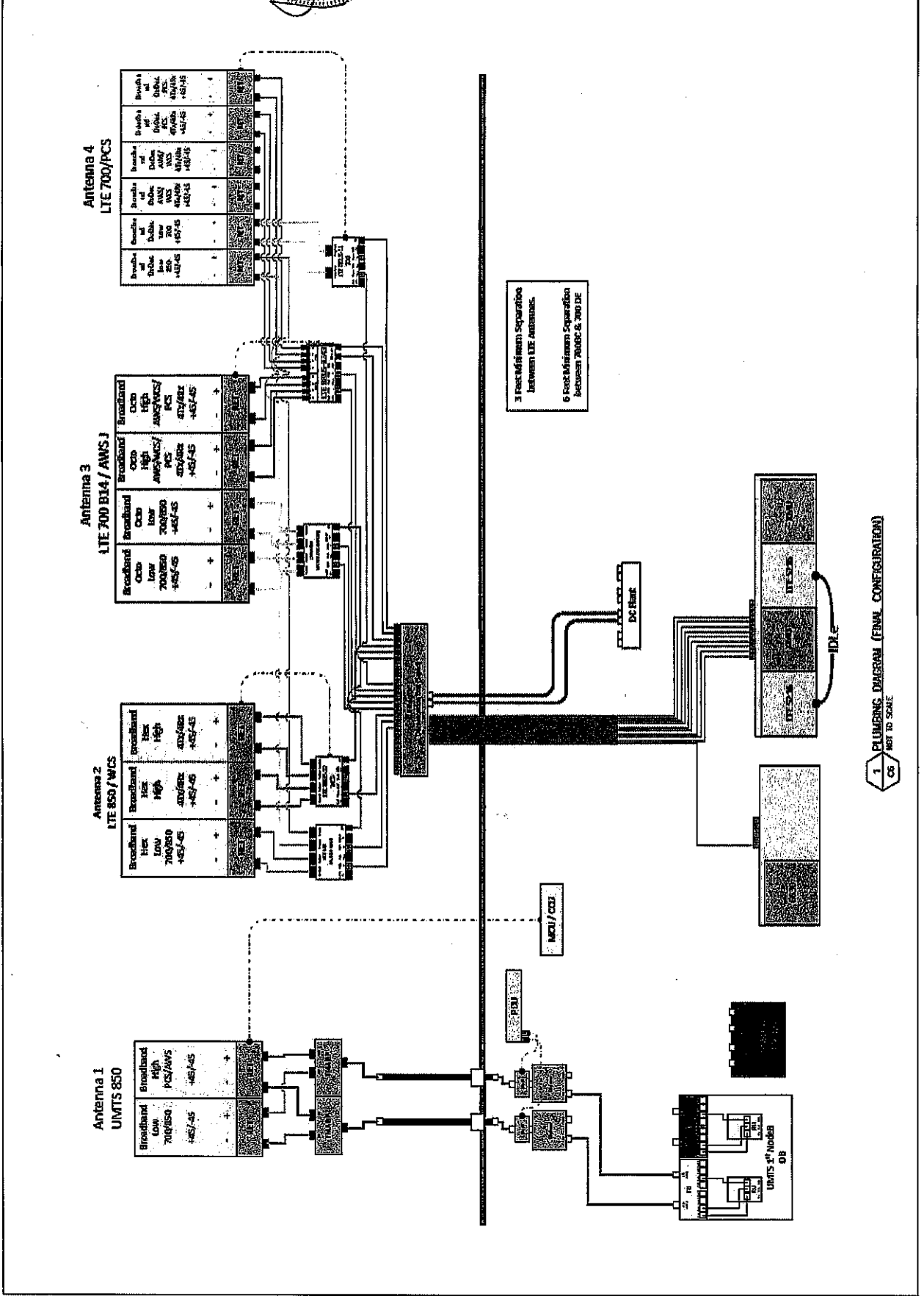
1 RRH DETAIL
 CS SCALE: NIS



5 VDCS MOUNTING DETAIL
 CS SAME: RES



4 RRH DETAIL
 CS NOT TO SCALE





INFINIGY
 6955 Darnest Road Suite 152
 Ellicott City, MD 21075
 Phone: (410) 283-8141
 Fax: (410) 283-8142
 Email: info@infinigy.com

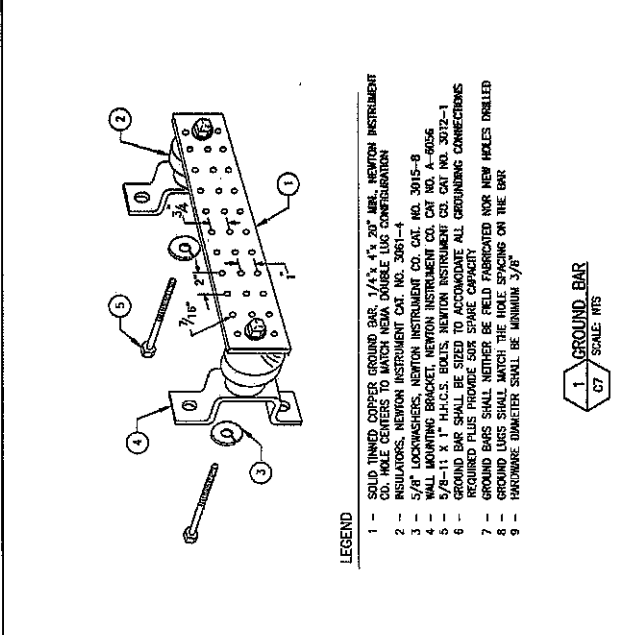
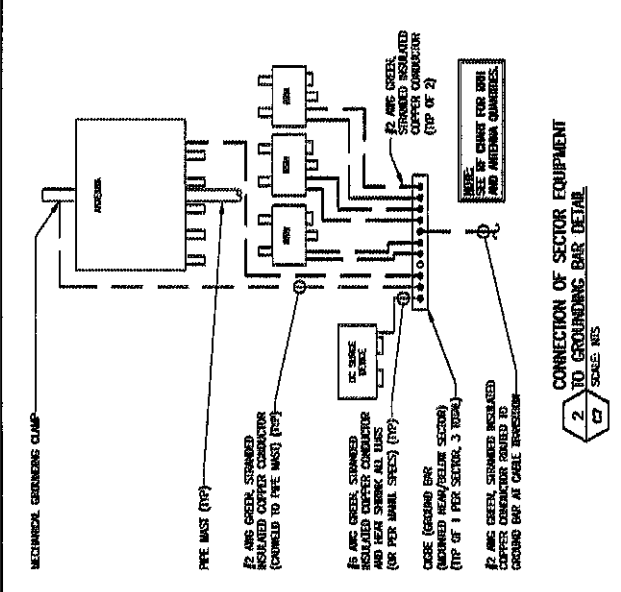
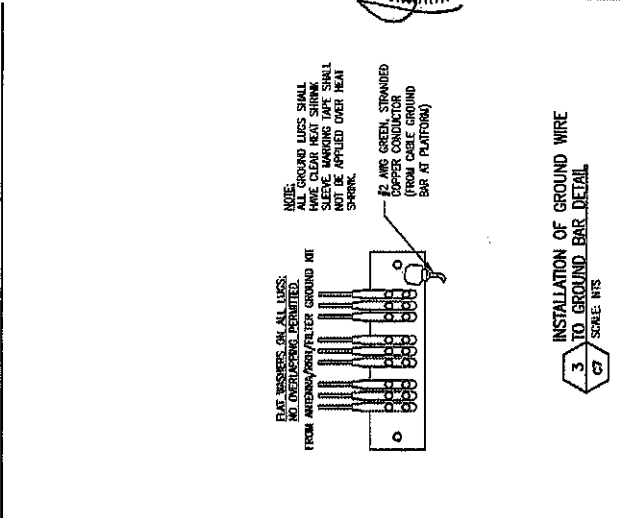


1	SOLID TINED COPPER GROUND BAR, 3/4" x 4" x 20" MIN. NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2	INSULATORS, NEWTON INSTRUMENT CO. CAT. NO. 3061-4
3	5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4	WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056
5	5/8-11 x 1" H.H.S.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3072-1
6	GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS
7	GROUNDING PLUS PROVIDE 50% STAKE CAPACITY
8	GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9	ROUNDING DIAMETER SHALL BE MINIMUM 3/8"

Project Title: **WEST JHONSON AVE BLUNT HOUSE**
 CROWN BU. 8765313
 FA # 10092035
 1941 LAKEMORE WATERBURY TPK
 BLOOMINGTON, CT 06051



Drawing Title: **GROUNDING DETAILS**
 Drawing Number: **C7**



NOTE: ALL GROUND LUGS SHALL HAVE CLEAR HEAT SHRINK. HEAT SHRINK SHALL NOT BE APPLIED OVER HEAT SHRINK.

NOTE: #2 AWG GREEN, STRANDED COPPER CONDUCTOR (FROM CABLE GROUND BAR AT PLATFORM)

NOTE: #2 AWG GREEN, STRANDED COPPER CONDUCTOR (SEE BY CHART FOR RFI AND ANTENNA QUARRES)

NOTE: #2 AWG GREEN, STRANDED INSULATED COPPER CONDUCTOR (CONSOLE TO FREE MAST) (TYP)

NOTE: #6 AWG GREEN, STRANDED INSULATED COPPER CONDUCTOR AND HEAT SHRINK ALL LUGS (64 PER BUNCH SPECS) (TYP)

NOTE: DC SOURCE DEVICE

NOTE: CODE (GROUND BAR (ROUNDING HEAD/FEEDBACK SECTION) (TYP OF 1 PER SECTOR, 3 BUNCH)

NOTE: #2 AWG GREEN, STRANDED INSULATED COPPER CONDUCTOR (FROM CABLE GROUND BAR AT PLATFORM) (TYP OF 2)

NOTE: #2 AWG GREEN, STRANDED INSULATED COPPER CONDUCTOR (SEE BY CHART FOR RFI AND ANTENNA QUARRES)



Date: January 25, 2019

Denice Nicholson
Crown Castle
46 Broadway
Albany, NY 12204

Paul J. Ford and Company
250 East Broad st., Suite 600
Columbus, OH 43215
(614) 221-6679

Subject: Structural Analysis Report

Carrier Designation: AT&T Mobility Co-Locate
Carrier Site Number: 10092035
Carrier Site Name: CTL05264

Crown Castle Designation: Crown Castle BU Number: 876313
Crown Castle Site Name: WEST JOHNSON AVE. BURNT HOUSE
Crown Castle JDE Job Number: 531062
Crown Castle Work Order Number: 1686293
Crown Castle Order Number: 459066 Rev. 2

Engineering Firm Designation: Paul J. Ford and Company Project Number: 37519-0303.002.7805

Site Data: 1394 Meriden Waterbury Tpk, SOUTHTON, Hartford County, CT
Latitude 41° 33' 51.39", Longitude -72° 53' 30.7"
160 Foot - Monopole Tower

Dear Denice Nicholson,

Paul J. Ford and Company 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**

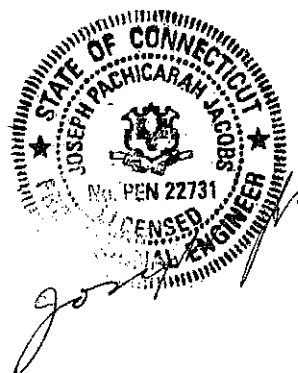
This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Conditional Note: This report is only valid if the proposed/existing TMA's are installed in such a manner that the largest portion is parallel to the width of the proposed antennas they are mounted behind. Thereby, shielding the proposed/existing TMA's from the wind.

Respectfully submitted by:


Udaykiran Yerra
Structural Designer
uyerra@pauljford.com

RMF



JAN 28 2019



Date: January 25, 2019

Denice Nicholson
Crown Castle
46 Broadway
Albany, NY 12204

Paul J. Ford and Company
250 East Broad st., Suite 600
Columbus, OH 43215
(614) 221-6679

Subject: Structural Analysis Report

Carrier Designation: AT&T Mobility Co-Locate
Carrier Site Number: 10092035
Carrier Site Name: CTL05264

Crown Castle Designation: Crown Castle BU Number: 876313
Crown Castle Site Name: WEST JOHNSON AVE. BURNT HOUSE
Crown Castle JDE Job Number: 531062
Crown Castle Work Order Number: 1686293
Crown Castle Order Number: 459066 Rev. 2

Engineering Firm Designation: Paul J. Ford and Company Project Number: 37519-0303.002.7805

Site Data: 1394 Meriden Waterbury Tpk, SOUTINGTON, Hartford County, CT
Latitude 41° 33' 51.39", Longitude -72° 53' 30.7"
160 Foot - Monopole Tower

Dear Denice Nicholson,

Paul J. Ford and Company 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**

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

Conditional Note: This report is only valid if the proposed/existing TMA's are installed in such a manner that the largest portion is parallel to the width of the proposed antennas they are mounted behind. Thereby, shielding the proposed/existing TMA's from the wind.

Respectfully submitted by:

Udaykiran Yerra
Structural Designer
uyerra@pauljford.com

RMF

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

- Table 1 - Proposed Equipment Configuration
- Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

- Table 3 - Documents Provided
- 3.1) Analysis Method
- 3.2) Assumptions

4) ANALYSIS RESULTS

- Table 4 - Section Capacity (Summary)
- Table 5 - Tower Component Stresses vs. Capacity
- 4.1) Recommendations

5) APPENDIX A

- tnxTower Output

6) APPENDIX B

- Base Level Drawing

7) APPENDIX C

- Additional Calculations

1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by SUMMIT.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
 Risk Category: II
 Wind Speed: 125 mph
 Exposure Category: B
 Topographic Factor: 1
 Ice Thickness: 1.5 in
 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)
157.0	158.0	4*	raycap	DC6-48-60-18-8F	3 6 8	3/8 1 5/8 3/4
		6*	powerwave tech	LGP21401		
		3*	ericsson	RRUS 32		
		3*	ericsson	RRUS 4449 B5/B12		
		3*	ericsson	RRUS 4478 B14		
		3*	ericsson	RRUS 8843 B2/B66A		
		3*	ericsson	RRUS-11		
		3	cci antennas	HPA-85R-BUU-H8 w/ Mount Pipe		
		3	cci antennas	TPA-65R-LCUUUU-H8-K w/ Mount Pipe		
		3	kathrein	800 10121 w/ Mount Pipe		
	3	kathrein	80010966 w/ Mount Pipe			
157.0	1	tower mounts	T-Arm Mount [TA 601-3]			

*Proposed/Existing TMAs to be shielded from wind.

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)
150.0	150.0	1	tower mounts	Side Arm Mount [SO 103-3]	--	--
	148.0	3	alcatel lucent	800MHZ 2X50W RRH W/FILTER		
		3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148.0	148.0	3	alcatel lucent	TD-RRH8X20-25	4	1 1/4
		3	rfs celwave	APXVSP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
		3	rfs celwave	IBC1900BB-1		
		3	rfs celwave	IBC1900HG-2A		
		1	tower mounts	Platform Mount [LP 1201-1]		
138.0	142.0	1	lucent	KS24019-L112A	1 6 1	1/2 1 5/8 2 1/4
	138.0	6	antel	LPA-80063-6CF-EDIN-2		
		6	commscope	NNHH-65B-R4		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	tower mounts	Platform Mount [LP 1301-1]		
127.0	129.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	1 6	1 1/4 1 5/8
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RRUS 11 B12		
	127.0	1	tower mounts	Platform Mount [LP 1201-1]		
119.0	119.0	3	andrew	HBX-6516DS-VTM w/ Mount Pipe	1 6	3/8 1 5/8
		1	tower mounts	T-Arm Mount [TA 602-3]		
48.0	50.0	1	lucent	KS24019-L112A	1	1/2
	48.0	1	tower mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Delta Oaks Group, GEO18-02790-05, 06/26/2018	5939573	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 128444, 04/12/2013	3846956	CCISITES
4-POST-MODIFICATION INSPECTION	SGS, 130340, 10/18/2013	4077468	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 25560.9690, 03/13/2014	4600286	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 25560, 10/30/2014	5380973	CCISITES
4-POST-MODIFICATION INSPECTION	TEP, 25560_25075, 03/30/2015	5617077	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	PJF, 29298-582, 08/27/1998	1633746	CCISITES
4-TOWER MANUFACTURER DRAWINGS	PJF, 29298-582, 08/27/1998	2134246	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	GPD Group, 2012775.876313.01, 08/01/2012	3348783	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	SGS, 130340, 10/18/2013	4077469	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Sabre, 4094328, 10/3/2013	4094328	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	FDH, 1466OA1400, 6/5/2013	5105790	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37513-0756.003.7700, 8/20/2014	5266558	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.4.0), 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 in accordance with the manufacturer's specifications.
 - 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
 - 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
 - 4) Monopole was modified in conformance with the referenced modification drawings.
- This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company 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	% Capacity	Pass / Fail
L1	160 - 155	Pole	TP10.75x10.75x0.349	Pole	19.0%	Pass
L2	155 - 150	Pole	TP10.75x10.75x0.349	Pole	49.5%	Pass
L3	150 - 148.5	Pole	TP10.75x10.75x0.349	Pole	59.4%	Pass
L4	148.5 - 148	Pole	TP23x10.75x0.349	Pole	13.9%	Pass
L5	148 - 143	Pole	TP23.81x23x0.25	Pole	19.0%	Pass
L6	143 - 138	Pole	TP24.62x23.81x0.25	Pole	26.0%	Pass
L7	138 - 133	Pole	TP25.43x24.62x0.25	Pole	37.6%	Pass
L8	133 - 128	Pole	TP26.24x25.43x0.25	Pole	47.8%	Pass
L9	128 - 123	Pole	TP27.05x26.24x0.25	Pole	59.9%	Pass
L10	123 - 118	Pole	TP27.86x27.05x0.25	Pole	70.8%	Pass
L11	118 - 114.75	Pole	TP28.994x27.86x0.25	Pole	77.7%	Pass
L12	114.75 - 109.75	Pole	TP28.696x27.887x0.3125	Pole	69.9%	Pass
L13	109.75 - 105.25	Pole	TP29.425x28.696x0.3125	Pole	75.9%	Pass
L14	105.25 - 105	Pole + Reinf.	TP29.466x29.425x0.4625	Reinf. 5 Tension Rupture	72.5%	Pass
L15	105 - 100	Pole + Reinf.	TP30.276x29.466x0.4625	Reinf. 5 Tension Rupture	78.9%	Pass
L16	100 - 95	Pole + Reinf.	TP31.086x30.276x0.4625	Reinf. 5 Tension Rupture	84.8%	Pass
L17	95 - 90	Pole + Reinf.	TP31.896x31.086x0.45	Reinf. 5 Tension Rupture	90.2%	Pass
L18	90 - 85	Pole + Reinf.	TP32.706x31.896x0.45	Reinf. 5 Tension Rupture	95.3%	Pass
L19	85 - 81	Pole + Reinf.	TP34.042x32.706x0.45	Reinf. 5 Tension Rupture	99.1%	Pass
L20	81 - 75.75	Pole + Reinf.	TP33.579x32.729x0.5	Reinf. 8 Tension Rupture	90.2%	Pass
L21	75.75 - 70.75	Pole + Reinf.	TP34.389x33.579x0.5	Reinf. 8 Tension Rupture	93.8%	Pass
L22	70.75 - 70.5	Pole + Reinf.	TP34.429x34.389x0.675	Reinf. 4 Tension Rupture	75.8%	Pass
L23	70.5 - 70	Pole + Reinf.	TP34.51x34.429x0.675	Reinf. 4 Tension Rupture	76.1%	Pass
L24	70 - 69.75	Pole + Reinf.	TP34.551x34.51x0.5625	Reinf. 4 Tension Rupture	87.5%	Pass
L25	69.75 - 64.75	Pole + Reinf.	TP35.361x34.551x0.55	Reinf. 4 Tension Rupture	90.6%	Pass
L26	64.75 - 59.75	Pole + Reinf.	TP36.171x35.361x0.55	Reinf. 4 Tension Rupture	93.5%	Pass
L27	59.75 - 54.75	Pole + Reinf.	TP36.981x36.171x0.5438	Reinf. 4 Tension Rupture	96.1%	Pass
L28	54.75 - 49.75	Pole + Reinf.	TP37.791x36.981x0.5375	Reinf. 4 Tension Rupture	98.6%	Pass
L29	49.75 - 48	Pole + Reinf.	TP38.884x37.791x0.5375	Reinf. 4 Tension Rupture	99.4%	Pass
L30	48 - 42	Pole + Reinf.	TP38.296x37.324x0.675	Reinf. 6 Tension Rupture	90.5%	Pass
L31	42 - 37	Pole + Reinf.	TP39.106x38.296x0.6625	Reinf. 6 Tension Rupture	92.4%	Pass
L32	37 - 32	Pole + Reinf.	TP39.916x39.106x0.6625	Reinf. 6 Tension Rupture	94.2%	Pass
L33	32 - 28	Pole + Reinf.	TP40.564x39.916x0.65	Reinf. 6 Tension Rupture	95.5%	Pass
L34	28 - 27.75	Pole + Reinf.	TP40.605x40.564x0.675	Reinf. 6 Tension Rupture	88.7%	Pass
L35	27.75 - 27.25	Pole + Reinf.	TP40.686x40.605x0.675	Reinf. 6 Tension Rupture	88.9%	Pass
L36	27.25 - 27	Pole + Reinf.	TP40.726x40.686x0.675	Reinf. 1 Tension Rupture	86.9%	Pass
L37	27 - 22	Pole + Reinf.	TP41.536x40.726x0.6625	Reinf. 1 Tension Rupture	88.3%	Pass
L38	22 - 17	Pole + Reinf.	TP42.346x41.536x0.6625	Reinf. 1 Tension Rupture	89.6%	Pass
L39	17 - 16	Pole + Reinf.	TP42.508x42.346x0.6625	Reinf. 1 Tension Rupture	89.9%	Pass
L40	16 - 15.75	Pole + Reinf.	TP42.549x42.508x0.8125	Reinf. 7 Tension Rupture	80.6%	Pass
L41	15.75 - 14.5	Pole + Reinf.	TP42.751x42.549x0.8125	Reinf. 7 Tension Rupture	80.9%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L42	14.5 - 14.25	Pole + Reinf.	TP42.792x42.751x0.725	Reinf. 7 Tension Rupture	92.3%	Pass
L43	14.25 - 12.25	Pole + Reinf.	TP43.116x42.792x0.725	Reinf. 7 Tension Rupture	92.9%	Pass
L44	12.25 - 12	Pole + Reinf.	TP43.156x43.116x0.825	Reinf. 7 Tension Rupture	82.6%	Pass
L45	12 - 10	Pole + Reinf.	TP43.48x43.156x0.825	Reinf. 7 Tension Rupture	83.2%	Pass
L46	10 - 9.75	Pole + Reinf.	TP43.521x43.48x0.7375	Reinf. 1 Tension Rupture	83.2%	Pass
L47	9.75 - 4.75	Pole + Reinf.	TP44.331x43.521x0.725	Reinf. 1 Tension Rupture	84.3%	Pass
L48	4.75 - 0.5	Pole + Reinf.	TP45.019x44.331x0.7125	Reinf. 1 Tension Rupture	85.1%	Pass
L49	0.5 - 0.25	Pole + Reinf.	TP45.06x45.019x1.0625	Reinf. 9 Compression	81.3%	Pass
L50	0.25 - 0	Pole + Reinf.	TP45.1x45.06x1.0625	Reinf. 9 Compression	81.3%	Pass
					Summary	
				Pole	77.7%	Pass
				Reinforcement	99.4%	Pass
				Overall	99.4%	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	82.9	Pass
1	Base Plate	0	67.1	Pass
1	Base Foundation Steel	0	72.4	Pass
1	Base Foundation Soil Interaction	0	68.4	Pass
1	Extension Connection	148	33.7	Pass

Structure Rating (max from all components) =	99.4%
-----------------------------------------------------	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed. All structural rating are per TIA-222-H, Section 15.5.

4.1) Recommendations

The monopole and its foundation will have sufficient capacity to carry the proposed loading configuration once the following load changes are met.

- Shield proposed/existing TMAs from wind as mentioned on Table 1.

APPENDIX A
TNXTOWER OUTPUT

Tower Input Data

The tower is a monopole.

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

The following design criteria apply:

- Tower is located in Hartford County, Connecticut.
- Tower base elevation above sea level: 133.0000 ft.
- Basic wind speed of 125.00 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height 0.0000 ft.
- Nominal ice thickness of 1.2750 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50.00 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60.00 mph.
- TIA-222-H Annex S.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.05.
- 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 ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	160.0000- 155.0000	5.0000	0.000	Round	10.7500	10.7500	0.3490		A53-B-35 (35 ksi)
L2	155.0000-	5.0000	0.000	Round	10.7500	10.7500	0.3490		A53-B-35

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
L3	150.0000-148.5000	1.5000	0.000	Round	10.7500	10.7500	0.3490		(35 ksi) A53-B-35
L4	148.5000-148.0000	0.5000	0.000	Round	10.7500	23.0000	0.3490		(35 ksi) A53-B-35
L5	148.0000-143.0000	5.0000	0.000	18	23.0000	23.8100	0.2500	1.0000	(35 ksi) A607-60
L6	143.0000-138.0000	5.0000	0.000	18	23.8100	24.6200	0.2500	1.0000	(60 ksi) A607-60
L7	138.0000-133.0000	5.0000	0.000	18	24.6200	25.4300	0.2500	1.0000	(60 ksi) A607-60
L8	133.0000-128.0000	5.0000	0.000	18	25.4300	26.2400	0.2500	1.0000	(60 ksi) A607-60
L9	128.0000-123.0000	5.0000	0.000	18	26.2400	27.0500	0.2500	1.0000	(60 ksi) A607-60
L10	123.0000-118.0000	5.0000	0.000	18	27.0500	27.8600	0.2500	1.0000	(60 ksi) A607-60
L11	118.0000-111.0000	7.0000	3.750	18	27.8600	28.9940	0.2500	1.0000	(60 ksi) A607-60
L12	111.0000-109.7500	5.0000	0.000	18	27.8865	28.6964	0.3125	1.2500	(60 ksi) A607-60
L13	109.7500-105.2500	4.5000	0.000	18	28.6964	29.4254	0.3125	1.2500	(60 ksi) A607-60
L14	105.2500-105.0000	0.2500	0.000	18	29.4254	29.4659	0.4625	1.8500	(60 ksi) A607-60
L15	105.0000-100.0000	5.0000	0.000	18	29.4659	30.2758	0.4625	1.8500	(60 ksi) A607-60
L16	100.0000-95.0000	5.0000	0.000	18	30.2758	31.0857	0.4625	1.8500	(60 ksi) A607-60
L17	95.0000-90.0000	5.0000	0.000	18	31.0857	31.8957	0.4500	1.8000	(60 ksi) A607-60
L18	90.0000-85.0000	5.0000	0.000	18	31.8957	32.7056	0.4500	1.8000	(60 ksi) A607-60
L19	85.0000-76.7500	8.2500	4.250	18	32.7056	34.0420	0.4500	1.8000	(60 ksi) A607-60
L20	76.7500-75.7500	5.2500	0.000	18	32.7286	33.5790	0.5000	2.0000	(60 ksi) A607-65
L21	75.7500-70.7500	5.0000	0.000	18	33.5790	34.3889	0.5000	2.0000	(65 ksi) A607-65
L22	70.7500-70.5000	0.2500	0.000	18	34.3889	34.4294	0.6750	2.7000	(65 ksi) A607-65
L23	70.5000-70.0000	0.5000	0.000	18	34.4294	34.5104	0.6750	2.7000	(65 ksi) A607-65
L24	70.0000-69.7500	0.2500	0.000	18	34.5104	34.5509	0.5625	2.2500	(65 ksi) A607-65
L25	69.7500-64.7500	5.0000	0.000	18	34.5509	35.3608	0.5500	2.2000	(65 ksi) A607-65
L26	64.7500-59.7500	5.0000	0.000	18	35.3608	36.1707	0.5500	2.2000	(65 ksi) A607-65
L27	59.7500-54.7500	5.0000	0.000	18	36.1707	36.9807	0.5437	2.1750	(65 ksi) A607-65
L28	54.7500-49.7500	5.0000	0.000	18	36.9807	37.7906	0.5375	2.1500	(65 ksi) A607-65
L29	49.7500-43.0000	6.7500	5.000	18	37.7906	38.8840	0.5375	2.1500	(65 ksi) A607-65
L30	43.0000-42.0000	6.0000	0.000	18	37.3241	38.2961	0.6750	2.7000	(65 ksi) A607-65
L31	42.0000-37.0000	5.0000	0.000	18	38.2961	39.1061	0.6625	2.6500	(65 ksi) A607-65
L32	37.0000-32.0000	5.0000	0.000	18	39.1061	39.9160	0.6625	2.6500	(65 ksi) A607-65
L33	32.0000-28.0000	4.0000	0.000	18	39.9160	40.5640	0.6500	2.6000	(65 ksi) A607-65
L34	28.0000-27.7500	0.2500	0.000	18	40.5640	40.6045	0.6750	2.7000	(65 ksi) A607-65
L35	27.7500-27.2500	0.5000	0.000	18	40.6045	40.6855	0.6750	2.7000	(65 ksi) A607-65
L36	27.2500-27.0000	0.2500	0.000	18	40.6855	40.7260	0.6750	2.7000	(65 ksi) A607-65

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
L37	27.0000-22.0000	5.0000	0.000	18	40.7260	41.5360	0.6625	2.6500	A607-65 (65 ksi)
L38	22.0000-17.0000	5.0000	0.000	18	41.5360	42.3460	0.6625	2.6500	A607-65 (65 ksi)
L39	17.0000-16.0000	1.0000	0.000	18	42.3460	42.5080	0.6625	2.6500	A607-65 (65 ksi)
L40	16.0000-15.7500	0.2500	0.000	18	42.5080	42.5485	0.8125	3.2500	A607-65 (65 ksi)
L41	15.7500-14.5000	1.2500	0.000	18	42.5485	42.7510	0.8125	3.2500	A607-65 (65 ksi)
L42	14.5000-14.2500	0.2500	0.000	18	42.7510	42.7915	0.7250	2.9000	A607-65 (65 ksi)
L43	14.2500-12.2500	2.0000	0.000	18	42.7915	43.1155	0.7250	2.9000	A607-65 (65 ksi)
L44	12.2500-12.0000	0.2500	0.000	18	43.1155	43.1560	0.8250	3.3000	A607-65 (65 ksi)
L45	12.0000-10.0000	2.0000	0.000	18	43.1560	43.4800	0.8250	3.3000	A607-65 (65 ksi)
L46	10.0000-9.7500	0.2500	0.000	18	43.4800	43.5205	0.7375	2.9500	A607-65 (65 ksi)
L47	9.7500-4.7500	5.0000	0.000	18	43.5205	44.3305	0.7250	2.9000	A607-65 (65 ksi)
L48	4.7500-0.5000	4.2500	0.000	18	44.3305	45.0190	0.7125	2.8500	A607-65 (65 ksi)
L49	0.5000-0.2500	0.2500	0.000	18	45.0190	45.0595	1.0625	4.2500	A607-65 (65 ksi)
L50	0.2500-0.0000	0.2500		18	45.0595	45.1000	1.0625	4.2500	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	I/Q in ²	w in	w/t
L1	10.7500	11.4038	154.3829	3.6794	5.3750	28.7224	308.7659	5.6985	0.0000	0
L2	10.7500	11.4038	154.3829	3.6794	5.3750	28.7224	308.7659	5.6985	0.0000	0
L3	10.7500	11.4038	154.3829	3.6794	5.3750	28.7224	308.7659	5.6985	0.0000	0
L4	10.7500	11.4038	154.3829	3.6794	5.3750	28.7224	308.7659	5.6985	0.0000	0
L5	23.0000	24.8349	1593.1275	8.0093	11.5000	138.5328	3186.2550	12.4100	0.0000	0
L6	24.1387	18.6949	1311.0228	8.3638	12.0955	108.3895	2623.7706	9.3492	3.7506	15.002
L7	24.9612	19.3376	1450.9451	8.6514	12.5070	116.0110	2903.7993	9.6706	3.8931	15.572
L8	25.7837	19.9803	1600.4848	8.9389	12.9184	123.8915	3203.0756	9.9921	4.0357	16.143
L9	26.6062	20.6231	1759.9617	9.2264	13.3299	132.0309	3522.2392	10.3135	4.1782	16.713
L10	27.4287	21.2658	1929.6954	9.5140	13.7414	140.4293	3861.9300	10.6349	4.3208	17.283
L11	28.2512	21.9085	2110.0056	9.8016	14.1529	149.0867	4222.7875	10.9563	4.4634	17.853
L12	29.0909	22.8084	2380.8169	10.2041	14.7290	161.6420	4764.7665	11.4063	4.6629	18.652
L13	29.8911	23.5000	2627.2035	9.7888	14.1663	185.4539	5257.8639	13.6776	4.3580	13.946
L14	29.8080	28.1533	2865.5776	10.0763	14.5778	196.5715	5734.9257	14.0793	4.5006	14.402
L15	29.8491	28.8763	3092.0726	10.3351	14.9481	206.8540	6188.2138	14.4409	4.6289	14.812
L16	30.6715	42.5168	4505.8955	10.2818	14.9481	301.4362	9017.7201	21.2624	4.3649	9.438
	31.4939	42.5762	4524.8228	10.2962	14.9687	302.2864	9055.5995	21.2922	4.3720	9.453
		43.7652	4914.5812	10.5837	15.3801	319.5414	9835.6292	21.8868	4.5145	9.761
		44.9542	5326.1026	10.8713	15.7916	337.2754	10659.213	22.4813	4.6571	10.069

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L17	31.4959	43.7570	5188.5023	10.8757	15.7916	328.5618	10383.831	21.8827	4.6791	10.398
	32.3183	44.9139	5610.9917	11.1632	16.2030	346.2933	11229.366	22.4612	4.8216	10.715
L18	32.3183	44.9139	5610.9917	11.1632	16.2030	346.2933	11229.366	22.4612	4.8216	10.715
	33.1407	46.0707	6055.8151	11.4507	16.6144	364.4909	12119.598	23.0397	4.9642	11.032
L19	33.1407	46.0707	6055.8151	11.4507	16.6144	364.4909	12119.598	23.0397	4.9642	11.032
	34.4977	47.9795	6840.1318	11.9252	17.2933	395.5357	13689.264	23.9943	5.1994	11.554
L20	33.8554	51.1467	6711.7677	11.4411	16.6261	403.6885	13432.366	25.5782	4.8802	9.76
	34.0199	52.4963	7257.2264	11.7430	17.0581	425.4411	14524.002	26.2532	5.0299	10.06
L21	34.0199	52.4963	7257.2264	11.7430	17.0581	425.4411	14524.002	26.2532	5.0299	10.06
	34.8423	53.7817	7803.4567	12.0306	17.4696	446.6887	15617.181	26.8960	5.1724	10.345
L22	34.8153	72.2304	10372.306	11.9684	17.4696	593.7359	20758.262	36.1220	4.8644	7.207
	34.8564	72.3171	10409.728	11.9828	17.4901	595.1771	20833.154	36.1654	4.8716	7.217
L23	34.8564	72.3171	10409.728	11.9828	17.4901	595.1771	20833.154	36.1654	4.8716	7.217
	34.9386	72.4906	10484.842	12.0116	17.5313	598.0648	20983.480	36.2522	4.8858	7.238
L24	34.9560	60.6097	8824.8118	12.0515	17.5313	503.3752	17661.235	30.3106	5.0838	9.038
	34.9971	60.6820	8856.4307	12.0659	17.5519	504.5867	17724.515	30.3468	5.0910	9.051
L25	34.9990	59.3554	8669.1790	12.0703	17.5519	493.9182	17349.765	29.6833	5.1130	9.296
	35.8215	60.7692	9303.5727	12.3578	17.9633	517.9213	18619.387	30.3904	5.2555	9.555
L26	35.8215	60.7692	9303.5727	12.3578	17.9633	517.9213	18619.387	30.3904	5.2555	9.555
	36.6439	62.1831	9968.1843	12.6454	18.3747	542.4939	19949.485	31.0975	5.3981	9.815
L27	36.6449	61.4873	9860.0978	12.6476	18.3747	536.6116	19733.169	30.7495	5.4091	9.948
	37.4673	62.8851	10547.965	12.9351	18.7862	561.4747	21109.809	31.4485	5.5516	10.21
L28	37.4682	62.1730	10432.090	12.9373	18.7862	555.3066	20877.908	31.0924	5.5626	10.349
	38.2907	63.5547	11143.203	13.2249	19.1976	580.4470	22301.069	31.7834	5.7051	10.614
L29	38.2907	63.5547	11143.203	13.2249	19.1976	580.4470	22301.069	31.7834	5.7051	10.614
	39.4009	65.4201	12153.462	13.6130	19.7531	615.2695	24322.917	32.7163	5.8976	10.972
L30	38.6182	78.5188	13324.077	13.0104	18.9606	702.7234	26665.686	39.2669	5.3810	7.972
	38.7827	80.6012	14412.568	13.3555	19.4544	740.8385	28844.100	40.3083	5.5521	8.225
L31	38.7846	79.1349	14159.773	13.3599	19.4544	727.8442	28338.178	39.5750	5.5741	8.414
	39.6071	80.8381	15093.881	13.6475	19.8659	759.7893	30207.623	40.4268	5.7167	8.629
L32	39.6071	80.8381	15093.881	13.6475	19.8659	759.7893	30207.623	40.4268	5.7167	8.629
	40.4296	82.5414	16068.192	13.9350	20.2774	792.4206	32157.528	41.2785	5.8592	8.844
L33	40.4315	81.0098	15780.084	13.9394	20.2774	778.2123	31580.933	40.5126	5.8812	9.048
	41.0895	82.3467	16574.288	14.1695	20.6065	804.3220	33170.384	41.1812	5.9953	9.223
L34	41.0857	85.4603	17179.439	14.1606	20.6065	833.6889	34381.483	42.7383	5.9513	8.817

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
			3				8			
	41.1268	85.5470	17231.819	14.1750	20.6271	835.3968	34486.313	42.7817	5.9584	8.827
L35	41.1268	85.5470	17231.819	14.1750	20.6271	835.3968	34486.313	42.7817	5.9584	8.827
			7				4			
	41.2091	85.7206	17336.899	14.2037	20.6683	838.8178	34696.611	42.8684	5.9727	8.848
L36	41.2091	85.7206	17336.899	14.2037	20.6683	838.8178	34696.611	42.8684	5.9727	8.848
			6				5			
	41.2502	85.8074	17389.599	14.2181	20.6888	840.5309	34802.080	42.9118	5.9798	8.859
L37	41.2521	84.2446	17083.555	14.2226	20.6888	825.7381	34189.589	42.1303	6.0018	9.059
			2				3			
	42.0746	85.9478	18140.815	14.5101	21.1003	859.7419	36305.501	42.9821	6.1443	9.274
L38	42.0746	85.9478	18140.815	14.5101	21.1003	859.7419	36305.501	42.9821	6.1443	9.274
			6				3			
	42.8971	87.6511	19240.821	14.7977	21.5118	894.4318	38506.959	43.8339	6.2869	9.49
L39	42.8971	87.6511	19240.821	14.7977	21.5118	894.4318	38506.959	43.8339	6.2869	9.49
			0				5			
	43.0616	87.9917	19466.026	14.8552	21.5941	901.4521	38957.665	44.0042	6.3154	9.533
L40	43.0384	107.5275	23617.616	14.8019	21.5941	1093.7081	47266.309	53.7740	6.0514	7.448
			3				3			
	43.0796	107.6320	23686.503	14.8163	21.6147	1095.8541	47404.175	53.8262	6.0585	7.457
L41	43.0796	107.6320	23686.503	14.8163	21.6147	1095.8541	47404.175	53.8262	6.0585	7.457
			8				0			
	43.2852	108.1542	24032.951	14.8882	21.7175	1106.6159	48097.526	54.0874	6.0942	7.501
L42	43.2987	96.7082	21579.294	14.9192	21.7175	993.6353	43186.982	48.3633	6.2482	8.618
			4				0			
	43.3398	96.8014	21641.740	14.9336	21.7381	995.5676	43311.958	48.4099	6.2553	8.628
L43	43.3398	96.8014	21641.740	14.9336	21.7381	995.5676	43311.958	48.4099	6.2553	8.628
			8				3			
	43.6688	97.5469	22145.657	15.0486	21.9027	1011.0933	44320.454	48.7827	6.3123	8.707
L44	43.6534	110.7398	25022.307	15.0131	21.9027	1142.4311	50077.539	55.3804	6.1363	7.438
			1				0			
	43.6945	110.8459	25094.264	15.0275	21.9233	1144.6412	50221.548	55.4335	6.1435	7.447
L45	43.6945	110.8459	25094.264	15.0275	21.9233	1144.6412	50221.548	55.4335	6.1435	7.447
			3				3			
	44.0235	111.6943	25674.892	15.1425	22.0878	1162.3990	51383.567	55.8578	6.2005	7.516
L46	44.0370	100.0527	23093.333	15.1736	22.0878	1045.5221	46217.053	50.0359	6.3545	8.616
			0				7			
	44.0781	100.1476	23159.040	15.1880	22.1084	1047.5212	46348.553	50.0833	6.3616	8.626
L47	44.0800	98.4789	22786.475	15.1924	22.1084	1030.6695	45602.933	49.2488	6.3836	8.805
			3				3			
	44.9025	100.3428	24104.959	15.4800	22.5199	1070.3850	48241.637	50.1809	6.5262	9.002
L48	44.9045	98.6410	23709.735	15.4844	22.5199	1052.8349	47450.668	49.3299	6.5482	9.19
			6				1			
	45.6036	100.1980	24850.297	15.7288	22.8697	1086.6058	49733.294	50.1085	6.6693	9.36
L49	45.5496	148.2378	36186.172	15.6046	22.8697	1582.2791	72419.959	74.1330	6.0533	5.697
			1				1			
	45.5907	148.3744	36286.285	15.6189	22.8902	1585.2305	72620.317	74.2013	6.0605	5.704
L50	45.5907	148.3744	36286.285	15.6189	22.8902	1585.2305	72620.317	74.2013	6.0605	5.704
			4				6			
	45.6318	148.5110	36386.583	15.6333	22.9108	1588.1848	72821.045	74.2696	6.0676	5.711
			7				9			
			5				4			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 160.0000-155.0000				1	1	1			
L2 155.0000-150.0000				1	1	1			
L3 150.0000-148.5000				1	1	1			
L4 148.5000-148.0000				1	1	1			
L5 148.0000-143.0000				1	1	1			
L6 143.0000-138.0000				1	1	1			
L7 138.0000-133.0000				1	1	1			
L8 133.0000-128.0000				1	1	1			
L9 128.0000-123.0000				1	1	1			
L10 123.0000-118.0000				1	1	1			
L11 118.0000-111.0000				1	1	1			
L12 111.0000-109.7500				1	1	1			
L13 109.7500-105.2500				1	1	0.970188			
L14 105.2500-105.0000				1	1	0.962187			
L15 105.0000-100.0000				1	1	0.954609			
L16 100.0000-95.0000				1	1	0.973352			
L17 95.0000-90.0000				1	1	0.966349			
L18 90.0000-85.0000				1	1	0.960995			
L19 85.0000-76.7500				1	1	1.09573			
L20 76.7500-75.7500				1	1	1.08746			
L21 75.7500-70.7500				1	1	1.0438			
L22 70.7500-70.5000				1	1	1.04263			
L23 70.5000-70.0000				1	1	0.949679			
L24 70.0000-69.7500				1	1	0.96418			
L25 69.7500-64.7500				1	1	0.95776			
L26 64.7500-59.7500				1	1	0.962398			
L27 59.7500-54.7500				1	1	0.967427			
L28 54.7500-49.7500				1	1	0.965389			
L29 49.7500-43.0000				1	1	0.954665			
L30 43.0000-42.0000				1	1				

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L31 42.0000-37.0000				1	1	0.965782			
L32 37.0000-32.0000				1	1	0.95948			
L33 32.0000-28.0000				1	1	0.972676			
L34 28.0000-27.7500				1	1	1.03596			
L35 27.7500-27.2500				1	1	1.03517			
L36 27.2500-27.0000				1	1	0.948131			
L37 27.0000-22.0000				1	1	0.959668			
L38 22.0000-17.0000				1	1	0.953852			
L39 17.0000-16.0000				1	1	0.952716			
L40 16.0000-15.7500				1	1	0.946633			
L41 15.7500-14.5000				1	1	0.944662			
L42 14.5000-14.2500				1	1	0.968531			
L43 14.2500-12.2500				1	1	0.96574			
L44 12.2500-12.0000				1	1	1.00321			
L45 12.0000-10.0000				1	1	0.999619			
L46 10.0000-9.7500				1	1	0.935693			
L47 9.7500-4.7500				1	1	0.945082			
L48 4.7500-0.5000				1	1	0.955989			
L49 0.5000-0.2500				1	1	0.916792			
L50 0.2500-0.0000				1	1	0.916327			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_{AA} ft ² /ft	Weight klf
LDF7-50A(1-5/8)	C	No	No	Inside Pole	157.0000 - 0.0000	6	No Ice	0.0000	0.001
							1/2" Ice	0.0000	0.001
							1" Ice	0.0000	0.001
							2" Ice	0.0000	0.001
FB-L98B-002-7500(3/8)	C	No	No	Inside Pole	157.0000 - 0.0000	1	No Ice	0.0000	0.000
							1/2" Ice	0.0000	0.000
							1" Ice	0.0000	0.000
							2" Ice	0.0000	0.000
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	157.0000 - 0.0000	1	No Ice	0.0000	0.000
							1/2" Ice	0.0000	0.000
							1" Ice	0.0000	0.000
							2" Ice	0.0000	0.000
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	157.0000 - 0.0000	1	No Ice	0.0000	0.000
							1/2" Ice	0.0000	0.000
							1" Ice	0.0000	0.000
							2" Ice	0.0000	0.000

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight klf	
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	157.0000 - 0.0000	8	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.001	
							1" Ice	0.0000	0.001	
							2" Ice	0.0000	0.001	
2" (Nominal) Conduit	C	No	No	Inside Pole	157.0000 - 0.0000	2	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.001	
							1" Ice	0.0000	0.001	
							2" Ice	0.0000	0.001	
***	HB114-1-08U4-M5J(1-1/4)	C	No	No	Inside Pole	148.0000 - 0.0000	3	No Ice	0.0000	0.001
1/2" Ice								0.0000	0.001	
1" Ice								0.0000	0.001	
2" Ice								0.0000	0.001	
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	148.0000 - 0.0000	1	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.001	
							1" Ice	0.0000	0.001	
							2" Ice	0.0000	0.001	
***	HCC214-50J(2-1/4')	C	No	No	Inside Pole	138.0000 - 0.0000	1	No Ice	0.0000	0.001
1/2" Ice								0.0000	0.001	
1" Ice								0.0000	0.001	
2" Ice								0.0000	0.001	
AL7-50(1-5/8)	C	No	No	Inside Pole	138.0000 - 0.0000	6	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.001	
							1" Ice	0.0000	0.001	
							2" Ice	0.0000	0.001	
LDF4-50A(1/2)	C	No	No	Inside Pole	138.0000 - 0.0000	1	No Ice	0.0000	0.000	
							1/2" Ice	0.0000	0.000	
							1" Ice	0.0000	0.000	
							2" Ice	0.0000	0.000	
***	LDF7-50A(1-5/8)	C	No	No	Inside Pole	127.0000 - 0.0000	1	No Ice	0.0000	0.001
1/2" Ice								0.0000	0.001	
1" Ice								0.0000	0.001	
2" Ice								0.0000	0.001	
LDF7-50A(1-5/8)	C	No	No	CaAa (Out Of Face)	127.0000 - 0.0000	1	No Ice	0.1980	0.001	
							1/2" Ice	0.2980	0.002	
							1" Ice	0.3980	0.004	
							2" Ice	0.5980	0.011	
LDF7-50A(1-5/8)	C	No	No	CaAa (Out Of Face)	127.0000 - 0.0000	4	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.002	
							1" Ice	0.0000	0.004	
							2" Ice	0.0000	0.011	
MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	C	No	No	CaAa (Out Of Face)	127.0000 - 0.0000	1	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.002	
							1" Ice	0.0000	0.003	
							2" Ice	0.0000	0.009	
***	FXL-1873(1-5/8)	C	No	No	CaAa (Out Of Face)	119.0000 - 0.0000	1	No Ice	0.1980	0.001
1/2" Ice								0.2980	0.002	
1" Ice								0.3980	0.004	
2" Ice								0.5980	0.010	
FXL-1873(1-5/8)	C	No	No	CaAa (Out Of Face)	119.0000 - 0.0000	5	No Ice	0.0000	0.001	
							1/2" Ice	0.0000	0.002	
							1" Ice	0.0000	0.004	
							2" Ice	0.0000	0.010	
860 10033(3/8)	C	No	No	CaAa (Out Of Face)	119.0000 - 0.0000	1	No Ice	0.0000	0.000	
							1/2" Ice	0.0000	0.001	
							1" Ice	0.0000	0.002	
							2" Ice	0.0000	0.006	
***	LDF4-50A(1/2)	C	No	No	Inside Pole	48.0000 - 0.0000	1	No Ice	0.0000	0.000
1/2" Ice								0.0000	0.000	
1" Ice								0.0000	0.000	
2" Ice								0.0000	0.000	
*****	Aero MP3-06	C	No	No	CaAa (Out Of Face)	30.5000 - 0.0000	1	No Ice	0.4343	0.000
1/2" Ice								0.5454	0.000	

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight kif
Aero MP3-05	C	No	No	CaAa (Out Of Face)	73.0000 - 43.0000	1	1" Ice	0.6566	0.000
							2" Ice	0.8788	0.000
							No Ice	0.3478	0.000
							1/2" Ice	0.4001	0.000
							1" Ice	0.6566	0.000
Aero MP3-04	C	No	No	CaAa (Out Of Face)	106.7500 - 76.7500	1	2" Ice	0.8788	0.000
							No Ice	0.2690	0.000
							1/2" Ice	0.3801	0.000
							1" Ice	0.4913	0.000
							2" Ice	0.7135	0.000
1 1/4" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	49.5000 - 24.5000	1	No Ice	0.2083	0.000
							1/2" Ice	0.3194	0.000
							1" Ice	0.4306	0.000
							2" Ice	0.6528	0.000
							No Ice	0.1667	0.000
1" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	18.0000 - 8.0000	1	1/2" Ice	0.2778	0.000
							1" Ice	0.3889	0.000
							2" Ice	0.6111	0.000
							No Ice	0.1667	0.000
							1/2" Ice	0.2778	0.000
1" Flat Reinforcement	C	No	No	CaAa (Out Of Face)	82.5000 - 67.5000	1	1" Ice	0.3889	0.000
							2" Ice	0.6111	0.000
							No Ice	0.1667	0.000
							1/2" Ice	0.2778	0.000
							1" Ice	0.3889	0.000

Feed Line/Linear Appurtenances Section Areas

Tower Section n	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	160.0000-155.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.022
L2	155.0000-150.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.056
L3	150.0000-148.5000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.017
L4	148.5000-148.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.006
L5	148.0000-143.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.078
L6	143.0000-138.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.078
L7	138.0000-133.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.100
L8	133.0000-128.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.100
L9	128.0000-123.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.792	0.123
L10	123.0000-118.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.188	0.132
L11	118.0000-111.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	2.772	0.208
L12	111.0000-	A	0.000	0.000	0.000	0.000	0.000

Tower Sectio n	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
	109.7500	B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.495	0.037
L13	109.7500-	A	0.000	0.000	0.000	0.000	0.000
	105.2500	B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	2.186	0.134
L14	105.2500-	A	0.000	0.000	0.000	0.000	0.000
	105.0000	B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.166	0.007
L15	105.0000-	A	0.000	0.000	0.000	0.000	0.000
	100.0000	B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.149
L16	100.0000-	A	0.000	0.000	0.000	0.000	0.000
	95.0000	B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.149
L17	95.0000-90.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.149
L18	90.0000-85.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.149
L19	85.0000-76.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	6.445	0.245
L20	76.7500-75.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.563	0.030
L21	75.7500-70.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.596	0.149
L22	70.7500-70.5000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.228	0.007
L23	70.5000-70.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.455	0.015
L24	70.0000-69.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.228	0.007
L25	69.7500-64.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.094	0.149
L26	64.7500-59.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.149
L27	59.7500-54.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.149
L28	54.7500-49.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.149
L29	49.7500-43.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	6.375	0.201
L30	43.0000-42.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.604	0.030
L31	42.0000-37.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.022	0.149
L32	37.0000-32.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.022	0.149
L33	32.0000-28.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.503	0.119
L34	28.0000-27.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.260	0.007
L35	27.7500-27.2500	A	0.000	0.000	0.000	0.000	0.000

Tower Sectio n	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
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.519	0.015
L36	27.2500-27.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.260	0.007
L37	27.0000-22.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.672	0.149
L38	22.0000-17.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.318	0.149
L39	17.0000-16.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.997	0.030
L40	16.0000-15.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L41	15.7500-14.5000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.246	0.037
L42	14.5000-14.2500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L43	14.2500-12.2500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.994	0.060
L44	12.2500-12.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L45	12.0000-10.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.994	0.060
L46	10.0000-9.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L47	9.7500-4.7500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.443	0.149
L48	4.7500-0.5000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.529	0.127
L49	0.5000-0.2500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.208	0.007
L50	0.2500-0.0000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.208	0.007

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Sectio n	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	160.0000- 155.0000	A	1.491	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.022
L2	155.0000- 150.0000	A	1.486	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.056
L3	150.0000- 148.5000	A	1.483	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.017
L4	148.5000- 148.0000	A	1.482	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.006
L5	148.0000-	A	1.479	0.000	0.000	0.000	0.000	0.000

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
	143.0000	B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.078
L6	143.0000-138.0000	A	1.474	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.078
L7	138.0000-133.0000	A	1.468	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.100
L8	133.0000-128.0000	A	1.463	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.100
L9	128.0000-123.0000	A	1.457	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.958	0.272
L10	123.0000-118.0000	A	1.451	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	2.930	0.359
L11	118.0000-111.0000	A	1.444	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.815	0.756
L12	111.0000-109.7500	A	1.439	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.217	0.135
L13	109.7500-105.2500	A	1.435	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	5.246	0.483
L14	105.2500-105.0000	A	1.432	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.389	0.027
L15	105.0000-100.0000	A	1.428	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.768	0.534
L16	100.0000-95.0000	A	1.421	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.746	0.531
L17	95.0000-90.0000	A	1.413	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.722	0.528
L18	90.0000-85.0000	A	1.406	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.698	0.525
L19	85.0000-76.7500	A	1.395	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	15.385	0.859
L20	76.7500-75.7500	A	1.386	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.430	0.104
L21	75.7500-70.7500	A	1.381	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.777	0.516
L22	70.7500-70.5000	A	1.376	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.540	0.026
L23	70.5000-70.0000	A	1.375	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.079	0.051
L24	70.0000-69.7500	A	1.374	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.539	0.026
L25	69.7500-64.7500	A	1.369	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	9.470	0.511
L26	64.7500-59.7500	A	1.359	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.378	0.507
L27	59.7500-54.7500	A	1.347	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.343	0.503
L28	54.7500-49.7500	A	1.335	0.000	0.000	0.000	0.000	0.000

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A_R	A_F	C_{AA} In Face	C_{AA} Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.305	0.498
L29	49.7500-43.0000	A	1.319	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	14.404	0.665
L30	43.0000-42.0000	A	1.308	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.425	0.099
L31	42.0000-37.0000	A	1.298	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.060	0.485
L32	37.0000-32.0000	A	1.281	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.006	0.478
L33	32.0000-28.0000	A	1.263	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.348	0.377
L34	28.0000-27.7500	A	1.254	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.524	0.023
L35	27.7500-27.2500	A	1.252	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.048	0.047
L36	27.2500-27.0000	A	1.250	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.524	0.023
L37	27.0000-22.0000	A	1.238	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	9.210	0.462
L38	22.0000-17.0000	A	1.210	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.350	0.451
L39	17.0000-16.0000	A	1.190	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	2.002	0.089
L40	16.0000-15.7500	A	1.185	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.499	0.022
L41	15.7500-14.5000	A	1.179	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	2.491	0.110
L42	14.5000-14.2500	A	1.173	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.497	0.022
L43	14.2500-12.2500	A	1.164	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	3.960	0.174
L44	12.2500-12.0000	A	1.154	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.493	0.021
L45	12.0000-10.0000	A	1.142	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	3.923	0.170
L46	10.0000-9.7500	A	1.130	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.488	0.021
L47	9.7500-4.7500	A	1.096	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.278	0.408
L48	4.7500-0.5000	A	0.990	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.146	0.313
L49	0.5000-0.2500	A	0.815	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.334	0.016
L50	0.2500-0.0000	A	0.730	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.321	0.015

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x	CP _z
	ft	in	in	Ice in	Ice in
L1	160.0000-155.0000	0.0000	0.0000	0.0000	0.0000
L2	155.0000-150.0000	0.0000	0.0000	0.0000	0.0000
L3	150.0000-148.5000	0.0000	0.0000	0.0000	0.0000
L4	148.5000-148.0000	0.0000	0.0000	0.0000	0.0000
L5	148.0000-143.0000	0.0000	0.0000	0.0000	0.0000
L6	143.0000-138.0000	0.0000	0.0000	0.0000	0.0000
L7	138.0000-133.0000	0.0000	0.0000	0.0000	0.0000
L8	133.0000-128.0000	0.0000	0.0000	0.0000	0.0000
L9	128.0000-123.0000	-1.0173	0.5873	-1.3387	0.7729
L10	123.0000-118.0000	-1.4655	0.8461	-1.9068	1.1009
L11	118.0000-111.0000	-2.2676	1.3092	-2.8911	1.6692
L12	111.0000-109.7500	-2.2706	1.3110	-2.8969	1.6726
L13	109.7500-105.2500	-2.6872	1.5514	-3.3398	1.9283
L14	105.2500-105.0000	-3.4196	1.9743	-4.1113	2.3737
L15	105.0000-100.0000	-3.4327	1.9818	-4.1303	2.3846
L16	100.0000-95.0000	-3.4567	1.9957	-4.1648	2.4045
L17	95.0000-90.0000	-3.4797	2.0090	-4.1971	2.4232
L18	90.0000-85.0000	-3.5020	2.0219	-4.2276	2.4408
L19	85.0000-76.7500	-3.9807	2.2983	-4.8825	2.8189
L20	76.7500-75.7500	-3.1065	1.7936	-4.0657	2.3474
L21	75.7500-70.7500	-3.7666	2.1746	-4.7242	2.7275
L22	70.7500-70.5000	-4.4776	2.5851	-5.4355	3.1382
L23	70.5000-70.0000	-4.4800	2.5865	-5.4386	3.1400
L24	70.0000-69.7500	-4.4808	2.5870	-5.4401	3.1408
L25	69.7500-64.7500	-4.1664	2.4055	-5.0183	2.8973
L26	64.7500-59.7500	-3.9075	2.2560	-4.6585	2.6896
L27	59.7500-54.7500	-3.9293	2.2686	-4.6826	2.7035
L28	54.7500-49.7500	-3.9503	2.2807	-4.7041	2.7159
L29	49.7500-43.0000	-4.7405	2.7370	-5.6395	3.2560
L30	43.0000-42.0000	-3.3800	1.9515	-4.2422	2.4492
L31	42.0000-37.0000	-3.3885	1.9564	-4.2322	2.4434
L32	37.0000-32.0000	-3.4025	1.9644	-4.2361	2.4457
L33	32.0000-28.0000	-4.5522	2.6282	-5.1953	2.9995
L34	28.0000-27.7500	-5.1572	2.9775	-5.7066	3.2947
L35	27.7500-27.2500	-5.1595	2.9788	-5.7074	3.2952
L36	27.2500-27.0000	-5.1617	2.9801	-5.7081	3.2956
L37	27.0000-22.0000	-4.7952	2.7685	-5.2408	3.0258
L38	22.0000-17.0000	-4.5501	2.6270	-4.9253	2.8436
L39	17.0000-16.0000	-5.0715	2.9281	-5.6248	3.2475
L40	16.0000-15.7500	-5.0768	2.9311	-5.6246	3.2473
L41	15.7500-14.5000	-5.0808	2.9334	-5.6215	3.2456
L42	14.5000-14.2500	-5.0836	2.9350	-5.6169	3.2429
L43	14.2500-12.2500	-5.0895	2.9384	-5.6106	3.2393
L44	12.2500-12.0000	-5.0966	2.9425	-5.6044	3.2357
L45	12.0000-10.0000	-5.1024	2.9459	-5.5953	3.2305
L46	10.0000-9.7500	-5.1071	2.9486	-5.5833	3.2235
L47	9.7500-4.7500	-4.6996	2.7133	-4.9769	2.8734
L48	4.7500-0.5000	-4.4826	2.5880	-4.5344	2.6179
L49	0.5000-0.2500	-4.4951	2.5952	-4.3058	2.4859

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L50	0.2500-0.0000	-4.4960	2.5958	-4.1850	2.4162

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
---------------	----------------------	-------------	-------------------------	--------------------------	-----------------------

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
800 10121 w/ Mount Pipe	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	5.7362	4.9479	0.072
						1/2" Ice	6.3448	6.0222	0.123
						Ice	6.8570	6.8104	0.181
						1" Ice	7.9064	8.4075	0.321
						2" Ice			
800 10121 w/ Mount Pipe	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	5.7362	4.9479	0.072
						1/2" Ice	6.3448	6.0222	0.123
						Ice	6.8570	6.8104	0.181
						1" Ice	7.9064	8.4075	0.321
						2" Ice			
800 10121 w/ Mount Pipe	C	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	5.7362	4.9479	0.072
						1/2" Ice	6.3448	6.0222	0.123
						Ice	6.8570	6.8104	0.181
						1" Ice	7.9064	8.4075	0.321
						2" Ice			
HPA-85R-BUU-H8 w/ Mount Pipe	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	12.9838	9.3187	0.105
						1/2" Ice	13.6685	10.7901	0.199
						Ice	14.3572	12.2416	0.303
						1" Ice	15.6789	14.4988	0.545
						2" Ice			
HPA-85R-BUU-H8 w/ Mount Pipe	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	12.9838	9.3187	0.105
						1/2" Ice	13.6685	10.7901	0.199
						Ice	14.3572	12.2416	0.303
						1" Ice	15.6789	14.4988	0.545
						2" Ice			
HPA-85R-BUU-H8 w/ Mount Pipe	C	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	12.9838	9.3187	0.105
						1/2" Ice	13.6685	10.7901	0.199
						Ice	14.3572	12.2416	0.303
						1" Ice	15.6789	14.4988	0.545
						2" Ice			
TPA-65R-LCUUUU-H8-K w/ Mount Pipe	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	13.5353	10.9597	0.127
						1/2" Ice	14.2380	12.4861	0.230
						Ice	14.9495	14.0367	0.344
						1" Ice	16.3081	16.3910	0.605
						2" Ice			
TPA-65R-LCUUUU-H8-K w/ Mount Pipe	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice	13.5353	10.9597	0.127
						1/2" Ice	14.2380	12.4861	0.230
						Ice	14.9495	14.0367	0.344
						1" Ice	16.3081	16.3910	0.605
						2" Ice			
TPA-65R-LCUUUU-H8-K	C	From Leg	4.0000	0.000	157.0000	No Ice	13.5353	10.9597	0.127

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
w/ Mount Pipe			0.000 1.000			1/2" Ice 1" 2"	14.2380 14.9495 16.3081	12.4861 14.0367 16.3910	0.230 0.344 0.605
(2) LGP21401	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.014 0.021 0.030 0.055
(4) LGP21401	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.014 0.021 0.030 0.055
RRUS-11	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.050 0.071 0.095 0.153
RRUS-11	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.050 0.071 0.095 0.153
RRUS-11	C	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.050 0.071 0.095 0.153
RRUS 32	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.055 0.077 0.103 0.165
RRUS 32	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.055 0.077 0.103 0.165
RRUS 32	C	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.055 0.077 0.103 0.165
(2) DC6-48-60-18-8F	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.033 0.055 0.080 0.138
80010966 w/ Mount Pipe	A	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	17.6005 18.3314 19.0711 20.4862	9.6375 11.1547 12.6961 15.0321	0.147 0.263 0.390 0.678
80010966 w/ Mount Pipe	B	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	17.6005 18.3314 19.0711 20.4862	9.6375 11.1547 12.6961 15.0321	0.147 0.263 0.390 0.678
80010966 w/ Mount Pipe	C	From Leg	4.0000 0.000 1.000	0.000	157.0000	No Ice 1/2" Ice 1" 2"	17.6005 18.3314 19.0711 20.4862	9.6375 11.1547 12.6961 15.0321	0.147 0.263 0.390 0.678
(3) RRUS 4449 B5/B12	A	From Leg	4.0000	0.000	157.0000	No Ice	0.0000	0.0000	0.071

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.000			1/2"	0.0000	0.0000	0.090
			1.000			Ice	0.0000	0.0000	0.111
						1" Ice	0.0000	0.0000	0.163
						2" Ice			
(3) RRUS 4478 B14	B	From Leg	4.0000	0.000	157.0000	No Ice	0.0000	0.0000	0.060
			0.000			1/2"	0.0000	0.0000	0.076
			1.000			Ice	0.0000	0.0000	0.094
						1" Ice	0.0000	0.0000	0.140
						2" Ice			
(2) RRUS 8843 B2/B66A	B	From Leg	4.0000	0.000	157.0000	No Ice	0.0000	0.0000	0.072
			0.000			1/2"	0.0000	0.0000	0.090
			1.000			Ice	0.0000	0.0000	0.110
						1" Ice	0.0000	0.0000	0.159
						2" Ice			
RRUS 8843 B2/B66A	C	From Leg	4.0000	0.000	157.0000	No Ice	0.0000	0.0000	0.072
			0.000			1/2"	0.0000	0.0000	0.090
			1.000			Ice	0.0000	0.0000	0.110
						1" Ice	0.0000	0.0000	0.159
						2" Ice			
(2) DC6-48-60-18-8F	C	From Leg	4.0000	0.000	157.0000	No Ice	0.0000	0.0000	0.033
			0.000			1/2"	0.0000	0.0000	0.055
			1.000			Ice	0.0000	0.0000	0.080
						1" Ice	0.0000	0.0000	0.138
						2" Ice			
T-Arm Mount [TA 601-3]	C	None		0.000	157.0000	No Ice	10.9000	10.9000	0.726
						1/2"	14.6500	14.6500	0.926
						Ice	18.4000	18.4000	1.125
						1" Ice	25.9000	25.9000	1.524
						2" Ice			

800MHZ 2X50W RRH W/FILTER	A	From Leg	2.0000	0.000	150.0000	No Ice	2.0583	1.9317	0.064
			0.000			1/2"	2.2398	2.1087	0.086
			-2.000			Ice	2.4287	2.2931	0.111
						1" Ice	2.8287	2.6843	0.172
						2" Ice			
800MHZ 2X50W RRH W/FILTER	B	From Leg	2.0000	0.000	150.0000	No Ice	2.0583	1.9317	0.064
			0.000			1/2"	2.2398	2.1087	0.086
			-2.000			Ice	2.4287	2.2931	0.111
						1" Ice	2.8287	2.6843	0.172
						2" Ice			
800MHZ 2X50W RRH W/FILTER	C	From Leg	2.0000	0.000	150.0000	No Ice	2.0583	1.9317	0.064
			0.000			1/2"	2.2398	2.1087	0.086
			-2.000			Ice	2.4287	2.2931	0.111
						1" Ice	2.8287	2.6843	0.172
						2" Ice			
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	2.0000	0.000	150.0000	No Ice	2.3218	2.2381	0.060
			0.000			1/2"	2.5266	2.4407	0.083
			-2.000			Ice	2.7388	2.6507	0.110
						1" Ice	3.1855	3.0929	0.173
						2" Ice			
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	2.0000	0.000	150.0000	No Ice	2.3218	2.2381	0.060
			0.000			1/2"	2.5266	2.4407	0.083
			-2.000			Ice	2.7388	2.6507	0.110
						1" Ice	3.1855	3.0929	0.173
						2" Ice			
PCS 1900MHZ 4X45W-65MHZ	C	From Leg	2.0000	0.000	150.0000	No Ice	2.3218	2.2381	0.060
			0.000			1/2"	2.5266	2.4407	0.083
			-2.000			Ice	2.7388	2.6507	0.110
						1" Ice	3.1855	3.0929	0.173
						2" Ice			
Side Arm Mount [SO 103-3]	C	None		0.000	150.0000	No Ice	9.5000	9.5000	0.224
						1/2"	11.8000	11.8000	0.317
						Ice	14.1000	14.1000	0.410
						1" Ice	18.7000	18.7000	0.596
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement		C _A A _A	C _A A _A	Weight
			Horz	Lateral				Front	Side	
			ft	ft		ft				K
			ft	ft			ft ²	ft ²		
			ft	ft						

APXVSP18-C-A20 w/ Mount Pipe	A	From Leg	4.0000	0.000	0.000	148.0000	No Ice	8.2619	6.9458	0.083
							1/2" Ice	8.8215	8.1266	0.151
							Ice	9.3462	9.0212	0.227
							1" Ice	10.4181	10.8440	0.406
							2" Ice			
APXVSP18-C-A20 w/ Mount Pipe	B	From Leg	4.0000	0.000	0.000	148.0000	No Ice	8.2619	6.9458	0.083
							1/2" Ice	8.8215	8.1266	0.151
							Ice	9.3462	9.0212	0.227
							1" Ice	10.4181	10.8440	0.406
							2" Ice			
APXVSP18-C-A20 w/ Mount Pipe	C	From Leg	4.0000	0.000	0.000	148.0000	No Ice	8.2619	6.9458	0.083
							1/2" Ice	8.8215	8.1266	0.151
							Ice	9.3462	9.0212	0.227
							1" Ice	10.4181	10.8440	0.406
							2" Ice			
IBC1900BB-1	A	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
IBC1900BB-1	B	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
IBC1900BB-1	C	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
IBC1900HG-2A	A	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
IBC1900HG-2A	B	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
IBC1900HG-2A	C	From Leg	4.0000	0.000	0.000	148.0000	No Ice	0.9660	0.4635	0.022
							1/2" Ice	1.0908	0.5576	0.030
							Ice	1.2230	0.6599	0.039
							1" Ice	1.5097	0.8927	0.065
							2" Ice			
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.0000	0.000	0.000	148.0000	No Ice	6.5799	4.9591	0.077
							1/2" Ice	7.0306	5.7544	0.132
							Ice	7.4733	6.4723	0.193
							1" Ice	8.3846	7.9407	0.339
							2" Ice			
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.0000	0.000	0.000	148.0000	No Ice	6.5799	4.9591	0.077
							1/2" Ice	7.0306	5.7544	0.132
							Ice	7.4733	6.4723	0.193
							1" Ice	8.3846	7.9407	0.339
							2" Ice			
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.0000	0.000	0.000	148.0000	No Ice	6.5799	4.9591	0.077
							1/2" Ice	7.0306	5.7544	0.132
							Ice	7.4733	6.4723	0.193
							1" Ice	8.3846	7.9407	0.339
							2" Ice			
(3) TD-RRH8X20-25	A	From Leg	4.0000	0.000	0.000	148.0000	No Ice	4.0455	1.5345	0.070
							1/2" Ice	4.2975	1.7142	0.097
							Ice	4.5570	1.9008	0.128
							1" Ice	5.0981	2.2951	0.201

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C _{AA} A Front ft ²	C _{AA} A Side ft ²	Weight K	
Platform Mount [LP 1201-1]	C	None		0.000	148.0000	2" Ice			
						No Ice	23.1000	23.1000	2.100
						1/2"	26.8000	26.8000	2.500
						Ice	30.5000	30.5000	2.900
						1" Ice	37.9000	37.9000	3.700

(2) LPA-80063-6CF-EDIN-2	A	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	9.7324	8.6033	0.027
						1/2"	10.2002	9.0605	0.102
						Ice	10.6750	9.5248	0.183
						1" Ice	11.6456	10.4742	0.367
						2" Ice			
(2) LPA-80063-6CF-EDIN-2	B	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	9.7324	8.6033	0.027
						1/2"	10.2002	9.0605	0.102
						Ice	10.6750	9.5248	0.183
						1" Ice	11.6456	10.4742	0.367
						2" Ice			
(2) LPA-80063-6CF-EDIN-2	C	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	9.7324	8.6033	0.027
						1/2"	10.2002	9.0605	0.102
						Ice	10.6750	9.5248	0.183
						1" Ice	11.6456	10.4742	0.367
						2" Ice			
KS24019-L112A	C	From Leg	4.0000 0.000 4.000	0.000	138.0000	No Ice	0.1407	0.1407	0.005
						1/2"	0.1979	0.1979	0.007
						Ice	0.2621	0.2621	0.009
						1" Ice	0.4148	0.4148	0.018
						2" Ice			
(2) NNHH-65B-R4	A	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	12.2711	5.7500	0.078
						1/2"	12.7660	6.2069	0.150
						Ice	13.2679	6.6713	0.229
						1" Ice	14.2927	7.6222	0.407
						2" Ice			
(2) NNHH-65B-R4	B	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	12.2711	5.7500	0.078
						1/2"	12.7660	6.2069	0.150
						Ice	13.2679	6.6713	0.229
						1" Ice	14.2927	7.6222	0.407
						2" Ice			
(2) NNHH-65B-R4	C	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	12.2711	5.7500	0.078
						1/2"	12.7660	6.2069	0.150
						Ice	13.2679	6.6713	0.229
						1" Ice	14.2927	7.6222	0.407
						2" Ice			
RFV01U-D1A	A	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	1.8750	1.2500	0.084
						1/2"	2.0454	1.3926	0.103
						Ice	2.2231	1.5426	0.124
						1" Ice	2.6009	1.8648	0.175
						2" Ice			
RFV01U-D1A	B	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	1.8750	1.2500	0.084
						1/2"	2.0454	1.3926	0.103
						Ice	2.2231	1.5426	0.124
						1" Ice	2.6009	1.8648	0.175
						2" Ice			
RFV01U-D1A	C	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	1.8750	1.2500	0.084
						1/2"	2.0454	1.3926	0.103
						Ice	2.2231	1.5426	0.124
						1" Ice	2.6009	1.8648	0.175
						2" Ice			
(3) RFV01U-D2A	A	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	1.8750	1.0125	0.070
						1/2"	2.0454	1.1445	0.087
						Ice	2.2231	1.2840	0.106
						1" Ice	2.6009	1.5851	0.153
						2" Ice			
RVZDC-6627-PF-48	B	From Leg	4.0000 0.000 0.000	0.000	138.0000	No Ice	3.7922	2.5137	0.032
						1/2"	4.0441	2.7270	0.063
						Ice	4.3033	2.9472	0.099

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K		
Platform Mount [LP 1301-1]	C	None		0.000	138.0000	1" Ice	4.8439	3.4168	0.181	
						2" Ice				
						No Ice	51.7000	51.7000	2.262	
						1/2" Ice	62.7000	62.7000	2.935	
						Ice	73.7000	73.7000	3.608	
***	A	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	95.7000	95.7000	4.954	
						2" Ice				
						No Ice	6.3292	5.6424	0.112	
						1/2" Ice	6.7751	6.4259	0.169	
						Ice	7.2137	7.1313	0.233	
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	8.1168	8.5907	0.383	
						2" Ice				
						No Ice	6.3292	5.6424	0.112	
						1/2" Ice	6.7751	6.4259	0.169	
						Ice	7.2137	7.1313	0.233	
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	8.1168	8.5907	0.383	
						2" Ice				
						No Ice	6.3292	5.6424	0.112	
						1/2" Ice	6.7751	6.4259	0.169	
						Ice	7.2137	7.1313	0.233	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	8.1062	8.5791	0.383	
						2" Ice				
						No Ice	6.3186	5.6334	0.112	
						1/2" Ice	6.7646	6.4160	0.169	
						Ice	7.2032	7.1208	0.232	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	8.1062	8.5791	0.383	
						2" Ice				
						No Ice	6.3186	5.6334	0.112	
						1/2" Ice	6.7646	6.4160	0.169	
						Ice	7.2032	7.1208	0.232	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	8.1062	8.5791	0.383	
						2" Ice				
						No Ice	6.3186	5.6334	0.112	
						1/2" Ice	6.7646	6.4160	0.169	
						Ice	7.2032	7.1208	0.232	
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	14.5120	15.2672	0.506	
						2" Ice				
						No Ice	11.6828	9.8418	0.083	
						1/2" Ice	12.4043	11.3657	0.173	
						Ice	13.1351	12.9138	0.273	
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	14.5120	15.2672	0.506	
						2" Ice				
						No Ice	11.6828	9.8418	0.083	
						1/2" Ice	12.4043	11.3657	0.173	
						Ice	13.1351	12.9138	0.273	
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	14.5120	15.2672	0.506	
						2" Ice				
						No Ice	11.6828	9.8418	0.083	
						1/2" Ice	12.4043	11.3657	0.173	
						Ice	13.1351	12.9138	0.273	
KRY 112 144/1	A	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	0.6981	0.4565	0.032	
						2" Ice				
						No Ice	0.3500	0.1750	0.011	
						1/2" Ice	0.4259	0.2343	0.014	
						Ice	0.5093	0.3009	0.019	
KRY 112 144/1	B	From Leg	4.0000 0.000 2.000	0.000	127.0000	1" Ice	0.6981	0.4565	0.032	
						2" Ice				
						No Ice	0.3500	0.1750	0.011	
						1/2" Ice	0.4259	0.2343	0.014	
						Ice	0.5093	0.3009	0.019	
KRY 112 144/1	C	From Leg	4.0000 0.000	0.000	127.0000	1" Ice	0.6981	0.4565	0.032	
						2" Ice				
						No Ice	0.3500	0.1750	0.011	
						1/2" Ice	0.4259	0.2343	0.014	
						Ice	0.5093	0.3009	0.019	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C _{AA} A _A Front ft ²	C _{AA} A _A Side ft ²	Weight K
			2.000			Ice 0.5093	0.3009	0.019
						1" Ice 0.6981	0.4565	0.032
						2" Ice		
RRUS 11 B12	A	From Leg	4.0000 0.000 2.000	0.000	127.0000	No Ice 2.8333	1.1821	0.051
						1/2" 3.0426	1.3299	0.072
						Ice 3.2593	1.4848	0.095
						1" Ice 3.7148	1.8259	0.153
						2" Ice		
RRUS 11 B12	B	From Leg	4.0000 0.000 2.000	0.000	127.0000	No Ice 2.8333	1.1821	0.051
						1/2" 3.0426	1.3299	0.072
						Ice 3.2593	1.4848	0.095
						1" Ice 3.7148	1.8259	0.153
						2" Ice		
RRUS 11 B12	C	From Leg	4.0000 0.000 2.000	0.000	127.0000	No Ice 2.8333	1.1821	0.051
						1/2" 3.0426	1.3299	0.072
						Ice 3.2593	1.4848	0.095
						1" Ice 3.7148	1.8259	0.153
						2" Ice		
Platform Mount [LP 1201-1]	C	None		0.000	127.0000	No Ice 23.1000	23.1000	2.100
						1/2" 26.8000	26.8000	2.500
						Ice 30.5000	30.5000	2.900
						1" Ice 37.9000	37.9000	3.700
						2" Ice		

HBX-6516DS-VTM w/ Mount Pipe	A	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 3.5975	3.2406	0.029
						1/2" 3.9981	3.9135	0.062
						Ice 4.3890	4.5638	0.101
						1" Ice 5.1874	5.9143	0.199
						2" Ice		
HBX-6516DS-VTM w/ Mount Pipe	B	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 3.5975	3.2406	0.029
						1/2" 3.9981	3.9135	0.062
						Ice 4.3890	4.5638	0.101
						1" Ice 5.1874	5.9143	0.199
						2" Ice		
HBX-6516DS-VTM w/ Mount Pipe	C	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 3.5975	3.2406	0.029
						1/2" 3.9981	3.9135	0.062
						Ice 4.3890	4.5638	0.101
						1" Ice 5.1874	5.9143	0.199
						2" Ice		
2.375" OD x 5' Mount Pipe	A	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 1.1875	1.1875	0.018
						1/2" 1.4956	1.4956	0.027
						Ice 1.8071	1.8071	0.040
						1" Ice 2.4580	2.4580	0.076
						2" Ice		
2.375" OD x 5' Mount Pipe	B	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 1.1875	1.1875	0.018
						1/2" 1.4956	1.4956	0.027
						Ice 1.8071	1.8071	0.040
						1" Ice 2.4580	2.4580	0.076
						2" Ice		
2.375" OD x 5' Mount Pipe	C	From Leg	4.0000 0.000 0.000	0.000	119.0000	No Ice 1.1875	1.1875	0.018
						1/2" 1.4956	1.4956	0.027
						Ice 1.8071	1.8071	0.040
						1" Ice 2.4580	2.4580	0.076
						2" Ice		
T-Arm Mount [TA 602-3]	C	None		0.000	119.0000	No Ice 11.5900	11.5900	0.774
						1/2" 15.4400	15.4400	0.990
						Ice 19.2900	19.2900	1.206
						1" Ice 26.9900	26.9900	1.639
						2" Ice		

KS24019-L112A	A	From Leg	4.0000 0.000 2.000	0.000	48.0000	No Ice 0.1407	0.1407	0.005
						1/2" 0.1979	0.1979	0.007
						Ice 0.2621	0.2621	0.009
						1" Ice 0.4148	0.4148	0.018
						2" Ice		

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight		
			Horz	Lateral	Vert							
			ft	ft	ft	°	ft	ft ²	ft ²	K		
Side Arm Mount [SO 701-1]	A	None				0.000	48.0000	No Ice	0.8500	1.6700	0.065	
								1/2"	1.1400	2.3400	0.079	
									Ice	1.4300	3.0100	0.093
									1" Ice	2.0100	4.3500	0.121
									2" Ice			

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L1 160.0000-155.0000	157.5000	1.125	0.040	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L2 155.0000-150.0000	152.5000	1.115	0.040	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L3 150.0000-148.5000	149.2500	1.108	0.040	1.344	A	0.000	1.344	1.344	100.00	0.000	0.000
					B	0.000	1.344		100.00	0.000	0.000
					C	0.000	1.344		100.00	0.000	0.000
L4 148.5000-148.0000	148.2198	1.106	0.040	0.703	A	0.000	0.703	0.703	100.00	0.000	0.000
					B	0.000	0.703		100.00	0.000	0.000
					C	0.000	0.703		100.00	0.000	0.000
L5 148.0000-143.0000	145.4856	1.1	0.040	9.886	A	0.000	9.886	9.886	100.00	0.000	0.000
					B	0.000	9.886		100.00	0.000	0.000
					C	0.000	9.886		100.00	0.000	0.000
L6 143.0000-138.0000	140.4861	1.089	0.039	10.229	A	0.000	10.229	10.229	100.00	0.000	0.000
					B	0.000	10.229		100.00	0.000	0.000
					C	0.000	10.229		100.00	0.000	0.000
L7 138.0000-133.0000	135.4865	1.078	0.039	10.572	A	0.000	10.572	10.572	100.00	0.000	0.000
					B	0.000	10.572		100.00	0.000	0.000
					C	0.000	10.572		100.00	0.000	0.000
L8 133.0000-128.0000	130.4869	1.066	0.038	10.915	A	0.000	10.915	10.915	100.00	0.000	0.000
					B	0.000	10.915		100.00	0.000	0.000
					C	0.000	10.915		100.00	0.000	0.000
L9 128.0000-123.0000	125.4873	1.054	0.038	11.257	A	0.000	11.257	11.257	100.00	0.000	0.000
					B	0.000	11.257		100.00	0.000	0.000
					C	0.000	11.257		100.00	0.000	0.792
L10 123.0000-118.0000	120.4877	1.042	0.037	11.600	A	0.000	11.600	11.600	100.00	0.000	0.000
					B	0.000	11.600		100.00	0.000	0.000
					C	0.000	11.600		100.00	0.000	1.188
L11 118.0000-111.0000	114.4767	1.027	0.037	16.816	A	0.000	16.816	16.816	100.00	0.000	0.000
					B	0.000	16.816		100.00	0.000	0.000
					C	0.000	16.816		100.00	0.000	2.772
L12 111.0000-109.7500	110.3743	1.016	0.037	3.020	A	0.000	3.020	3.020	100.00	0.000	0.000
					B	0.000	3.020		100.00	0.000	0.000
					C	0.000	3.020		100.00	0.000	0.495
L13 109.7500-105.2500	107.4906	1.009	0.036	11.048	A	0.000	11.048	11.048	100.00	0.000	0.000
					B	0.000	11.048		100.00	0.000	0.000
					C	0.000	11.048		100.00	0.000	2.186
L14 105.2500-105.0000	105.1250	1.002	0.036	0.621	A	0.000	0.621	0.621	100.00	0.000	0.000
					B	0.000	0.621		100.00	0.000	0.000
					C	0.000	0.621		100.00	0.000	0.166
L15 105.0000-100.0000	102.4887	0.995	0.036	12.608	A	0.000	12.608	12.608	100.00	0.000	0.000
					B	0.000	12.608		100.00	0.000	0.000
					C	0.000	12.608		100.00	0.000	3.325

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L16	97.4890	0.981	0.035	12.951	A	0.000	12.951	12.951	100.00	0.000	0.000
100.0000-					B	0.000	12.951		100.00	0.000	0.000
95.0000					C	0.000	12.951		100.00	0.000	3.325
L17	92.4893	0.966	0.035	13.295	A	0.000	13.295	13.295	100.00	0.000	0.000
90.0000-					B	0.000	13.295		100.00	0.000	0.000
85.0000					C	0.000	13.295		100.00	0.000	3.325
L18	87.4896	0.951	0.034	13.637	A	0.000	13.637	13.637	100.00	0.000	0.000
85.0000-					B	0.000	13.637		100.00	0.000	0.000
80.0000					C	0.000	13.637		100.00	0.000	3.325
L19	80.8475	0.93	0.033	23.251	A	0.000	23.251	23.251	100.00	0.000	0.000
76.7500-					B	0.000	23.251		100.00	0.000	0.000
75.7500					C	0.000	23.251		100.00	0.000	6.445
L20	76.2496	0.915	0.033	2.828	A	0.000	2.828	2.828	100.00	0.000	0.000
75.7500-					B	0.000	2.828		100.00	0.000	0.000
70.7500					C	0.000	2.828		100.00	0.000	0.563
L21	73.2401	0.904	0.032	14.346	A	0.000	14.346	14.346	100.00	0.000	0.000
70.7500-					B	0.000	14.346		100.00	0.000	0.000
70.5000					C	0.000	14.346		100.00	0.000	3.596
L22	70.6250	0.895	0.032	0.726	A	0.000	0.726	0.726	100.00	0.000	0.000
70.5000-					B	0.000	0.726		100.00	0.000	0.000
70.0000					C	0.000	0.726		100.00	0.000	0.228
L23	70.2499	0.893	0.032	1.454	A	0.000	1.454	1.454	100.00	0.000	0.000
70.0000-					B	0.000	1.454		100.00	0.000	0.000
69.7500					C	0.000	1.454		100.00	0.000	0.455
L24	69.8750	0.892	0.032	0.729	A	0.000	0.729	0.729	100.00	0.000	0.000
69.7500-					B	0.000	0.729		100.00	0.000	0.000
64.7500					C	0.000	0.729		100.00	0.000	0.228
L25	67.2403	0.882	0.032	14.754	A	0.000	14.754	14.754	100.00	0.000	0.000
64.7500-					B	0.000	14.754		100.00	0.000	0.000
64.5000					C	0.000	14.754		100.00	0.000	4.094
L26	62.2406	0.863	0.031	15.097	A	0.000	15.097	15.097	100.00	0.000	0.000
59.7500-					B	0.000	15.097		100.00	0.000	0.000
59.5000					C	0.000	15.097		100.00	0.000	3.719
L27	57.2408	0.843	0.030	15.440	A	0.000	15.440	15.440	100.00	0.000	0.000
54.7500-					B	0.000	15.440		100.00	0.000	0.000
54.5000					C	0.000	15.440		100.00	0.000	3.719
L28	52.2410	0.821	0.029	15.783	A	0.000	15.783	15.783	100.00	0.000	0.000
49.7500-					B	0.000	15.783		100.00	0.000	0.000
49.5000					C	0.000	15.783		100.00	0.000	3.719
L29	46.3590	0.793	0.029	21.851	A	0.000	21.851	21.851	100.00	0.000	0.000
43.0000-					B	0.000	21.851		100.00	0.000	0.000
43.0000					C	0.000	21.851		100.00	0.000	6.375
L30	42.4996	0.774	0.028	3.225	A	0.000	3.225	3.225	100.00	0.000	0.000
42.0000-					B	0.000	3.225		100.00	0.000	0.000
42.0000					C	0.000	3.225		100.00	0.000	0.604
L31	39.4913	0.758	0.027	16.332	A	0.000	16.332	16.332	100.00	0.000	0.000
37.0000-					B	0.000	16.332		100.00	0.000	0.000
37.0000					C	0.000	16.332		100.00	0.000	3.022
L32	34.4915	0.729	0.026	16.674	A	0.000	16.674	16.674	100.00	0.000	0.000
32.0000-					B	0.000	16.674		100.00	0.000	0.000
32.0000					C	0.000	16.674		100.00	0.000	3.022
L33	29.9946	0.701	0.025	13.587	A	0.000	13.587	13.587	100.00	0.000	0.000
28.0000-					B	0.000	13.587		100.00	0.000	0.000
28.0000					C	0.000	13.587		100.00	0.000	3.503
L34	27.8750	0.7	0.025	0.856	A	0.000	0.856	0.856	100.00	0.000	0.000
27.7500-					B	0.000	0.856		100.00	0.000	0.000
27.5000					C	0.000	0.856		100.00	0.000	0.260
L35	27.4999	0.7	0.025	1.715	A	0.000	1.715	1.715	100.00	0.000	0.000
27.2500-					B	0.000	1.715		100.00	0.000	0.000
27.2500					C	0.000	1.715		100.00	0.000	0.519
L36	27.1250	0.7	0.025	0.859	A	0.000	0.859	0.859	100.00	0.000	0.000
27.0000-					B	0.000	0.859		100.00	0.000	0.000
27.0000					C	0.000	0.859		100.00	0.000	0.260
L37	24.4918	0.7	0.025	17.360	A	0.000	17.360	17.360	100.00	0.000	0.000
22.0000-					B	0.000	17.360		100.00	0.000	0.000
22.0000					C	0.000	17.360		100.00	0.000	4.672
L38	19.4920	0.7	0.025	17.702	A	0.000	17.702	17.702	100.00	0.000	0.000
17.0000-					B	0.000	17.702		100.00	0.000	0.000

Section Elevation ft	z ft	K _Z	q _z ksf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L39 17.0000-16.0000	16.4997	0.7	0.025	3.582	C	0.000	17.702	3.582	100.00	0.000	4.318
					A	0.000	3.582		100.00	0.000	0.000
					B	0.000	3.582		100.00	0.000	0.000
					C	0.000	3.582		100.00	0.000	0.997
L40 16.0000-15.7500	15.8750	0.7	0.025	0.897	A	0.000	0.897	0.897	100.00	0.000	0.000
					B	0.000	0.897		100.00	0.000	0.000
					C	0.000	0.897		100.00	0.000	0.249
L41 15.7500-14.5000	15.1245	0.7	0.025	4.498	A	0.000	4.498	4.498	100.00	0.000	0.000
					B	0.000	4.498		100.00	0.000	0.000
					C	0.000	4.498		100.00	0.000	1.246
L42 14.5000-14.2500	14.3750	0.7	0.025	0.902	A	0.000	0.902	0.902	100.00	0.000	0.000
					B	0.000	0.902		100.00	0.000	0.000
					C	0.000	0.902		100.00	0.000	0.249
L43 14.2500-12.2500	13.2487	0.7	0.025	7.251	A	0.000	7.251	7.251	100.00	0.000	0.000
					B	0.000	7.251		100.00	0.000	0.000
					C	0.000	7.251		100.00	0.000	1.994
L44 12.2500-12.0000	12.1250	0.7	0.025	0.910	A	0.000	0.910	0.910	100.00	0.000	0.000
					B	0.000	0.910		100.00	0.000	0.000
					C	0.000	0.910		100.00	0.000	0.249
L45 12.0000-10.0000	10.9988	0.7	0.025	7.310	A	0.000	7.310	7.310	100.00	0.000	0.000
					B	0.000	7.310		100.00	0.000	0.000
					C	0.000	7.310		100.00	0.000	1.994
L46 10.0000-9.7500	9.8750	0.7	0.025	0.918	A	0.000	0.918	0.918	100.00	0.000	0.000
					B	0.000	0.918		100.00	0.000	0.000
					C	0.000	0.918		100.00	0.000	0.249
L47 9.7500-4.7500	7.2423	0.7	0.025	18.538	A	0.000	18.538	18.538	100.00	0.000	0.000
					B	0.000	18.538		100.00	0.000	0.000
					C	0.000	18.538		100.00	0.000	4.443
L48 4.7500-0.5000	2.6195	0.7	0.025	16.027	A	0.000	16.027	16.027	100.00	0.000	0.000
					B	0.000	16.027		100.00	0.000	0.000
					C	0.000	16.027		100.00	0.000	3.529
L49 0.5000-0.2500	0.3750	0.7	0.025	0.949	A	0.000	0.949	0.949	100.00	0.000	0.000
					B	0.000	0.949		100.00	0.000	0.000
					C	0.000	0.949		100.00	0.000	0.208
L50 0.2500-0.0000	0.1250	0.7	0.025	0.950	A	0.000	0.950	0.950	100.00	0.000	0.000
					B	0.000	0.950		100.00	0.000	0.000
					C	0.000	0.950		100.00	0.000	0.208

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K _Z	q _z ksf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 160.0000-155.0000	157.5000	1.125	0.006	1.4907	5.721	A	0.000	5.721	5.721	100.00	0.000	0.000
						B	0.000	5.721		100.00	0.000	0.000
						C	0.000	5.721		100.00	0.000	0.000
L2 155.0000-150.0000	152.5000	1.115	0.006	1.4859	5.717	A	0.000	5.717	5.717	100.00	0.000	0.000
						B	0.000	5.717		100.00	0.000	0.000
						C	0.000	5.717		100.00	0.000	0.000
L3 150.0000-148.5000	149.2500	1.108	0.006	1.4827	1.714	A	0.000	1.714	1.714	100.00	0.000	0.000
						B	0.000	1.714		100.00	0.000	0.000
						C	0.000	1.714		100.00	0.000	0.000
L4 148.5000-148.0000	148.2198	1.106	0.006	1.4817	0.827	A	0.000	0.827	0.827	100.00	0.000	0.000
						B	0.000	0.827		100.00	0.000	0.000
						C	0.000	0.827		100.00	0.000	0.000
L5 148.0000-143.0000	145.4856	1.1	0.006	1.4789	11.119	A	0.000	11.119	11.119	100.00	0.000	0.000
						B	0.000	11.119		100.00	0.000	0.000
						C	0.000	11.119		100.00	0.000	0.000
L6 143.0000-138.0000	140.4861	1.089	0.006	1.4737	11.457	A	0.000	11.457	11.457	100.00	0.000	0.000
						B	0.000	11.457		100.00	0.000	0.000
						C	0.000	11.457		100.00	0.000	0.000
L7 138.0000-	135.4865	1.078	0.006	1.4684	11.796	A	0.000	11.796	11.796	100.00	0.000	0.000

Section Elevation ft	z ft	K _z	q _z ksf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
133.0000						B	0.000	11.796		100.00	0.000	0.000
						C	0.000	11.796		100.00	0.000	0.000
L8 133.0000- 128.0000	130.4869	1.066	0.006	1.4629	12.134	A	0.000	12.134	12.134	100.00	0.000	0.000
						B	0.000	12.134		100.00	0.000	0.000
						C	0.000	12.134		100.00	0.000	0.000
L9 128.0000- 123.0000	125.4873	1.054	0.006	1.4572	12.472	A	0.000	12.472	12.472	100.00	0.000	0.000
						B	0.000	12.472		100.00	0.000	0.000
						C	0.000	12.472		100.00	0.000	1.958
L10 123.0000- 118.0000	120.4877	1.042	0.006	1.4513	12.809	A	0.000	12.809	12.809	100.00	0.000	0.000
						B	0.000	12.809		100.00	0.000	0.000
						C	0.000	12.809		100.00	0.000	2.930
L11 118.0000- 111.0000	114.4767	1.027	0.006	1.4439	18.500	A	0.000	18.500	18.500	100.00	0.000	0.000
						B	0.000	18.500		100.00	0.000	0.000
						C	0.000	18.500		100.00	0.000	6.815
L12 111.0000- 109.7500	110.3743	1.016	0.006	1.4386	3.320	A	0.000	3.320	3.320	100.00	0.000	0.000
						B	0.000	3.320		100.00	0.000	0.000
						C	0.000	3.320		100.00	0.000	1.217
L13 109.7500- 105.2500	107.4906	1.009	0.006	1.4348	12.124	A	0.000	12.124	12.124	100.00	0.000	0.000
						B	0.000	12.124		100.00	0.000	0.000
						C	0.000	12.124		100.00	0.000	5.246
L14 105.2500- 105.0000	105.1250	1.002	0.006	1.4316	0.681	A	0.000	0.681	0.681	100.00	0.000	0.000
						B	0.000	0.681		100.00	0.000	0.000
						C	0.000	0.681		100.00	0.000	0.389
L15 105.0000- 100.0000	102.4887	0.995	0.006	1.4280	13.798	A	0.000	13.798	13.798	100.00	0.000	0.000
						B	0.000	13.798		100.00	0.000	0.000
						C	0.000	13.798		100.00	0.000	7.768
L16 100.0000- 95.0000	97.4890	0.981	0.006	1.4209	14.135	A	0.000	14.135	14.135	100.00	0.000	0.000
						B	0.000	14.135		100.00	0.000	0.000
						C	0.000	14.135		100.00	0.000	7.746
L17 95.0000- 90.0000	92.4893	0.966	0.006	1.4134	14.472	A	0.000	14.472	14.472	100.00	0.000	0.000
						B	0.000	14.472		100.00	0.000	0.000
						C	0.000	14.472		100.00	0.000	7.722
L18 90.0000- 85.0000	87.4896	0.951	0.005	1.4056	14.809	A	0.000	14.809	14.809	100.00	0.000	0.000
						B	0.000	14.809		100.00	0.000	0.000
						C	0.000	14.809		100.00	0.000	7.698
L19 85.0000- 76.7500	80.8475	0.93	0.005	1.3945	25.168	A	0.000	25.168	25.168	100.00	0.000	0.000
						B	0.000	25.168		100.00	0.000	0.000
						C	0.000	25.168		100.00	0.000	15.385
L20 76.7500- 75.7500	76.2496	0.915	0.005	1.3864	3.061	A	0.000	3.061	3.061	100.00	0.000	0.000
						B	0.000	3.061		100.00	0.000	0.000
						C	0.000	3.061		100.00	0.000	1.430
L21 75.7500- 70.7500	73.2401	0.904	0.005	1.3808	15.497	A	0.000	15.497	15.497	100.00	0.000	0.000
						B	0.000	15.497		100.00	0.000	0.000
						C	0.000	15.497		100.00	0.000	8.777
L22 70.7500- 70.5000	70.6250	0.895	0.005	1.3758	0.783	A	0.000	0.783	0.783	100.00	0.000	0.000
						B	0.000	0.783		100.00	0.000	0.000
						C	0.000	0.783		100.00	0.000	0.540
L23 70.5000- 70.0000	70.2499	0.893	0.005	1.3751	1.569	A	0.000	1.569	1.569	100.00	0.000	0.000
						B	0.000	1.569		100.00	0.000	0.000
						C	0.000	1.569		100.00	0.000	1.079
L24 70.0000- 69.7500	69.8750	0.892	0.005	1.3743	0.786	A	0.000	0.786	0.786	100.00	0.000	0.000
						B	0.000	0.786		100.00	0.000	0.000
						C	0.000	0.786		100.00	0.000	0.539
L25 69.7500- 64.7500	67.2403	0.882	0.005	1.3691	15.895	A	0.000	15.895	15.895	100.00	0.000	0.000
						B	0.000	15.895		100.00	0.000	0.000
						C	0.000	15.895		100.00	0.000	9.470
L26 64.7500- 59.7500	62.2406	0.863	0.005	1.3585	16.229	A	0.000	16.229	16.229	100.00	0.000	0.000
						B	0.000	16.229		100.00	0.000	0.000
						C	0.000	16.229		100.00	0.000	8.378
L27 59.7500- 54.7500	57.2408	0.843	0.005	1.3472	16.563	A	0.000	16.563	16.563	100.00	0.000	0.000
						B	0.000	16.563		100.00	0.000	0.000
						C	0.000	16.563		100.00	0.000	8.343
L28 54.7500- 49.7500	52.2410	0.821	0.005	1.3349	16.896	A	0.000	16.896	16.896	100.00	0.000	0.000
						B	0.000	16.896		100.00	0.000	0.000
						C	0.000	16.896		100.00	0.000	8.305
L29 49.7500- 43.0000	46.3590	0.793	0.005	1.3191	23.335	A	0.000	23.335	23.335	100.00	0.000	0.000
						B	0.000	23.335		100.00	0.000	0.000
						C	0.000	23.335		100.00	0.000	14.404

Section Elevation	z	K _z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face	C _A A _A Out Face
ft	ft		ksf	in	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L30 43.0000- 42.0000	42.4996	0.774	0.004	1.3077	3.445	A	0.000	3.445	3.445	100.00	0.000	0.000
						B	0.000	3.445		100.00	0.000	0.000
						C	0.000	3.445		100.00	0.000	1.425
L31 42.0000- 37.0000	39.4913	0.758	0.004	1.2981	17.413	A	0.000	17.413	17.413	100.00	0.000	0.000
						B	0.000	17.413		100.00	0.000	0.000
						C	0.000	17.413		100.00	0.000	7.060
L32 37.0000- 32.0000	34.4915	0.729	0.004	1.2806	17.742	A	0.000	17.742	17.742	100.00	0.000	0.000
						B	0.000	17.742		100.00	0.000	0.000
						C	0.000	17.742		100.00	0.000	7.006
L33 32.0000- 28.0000	29.9946	0.701	0.004	1.2629	14.429	A	0.000	14.429	14.429	100.00	0.000	0.000
						B	0.000	14.429		100.00	0.000	0.000
						C	0.000	14.429		100.00	0.000	7.348
L34 28.0000- 27.7500	27.8750	0.7	0.004	1.2537	0.909	A	0.000	0.909	0.909	100.00	0.000	0.000
						B	0.000	0.909		100.00	0.000	0.000
						C	0.000	0.909		100.00	0.000	0.524
L35 27.7500- 27.2500	27.4999	0.7	0.004	1.2520	1.820	A	0.000	1.820	1.820	100.00	0.000	0.000
						B	0.000	1.820		100.00	0.000	0.000
						C	0.000	1.820		100.00	0.000	1.048
L36 27.2500- 27.0000	27.1250	0.7	0.004	1.2502	0.911	A	0.000	0.911	0.911	100.00	0.000	0.000
						B	0.000	0.911		100.00	0.000	0.000
						C	0.000	0.911		100.00	0.000	0.524
L37 27.0000- 22.0000	24.4918	0.7	0.004	1.2375	18.391	A	0.000	18.391	18.391	100.00	0.000	0.000
						B	0.000	18.391		100.00	0.000	0.000
						C	0.000	18.391		100.00	0.000	9.210
L38 22.0000- 17.0000	19.4920	0.7	0.004	1.2096	18.710	A	0.000	18.710	18.710	100.00	0.000	0.000
						B	0.000	18.710		100.00	0.000	0.000
						C	0.000	18.710		100.00	0.000	8.350
L39 17.0000- 16.0000	16.4997	0.7	0.004	1.1896	3.780	A	0.000	3.780	3.780	100.00	0.000	0.000
						B	0.000	3.780		100.00	0.000	0.000
						C	0.000	3.780		100.00	0.000	2.002
L40 16.0000- 15.7500	15.8750	0.7	0.004	1.1850	0.946	A	0.000	0.946	0.946	100.00	0.000	0.000
						B	0.000	0.946		100.00	0.000	0.000
						C	0.000	0.946		100.00	0.000	0.499
L41 15.7500- 14.5000	15.1245	0.7	0.004	1.1793	4.744	A	0.000	4.744	4.744	100.00	0.000	0.000
						B	0.000	4.744		100.00	0.000	0.000
						C	0.000	4.744		100.00	0.000	2.491
L42 14.5000- 14.2500	14.3750	0.7	0.004	1.1733	0.951	A	0.000	0.951	0.951	100.00	0.000	0.000
						B	0.000	0.951		100.00	0.000	0.000
						C	0.000	0.951		100.00	0.000	0.497
L43 14.2500- 12.2500	13.2487	0.7	0.004	1.1638	7.639	A	0.000	7.639	7.639	100.00	0.000	0.000
						B	0.000	7.639		100.00	0.000	0.000
						C	0.000	7.639		100.00	0.000	3.960
L44 12.2500- 12.0000	12.1250	0.7	0.004	1.1535	0.958	A	0.000	0.958	0.958	100.00	0.000	0.000
						B	0.000	0.958		100.00	0.000	0.000
						C	0.000	0.958		100.00	0.000	0.493
L45 12.0000- 10.0000	10.9988	0.7	0.004	1.1423	7.691	A	0.000	7.691	7.691	100.00	0.000	0.000
						B	0.000	7.691		100.00	0.000	0.000
						C	0.000	7.691		100.00	0.000	3.923
L46 10.0000- 9.7500	9.8750	0.7	0.004	1.1301	0.965	A	0.000	0.965	0.965	100.00	0.000	0.000
						B	0.000	0.965		100.00	0.000	0.000
						C	0.000	0.965		100.00	0.000	0.488
L47 9.7500- 4.7500	7.2423	0.7	0.004	1.0956	19.451	A	0.000	19.451	19.451	100.00	0.000	0.000
						B	0.000	19.451		100.00	0.000	0.000
						C	0.000	19.451		100.00	0.000	8.278
L48 4.7500- 0.5000	2.6195	0.7	0.004	0.9896	16.728	A	0.000	16.728	16.728	100.00	0.000	0.000
						B	0.000	16.728		100.00	0.000	0.000
						C	0.000	16.728		100.00	0.000	6.146
L49 0.5000- 0.2500	0.3750	0.7	0.004	0.8148	0.983	A	0.000	0.983	0.983	100.00	0.000	0.000
						B	0.000	0.983		100.00	0.000	0.000
						C	0.000	0.983		100.00	0.000	0.334
L50 0.2500- 0.0000	0.1250	0.7	0.004	0.7300	0.981	A	0.000	0.981	0.981	100.00	0.000	0.000
						B	0.000	0.981		100.00	0.000	0.000
						C	0.000	0.981		100.00	0.000	0.321

Tower Pressure - Service

$G_H = 1.100$

Section Elevation	z	K_z	q_z	A_G	F a c e	A_F	A_R	A_{leg}	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²			
L1 160.0000- 155.0000	157.5000	1.125	0.008	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L2 155.0000- 150.0000	152.5000	1.115	0.008	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
					B	0.000	4.479		100.00	0.000	0.000
					C	0.000	4.479		100.00	0.000	0.000
L3 150.0000- 148.5000	149.2500	1.108	0.008	1.344	A	0.000	1.344	1.344	100.00	0.000	0.000
					B	0.000	1.344		100.00	0.000	0.000
					C	0.000	1.344		100.00	0.000	0.000
L4 148.5000- 148.0000	148.2198	1.106	0.008	0.703	A	0.000	0.703	0.703	100.00	0.000	0.000
					B	0.000	0.703		100.00	0.000	0.000
					C	0.000	0.703		100.00	0.000	0.000
L5 148.0000- 143.0000	145.4856	1.1	0.008	9.886	A	0.000	9.886	9.886	100.00	0.000	0.000
					B	0.000	9.886		100.00	0.000	0.000
					C	0.000	9.886		100.00	0.000	0.000
L6 143.0000- 138.0000	140.4861	1.089	0.008	10.229	A	0.000	10.229	10.229	100.00	0.000	0.000
					B	0.000	10.229		100.00	0.000	0.000
					C	0.000	10.229		100.00	0.000	0.000
L7 138.0000- 133.0000	135.4865	1.078	0.008	10.572	A	0.000	10.572	10.572	100.00	0.000	0.000
					B	0.000	10.572		100.00	0.000	0.000
					C	0.000	10.572		100.00	0.000	0.000
L8 133.0000- 128.0000	130.4869	1.066	0.008	10.915	A	0.000	10.915	10.915	100.00	0.000	0.000
					B	0.000	10.915		100.00	0.000	0.000
					C	0.000	10.915		100.00	0.000	0.000
L9 128.0000- 123.0000	125.4873	1.054	0.008	11.257	A	0.000	11.257	11.257	100.00	0.000	0.000
					B	0.000	11.257		100.00	0.000	0.000
					C	0.000	11.257		100.00	0.000	0.792
L10 123.0000- 118.0000	120.4877	1.042	0.008	11.600	A	0.000	11.600	11.600	100.00	0.000	0.000
					B	0.000	11.600		100.00	0.000	0.000
					C	0.000	11.600		100.00	0.000	1.188
L11 118.0000- 111.0000	114.4767	1.027	0.008	16.816	A	0.000	16.816	16.816	100.00	0.000	0.000
					B	0.000	16.816		100.00	0.000	0.000
					C	0.000	16.816		100.00	0.000	2.772
L12 111.0000- 109.7500	110.3743	1.016	0.008	3.020	A	0.000	3.020	3.020	100.00	0.000	0.000
					B	0.000	3.020		100.00	0.000	0.000
					C	0.000	3.020		100.00	0.000	0.495
L13 109.7500- 105.2500	107.4906	1.009	0.007	11.048	A	0.000	11.048	11.048	100.00	0.000	0.000
					B	0.000	11.048		100.00	0.000	0.000
					C	0.000	11.048		100.00	0.000	2.186
L14 105.2500- 105.0000	105.1250	1.002	0.007	0.621	A	0.000	0.621	0.621	100.00	0.000	0.000
					B	0.000	0.621		100.00	0.000	0.000
					C	0.000	0.621		100.00	0.000	0.166
L15 105.0000- 100.0000	102.4887	0.995	0.007	12.608	A	0.000	12.608	12.608	100.00	0.000	0.000
					B	0.000	12.608		100.00	0.000	0.000
					C	0.000	12.608		100.00	0.000	3.325
L16 100.0000- 95.0000	97.4890	0.981	0.007	12.951	A	0.000	12.951	12.951	100.00	0.000	0.000
					B	0.000	12.951		100.00	0.000	0.000
					C	0.000	12.951		100.00	0.000	3.325
L17 95.0000- 90.0000	92.4893	0.966	0.007	13.295	A	0.000	13.295	13.295	100.00	0.000	0.000
					B	0.000	13.295		100.00	0.000	0.000
					C	0.000	13.295		100.00	0.000	3.325
L18 90.0000- 85.0000	87.4896	0.951	0.007	13.637	A	0.000	13.637	13.637	100.00	0.000	0.000
					B	0.000	13.637		100.00	0.000	0.000
					C	0.000	13.637		100.00	0.000	3.325
L19 85.0000- 76.7500	80.8475	0.93	0.007	23.251	A	0.000	23.251	23.251	100.00	0.000	0.000
					B	0.000	23.251		100.00	0.000	0.000
					C	0.000	23.251		100.00	0.000	6.445
L20 76.7500- 75.7500	76.2496	0.915	0.007	2.828	A	0.000	2.828	2.828	100.00	0.000	0.000
					B	0.000	2.828		100.00	0.000	0.000
					C	0.000	2.828		100.00	0.000	0.563
L21 75.7500- 70.7500	73.2401	0.904	0.007	14.346	A	0.000	14.346	14.346	100.00	0.000	0.000
					B	0.000	14.346		100.00	0.000	0.000
					C	0.000	14.346		100.00	0.000	3.596

Section Elevation	z	K _z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L22 70.7500- 70.5000	70.6250	0.895	0.007	0.726	A	0.000	0.726	0.726	100.00	0.000	0.000
					B	0.000	0.726		100.00	0.000	0.000
					C	0.000	0.726		100.00	0.000	0.228
L23 70.5000- 70.0000	70.2499	0.893	0.007	1.454	A	0.000	1.454	1.454	100.00	0.000	0.000
					B	0.000	1.454		100.00	0.000	0.000
					C	0.000	1.454		100.00	0.000	0.455
L24 70.0000- 69.7500	69.8750	0.892	0.007	0.729	A	0.000	0.729	0.729	100.00	0.000	0.000
					B	0.000	0.729		100.00	0.000	0.000
					C	0.000	0.729		100.00	0.000	0.228
L25 69.7500- 64.7500	67.2403	0.882	0.007	14.754	A	0.000	14.754	14.754	100.00	0.000	0.000
					B	0.000	14.754		100.00	0.000	0.000
					C	0.000	14.754		100.00	0.000	4.094
L26 64.7500- 59.7500	62.2406	0.863	0.006	15.097	A	0.000	15.097	15.097	100.00	0.000	0.000
					B	0.000	15.097		100.00	0.000	0.000
					C	0.000	15.097		100.00	0.000	3.719
L27 59.7500- 54.7500	57.2408	0.843	0.006	15.440	A	0.000	15.440	15.440	100.00	0.000	0.000
					B	0.000	15.440		100.00	0.000	0.000
					C	0.000	15.440		100.00	0.000	3.719
L28 54.7500- 49.7500	52.2410	0.821	0.006	15.783	A	0.000	15.783	15.783	100.00	0.000	0.000
					B	0.000	15.783		100.00	0.000	0.000
					C	0.000	15.783		100.00	0.000	3.719
L29 49.7500- 43.0000	46.3590	0.793	0.006	21.851	A	0.000	21.851	21.851	100.00	0.000	0.000
					B	0.000	21.851		100.00	0.000	0.000
					C	0.000	21.851		100.00	0.000	6.375
L30 43.0000- 42.0000	42.4996	0.774	0.006	3.225	A	0.000	3.225	3.225	100.00	0.000	0.000
					B	0.000	3.225		100.00	0.000	0.000
					C	0.000	3.225		100.00	0.000	0.604
L31 42.0000- 37.0000	39.4913	0.758	0.006	16.332	A	0.000	16.332	16.332	100.00	0.000	0.000
					B	0.000	16.332		100.00	0.000	0.000
					C	0.000	16.332		100.00	0.000	3.022
L32 37.0000- 32.0000	34.4915	0.729	0.005	16.674	A	0.000	16.674	16.674	100.00	0.000	0.000
					B	0.000	16.674		100.00	0.000	0.000
					C	0.000	16.674		100.00	0.000	3.022
L33 32.0000- 28.0000	29.9946	0.701	0.005	13.587	A	0.000	13.587	13.587	100.00	0.000	0.000
					B	0.000	13.587		100.00	0.000	0.000
					C	0.000	13.587		100.00	0.000	3.503
L34 28.0000- 27.7500	27.8750	0.7	0.005	0.856	A	0.000	0.856	0.856	100.00	0.000	0.000
					B	0.000	0.856		100.00	0.000	0.000
					C	0.000	0.856		100.00	0.000	0.260
L35 27.7500- 27.2500	27.4999	0.7	0.005	1.715	A	0.000	1.715	1.715	100.00	0.000	0.000
					B	0.000	1.715		100.00	0.000	0.000
					C	0.000	1.715		100.00	0.000	0.519
L36 27.2500- 27.0000	27.1250	0.7	0.005	0.859	A	0.000	0.859	0.859	100.00	0.000	0.000
					B	0.000	0.859		100.00	0.000	0.000
					C	0.000	0.859		100.00	0.000	0.260
L37 27.0000- 22.0000	24.4918	0.7	0.005	17.360	A	0.000	17.360	17.360	100.00	0.000	0.000
					B	0.000	17.360		100.00	0.000	0.000
					C	0.000	17.360		100.00	0.000	4.672
L38 22.0000- 17.0000	19.4920	0.7	0.005	17.702	A	0.000	17.702	17.702	100.00	0.000	0.000
					B	0.000	17.702		100.00	0.000	0.000
					C	0.000	17.702		100.00	0.000	4.318
L39 17.0000- 16.0000	16.4997	0.7	0.005	3.582	A	0.000	3.582	3.582	100.00	0.000	0.000
					B	0.000	3.582		100.00	0.000	0.000
					C	0.000	3.582		100.00	0.000	0.997
L40 16.0000- 15.7500	15.8750	0.7	0.005	0.897	A	0.000	0.897	0.897	100.00	0.000	0.000
					B	0.000	0.897		100.00	0.000	0.000
					C	0.000	0.897		100.00	0.000	0.249
L41 15.7500- 14.5000	15.1245	0.7	0.005	4.498	A	0.000	4.498	4.498	100.00	0.000	0.000
					B	0.000	4.498		100.00	0.000	0.000
					C	0.000	4.498		100.00	0.000	1.246
L42 14.5000- 14.2500	14.3750	0.7	0.005	0.902	A	0.000	0.902	0.902	100.00	0.000	0.000
					B	0.000	0.902		100.00	0.000	0.000
					C	0.000	0.902		100.00	0.000	0.249
L43 14.2500- 12.2500	13.2487	0.7	0.005	7.251	A	0.000	7.251	7.251	100.00	0.000	0.000
					B	0.000	7.251		100.00	0.000	0.000
					C	0.000	7.251		100.00	0.000	1.994
L44 12.2500- 12.0000	12.1250	0.7	0.005	0.910	A	0.000	0.910	0.910	100.00	0.000	0.000
					B	0.000	0.910		100.00	0.000	0.000

Section Elevation	z	K_z	q_z	A_G	F a c e	A_F	A_R	A_{leg}	Leg %	C_{AA} In Face	C_{AA} Out Face
ft	ft		ksf	ft ²		ft ²	ft ²	ft ²		ft ²	ft ²
L45 12.0000-10.0000	10.9988	0.7	0.005	7.310	C	0.000	0.910	7.310	100.00	0.000	0.249
					A	0.000	7.310				
					B	0.000	7.310				
L46 10.0000-9.7500	9.8750	0.7	0.005	0.918	C	0.000	7.310	0.918	100.00	0.000	1.994
					A	0.000	0.918				
					B	0.000	0.918				
L47 9.7500-4.7500	7.2423	0.7	0.005	18.538	C	0.000	0.918	18.538	100.00	0.000	0.249
					A	0.000	18.538				
					B	0.000	18.538				
L48 4.7500-0.5000	2.6195	0.7	0.005	16.027	C	0.000	18.538	16.027	100.00	0.000	4.443
					A	0.000	16.027				
					B	0.000	16.027				
L49 0.5000-0.2500	0.3750	0.7	0.005	0.949	C	0.000	16.027	0.949	100.00	0.000	3.529
					A	0.000	0.949				
					B	0.000	0.949				
L50 0.2500-0.0000	0.1250	0.7	0.005	0.950	C	0.000	0.949	0.950	100.00	0.000	0.208
					A	0.000	0.950				
					B	0.000	0.950				

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

Comb. No.	Description
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	160 - 155	Pole	Max Tension	8	0.000	0.000	-0.001
			Max. Compression	26	-9.980	-1.880	0.687
			Max. Mx	8	-3.221	-18.785	0.260
			Max. My	2	-3.208	-1.108	17.937
			Max. Vy	8	6.248	-18.785	0.260
			Max. Vx	2	-6.255	-1.108	17.937
			Max. Torque	2			-0.169
L2	155 - 150	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-10.391	-1.896	0.725
			Max. Mx	8	-3.532	-50.385	0.273
			Max. My	2	-3.518	-1.112	49.576
			Max. Vy	8	6.392	-50.385	0.273
			Max. Vx	2	-6.401	-1.112	49.576
			Max. Torque	2			-0.169
L3	150 - 148.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-11.975	-1.899	0.737
			Max. Mx	8	-4.213	-60.539	0.276
			Max. My	2	-4.196	-1.113	59.746
			Max. Vy	8	7.391	-60.539	0.276
			Max. Vx	2	-7.401	-1.113	59.746
			Max. Torque	2			-0.169
L4	148.5 - 148	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-12.035	-1.898	0.743
			Max. Mx	8	-4.265	-64.237	0.288
			Max. My	2	-4.247	-1.113	63.449
			Max. Vy	8	7.410	-64.237	0.288
			Max. Vx	2	-7.420	-1.113	63.449
			Max. Torque	2			-0.169
L5	148 - 143	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.127	-1.903	3.431
			Max. Mx	8	-7.788	-118.143	1.426
			Max. My	2	-7.725	-1.115	119.997
			Max. Vy	8	10.965	-118.143	1.426
			Max. Vx	2	-11.244	-1.115	119.997
			Max. Torque	8			1.003
L6	143 - 138	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.843	-1.905	3.485
			Max. Mx	8	-8.249	-173.865	1.445
			Max. My	2	-8.187	-1.116	177.118
			Max. Vy	8	11.330	-173.865	1.445
			Max. Vx	2	-11.610	-1.116	177.118
			Max. Torque	8			1.003
L7	138 - 133	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.004	-2.465	5.300
			Max. Mx	8	-11.944	-265.732	2.478
			Max. My	2	-11.858	-1.110	271.767
			Max. Vy	8	18.524	-265.732	2.478
			Max. Vx	2	-18.877	-1.110	271.767
			Max. Torque	10			1.531
L8	133 - 128	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.786	-2.456	5.361
			Max. Mx	8	-12.514	-359.190	2.404

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L9	128 - 123	Pole	Max. My	2	-12.431	-1.012	366.996
			Max. Vy	8	18.872	-359.190	2.404
			Max. Vx	2	-19.226	-1.012	366.996
			Max. Torque	10			1.530
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-39.063	-2.272	5.326
			Max. Mx	8	-16.527	-475.236	2.319
			Max. My	2	-16.440	-0.893	484.850
			Max. Vy	8	23.183	-475.236	2.319
			Max. Vx	2	-23.544	-0.893	484.850
L10	123 - 118	Pole	Max. Torque	10			1.530
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.336	-1.988	5.229
			Max. Mx	8	-18.207	-593.009	2.225
			Max. My	2	-18.122	-0.763	604.443
			Max. Vy	8	24.594	-593.009	2.225
			Max. Vx	2	-24.955	-0.763	604.443
			Max. Torque	10			1.500
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-43.173	-1.672	5.087
L11	118 - 111	Pole	Max. Mx	8	-18.695	-673.248	2.155
			Max. My	2	-18.613	-0.666	685.873
			Max. Vy	8	24.835	-673.248	2.155
			Max. Vx	2	-25.196	-0.666	685.873
			Max. Torque	10			1.451
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.121	-1.182	4.863
			Max. Mx	8	-19.838	-798.526	2.047
			Max. My	2	-19.759	-0.516	812.986
			Max. Vy	8	25.308	-798.526	2.047
L12	111 - 109.75	Pole	Max. Vx	2	-25.670	-0.516	812.986
			Max. Torque	10			1.336
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-46.397	-0.732	4.653
			Max. Mx	8	-20.640	-913.068	1.947
			Max. My	2	-20.566	-0.380	929.178
			Max. Vy	8	25.656	-913.068	1.947
			Max. Vx	2	-26.018	-0.380	929.178
			Max. Torque	8			1.324
			Max Tension	1	0.000	0.000	0.000
L13	109.75 - 105.25	Pole	Max. Compression	26	-46.481	-0.703	4.647
			Max. Mx	8	-20.713	-919.480	1.948
			Max. My	2	-20.639	-0.369	935.680
			Max. Vy	8	25.690	-919.480	1.948
			Max. Vx	2	-26.035	-0.369	935.680
			Max. Torque	8			1.270
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.168	-0.194	4.395
			Max. Mx	8	-21.809	-1048.938	1.830
			Max. My	2	-21.738	-0.223	1066.973
L14	105.25 - 105	Pole	Max. Vy	8	26.157	-1048.938	1.830
			Max. Vx	2	-26.518	-0.223	1066.973
			Max. Torque	8			1.266
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-49.875	0.329	4.139
			Max. Mx	8	-22.942	-1180.776	1.715
			Max. My	2	-22.876	-0.070	1200.643
			Max. Vy	8	26.628	-1180.776	1.715
			Max. Vx	2	-26.989	-0.070	1200.643
			Max. Torque	8			1.185
L15	105 - 100	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
			Max. Mx	8	-24.107	-1314.922	1.597
			Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597
			Max. Vx	2	-27.444	0.084	1336.621
			Max. Torque	8			1.102
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
			Max. Mx	8	-24.107	-1314.922	1.597
L16	100 - 95	Pole	Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597
			Max. Vx	2	-27.444	0.084	1336.621
			Max. Torque	8			1.102
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
			Max. Mx	8	-24.107	-1314.922	1.597
			Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597
			Max. Vx	2	-27.444	0.084	1336.621
L17	95 - 90	Pole	Max. Torque	8			1.102
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
			Max. Mx	8	-24.107	-1314.922	1.597
			Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597
			Max. Vx	2	-27.444	0.084	1336.621
			Max. Torque	8			1.102
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
L18	90 - 85	Pole	Max. Mx	8	-24.107	-1314.922	1.597
			Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597
			Max. Vx	2	-27.444	0.084	1336.621
			Max. Torque	8			1.102
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.601	0.863	3.873
			Max. Mx	8	-24.107	-1314.922	1.597
			Max. My	2	-24.044	0.084	1336.621
			Max. Vy	8	27.084	-1314.922	1.597

Sectio n No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L19	85 - 76.75	Pole	Max. Compression	26	-53.346	1.406	3.598
			Max. Mx	8	-25.298	-1451.302	1.477
			Max. My	2	-25.239	0.241	1474.830
			Max. Vy	8	27.525	-1451.302	1.477
			Max. Vx	2	-27.884	0.241	1474.830
			Max. Torque	8			1.019
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-54.756	1.850	3.370
			Max. Mx	8	-26.269	-1561.995	1.380
			Max. My	2	-26.213	0.367	1586.984
L20	76.75 - 75.75	Pole	Max. Vy	20	-27.881	1560.375	3.741
			Max. Vx	2	-28.240	0.367	1586.984
			Max. Torque	18			-0.987
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.911	2.434	3.069
			Max. Mx	8	-28.524	-1709.876	1.251
			Max. My	2	-28.471	0.534	1736.785
			Max. Vy	20	-28.482	1708.394	3.828
			Max. Vx	2	-28.841	0.534	1736.785
			Max. Torque	18			-0.986
L21	75.75 - 70.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.937	2.993	2.778
			Max. Mx	8	-30.013	-1853.183	1.126
			Max. My	2	-29.964	0.695	1881.919
			Max. Vy	20	-28.905	1851.835	3.907
			Max. Vx	2	-29.263	0.695	1881.919
			Max. Torque	16			-1.038
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.057	3.026	2.771
			Max. Mx	8	-30.117	-1860.407	1.121
L22	70.75 - 70.5	Pole	Max. My	2	-30.069	0.707	1889.232
			Max. Vy	8	28.946	-1860.407	1.121
			Max. Vx	2	-29.284	0.707	1889.232
			Max. Torque	16			-1.044
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.296	3.079	2.737
			Max. Mx	8	-30.295	-1874.867	1.108
			Max. My	2	-30.247	0.720	1903.875
			Max. Vy	8	28.976	-1874.867	1.108
			Max. Vx	2	-29.330	0.720	1903.875
L23	70.5 - 70	Pole	Max. Torque	16			-1.055
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.397	3.110	2.726
			Max. Mx	8	-30.371	-1882.109	1.102
			Max. My	2	-30.323	0.730	1911.207
			Max. Vy	8	29.021	-1882.109	1.102
			Max. Vx	2	-29.359	0.730	1911.207
			Max. Torque	16			-1.061
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-62.427	3.672	2.420
L24	69.75 - 64.75	Pole	Max. Mx	8	-31.843	-2028.045	0.975
			Max. My	2	-31.799	0.889	2058.968
			Max. Vy	20	-29.437	2026.863	4.001
			Max. Vx	2	-29.794	0.889	2058.968
			Max. Torque	16			-1.164
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-64.477	4.243	2.115
			Max. Mx	8	-33.353	-2176.072	0.846
			Max. My	2	-33.313	1.053	2208.810
			Max. Vy	20	-29.840	2175.032	4.075
L25	64.75 - 59.75	Pole	Max. Vx	2	-30.196	1.053	2208.810
			Max. Torque	16			-1.257
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-66.547	4.819	1.806

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L28	54.75 - 49.75	Pole	Max. Mx	8	-34.891	-2326.058	0.715
			Max. My	2	-34.854	1.219	2360.607
			Max. Vy	20	-30.224	2325.165	4.146
			Max. Vx	2	-30.577	1.219	2360.607
			Max. Torque	15			-1.401
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-68.636	5.397	1.491
			Max. Mx	8	-36.455	-2477.901	0.583
			Max. My	2	-36.422	1.387	2514.251
			Max. Vy	20	-30.585	2477.157	4.215
L29	49.75 - 43	Pole	Max. Vx	2	-30.937	1.387	2514.251
			Max. Torque	15			-1.562
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-69.372	5.600	1.379
			Max. Mx	8	-36.996	-2531.473	0.536
			Max. My	2	-36.964	1.445	2568.453
			Max. Vy	20	-30.730	2530.783	4.239
			Max. Vx	2	-31.081	1.445	2568.453
			Max. Torque	15			-1.633
			Max Tension	1	0.000	0.000	0.000
L30	43 - 42	Pole	Max. Compression	26	-73.969	6.257	1.070
			Max. Mx	8	-40.526	-2717.831	0.409
			Max. My	2	-40.497	1.648	2756.998
			Max. Vy	20	-31.378	2717.325	4.352
			Max. Vx	2	-31.729	1.648	2756.998
			Max. Torque	15			-1.863
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-76.382	6.798	0.755
			Max. Mx	8	-42.415	-2875.321	0.273
			Max. My	2	-42.390	1.820	2916.278
L31	42 - 37	Pole	Max. Vy	20	-31.690	2874.970	4.416
			Max. Vx	2	-32.040	1.820	2916.278
			Max. Torque	15			-1.989
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.812	7.341	0.439
			Max. Mx	8	-44.330	-3034.302	0.136
			Max. My	2	-44.309	1.992	3077.041
			Max. Vy	20	-31.977	3034.110	4.477
			Max. Vx	2	-32.324	1.992	3077.041
			Max. Torque	15			-2.112
L32	37 - 32	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.770	7.775	0.185
			Max. Mx	8	-45.883	-3162.531	0.026
			Max. My	2	-45.865	2.130	3206.687
			Max. Vy	20	-32.215	3162.469	4.526
			Max. Vx	2	-32.560	2.130	3206.687
			Max. Torque	15			-2.252
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-80.901	7.805	0.174
			Max. Mx	8	-46.001	-3170.579	0.018
L33	32 - 28	Pole	Max. My	2	-45.983	2.139	3214.822
			Max. Vy	8	32.237	-3170.579	0.018
			Max. Vx	2	-32.567	2.139	3214.822
			Max. Torque	15			-2.263
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.164	7.858	0.139
			Max. Mx	8	-46.210	-3186.682	0.005
			Max. My	2	-46.192	2.155	3231.102
			Max. Vy	8	32.256	-3186.682	0.005
			Max. Vx	2	-32.599	2.155	3231.102
L34	28 - 27.75	Pole	Max. Torque	15			-2.284
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.288	7.887	0.126
			Max. Mx	8	-46.312	-3194.741	-0.002
			Max. My	2	-46.294	2.165	3239.249
			Max. Vy	8	32.285	-3194.741	-0.002
			Max. Vx	2	-32.615	2.165	3239.249
			Max. Torque	15			-2.284
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.288	7.887	0.126
L35	27.75 - 27.25	Pole	Max. Mx	8	-46.210	-3186.682	0.005
			Max. My	2	-46.192	2.155	3231.102
			Max. Vy	8	32.256	-3186.682	0.005
			Max. Vx	2	-32.599	2.155	3231.102
			Max. Torque	15			-2.284
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.164	7.858	0.139
			Max. Mx	8	-46.210	-3186.682	0.005
			Max. My	2	-46.192	2.155	3231.102
			Max. Vy	8	32.256	-3186.682	0.005
L36	27.25 - 27	Pole	Max. Vx	2	-32.599	2.155	3231.102
			Max. Torque	15			-2.284
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.288	7.887	0.126
			Max. Mx	8	-46.312	-3194.741	-0.002
			Max. My	2	-46.294	2.165	3239.249
			Max. Vy	8	32.285	-3194.741	-0.002
			Max. Vx	2	-32.615	2.165	3239.249
			Max. Torque	15			-2.284
			Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L37	27 - 22	Pole	Max. Torque	15			-2.294
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.771	8.425	-0.193
			Max. Mx	20	-48.287	3356.823	4.595
			Max. My	2	-48.272	2.337	3402.957
			Max. Vy	20	-32.579	3356.823	4.595
			Max. Vx	2	-32.922	2.337	3402.957
L38	22 - 17	Pole	Max. Torque	15			-2.485
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.265	8.960	-0.506
			Max. Mx	20	-50.298	3520.389	4.651
			Max. My	2	-50.287	2.510	3568.103
			Max. Vy	20	-32.861	3520.389	4.651
			Max. Vx	2	-33.201	2.510	3568.103
L39	17 - 16	Pole	Max. Torque	15			-2.666
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.765	9.066	-0.568
			Max. Mx	20	-50.704	3553.272	4.661
			Max. My	2	-50.694	2.545	3601.300
			Max. Vy	20	-32.920	3553.272	4.661
			Max. Vx	2	-33.259	2.545	3601.300
L40	16 - 15.75	Pole	Max. Torque	15			-2.708
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-86.909	9.094	-0.580
			Max. Mx	20	-50.834	3561.503	4.664
			Max. My	2	-50.825	2.554	3609.609
			Max. Vy	8	32.933	-3561.159	-0.315
			Max. Vx	2	-33.263	2.554	3609.609
L41	15.75 - 14.5	Pole	Max. Torque	15			-2.718
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.626	9.224	-0.660
			Max. Mx	20	-51.416	3602.718	4.677
			Max. My	2	-51.407	2.598	3651.216
			Max. Vy	20	-33.023	3602.718	4.677
			Max. Vx	2	-33.361	2.598	3651.216
L42	14.5 - 14.25	Pole	Max. Torque	15			-2.771
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.761	9.252	-0.672
			Max. Mx	20	-51.539	3610.974	4.680
			Max. My	2	-51.530	2.606	3659.550
			Max. Vy	8	33.033	-3610.579	-0.358
			Max. Vx	2	-33.363	2.606	3659.550
L43	14.25 - 12.25	Pole	Max. Torque	15			-2.782
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-88.839	9.459	-0.797
			Max. Mx	20	-52.419	3677.159	4.701
			Max. My	2	-52.412	2.676	3726.359
			Max. Vy	20	-33.161	3677.159	4.701
			Max. Vx	2	-33.498	2.676	3726.359
L44	12.25 - 12	Pole	Max. Torque	15			-2.867
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-88.992	9.486	-0.809
			Max. Mx	20	-52.558	3685.450	4.704
			Max. My	2	-52.551	2.685	3734.729
			Max. Vy	8	33.171	-3684.977	-0.421
			Max. Vx	2	-33.502	2.685	3734.729
L45	12 - 10	Pole	Max. Torque	15			-2.878
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-90.208	9.690	-0.931
			Max. Mx	20	-53.576	3751.928	4.724
			Max. My	2	-53.569	2.755	3801.828
			Max. Vy	20	-33.309	3751.928	4.724
			Max. Vx	2	-33.646	2.755	3801.828
L46	10 - 9.75	Pole	Max. Torque	15			-2.964
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-90.341	9.716	-0.944
			Max. Mx	20	-53.696	3760.257	4.727
			Max. My	2	-53.690	2.764	3810.234

Sectio n No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L47	9.75 - 4.75	Pole	Max. Vy	8	33.320	-3759.706	-0.485
			Max. Vx	2	-33.650	2.764	3810.234
			Max. Torque	15			-2.975
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-93.002	10.207	-1.234
			Max. Mx	20	-55.916	3927.583	4.776
			Max. My	2	-55.913	2.940	3979.103
L48	4.75 - 0.5	Pole	Max. Vy	20	-33.614	3927.583	4.776
			Max. Vx	2	-33.948	2.940	3979.103
			Max. Torque	15			-3.169
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-95.227	10.579	-1.451
			Max. Mx	20	-57.833	4070.902	4.816
			Max. My	2	-57.833	3.090	4123.720
L49	0.5 - 0.25	Pole	Max. Vy	20	-33.843	4070.902	4.816
			Max. Vx	2	-34.175	3.090	4123.720
			Max. Torque	15			-3.327
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-95.395	10.597	-1.462
			Max. Mx	20	-57.998	4079.363	4.819
			Max. My	2	-57.998	3.098	4132.257
L50	0.25 - 0	Pole	Max. Vy	20	-33.839	4079.363	4.819
			Max. Vx	2	-34.170	3.098	4132.257
			Max. Torque	15			-3.336
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-95.560	10.613	-1.471
			Max. Mx	20	-58.153	4087.827	4.821
			Max. My	2	-58.153	3.107	4140.797
	20	-33.852	4087.827	4.821			
	14	34.183	-2.476	-4136.789			
	15			-3.345			

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	95.560	-0.000	-0.000
	Max. H _x	20	58.153	33.852	0.019
	Max. H _z	2	58.153	0.019	34.183
	Max. M _x	2	4140.797	0.019	34.183
	Max. M _z	8	4086.931	-33.851	-0.019
	Max. Torsion	3	3.344	0.019	34.183
	Min. Vert	9	43.614	-33.852	-0.019
	Min. H _x	9	43.614	-33.852	-0.019
	Min. H _z	14	58.153	-0.019	-34.183
	Min. M _x	14	-4136.789	-0.019	-34.183
	Min. M _z	20	-4087.827	33.852	0.019
	Min. Torsion	15	-3.345	-0.019	-34.183

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	48.461	-0.001	0.001	-1.377	0.379	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	58.153	-0.019	-34.183	-4140.797	3.107	-3.293
0.9 Dead+1.0 Wind 0 deg - No Ice	43.615	-0.019	-34.183	-4072.038	2.998	-3.344
1.2 Dead+1.0 Wind 30 deg -	58.153	16.911	-29.595	-3585.116	-2040.990	-2.467

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
No Ice						
0.9 Dead+1.0 Wind 30 deg - No Ice	43.615	16.911	-29.595	-3525.522	-2007.471	-2.462
1.2 Dead+1.0 Wind 60 deg - No Ice	58.153	29.309	-17.076	-2069.201	-3538.271	-0.985
0.9 Dead+1.0 Wind 60 deg - No Ice	43.615	29.309	-17.076	-2034.575	-3480.110	-0.926
1.2 Dead+1.0 Wind 90 deg - No Ice	58.153	33.851	0.019	0.763	-4086.931	0.755
0.9 Dead+1.0 Wind 90 deg - No Ice	43.614	33.852	0.019	1.285	-4019.903	0.853
1.2 Dead+1.0 Wind 120 deg - No Ice	58.153	29.328	17.108	2069.976	-3541.058	2.295
0.9 Dead+1.0 Wind 120 deg - No Ice	43.615	29.328	17.108	2036.405	-3482.845	2.405
1.2 Dead+1.0 Wind 150 deg - No Ice	58.153	16.943	29.614	3583.859	-2045.832	3.224
0.9 Dead+1.0 Wind 150 deg - No Ice	43.615	16.943	29.614	3525.351	-2012.224	3.317
1.2 Dead+1.0 Wind 180 deg - No Ice	58.153	0.019	34.183	4136.789	-2.476	3.295
0.9 Dead+1.0 Wind 180 deg - No Ice	43.615	0.019	34.183	4069.157	-2.488	3.345
1.2 Dead+1.0 Wind 210 deg - No Ice	58.153	-16.911	29.595	3581.123	2041.659	2.482
0.9 Dead+1.0 Wind 210 deg - No Ice	43.615	-16.911	29.595	3522.653	2008.008	2.477
1.2 Dead+1.0 Wind 240 deg - No Ice	58.153	-29.309	17.076	2065.184	3538.973	0.999
0.9 Dead+1.0 Wind 240 deg - No Ice	43.615	-29.309	17.076	2031.687	3480.671	0.939
1.2 Dead+1.0 Wind 270 deg - No Ice	58.153	-33.852	-0.019	-4.821	4087.827	-0.757
0.9 Dead+1.0 Wind 270 deg - No Ice	43.614	-33.852	-0.019	-4.202	4020.462	-0.855
1.2 Dead+1.0 Wind 300 deg - No Ice	58.153	-29.328	-17.108	-2074.050	3541.717	-2.310
0.9 Dead+1.0 Wind 300 deg - No Ice	43.615	-29.328	-17.108	-2039.333	3483.375	-2.420
1.2 Dead+1.0 Wind 330 deg - No Ice	58.153	-16.943	-29.614	-3587.909	2046.458	-3.238
0.9 Dead+1.0 Wind 330 deg - No Ice	43.615	-16.943	-29.614	-3528.262	2012.731	-3.330
1.2 Dead+1.0 Ice+1.0 Temp	95.560	0.000	0.000	1.471	10.613	0.001
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	95.560	-0.004	-8.942	-1117.701	11.505	-1.174
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	95.560	4.437	-7.742	-967.441	-543.003	-0.855
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	95.560	7.689	-4.468	-557.585	-949.124	-0.308
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	95.560	8.881	0.004	2.073	-1097.994	0.323
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	95.560	7.693	4.475	561.549	-949.764	0.867
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	95.560	4.444	7.746	970.937	-544.137	1.180
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	95.560	0.004	8.942	1120.544	10.198	1.177
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	95.560	-4.437	7.742	970.301	564.718	0.859
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	95.560	-7.689	4.468	560.419	970.817	0.311
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	95.560	-8.881	-0.004	0.766	1119.703	-0.320
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	95.560	-7.693	-4.475	-558.720	971.484	-0.865
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	95.560	-4.444	-7.746	-968.112	565.848	-1.177
Dead+Wind 0 deg - Service	48.461	-0.004	-7.066	-851.067	0.865	-0.689

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 30 deg - Service	48.461	3.496	-6.119	-737.125	-418.735	-0.514
Dead+Wind 60 deg - Service	48.461	6.060	-3.530	-425.967	-726.086	-0.201
Dead+Wind 90 deg - Service	48.461	6.998	0.004	-1.082	-838.593	0.166
Dead+Wind 120 deg - Service	48.461	6.064	3.537	423.632	-726.628	0.488
Dead+Wind 150 deg - Service	48.461	3.503	6.123	734.390	-419.724	0.680
Dead+Wind 180 deg - Service	48.461	0.004	7.066	847.765	-0.275	0.690
Dead+Wind 210 deg - Service	48.461	-3.496	6.119	733.850	419.342	0.515
Dead+Wind 240 deg - Service	48.461	-6.060	3.530	422.645	726.649	0.201
Dead+Wind 270 deg - Service	48.461	-6.998	-0.004	-2.223	839.185	-0.166
Dead+Wind 300 deg - Service	48.461	-6.064	-3.537	-426.939	727.219	-0.489
Dead+Wind 330 deg - Service	48.461	-3.503	-6.123	-737.726	420.330	-0.680

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-48.461	0.000	0.001	48.461	-0.001	0.003%
2	-0.019	-58.153	-34.184	0.019	58.153	34.183	0.002%
3	-0.019	-43.615	-34.184	0.019	43.615	34.183	0.002%
4	16.911	-58.153	-29.595	-16.911	58.153	29.595	0.000%
5	16.911	-43.615	-29.595	-16.911	43.615	29.595	0.000%
6	29.309	-58.153	-17.076	-29.309	58.153	17.076	0.000%
7	29.309	-43.615	-17.076	-29.309	43.615	17.076	0.000%
8	33.854	-58.153	0.019	-33.851	58.153	-0.019	0.005%
9	33.854	-43.615	0.019	-33.852	43.614	-0.019	0.004%
10	29.328	-58.153	17.108	-29.328	58.153	-17.108	0.000%
11	29.328	-43.615	17.108	-29.328	43.615	-17.108	0.000%
12	16.943	-58.153	29.614	-16.943	58.153	-29.614	0.000%
13	16.943	-43.615	29.614	-16.943	43.615	-29.614	0.000%
14	0.019	-58.153	34.184	-0.019	58.153	-34.183	0.002%
15	0.019	-43.615	34.184	-0.019	43.615	-34.183	0.002%
16	-16.911	-58.153	29.595	16.911	58.153	-29.595	0.000%
17	-16.911	-43.615	29.595	16.911	43.615	-29.595	0.000%
18	-29.309	-58.153	17.076	29.309	58.153	-17.076	0.000%
19	-29.309	-43.615	17.076	29.309	43.615	-17.076	0.000%
20	-33.854	-58.153	-0.019	33.852	58.153	0.019	0.003%
21	-33.854	-43.615	-0.019	33.852	43.614	0.019	0.004%
22	-29.328	-58.153	-17.108	29.328	58.153	17.108	0.000%
23	-29.328	-43.615	-17.108	29.328	43.615	17.108	0.000%
24	-16.943	-58.153	-29.614	16.943	58.153	29.614	0.000%
25	-16.943	-43.615	-29.614	16.943	43.615	29.614	0.000%
26	0.000	-95.560	0.000	-0.000	95.560	-0.000	0.000%
27	-0.004	-95.560	-8.942	0.004	95.560	8.942	0.000%
28	4.437	-95.560	-7.742	-4.437	95.560	7.742	0.000%
29	7.689	-95.560	-4.468	-7.689	95.560	4.468	0.000%
30	8.881	-95.560	0.004	-8.881	95.560	-0.004	0.000%
31	7.693	-95.560	4.475	-7.693	95.560	-4.475	0.000%
32	4.444	-95.560	7.746	-4.444	95.560	-7.746	0.000%
33	0.004	-95.560	8.942	-0.004	95.560	-8.942	0.000%
34	-4.437	-95.560	7.742	4.437	95.560	-7.742	0.000%
35	-7.689	-95.560	4.468	7.689	95.560	-4.468	0.000%
36	-8.881	-95.560	-0.004	8.881	95.560	0.004	0.000%
37	-7.693	-95.560	-4.475	7.693	95.560	4.475	0.000%
38	-4.444	-95.560	-7.746	4.444	95.560	7.746	0.000%
39	-0.004	-48.461	-7.068	0.004	48.461	7.068	0.004%
40	3.497	-48.461	-6.119	-3.496	48.461	6.119	0.001%
41	6.060	-48.461	-3.531	-6.060	48.461	3.530	0.001%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
42	7.000	-48.461	0.004	-6.998	48.461	-0.004	0.004%
43	6.064	-48.461	3.537	-6.064	48.461	-3.537	0.001%
44	3.503	-48.461	6.123	-3.503	48.461	-6.123	0.001%
45	0.004	-48.461	7.068	-0.004	48.461	-7.066	0.004%
46	-3.497	-48.461	6.119	3.496	48.461	-6.119	0.001%
47	-6.060	-48.461	3.531	6.060	48.461	-3.530	0.001%
48	-7.000	-48.461	-0.004	6.998	48.461	0.004	0.004%
49	-6.064	-48.461	-3.537	6.064	48.461	3.537	0.001%
50	-3.503	-48.461	-6.123	3.503	48.461	6.123	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.0000001	0.00001421
2	Yes	22	0.00001558	0.00010162
3	Yes	21	0.00001709	0.00013533
4	Yes	28	0.0000001	0.00000000
5	Yes	28	0.0000001	0.00000000
6	Yes	28	0.0000001	0.00000000
7	Yes	28	0.0000001	0.00000000
8	Yes	20	0.00004838	0.00014706
9	Yes	20	0.00003061	0.00009172
10	Yes	28	0.0000001	0.00000000
11	Yes	28	0.0000001	0.00000000
12	Yes	28	0.0000001	0.00000000
13	Yes	28	0.0000001	0.00000000
14	Yes	22	0.00001558	0.00008958
15	Yes	21	0.00001709	0.00011977
16	Yes	28	0.0000001	0.00000000
17	Yes	28	0.0000001	0.00000000
18	Yes	28	0.0000001	0.00000000
19	Yes	28	0.0000001	0.00000000
20	Yes	21	0.00002757	0.00010260
21	Yes	20	0.00003061	0.00011173
22	Yes	28	0.0000001	0.00000000
23	Yes	28	0.0000001	0.00000000
24	Yes	28	0.0000001	0.00000000
25	Yes	28	0.0000001	0.00000000
26	Yes	14	0.0000001	0.00011723
27	Yes	25	0.0000001	0.00011269
28	Yes	25	0.0000001	0.00014949
29	Yes	26	0.0000001	0.00009157
30	Yes	25	0.0000001	0.00011009
31	Yes	25	0.0000001	0.00014872
32	Yes	25	0.0000001	0.00014801
33	Yes	25	0.0000001	0.00011116
34	Yes	26	0.0000001	0.00009212
35	Yes	25	0.0000001	0.00014926
36	Yes	25	0.0000001	0.00011111
37	Yes	26	0.0000001	0.00009229
38	Yes	26	0.0000001	0.00009343
39	Yes	18	0.00012208	0.00007044
40	Yes	20	0.0000001	0.00014254
41	Yes	21	0.0000001	0.00008856
42	Yes	18	0.00012204	0.00005790
43	Yes	20	0.0000001	0.00014657
44	Yes	20	0.0000001	0.00014206
45	Yes	18	0.00012191	0.00006895
46	Yes	21	0.0000001	0.00008795
47	Yes	20	0.0000001	0.00013915
48	Yes	18	0.00012193	0.00005800
49	Yes	20	0.0000001	0.00014616
50	Yes	21	0.0000001	0.00008900

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	30.664	39	1.822	0.002
L2	155 - 150	28.760	39	1.811	0.002
L3	150 - 148.5	26.893	39	1.745	0.002
L4	148.5 - 148	26.349	39	1.714	0.002
L5	148 - 143	26.170	39	1.712	0.002
L6	143 - 138	24.388	39	1.690	0.002
L7	138 - 133	22.635	39	1.657	0.002
L8	133 - 128	20.922	39	1.613	0.002
L9	128 - 123	19.262	39	1.556	0.001
L10	123 - 118	17.669	39	1.487	0.001
L11	118 - 111	16.153	39	1.407	0.001
L12	114.75 - 109.75	15.214	39	1.350	0.001
L13	109.75 - 105.25	13.825	39	1.297	0.001
L14	105.25 - 105	12.639	39	1.219	0.001
L15	105 - 100	12.575	39	1.216	0.001
L16	100 - 95	11.334	39	1.154	0.001
L17	95 - 90	10.160	39	1.089	0.001
L18	90 - 85	9.056	39	1.020	0.001
L19	85 - 76.75	8.025	39	0.949	0.001
L20	81 - 75.75	7.254	39	0.892	0.001
L21	75.75 - 70.75	6.295	39	0.847	0.001
L22	70.75 - 70.5	5.444	39	0.777	0.001
L23	70.5 - 70	5.404	39	0.774	0.001
L24	70 - 69.75	5.323	39	0.769	0.001
L25	69.75 - 64.75	5.283	39	0.766	0.001
L26	64.75 - 59.75	4.515	39	0.701	0.001
L27	59.75 - 54.75	3.814	39	0.636	0.001
L28	54.75 - 49.75	3.182	39	0.571	0.001
L29	49.75 - 43	2.619	39	0.505	0.000
L30	48 - 42	2.438	39	0.482	0.000
L31	42 - 37	1.856	39	0.440	0.000
L32	37 - 32	1.424	39	0.384	0.000
L33	32 - 28	1.052	39	0.327	0.000
L34	28 - 27.75	0.797	39	0.282	0.000
L35	27.75 - 27.25	0.782	39	0.279	0.000
L36	27.25 - 27	0.753	39	0.274	0.000
L37	27 - 22	0.739	39	0.271	0.000
L38	22 - 17	0.484	39	0.216	0.000
L39	17 - 16	0.286	39	0.162	0.000
L40	16 - 15.75	0.253	39	0.151	0.000
L41	15.75 - 14.5	0.246	39	0.149	0.000
L42	14.5 - 14.25	0.208	39	0.137	0.000
L43	14.25 - 12.25	0.201	39	0.135	0.000
L44	12.25 - 12	0.149	39	0.115	0.000
L45	12 - 10	0.143	39	0.113	0.000
L46	10 - 9.75	0.099	39	0.096	0.000
L47	9.75 - 4.75	0.094	39	0.093	0.000
L48	4.75 - 0.5	0.022	39	0.045	0.000
L49	0.5 - 0.25	0.000	39	0.000	0.000
L50	0.25 - 0	0.000	1	0.000	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.0000	800 10121 w/ Mount Pipe	39	29.519	1.818	0.002	6972
150.0000	800MHZ 2X50W RRH W/FILTER	39	26.893	1.745	0.002	3891

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.0000	APXVSP18-C-A20 w/ Mount Pipe	39	26.170	1.712	0.002	5392
138.0000	(2) LPA-80063-6CF-EDIN-2	39	22.635	1.657	0.002	7493
127.0000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	39	18.938	1:543	0.001	4422
119.0000	HBX-6516DS-VTM w/ Mount Pipe	39	16.449	1.425	0.001	3496
48.0000	KS24019-L112A	39	2.438	0.482	0.000	6078

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	148.466	2	8.787	0.012
L2	155 - 150	139.308	2	8.743	0.012
L3	150 - 148.5	130.323	2	8.433	0.012
L4	148.5 - 148	127.706	2	8.283	0.012
L5	148 - 143	126.842	2	8.277	0.012
L6	143 - 138	118.254	2	8.172	0.010
L7	138 - 133	109.801	2	8.020	0.009
L8	133 - 128	101.533	2	7.810	0.008
L9	128 - 123	93.514	2	7.540	0.007
L10	123 - 118	85.806	2	7.213	0.006
L11	118 - 111	78.467	2	6.830	0.005
L12	114.75 - 109.75	73.921	2	6.555	0.005
L13	109.75 - 105.25	67.185	2	6.299	0.005
L14	105.25 - 105	61.434	2	5.925	0.004
L15	105 - 100	61.125	2	5.910	0.004
L16	100 - 95	55.102	2	5.608	0.004
L17	95 - 90	49.402	2	5.293	0.004
L18	90 - 85	44.040	2	4.959	0.004
L19	85 - 76.75	39.031	2	4.616	0.004
L20	81 - 75.75	35.284	2	4.337	0.004
L21	75.75 - 70.75	30.622	2	4.122	0.003
L22	70.75 - 70.5	26.487	2	3.781	0.003
L23	70.5 - 70	26.289	2	3.768	0.003
L24	70 - 69.75	25.897	2	3.742	0.003
L25	69.75 - 64.75	25.701	2	3.727	0.003
L26	64.75 - 59.75	21.965	2	3.412	0.003
L27	59.75 - 54.75	18.559	2	3.097	0.003
L28	54.75 - 49.75	15.483	2	2.779	0.003
L29	49.75 - 43	12.743	2	2.457	0.002
L30	48 - 42	11.863	2	2.345	0.002
L31	42 - 37	9.030	2	2.143	0.002
L32	37 - 32	6.931	2	1.867	0.002
L33	32 - 28	5.119	2	1.594	0.002
L34	28 - 27.75	3.877	2	1.373	0.001
L35	27.75 - 27.25	3.805	2	1.359	0.001
L36	27.25 - 27	3.664	2	1.333	0.001
L37	27 - 22	3.595	2	1.320	0.001
L38	22 - 17	2.354	2	1.051	0.001
L39	17 - 16	1.392	2	0.786	0.001
L40	16 - 15.75	1.233	2	0.734	0.001
L41	15.75 - 14.5	1.195	2	0.723	0.001
L42	14.5 - 14.25	1.013	2	0.669	0.001
L43	14.25 - 12.25	0.978	2	0.657	0.001
L44	12.25 - 12	0.723	2	0.561	0.001
L45	12 - 10	0.694	2	0.550	0.001
L46	10 - 9.75	0.481	2	0.466	0.000
L47	9.75 - 4.75	0.457	2	0.454	0.000
L48	4.75 - 0.5	0.105	2	0.218	0.000
L49	0.5 - 0.25	0.001	2	0.016	0.000
L50	0.25 - 0	0.000	2	0.008	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.0000	800 10121 w/ Mount Pipe	2	142.962	8.774	0.012	1725
150.0000	800MHZ 2X50W RRH W/FILTER	2	130.323	8.433	0.012	899
148.0000	APXVSPP18-C-A20 w/ Mount Pipe	2	126.842	8.277	0.012	1236
138.0000	(2) LPA-80063-6CF-EDIN-2	2	109.801	8.020	0.009	1663
127.0000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	2	91.946	7.479	0.007	959
119.0000	HBX-6516DS-VTM w/ Mount Pipe	2	79.901	6.915	0.005	749
48.0000	KS24019-L112A	2	11.863	2.345	0.002	1253

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K
L1	160 - 155 (1)	TP10.75x10.75x0.349	5.0000	0.0000	0.0	11.403 8	-3.221
L2	155 - 150 (2)	TP10.75x10.75x0.349	5.0000	0.0000	0.0	11.403 8	-3.532
L3	150 - 148.5 (3)	TP10.75x10.75x0.349	1.5000	0.0000	0.0	11.403 8	-4.209
L4	148.5 - 148 (4)	TP23x10.75x0.349	0.5000	0.0000	0.0	11.403 8	-4.224
L5	148 - 143 (5)	TP23.81x23x0.25	5.0000	0.0000	0.0	18.694 9	-7.741
L6	143 - 138 (6)	TP24.62x23.81x0.25	5.0000	0.0000	0.0	19.337 6	-8.187
L7	138 - 133 (7)	TP25.43x24.62x0.25	5.0000	0.0000	0.0	19.980 3	-11.858
L8	133 - 128 (8)	TP26.24x25.43x0.25	5.0000	0.0000	0.0	20.623 1	-12.431
L9	128 - 123 (9)	TP27.05x26.24x0.25	5.0000	0.0000	0.0	21.265 8	-16.440
L10	123 - 118 (10)	TP27.86x27.05x0.25	5.0000	0.0000	0.0	21.908 5	-18.122
L11	118 - 111 (11)	TP28.994x27.86x0.25	7.0000	0.0000	0.0	22.326 3	-18.613
L12	111 - 109.75 (12)	TP28.6964x27.8865x0.31 25	5.0000	0.0000	0.0	28.153 3	-19.759
L13	109.75 - 105.25 (13)	TP29.4254x28.6964x0.31 25	4.5000	0.0000	0.0	28.876 3	-20.566
L14	105.25 - 105 (14)	TP29.4659x29.4254x0.46 25	0.2500	0.0000	0.0	42.576 2	-20.639
L15	105 - 100 (15)	TP30.2758x29.4659x0.46 25	5.0000	0.0000	0.0	43.765 2	-21.738
L16	100 - 95 (16)	TP31.0857x30.2758x0.46 25	5.0000	0.0000	0.0	44.954 2	-22.875
L17	95 - 90 (17)	TP31.8957x31.0857x0.45	5.0000	0.0000	0.0	44.913 9	-24.044
L18	90 - 85 (18)	TP32.7056x31.8957x0.45	5.0000	0.0000	0.0	46.070 7	-25.239
L19	85 - 76.75 (19)	TP34.042x32.7056x0.45	8.2500	0.0000	0.0	46.996 1	-26.213
L20	76.75 - 75.75	TP33.579x32.7286x0.5	5.2500	0.0000	0.0	52.496	-28.471

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K
	(20)					3	
L21	75.75 - 70.75	TP34.3889x33.579x0.5	5.0000	0.0000	0.0	53.781	-29.964
	(21)					7	
L22	70.75 - 70.5	TP34.4294x34.3889x0.67	0.2500	0.0000	0.0	72.317	-30.069
	(22)	5				1	
L23	70.5 - 70 (23)	TP34.5104x34.4294x0.67	0.5000	0.0000	0.0	72.490	-30.247
	(23)	5				6	
L24	70 - 69.75	TP34.5509x34.5104x0.56	0.2500	0.0000	0.0	60.682	-30.323
	(24)	25				0	
L25	69.75 - 64.75	TP35.3608x34.5509x0.55	5.0000	0.0000	0.0	60.769	-31.799
	(25)					2	
L26	64.75 - 59.75	TP36.1707x35.3608x0.55	5.0000	0.0000	0.0	62.183	-33.313
	(26)					1	
L27	59.75 - 54.75	TP36.9807x36.1707x0.54	5.0000	0.0000	0.0	62.885	-34.854
	(27)	38				1	
L28	54.75 - 49.75	TP37.7906x36.9807x0.53	5.0000	0.0000	0.0	63.554	-36.422
	(28)	75				7	
L29	49.75 - 43	TP38.884x37.7906x0.537	6.7500	0.0000	0.0	64.038	-36.964
	(29)	5				3	
L30	43 - 42 (30)	TP38.2961x37.3241x0.67	6.0000	0.0000	0.0	80.601	-40.497
	(30)	5				2	
L31	42 - 37 (31)	TP39.1061x38.2961x0.66	5.0000	0.0000	0.0	80.838	-42.390
	(31)	25				2	
L32	37 - 32 (32)	TP39.916x39.1061x0.662	5.0000	0.0000	0.0	82.541	-44.309
	(32)	5				4	
L33	32 - 28 (33)	TP40.564x39.916x0.65	4.0000	0.0000	0.0	82.346	-45.865
	(33)					7	
L34	28 - 27.75	TP40.6045x40.564x0.675	0.2500	0.0000	0.0	85.547	-45.983
	(34)					1	
L35	27.75 - 27.25	TP40.6855x40.6045x0.67	0.5000	0.0000	0.0	85.720	-46.192
	(35)	5				6	
L36	27.25 - 27	TP40.726x40.6855x0.675	0.2500	0.0000	0.0	85.807	-46.294
	(36)					4	
L37	27 - 22 (37)	TP41.536x40.726x0.6625	5.0000	0.0000	0.0	85.947	-48.272
	(37)					8	
L38	22 - 17 (38)	TP42.346x41.536x0.6625	5.0000	0.0000	0.0	87.651	-50.287
	(38)					1	
L39	17 - 16 (39)	TP42.508x42.346x0.6625	1.0000	0.0000	0.0	87.991	-50.694
	(39)					7	
L40	16 - 15.75	TP42.5485x42.508x0.812	0.2500	0.0000	0.0	107.63	-50.825
	(40)	5				20	
L41	15.75 - 14.5	TP42.751x42.5485x0.812	1.2500	0.0000	0.0	108.15	-51.407
	(41)	5				40	
L42	14.5 - 14.25	TP42.7915x42.751x0.725	0.2500	0.0000	0.0	96.801	-51.530
	(42)					4	
L43	14.25 - 12.25	TP43.1155x42.7915x0.72	2.0000	0.0000	0.0	97.546	-52.412
	(43)	5				9	
L44	12.25 - 12	TP43.156x43.1155x0.825	0.2500	0.0000	0.0	110.84	-52.551
	(44)					60	
L45	12 - 10 (45)	TP43.48x43.156x0.825	2.0000	0.0000	0.0	111.69	-53.569
	(45)					40	
L46	10 - 9.75 (46)	TP43.5205x43.48x0.7375	0.2500	0.0000	0.0	100.14	-53.690
	(46)					80	
L47	9.75 - 4.75	TP44.3305x43.5205x0.72	5.0000	0.0000	0.0	100.34	-55.913
	(47)	5				30	
L48	4.75 - 0.5 (48)	TP45.019x44.3305x0.712	4.2500	0.0000	0.0	100.19	-57.833
	(48)	5				80	
L49	0.5 - 0.25 (49)	TP45.0595x45.019x1.062	0.2500	0.0000	0.0	148.37	-57.998
	(49)	5				40	
L50	0.25 - 0 (50)	TP45.1x45.0595x1.0625	0.2500	0.0000	0.0	148.51	-58.153
	(50)					10	

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft
L1	160 - 155 (1)	TP10.75x10.75x0.349	18.787
L2	155 - 150 (2)	TP10.75x10.75x0.349	50.386
L3	150 - 148.5 (3)	TP10.75x10.75x0.349	60.542
L4	148.5 - 148 (4)	TP23x10.75x0.349	60.539
L5	148 - 143 (5)	TP23.81x23x0.25	119.998
L6	143 - 138 (6)	TP24.62x23.81x0.25	177.122
L7	138 - 133 (7)	TP25.43x24.62x0.25	271.769
L8	133 - 128 (8)	TP26.24x25.43x0.25	366.998
L9	128 - 123 (9)	TP27.05x26.24x0.25	484.851
L10	123 - 118 (10)	TP27.86x27.05x0.25	604.443
L11	118 - 111 (11)	TP28.994x27.86x0.25	685.874
L12	111 - 109.75 (12)	TP28.6964x27.8865x0.31 25	812.986
L13	109.75 - 105.25 (13)	TP29.4254x28.6964x0.31 25	929.175
L14	105.25 - 105 (14)	TP29.4659x29.4254x0.46 25	935.683
L15	105 - 100 (15)	TP30.2758x29.4659x0.46 25	1066.975
L16	100 - 95 (16)	TP31.0857x30.2758x0.46 25	1200.642
L17	95 - 90 (17)	TP31.8957x31.0857x0.45	1336.617
L18	90 - 85 (18)	TP32.7056x31.8957x0.45	1474.833
L19	85 - 76.75 (19)	TP34.042x32.7056x0.45	1586.983
L20	76.75 - 75.75 (20)	TP33.579x32.7286x0.5	1736.783
L21	75.75 - 70.75 (21)	TP34.3889x33.579x0.5	1881.917
L22	70.75 - 70.5 (22)	TP34.4294x34.3889x0.67 5	1889.233
L23	70.5 - 70 (23)	TP34.5104x34.4294x0.67 5	1903.875
L24	70 - 69.75 (24)	TP34.5509x34.5104x0.56 25	1911.208
L25	69.75 - 64.75 (25)	TP35.3608x34.5509x0.55	2058.967
L26	64.75 - 59.75 (26)	TP36.1707x35.3608x0.55	2208.808
L27	59.75 - 54.75 (27)	TP36.9807x36.1707x0.54 38	2360.608
L28	54.75 - 49.75 (28)	TP37.7906x36.9807x0.53 75	2514.250
L29	49.75 - 43 (29)	TP38.884x37.7906x0.537 5	2568.450
L30	43 - 42 (30)	TP38.2961x37.3241x0.67 5	2757.000
L31	42 - 37 (31)	TP39.1061x38.2961x0.66 25	2916.275
L32	37 - 32 (32)	TP39.916x39.1061x0.662 5	3077.042
L33	32 - 28 (33)	TP40.564x39.916x0.65	3206.692
L34	28 - 27.75 (34)	TP40.6045x40.564x0.675	3214.825
L35	27.75 - 27.25 (35)	TP40.6855x40.6045x0.67 5	3231.100
L36	27.25 - 27 (36)	TP40.726x40.6855x0.675	3239.250
L37	27 - 22 (37)	TP41.536x40.726x0.6625	3402.958
L38	22 - 17 (38)	TP42.346x41.536x0.6625	3568.100
L39	17 - 16 (39)	TP42.508x42.346x0.6625	3601.300
L40	16 - 15.75 (40)	TP42.5485x42.508x0.812 5	3609.608
L41	15.75 - 14.5 (41)	TP42.751x42.5485x0.812 5	3651.217
L42	14.5 - 14.25 (42)	TP42.7915x42.751x0.725	3659.550

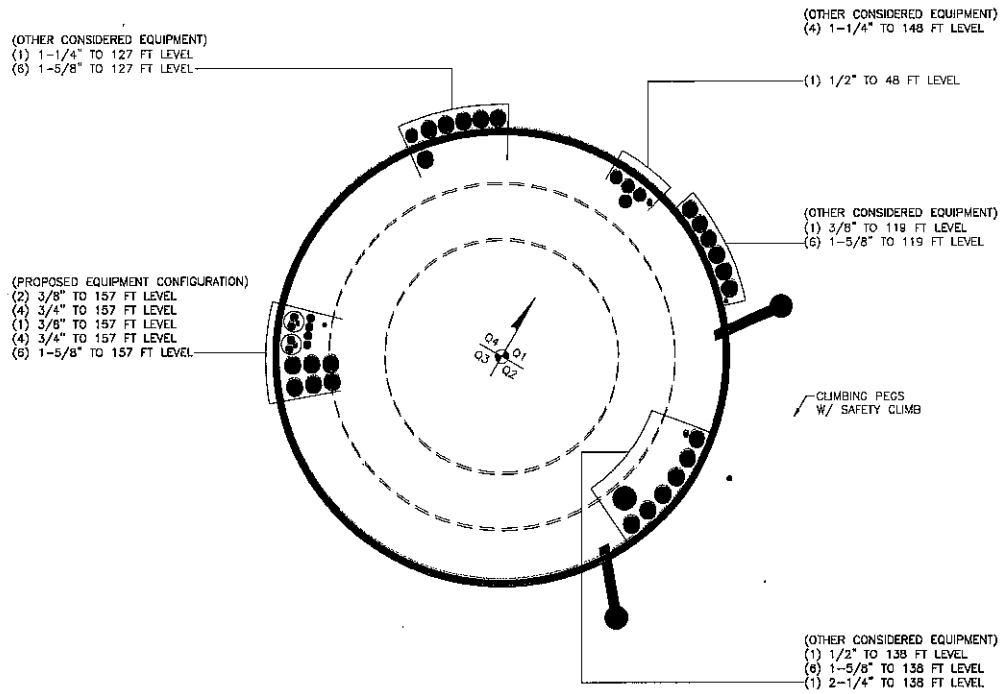
Section No.	Elevation ft	Size	M_{ux} kip-ft
L43	14.25 - 12.25 (43)	TP43.1155x42.7915x0.72 5	3726.358
L44	12.25 - 12 (44)	TP43.156x43.1155x0.825	3734.733
L45	12 - 10 (45)	TP43.48x43.156x0.825	3801.825
L46	10 - 9.75 (46)	TP43.5205x43.48x0.7375	3810.233
L47	9.75 - 4.75 (47)	TP44.3305x43.5205x0.72 5	3979.100
L48	4.75 - 0.5 (48)	TP45.019x44.3305x0.712 5	4123.725
L49	0.5 - 0.25 (49)	TP45.0595x45.019x1.062 5	4132.258
L50	0.25 - 0 (50)	TP45.1x45.0595x1.0625	4140.800

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K
L1	160 - 155 (1)	TP10.75x10.75x0.349	6.248
L2	155 - 150 (2)	TP10.75x10.75x0.349	6.392
L3	150 - 148.5 (3)	TP10.75x10.75x0.349	7.394
L4	148.5 - 148 (4)	TP23x10.75x0.349	7.410
L5	148 - 143 (5)	TP23.81x23x0.25	11.178
L6	143 - 138 (6)	TP24.62x23.81x0.25	11.610
L7	138 - 133 (7)	TP25.43x24.62x0.25	18.877
L8	133 - 128 (8)	TP26.24x25.43x0.25	19.226
L9	128 - 123 (9)	TP27.05x26.24x0.25	23.544
L10	123 - 118 (10)	TP27.86x27.05x0.25	24.956
L11	118 - 111 (11)	TP28.994x27.86x0.25	25.196
L12	111 - 109.75 (12)	TP28.6964x27.8865x0.31 25	25.670
L13	109.75 - 105.25 (13)	TP29.4254x28.6964x0.31 25	26.018
L14	105.25 - 105 (14)	TP29.4659x29.4254x0.46 25	26.035
L15	105 - 100 (15)	TP30.2758x29.4659x0.46 25	26.518
L16	100 - 95 (16)	TP31.0857x30.2758x0.46 25	26.989
L17	95 - 90 (17)	TP31.8957x31.0857x0.45	27.444
L18	90 - 85 (18)	TP32.7056x31.8957x0.45	27.884
L19	85 - 76.75 (19)	TP34.042x32.7056x0.45	28.240
L20	76.75 - 75.75 (20)	TP33.579x32.7286x0.5	28.841
L21	75.75 - 70.75 (21)	TP34.3889x33.579x0.5	29.263
L22	70.75 - 70.5 (22)	TP34.4294x34.3889x0.67 5	29.284
L23	70.5 - 70 (23)	TP34.5104x34.4294x0.67 5	29.330
L24	70 - 69.75 (24)	TP34.5509x34.5104x0.56 25	29.359
L25	69.75 - 64.75 (25)	TP35.3608x34.5509x0.55	29.794
L26	64.75 - 59.75 (26)	TP36.1707x35.3608x0.55	30.196
L27	59.75 - 54.75 (27)	TP36.9807x36.1707x0.54 38	30.577
L28	54.75 - 49.75 (28)	TP37.7906x36.9807x0.53 75	30.937
L29	49.75 - 43	TP38.884x37.7906x0.537	31.081

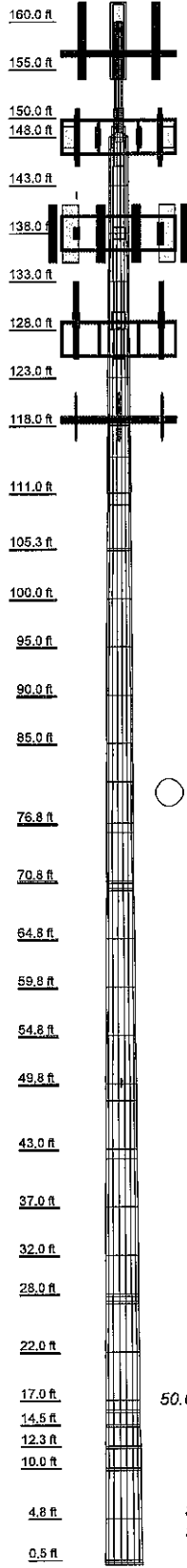
Section No.	Elevation ft	Size	Actual V_u K
	(29)	5	
L30	43 - 42 (30)	TP38.2961x37.3241x0.67	31.729
		5	
L31	42 - 37 (31)	TP39.1061x38.2961x0.66	32.040
		25	
L32	37 - 32 (32)	TP39.916x39.1061x0.662	32.325
		5	
L33	32 - 28 (33)	TP40.564x39.916x0.65	32.560
L34	28 - 27.75 (34)	TP40.6045x40.564x0.675	32.567
L35	27.75 - 27.25 (35)	TP40.6855x40.6045x0.67	32.599
		5	
L36	27.25 - 27 (36)	TP40.726x40.6855x0.675	32.615
L37	27 - 22 (37)	TP41.536x40.726x0.6625	32.922
L38	22 - 17 (38)	TP42.346x41.536x0.6625	33.201
L39	17 - 16 (39)	TP42.508x42.346x0.6625	33.259
L40	16 - 15.75 (40)	TP42.5485x42.508x0.812	33.263
		5	
L41	15.75 - 14.5 (41)	TP42.751x42.5485x0.812	33.361
		5	
L42	14.5 - 14.25 (42)	TP42.7915x42.751x0.725	33.363
L43	14.25 - 12.25 (43)	TP43.1155x42.7915x0.72	33.498
		5	
L44	12.25 - 12 (44)	TP43.156x43.1155x0.825	33.502
L45	12 - 10 (45)	TP43.48x43.156x0.825	33.646
L46	10 - 9.75 (46)	TP43.5205x43.48x0.7375	33.650
L47	9.75 - 4.75 (47)	TP44.3305x43.5205x0.72	33.948
		5	
L48	4.75 - 0.5 (48)	TP45.019x44.3305x0.712	34.175
		5	
L49	0.5 - 0.25 (49)	TP45.0595x45.019x1.062	34.170
		5	
L50	0.25 - 0 (50)	TP45.1x45.0595x1.0625	34.183

APPENDIX B BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1							A53-B-35	0.2
2							A53-B-35	0.2
3							A53-B-35	0.2
4							A53-B-35	0.2
5							A53-B-35	0.2
6							A53-B-35	0.2
7							A53-B-35	0.2
8							A53-B-35	0.2
9							A53-B-35	0.2
10							A53-B-35	0.2
11							A53-B-35	0.2
12							A53-B-35	0.2
13							A53-B-35	0.2
14							A53-B-35	0.2
15							A53-B-35	0.2
16							A53-B-35	0.2
17							A53-B-35	0.2
18							A53-B-35	0.2
19							A53-B-35	0.2
20							A53-B-35	0.2
21							A53-B-35	0.2
22							A53-B-35	0.2
23							A53-B-35	0.2
24							A53-B-35	0.2
25							A53-B-35	0.2
26							A53-B-35	0.2
27							A53-B-35	0.2
28							A53-B-35	0.2
29							A53-B-35	0.2
30							A53-B-35	0.2
31							A53-B-35	0.2
32							A53-B-35	0.2
33							A53-B-35	0.2
34							A53-B-35	0.2
35							A53-B-35	0.2
36							A53-B-35	0.2
37							A53-B-35	0.2
38							A53-B-35	0.2
39							A53-B-35	0.2
40							A53-B-35	0.2
41							A53-B-35	0.2
42							A53-B-35	0.2
43							A53-B-35	0.2
44							A53-B-35	0.2
45							A53-B-35	0.2
46							A53-B-35	0.2
47							A53-B-35	0.2
48							A53-B-35	0.2
49							A53-B-35	0.2
50							A53-B-35	0.2

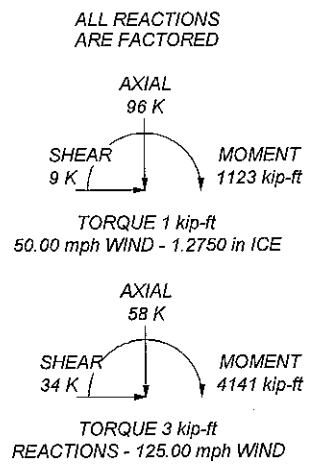


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	60 ksi	A607-65	66 ksi	80 ksi
A607-60	60 ksi	75 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 125.00 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50.00 mph basic wind with 1.27 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TIA-222-H Annex S



 Paul J. Ford and Company 250 East Broad st., Suite 600 Columbus, OH 43215 Phone: (614) 221-6679 FAX:	Job: 160-Ft Monopole / West Johnson Ave. Burnt Hou Project: PJF 37519-0303.001.7805 . BU# 876313
	Client: Crown Castle Drawn by: uyerra App'd:
	Code: TIA-222-H Date: 01/25/19 Scale: NTS
	Path:
	Dwg No. E-1

v4.5.6 - Effective 1-21-19

Asymmetric Anchor Rod Analysis

Moment = 4141 k-ft
 Axial = 58.0 kips (+Comp, -Tension)
 Shear = 34.0 kips
 Anchor Qty = 19

T/A Ref. H
 ASIF = N/A
 Max Ratio = 100.0%
 Location = Base Plates

$\eta =$ 0.50 for Base Plates, Rev. G Sect. 4.9.9
 Threads = N/A for Flange Plates, Rev. G & H
 Grout = 0.80 psi, for Base Plates, Rev. H Sect 4.9.9 (Note)

Use An? No for Anchors or Bolts

**** For Post Installed Anchors: Check anchors for embedment, epoxy/grout bond, and capacity based on proof load. ****

Item	Nominal Anchor Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Anchor Circle, in	Type	Area Override, in ²	lar, in	Area, in ²	Max Net Comp, kips	Max Net Tension, kips	Tension Override, kips	Comp Override, kips	Tension Cap, kips	Comp Cap, kips	Capacity Ratio
1	2.250	#18J A615 Gr 75	75	100	25.0	52.00	Original	0.00	1.75	3.98	211.86	204.61	0.00	0.00	243.75	243.29	82.9%
2	2.250	#18J A615 Gr 75	75	100	36.0	52.00	Original	0.00	1.75	3.98	209.28	202.03	0.00	0.00	243.75	243.29	81.9%
3	2.250	#18J A615 Gr 75	75	100	52.0	52.00	Original	0.00	1.75	3.98	205.04	197.79	0.00	0.00	243.75	243.29	80.2%
4	2.250	#18J A615 Gr 75	75	100	65.0	52.00	Original	0.00	1.75	3.98	200.66	193.41	0.00	0.00	243.75	243.29	78.5%
5	2.250	#18J A615 Gr 75	75	100	115.0	52.00	Original	0.00	1.75	3.98	195.83	188.58	0.00	0.00	243.75	243.29	76.6%
6	2.250	#18J A615 Gr 75	75	100	128.0	52.00	Original	0.00	1.75	3.98	199.27	192.02	0.00	0.00	243.75	243.29	77.9%
7	2.250	#18J A615 Gr 75	75	100	142.0	52.00	Original	0.00	1.75	3.98	204.11	196.86	0.00	0.00	243.75	243.29	79.8%
8	2.250	#18J A615 Gr 75	75	100	155.0	52.00	Original	0.00	1.75	3.98	208.59	201.34	0.00	0.00	243.75	243.29	81.6%
9	2.250	#18J A615 Gr 75	75	100	205.0	52.00	Original	0.00	1.75	3.98	211.59	204.34	0.00	0.00	243.75	243.29	82.8%
10	2.250	#18J A615 Gr 75	75	100	218.0	52.00	Original	0.00	1.75	3.98	207.46	200.21	0.00	0.00	243.75	243.29	81.1%
11	2.250	#18J A615 Gr 75	75	100	232.0	52.00	Original	0.00	1.75	3.98	201.58	194.33	0.00	0.00	243.75	243.29	78.8%
12	2.250	#18J A615 Gr 75	75	100	245.0	52.00	Original	0.00	1.75	3.98	195.77	188.52	0.00	0.00	243.75	243.29	76.6%
13	2.250	#18J A615 Gr 75	75	100	295.0	52.00	Original	0.00	1.75	3.98	188.33	181.08	0.00	0.00	243.75	243.29	73.7%
14	2.250	#18J A615 Gr 75	75	100	308.0	52.00	Original	0.00	1.75	3.98	192.17	184.92	0.00	0.00	243.75	243.29	75.2%
15	2.250	#18J A615 Gr 75	75	100	322.0	52.00	Original	0.00	1.75	3.98	197.85	190.60	0.00	0.00	243.75	243.29	77.4%
16	2.250	#18J A615 Gr 75	75	100	335.0	52.00	Original	0.00	1.75	3.98	203.42	196.17	0.00	0.00	243.75	243.29	79.6%
17	1.750	Williams R71	120	125	100.0	67.10	Post-Installed	0.00		2.66	163.79	163.79	0.00	0.00	243.75	312.00	50.0%
18	1.750	Williams R71	120	125	238.0	67.10	Post-Installed	0.00		2.66	168.97	168.97	0.00	0.00	243.75	312.00	51.6%
19	1.750	Williams R71	120	125	328.0	67.10	Post-Installed	0.00		2.66	170.50	170.50	0.00	0.00	243.75	312.00	52.0%
									71.67								

Monopole Base Plate Connection

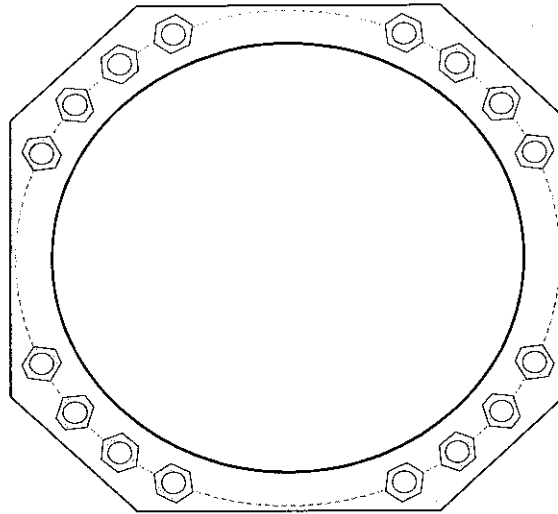


Site Info	
BU #	876313
Site Name	
Order #	

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

Applied Loads	
Moment (kip-ft)	3609.40
Axial Force (kips)	48.22
Shear Force (kips)	34.79

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary	<i>(units of kips, kip-in)</i>
(16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 52" BC		$Pu_c = 211.09$	$\phi Pn_c = 243.75$ Stress Rating
Base Plate Data		$Vu = 2.17$	$\phi Vn = 73.13$ 82.6%
53" OD x 3" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)		$Mu = n/a$	$\phi Mn = n/a$ Pass
Stiffener Data		Base Plate Summary	
N/A		Max Stress (ksi):	31.7 (Flexural)
Pole Data		Allowable Stress (ksi):	45
45.1" x 0.4375" 18-sided pole (A607-65; $F_y=65$ ksi, $F_u=80$ ksi)		Stress Rating:	67.1% Pass

Drilled Pier Foundation

BU #: 876313
 Site Name: West Johnson Ave.
 Order Number:

TIA-222 Revision: H
 Tower Type: Monopole

Applied Loads		Uplift
Moment (kip-ft)	3767.5	
Axial Force (kips)	58	
Shear Force (kips)	34	

Material Properties	
Concrete Strength, fc:	3 ksi
Rebar Strength, Fy:	60 ksi

Pier Design Data	
Depth	25.5 ft
Ext. Above Grade	0.5 ft
Pier Section 1	
<i>From 0.5' above grade to 6.5' below grade</i>	
Pier Diameter	11 ft
Rebar Quantity	20
Rebar Size	11
Clear Cover to Ties	4 in
Tie Size	5
Pier Section 2	
<i>From 6.5' below grade to 25.5' below grade</i>	
Pier Diameter	7 ft
Rebar Quantity	20
Rebar Size	11
Clear Cover to Ties	4 in
Tie Size	5



Check Limitation
 Apply TIA-222-H Section 15.5:

Analysis Results		
Soil Lateral Capacity	Compression	Uplift
D _{u-a} (ft from TOC)	5.40	-
Soil Safety Factor	1.93	-
Max Moment (kip-ft)	3929.37	-
Rating*	65.6%	-
Soil Vertical Capacity	Compression	Uplift
Skin Friction (kips)	244.81	-
End Bearing (kips)	123.82	-
Weight of Concrete (kips)	208.91	-
Total Capacity (kips)	368.64	-
Axial (kips)	264.81	-
Rating*	68.4%	-
Reinforced Concrete Capacity	Compression	Uplift
Critical Depth (ft from TOC)	7.01	-
Critical Moment (kip-ft)	3878.85	-
Critical Moment Capacity	5103.77	-
Rating*	72.4%	-
Soil Interaction Rating*	68.4%	
Structural Foundation Rating*	72.4%	

*Rating per TIA-222-H Section 15.5

Soil Profile

of Layers 10

Groundwater Depth 10 ft

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{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	2	2	105	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	3.5	1.5	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3.5	4	0.5	110	150	0	31	0.499	0.499	0.499	0.499		20	Cohesionless
4	4	6	2	110	150	0	31	0.000	0.000	0.10	0.10			Cohesionless
5	6	6.5	0.5	120	150	2.5	0	1.375	1.375	1.48	1.48			Cohesive
6	6.5	8	1.5	120	150	2.5	0	1.375	1.375	1.48	1.48			Cohesive
7	8	10	2	115	150	2.25	0	1.24	1.24	1.23	1.23			Cohesive
8	10	15	5	48	87.6	1.25	1	0.55	0.55	0.55	0.55			Cohesive
9	15	20	5	48	87.6	1.25	0	0.69	0.69	0.66	0.66			Cohesive
10	20	25.5	5.5	43	87.6	0.75	0	0.41	0.41	0.41	0.41	4.29		Cohesive

Pier and Pad Foundation



BU #: 876313
 Site Name: West Johnson Ave
 App. Number:

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	0	kips
Base Shear, Vu_{comp} :	0	kips
Moment, M_u :	373.5	ft-kips
Tower Height, H:	160	ft
BP Dist. Above Fdn, bp_{dist} :	6	in
Bolt Circle / Bearing Plate Width, BC:	52	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	365.48	0.00	0.0%	Pass
<i>Bearing Pressure (ksf)</i>	7.17	2.81	39.2%	Pass
<i>Overtuning (kip*ft)</i>	546.01	373.50	68.4%	Pass
<i>Pad Flexure (kip*ft)</i>	3889.35	100.42	2.5%	Pass
<i>Pad Shear - 1-way (kips)</i>	993.14	0.00	0.0%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.000	0.0%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	7778.70	0.00	0.0%	Pass

*Rating per TIA-222-H Section 15.5

Soil Rating*:	68.4%
Structural Rating*:	2.5%

Pad Properties		
Depth, D:	6.5	ft
Pad Width, W:	11	ft
Pad Thickness, T:	7	ft
Pad Rebar Size (Bottom), Sp:	9	
Pad Rebar Quantity (Bottom), mp:	11	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy:	60000	psi
Concrete Compressive Strength, F'c:	4000	psi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	120	pcf
Ultimate Gross Bearing, Qult:	9.560	ksf
Cohesion, Cu:	2.500	ksf
Friction Angle, ϕ :	0	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :		
Neglected Depth, N:	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw:	10	ft

← Toggle between Gross and Net

Tube Bypass Analysis

Revision= **LRFD** Passing= **105%**

Design/Analysis = **Analysis** @ **148** ft - **0** in elevation

TNX Tower Output @ Connection:

Moment	=	60.54	k-ft
Axial	=	4.20	kips
Shear	=	7.40	kips
Design Capacity	=	100.0%	

New Port Information

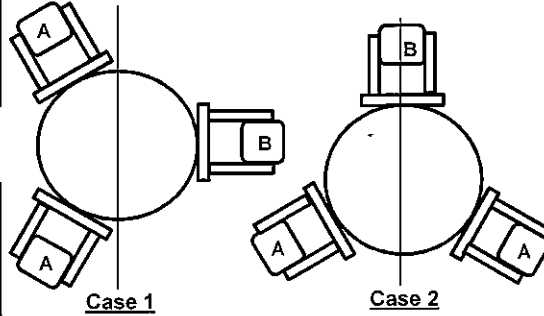
Elevation #1=		ft
Elevation #2=		ft
Elevation #3=		ft
Elevation #4=		ft

Extension Geometry:

Diameter	=	10.75	in
Thickness	=	15/43	in
Height	=	12	ft
Steel Grade	=	A53 Gr. B	
Extension Offset	=		in
Gap Height	=		in
Pole Offset	=		in

Analysis Reactions

Moment	Axial	Shear
k-ft	kips	kips
60.54	4.20	7.40



Pole Geometry:

Diameter	=	23	in
Thickness	=	1/4	in
Steel Grade	=	A572 Gr. 60	
Flange/Mount Diam.	=		in

Load Distribution

Moment of Inertia, I	Axial / Leg
in ²	kips
585.09	1.400

Member Forces

Case	d	Tension (kips)	Comp. (kips)	Mx (k-in)	My (k-in)	M (k-in)
1a	9.88	10.86	13.66	200.80	115.93	231.87
1b	19.75	23.12	25.92	0.00	231.87	231.87
2a	17.10	19.84	22.64	115.93	200.80	231.87
2b	0.00	1.40	1.40	231.87	0.00	231.87

Tube Bypass Information:

Number of Legs	=	3	
Unbraced Length	=	94	in
Tube Circle	=	39.5	in
K	=	2.10	
Type	HSS 6x6x1/2		
	Extension	Pole	
Blind Bolt	EXISTING AJAX	EXISTING AJAX	
Method	Case 2	Case 2	
Bolt Qty.	16	16	
Spacing (in)	3	3	
End Dist. (in)	3	3	

Compression Strength

Case	4.71* √(E/F _y)	KL/r	F _a ksi	F _{cr} ksi	φP _{nc} kips	P _{rc} kips	Capacity
1a	118.26	88.52	36.53	27.15	238.04	13.66	5.7%
1b	118.26	88.52	36.53	27.15	238.04	25.92	10.9%
2a	118.26	88.52	36.53	27.15	238.04	22.64	9.5%
2b	118.26	88.52	36.53	27.15	238.04	1.40	0.6%

Flexural Strength

Case	φ	I ₃ in ⁴	Σ I in ⁴	M k-in	φbMn k-in	Capacity
1a	60.00	48.20	144.60	231.87	819.72	28.3%
1b	0.00	48.20	144.60	231.87	819.72	28.3%
2a	30.00	48.20	144.60	231.87	819.72	28.3%
2b	90.00	48.20	144.60	231.87	819.72	28.3%

Tensile Strength

Case	P _{n1} kips	P _{n2} kips	φtP _{nt} kips	P _{rt} kips	Capacity
1a	448.04	499.67	374.75	10.86	2.9%
1b	448.04	499.67	374.75	23.12	6.2%
2a	448.04	499.67	374.75	19.84	5.3%
2b	448.04	499.67	374.75	1.40	0.4%

Combined Strength

Flexure + Tension (H1)			
Case	Prt / Pnt	Mr / Mn	Capacity
1a	0.014	0.283	29.7%
1b	0.031	0.283	31.4%
2a	0.026	0.283	30.9%
2b	0.002	0.283	28.5%
Flexure + Compression (H1)			
Case	Prc / Pnc	Mr / Mn	Capacity
1a	0.029	0.283	31.2%
1b	0.054	0.283	31.2%
2a	0.048	0.283	33.0%
2b	0.003	0.283	28.6%

Bolt Check

Case	Location	Tube Comp. kips	e in	Shear on Bolt kips	Bearing Capacity kips	Shear Capacity kips	Tension on Bolt kips	Tension Capacity kips	Limit Capacity
1a	Ext	13.66	14.375	0.86	42.17	37.00	1.10	30.00	0.2%
	Pole	13.66	8.25	1.82	37.76	37.00	1.27	30.00	0.4%
1b	Ext	25.92	14.375	1.62	42.17	37.00	2.09	30.00	0.7%
	Pole	25.92	8.25	1.62	37.76	37.00	2.48	30.00	0.9%
2a	Ext	22.64	14.375	1.42	42.17	37.00	1.83	30.00	0.5%
	Pole	22.64	8.25	1.69	37.76	37.00	2.15	30.00	0.7%
2b	Ext	1.40	14.375	0.18	42.17	37.00	0.10	30.00	0.0%
	Pole	1.40	8.25	1.86	37.76	37.00	0.06	30.00	0.3%

- All equations based on AISC 13th Edition



H

Site BU: 876313

Work Order: _____

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	160	11.5	0	0	10.75	10.75	0.349		A53-B-35
2	148.5	0.5	0	0	10.75	23	0.349		A53-B-35
3	148	37	3.75	18	23.00	28.994	0.25	Auto	A607-60
4	114.75	38	4.25	18	27.89	34.042	0.3125	Auto	A607-60
5	81	38	5	18	32.73	38.884	0.375	Auto	A607-65
6	48	48	0	18	37.32	45.1	0.4375	Auto	A607-65

Copyright © 2018 Crown Castle

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	0.5	27.25	channel	MP3-06 (1.1875")	2																			
2	0.5	12.25	channel	MP3-06 (1.1875")	2																			
3	14.5	28	channel	MP3-06 (1.1875")	1																			
4	45.25	70.75	channel	MP3-05 (1.1875")	3																			
5	78.25	105.25	channel	MP3-04 (1.1875")	3																			
6	27.25	46.75	plate	3-065125; (1) (1.1875)	3																			
7	10	16	plate	CC-SFP-060100	3																			
8	70	80	plate	CC-APP-060100	3																			
9	0	0.5	plate	FP 1.25 x 4.5-1	8																			
10	0	0.5	plate	FP 1.25 x 7.75-1	3																			
11																								

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L _w (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	6.89	2.61	8.47	0.93	41.000	41.000	24.000	7.670	1.1875	A572-65
2	6.89	2.61	8.47	0.93	41.000	41.000	24.000	7.670	1.1875	A572-65
3	6.89	2.61	8.47	0.93	41.000	41.000	24.000	7.670	1.1875	A572-65
4	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
5	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.593	1.1875	A572-65
6	6.5	1.25	8.125	0.625	33.000	33.000	19.250	6.563	1.1875	A572-65
7	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
8	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65
9	1.25	4.5	5.625	2.25	n/a	n/a	0.000	5.625	0.0000	A572-50
10	1.25	7.75	9.6875	3.875	n/a	n/a	0.000	9.688	0.0000	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	160 - 155	5		0	10.750	10.750	0.349	A53-B-35	1.000
2	155 - 150	5		0	10.750	10.750	0.349	A53-B-35	1.000
3	150 - 148.5	1.5	0	0	10.750	10.750	0.349	A53-B-35	1.000
4	148.5 - 148	0.5	0	0	10.750	23.000	0.349	A53-B-35	1.000
5	148 - 143	5		18	23.000	23.810	0.25	A607-60	1.000
6	143 - 138	5		18	23.810	24.620	0.25	A607-60	1.000
7	138 - 133	5		18	24.620	25.430	0.25	A607-60	1.000
8	133 - 128	5		18	25.430	26.240	0.25	A607-60	1.000
9	128 - 123	5		18	26.240	27.050	0.25	A607-60	1.000
10	123 - 118	5		18	27.050	27.860	0.25	A607-60	1.000
11	118 - 114.75	7	3.75	18	27.860	28.994	0.25	A607-60	1.000
12	114.75 - 109.75	5		18	27.887	28.696	0.3125	A607-60	1.000
13	109.75 - 105.25	4.5		18	28.696	29.425	0.3125	A607-60	1.000
14	105.25 - 105	0.25		18	29.425	29.466	0.4625	A607-60	0.970
15	105 - 100	5		18	29.466	30.276	0.4625	A607-60	0.962
16	100 - 95	5		18	30.276	31.086	0.4625	A607-60	0.955
17	95 - 90	5		18	31.086	31.896	0.45	A607-60	0.973
18	90 - 85	5		18	31.896	32.706	0.45	A607-60	0.966
19	85 - 81	8.25	4.25	18	32.706	34.042	0.45	A607-60	0.961
20	81 - 75.75	5.25		18	32.729	33.579	0.5	A607-65	1.096
21	75.75 - 70.75	5		18	33.579	34.389	0.5	A607-65	1.087
22	70.75 - 70.5	0.25		18	34.389	34.429	0.675	A607-65	1.044
23	70.5 - 70	0.5		18	34.429	34.510	0.675	A607-65	1.043
24	70 - 69.75	0.25		18	34.510	34.551	0.5625	A607-65	0.950
25	69.75 - 64.75	5		18	34.551	35.361	0.55	A607-65	0.964
26	64.75 - 59.75	5		18	35.361	36.171	0.55	A607-65	0.958
27	59.75 - 54.75	5		18	36.171	36.981	0.54375	A607-65	0.962
28	54.75 - 49.75	5		18	36.981	37.791	0.5375	A607-65	0.967
29	49.75 - 48	6.75	5	18	37.791	38.884	0.5375	A607-65	0.965
30	48 - 42	6		18	37.324	38.296	0.675	A607-65	0.955
31	42 - 37	5		18	38.296	39.106	0.6625	A607-65	0.966
32	37 - 32	5		18	39.106	39.916	0.6625	A607-65	0.959
33	32 - 28	4		18	39.916	40.564	0.65	A607-65	0.973
34	28 - 27.75	0.25		18	40.564	40.605	0.675	A607-65	1.036
35	27.75 - 27.25	0.5		18	40.605	40.686	0.675	A607-65	1.035
36	27.25 - 27	0.25		18	40.686	40.726	0.675	A607-65	0.948
37	27 - 22	5		18	40.726	41.536	0.6625	A607-65	0.960
38	22 - 17	5		18	41.536	42.346	0.6625	A607-65	0.954
39	17 - 16	1		18	42.346	42.508	0.6625	A607-65	0.953
40	16 - 15.75	0.25		18	42.508	42.549	0.8125	A607-65	0.947
41	15.75 - 14.5	1.25		18	42.549	42.751	0.8125	A607-65	0.945
42	14.5 - 14.25	0.25		18	42.751	42.792	0.725	A607-65	0.969
43	14.25 - 12.25	2		18	42.792	43.116	0.725	A607-65	0.966
44	12.25 - 12	0.25		18	43.116	43.156	0.825	A607-65	1.003
45	12 - 10	2		18	43.156	43.480	0.825	A607-65	1.000
46	10 - 9.75	0.25		18	43.480	43.521	0.7375	A607-65	0.936
47	9.75 - 4.75	5		18	43.521	44.331	0.725	A607-65	0.945
48	4.75 - 0.5	4.25		18	44.331	45.019	0.7125	A607-65	0.956
49	0.5 - 0.25	0.25		18	45.019	45.060	1.0625	A607-65	0.917
50	0.25 - 0	0.25		18	45.060	45.100	1.0625	A607-65	0.916

TNX Section Forces

Increment (ft):		TNX Output			
	5	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1		160 - 155	3.22	18.79	6.25
2		155 - 150	3.53	50.39	6.39
3		150 - 148.5	4.21	60.54	7.39
4		148.5 - 148	4.26	64.24	7.43
5		148 - 143	7.72	120.00	11.24
6		143 - 138	8.19	177.12	11.61
7		138 - 133	11.86	271.77	18.88
8		133 - 128	12.43	367.00	19.23
9		128 - 123	16.44	484.85	23.54
10		123 - 118	18.12	604.44	24.96
11		118 - 114.75	18.61	685.87	25.20
12		114.75 - 109.75	19.76	812.99	25.67
13		109.75 - 105.25	20.57	929.18	26.02
14		105.25 - 105	20.64	935.68	26.04
15		105 - 100	21.74	1066.97	26.52
16		100 - 95	22.88	1200.64	26.99
17		95 - 90	24.04	1336.62	27.44
18		90 - 85	25.24	1474.83	27.88
19		85 - 81	26.21	1586.98	28.24
20		81 - 75.75	28.47	1736.78	28.84
21		75.75 - 70.75	29.96	1881.92	29.26
22		70.75 - 70.5	30.07	1889.23	29.28
23		70.5 - 70	30.25	1903.88	29.33
24		70 - 69.75	30.32	1911.21	29.36
25		69.75 - 64.75	31.80	2058.97	29.79
26		64.75 - 59.75	33.31	2208.81	30.20
27		59.75 - 54.75	34.85	2360.61	30.58
28		54.75 - 49.75	36.42	2514.25	30.94
29		49.75 - 48	36.96	2568.45	31.08
30		48 - 42	40.50	2757.00	31.73
31		42 - 37	42.39	2916.28	32.04
32		37 - 32	44.31	3077.04	32.32
33		32 - 28	45.86	3206.69	32.56
34		28 - 27.75	45.98	3214.82	32.57
35		27.75 - 27.25	46.19	3231.10	32.60
36		27.25 - 27	46.29	3239.25	32.62
37		27 - 22	48.27	3402.96	32.92
38		22 - 17	50.29	3568.10	33.20
39		17 - 16	50.69	3601.30	33.26
40		16 - 15.75	50.82	3609.61	33.26
41		15.75 - 14.5	51.41	3651.22	33.36
42		14.5 - 14.25	51.53	3659.55	33.36
43		14.25 - 12.25	52.41	3726.36	33.50
44		12.25 - 12	52.55	3734.73	33.50
45		12 - 10	53.57	3801.83	33.65
46		10 - 9.75	53.69	3810.24	33.65
47		9.75 - 4.75	55.91	3979.10	33.95
48		4.75 - 0.5	57.83	4123.72	34.17
49		0.5 - 0.25	58.00	4132.26	34.17
50		0.25 - 0	58.15	4140.80	34.18

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP10.75x10.75x0.349	Pole	19.0%	Pass
155 - 150	Pole	TP10.75x10.75x0.349	Pole	49.5%	Pass
150 - 148.5	Pole	TP10.75x10.75x0.349	Pole	59.4%	Pass
148.5 - 148	Pole	TP23x10.75x0.349	Pole	13.9%	Pass
148 - 143	Pole	TP23.81x23x0.25	Pole	19.0%	Pass
143 - 138	Pole	TP24.62x23.81x0.25	Pole	26.0%	Pass
138 - 133	Pole	TP25.43x24.62x0.25	Pole	37.6%	Pass
133 - 128	Pole	TP26.24x25.43x0.25	Pole	47.8%	Pass
128 - 123	Pole	TP27.05x26.24x0.25	Pole	59.9%	Pass
123 - 118	Pole	TP27.86x27.05x0.25	Pole	70.8%	Pass
118 - 114.75	Pole	TP28.99x27.86x0.25	Pole	77.7%	Pass
114.75 - 109.75	Pole	TP28.696x27.887x0.3125	Pole	69.9%	Pass
109.75 - 105.25	Pole	TP29.425x28.696x0.3125	Pole	75.9%	Pass
105.25 - 105	Pole + Reinf.	TP29.466x29.425x0.4625	Reinf. 5 Tension Rupture	72.5%	Pass
105 - 100	Pole + Reinf.	TP30.276x29.466x0.4625	Reinf. 5 Tension Rupture	78.9%	Pass
100 - 95	Pole + Reinf.	TP31.086x30.276x0.4625	Reinf. 5 Tension Rupture	84.8%	Pass
95 - 90	Pole + Reinf.	TP31.896x31.086x0.45	Reinf. 5 Tension Rupture	90.2%	Pass
90 - 85	Pole + Reinf.	TP32.706x31.896x0.45	Reinf. 5 Tension Rupture	95.3%	Pass
85 - 81	Pole + Reinf.	TP34.042x32.706x0.45	Reinf. 5 Tension Rupture	99.1%	Pass
81 - 75.75	Pole + Reinf.	TP33.579x32.729x0.5	Reinf. 8 Tension Rupture	90.2%	Pass
75.75 - 70.75	Pole + Reinf.	TP34.389x33.579x0.5	Reinf. 8 Tension Rupture	93.8%	Pass
70.75 - 70.5	Pole + Reinf.	TP34.429x34.389x0.675	Reinf. 4 Tension Rupture	75.8%	Pass
70.5 - 70	Pole + Reinf.	TP34.51x34.429x0.675	Reinf. 4 Tension Rupture	76.1%	Pass
70 - 69.75	Pole + Reinf.	TP34.551x34.51x0.5625	Reinf. 4 Tension Rupture	87.5%	Pass
69.75 - 64.75	Pole + Reinf.	TP35.361x34.551x0.55	Reinf. 4 Tension Rupture	90.6%	Pass
64.75 - 59.75	Pole + Reinf.	TP36.171x35.361x0.55	Reinf. 4 Tension Rupture	93.5%	Pass
59.75 - 54.75	Pole + Reinf.	TP36.981x36.171x0.5438	Reinf. 4 Tension Rupture	96.1%	Pass
54.75 - 49.75	Pole + Reinf.	TP37.791x36.981x0.5375	Reinf. 4 Tension Rupture	98.6%	Pass
49.75 - 48	Pole + Reinf.	TP38.884x37.791x0.5375	Reinf. 4 Tension Rupture	99.4%	Pass
48 - 42	Pole + Reinf.	TP38.296x37.324x0.675	Reinf. 6 Tension Rupture	90.5%	Pass
42 - 37	Pole + Reinf.	TP39.106x38.296x0.6625	Reinf. 6 Tension Rupture	92.4%	Pass
37 - 32	Pole + Reinf.	TP39.916x39.106x0.6625	Reinf. 6 Tension Rupture	94.2%	Pass
32 - 28	Pole + Reinf.	TP40.564x39.916x0.65	Reinf. 6 Tension Rupture	95.5%	Pass
28 - 27.75	Pole + Reinf.	TP40.605x40.564x0.675	Reinf. 6 Tension Rupture	88.7%	Pass
27.75 - 27.25	Pole + Reinf.	TP40.686x40.605x0.675	Reinf. 6 Tension Rupture	88.9%	Pass
27.25 - 27	Pole + Reinf.	TP40.726x40.686x0.675	Reinf. 1 Tension Rupture	86.9%	Pass
27 - 22	Pole + Reinf.	TP41.536x40.726x0.6625	Reinf. 1 Tension Rupture	88.3%	Pass
22 - 17	Pole + Reinf.	TP42.346x41.536x0.6625	Reinf. 1 Tension Rupture	89.6%	Pass
17 - 16	Pole + Reinf.	TP42.508x42.346x0.6625	Reinf. 1 Tension Rupture	89.9%	Pass
16 - 15.75	Pole + Reinf.	TP42.549x42.508x0.8125	Reinf. 7 Tension Rupture	80.6%	Pass
15.75 - 14.5	Pole + Reinf.	TP42.751x42.549x0.8125	Reinf. 7 Tension Rupture	80.9%	Pass
14.5 - 14.25	Pole + Reinf.	TP42.792x42.751x0.725	Reinf. 7 Tension Rupture	92.3%	Pass
14.25 - 12.25	Pole + Reinf.	TP43.116x42.792x0.725	Reinf. 7 Tension Rupture	92.9%	Pass
12.25 - 12	Pole + Reinf.	TP43.156x43.116x0.825	Reinf. 7 Tension Rupture	82.6%	Pass
12 - 10	Pole + Reinf.	TP43.48x43.156x0.825	Reinf. 7 Tension Rupture	83.2%	Pass
10 - 9.75	Pole + Reinf.	TP43.521x43.48x0.7375	Reinf. 1 Tension Rupture	83.2%	Pass
9.75 - 4.75	Pole + Reinf.	TP44.331x43.521x0.725	Reinf. 1 Tension Rupture	84.3%	Pass
4.75 - 0.5	Pole + Reinf.	TP45.019x44.331x0.7125	Reinf. 1 Tension Rupture	85.1%	Pass
0.5 - 0.25	Pole + Reinf.	TP45.06x45.019x1.0625	Reinf. 9 Compression	81.3%	Pass
0.25 - 0	Pole + Reinf.	TP45.1x45.06x1.0625	Reinf. 9 Compression	81.3%	Pass
			Summary		
			Pole	77.7%	Pass
			Reinforcement	99.4%	Pass
			Overall	99.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*										
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
160 - 155	154	n/a	154	11.40	n/a	11.40	19.0%										
155 - 150	154	n/a	154	11.40	n/a	11.40	49.5%										
150 - 148.5	154	n/a	154	11.40	n/a	11.40	59.4%										
148.5 - 148	1593	n/a	1593	24.83	n/a	24.83	13.9%										
148 - 143	1311	n/a	1311	18.69	n/a	18.69	19.0%										
143 - 138	1450	n/a	1450	19.34	n/a	19.34	26.0%										
138 - 133	1600	n/a	1600	19.98	n/a	19.98	37.6%										
133 - 128	1759	n/a	1759	20.62	n/a	20.62	47.8%										
128 - 123	1929	n/a	1929	21.27	n/a	21.27	59.9%										
123 - 118	2109	n/a	2109	21.91	n/a	21.91	70.8%										
118 - 114.75	2232	n/a	2232	22.33	n/a	22.33	77.7%										
114.75 - 109.75	2865	n/a	2865	28.15	n/a	28.15	69.9%										
109.75 - 105.25	3091	n/a	3091	28.88	n/a	28.88	75.9%										
105.25 - 105	3104	1465	4569	28.92	12.39	41.31	51.1%					72.5%					
105 - 100	3370	1543	4913	29.72	12.39	42.11	56.6%					78.9%					
100 - 95	3651	1623	5274	30.52	12.39	42.91	59.8%					84.8%					
95 - 90	3946	1705	5652	31.33	12.39	43.72	64.1%					90.2%					
90 - 85	4258	1789	6047	32.13	12.39	44.52	68.2%					95.3%					
85 - 81	4519	1858	6377	32.77	12.39	45.16	71.3%					99.1%					
81 - 75.75	5552	1722	7275	39.52	18.00	57.52	67.2%									90.2%	
75.75 - 70.75	5971	1942	7913	40.48	18.00	58.48	68.9%									93.8%	
70.75 - 70.5	5962	4411	10373	40.53	34.95	75.48	51.6%				75.8%					70.8%	
70.5 - 70	6003	4431	10436	40.63	34.95	75.58	51.8%				76.1%					71.1%	
70 - 69.75	6000	2777	8777	40.68	16.95	57.63	58.6%				87.5%						
69.75 - 64.75	6437	2902	9339	41.64	16.95	58.59	60.7%				90.6%						
64.75 - 59.75	6895	3030	9925	42.60	16.95	59.55	62.8%				93.5%						
59.75 - 54.75	7373	3161	10535	43.57	16.95	60.52	65.0%				96.1%						
54.75 - 49.75	7874	3295	11169	44.53	16.95	61.48	67.1%				98.6%						
49.75 - 48	8054	3342	11397	44.87	16.95	61.82	67.8%				99.4%						
48 - 42	9516	4809	14326	52.57	24.38	76.94	57.5%						90.5%				
42 - 37	10140	5007	15147	53.69	24.38	78.07	58.7%						92.4%				
37 - 32	10791	5208	15999	54.82	24.38	79.19	59.9%						94.2%				
32 - 28	11331	5372	16703	55.72	24.38	80.09	60.7%						95.5%				
28 - 27.75	11392	5772	17165	55.77	32.85	88.62	62.1%				66.8%			88.7%			
27.75 - 27.25	11461	5795	17256	55.89	32.85	88.73	62.2%				66.7%			88.9%			
27.25 - 27	11469	5786	17255	55.94	25.41	81.35	59.6%	86.9%			86.9%						
27 - 22	12175	6007	18182	57.07	25.41	82.48	60.6%	88.3%			88.3%						
22 - 17	12909	6233	19141	58.19	25.41	83.60	61.7%	89.6%			89.6%						
17 - 16	13059	6278	19337	58.42	25.41	83.83	61.9%	89.9%			89.9%						
16 - 15.75	13097	10584	23681	58.47	43.41	101.88	50.8%	73.7%			73.7%				80.6%		
15.75 - 14.5	13286	10681	23968	58.76	43.41	102.17	51.1%	74.0%			74.0%				80.9%		
14.5 - 14.25	13444	8271	21715	58.81	34.94	93.75	60.9%	74.7%							92.3%		
14.25 - 12.25	13754	8393	22147	59.26	34.94	94.20	61.4%	75.2%							92.9%		
12.25 - 12	13721	11493	25214	59.32	51.88	111.20	52.3%	68.8%	67.4%						82.6%		
12 - 10	14035	11659	25694	59.77	51.88	111.65	52.7%	69.2%	67.8%						83.2%		
10 - 9.75	14054	8927	22981	59.82	33.88	93.70	59.5%	83.2%	81.0%								
9.75 - 4.75	14861	9248	24108	60.95	33.88	94.83	60.6%	84.3%	82.1%								
4.75 - 0.5	15571	9525	25095	61.90	33.88	95.78	61.6%	85.1%	83.0%								
0.5 - 0.25	15584	20852	36446	61.95	74.06	136.02	41.6%									81.3%	81.1%
0.25 - 0	15626	20896	36522	62.02	74.06	136.08	41.5%									81.3%	81.2%

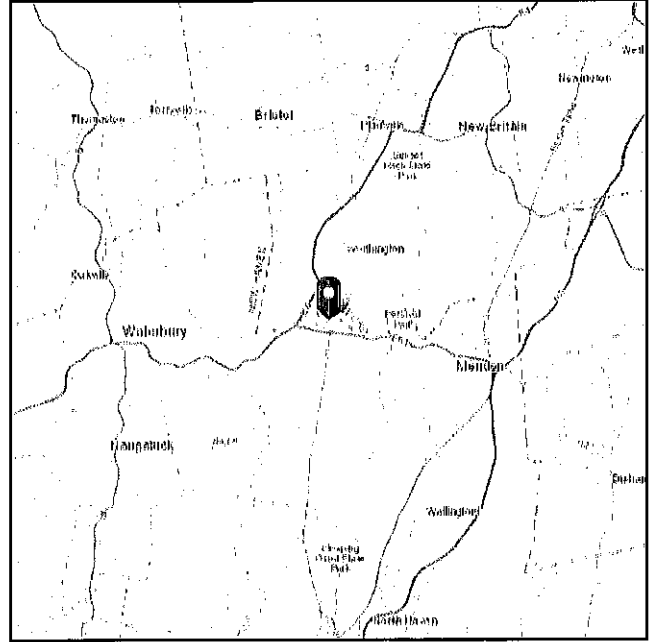
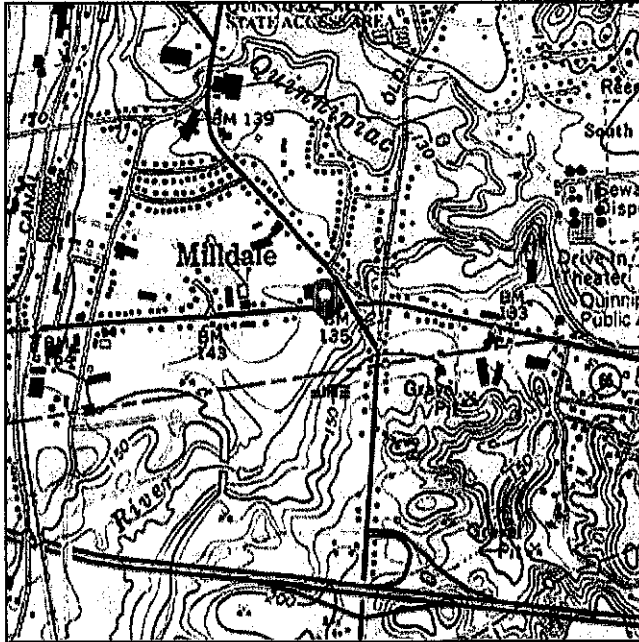
Note: Section capacity checked in 5 degree increments.
Rating per TIA-222-H Section 15.5.

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 133.13 ft (NAVD 88)
Latitude: 41.564275
Longitude: -72.891861



Wind

Results:	76 Vmph
Wind Speed:	122 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Fri Dec 07 2018

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

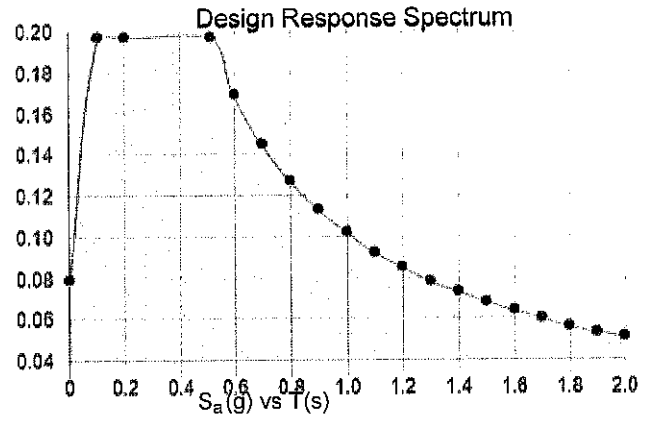
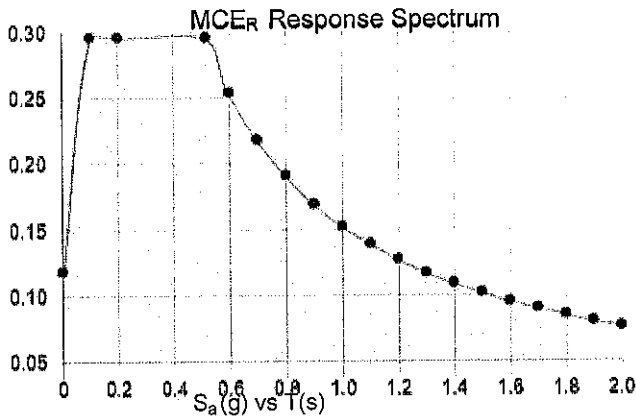
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.185	S_{DS} :	0.197
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.600	T_L :	6.000
F_v :	2.400	PGA :	0.095
S_{MS} :	0.296	PGA _M :	0.152
S_{M1} :	0.152	F_{PGA} :	1.600
		I_e :	1

Seismic Design Category B



Data Accessed:

Fri Dec 07 2018

Date Source:

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



Ice

Results:

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

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

Date Accessed: Fri Dec 07 2018

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.

Date: December 14, 2018

Charles McGuirt
Crown Castle
3 Corporate Dr., St 101
Clifton Park, NY 12065

INFINIGY

FROM ZERO TO INFINIGY
the solutions are endless
Infinigy Engineering, PLLC
1033 Watervliet Shaker Road
Albany, NY 12205
518-690-0790
structural@infinigy.com

Subject:	Mount Analysis Report	
Carrier Designation:	AT&T Change out	
	Carrier Site Number:	10092035
	Carrier Site Name:	CTL05264
Crown Castle Designation:	Crown Castle BU Number:	876313
	Crown Castle Site Name:	West Johnson Avenue Burnt House
	Crown Castle JDE Job Number:	531062
	Crown Castle Order Number:	459066, Rev 1
Engineering Firm Designation:	Infinigy Report Designation:	1039-A0002-B
Site Data:	1349 Meriden Waterbury Tpk, Southington, Hartford Country, CT, 06111 Latitude 41°33'51.39" Longitude -72°53'30.7"	
Structure Information:	Tower Height & Type:	160 ft Monopole
	Mount Elevation:	157 ft
	Mount Type:	8 ft T-Arm

Dear Charles McGuirt,

Infinigy is pleased to submit this "Mount Analysis Report" to determine the structural integrity of AT&T'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 stress level. Based on our analysis we have determined the mount stress level to be:

T-Arm (typical)

Sufficient

The analysis has been performed in accordance with the TIA-222-H Standard. This analysis utilizes an ultimate 3-second gust wind speed of 123 mph from the 2015 International Building Code. Exposure Category B with a maximum topographic factor, Kzt, of 1.0 and Risk Category II was/were used in this analysis.

We at Infinigy Engineering, PLLC appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Mount analysis prepared by: Christopher Kudlacik
Respectfully Submitted by:

Joe Johnston, P.E.
VP Structural Engineering / Principal

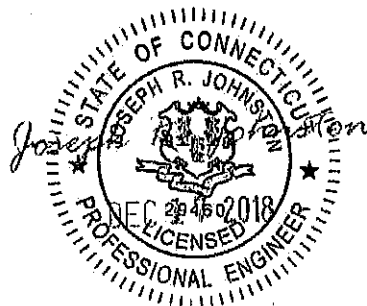


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

Table 4 - Tieback End Reactions

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

1) INTRODUCTION

This mount is an existing 8 ft T-Arm mapped in a TIA Inspection. This mount is installed at the 157 ft elevation on 3 sector(s) of the 160 ft Monopole.

2) ANALYSIS CRITERIA

Building Code: 2015 IBC
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 123 mph
Exposure Category: B
Topographic Factor at Base: 1.0
Topographic Factor at Mount: 1.0
Ice Thickness: 1.28 in
Wind Speed with Ice: 50 mph
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
157.0	158.0	3	Kathrein	80010966	T Arm
		3	Ericsson	RRUS 4478 B14	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 8843 B2/B66A	
		3	CCI Antennas	HPA-85R-BUU-H8	
		3	CCI Antennas	TPA-65R-LCUUUU-H8-K	
		3	Kathrein	80010121	
		3	Ericsson	RRUS 32	
		3	Ericsson	RRUS 11	
		6	Powerwave Technologies	LGP21401	
		6	Raycap	DC6-48-60-18-8F	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	AT&T Application	459066, Rev.1	CCI Sites
Tower Structural Analysis	TEP Project No. 25560.180578	7884041	CCI Sites
Site Photo	Photos, dated 10/3/2018	-	CCI Sites
TIA Inspection	April 4, 2015	876313	CCI Sites

3.1) Analysis Method

RISA-3D (Version 17.0.2), 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.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
- 3) 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.
- 4) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A53 (GR 35)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

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

4) ANALYSIS RESULTS

Table 3(a) - Mount Component Stresses vs. Capacity (T-Arm, Typical)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Frame Rail	M1	157.0	49.0	Pass
	Mount Pipe	M2		91.2	Pass
	Arm	M5		27.2	Pass
	Mount Connection	--		26.5	Pass

Structure Rating (max from all components) =	91.2%
-----------------------------------------------------	--------------

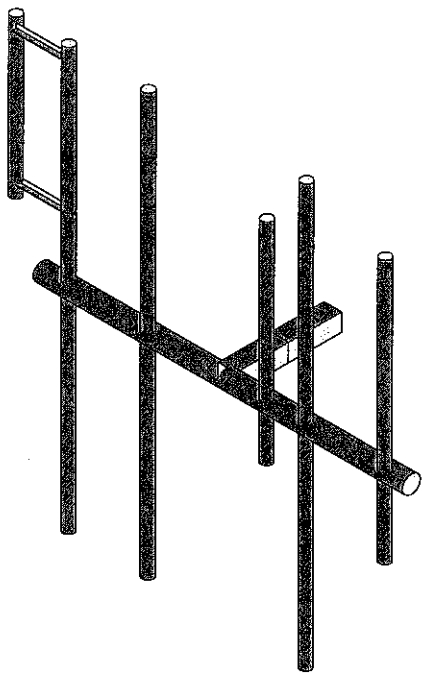
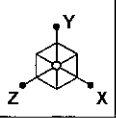
Notes:

- 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 existing mount has sufficient capacity to carry the proposed loading configuration.

APPENDIX A
WIRE FRAME AND RENDERED MODELS

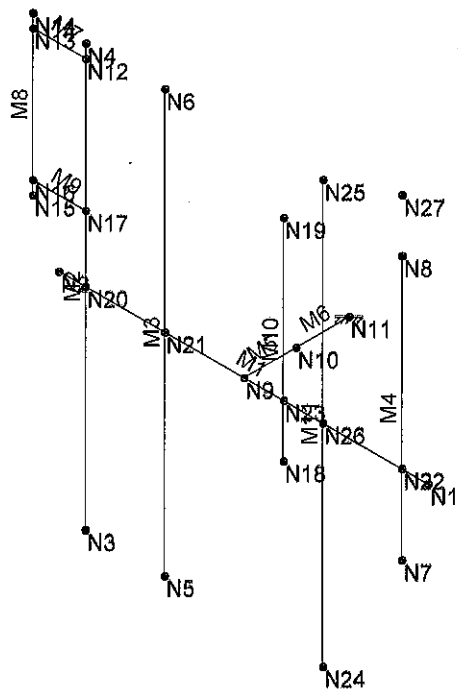
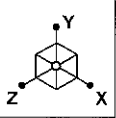


Envelope Only Solution

Infinigy Engineering, PLLC
CLK
1039-A0002-B

CTL05264

Existing Configuration
Dec 14, 2018 at 6:47 PM
10092035-CLK.r3d

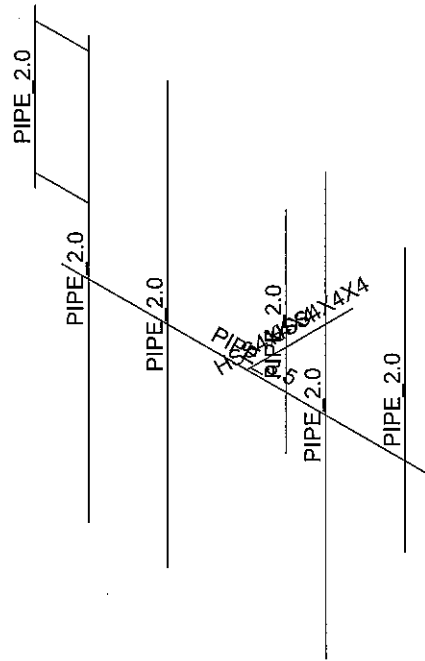
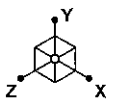


Envelope Only Solution

Infinigy Engineering, PLLC
CLK
1039-A0002-B

CTL05264

Wireframe
Dec 14, 2018 at 6:47 PM
10092035-CLK.r3d



Envelope Only Solution

Infinigy Engineering, PLLC

CLK

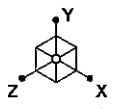
1039-A0002-B

CTL05264

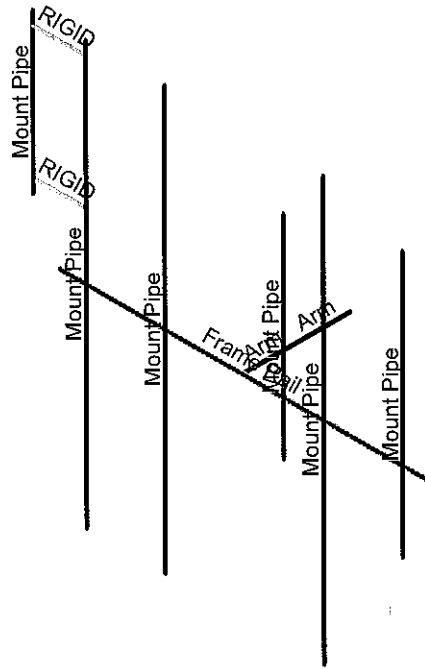
Member Shapes

Dec 14, 2018 at 6:47 PM

10092035-CLK.r3d

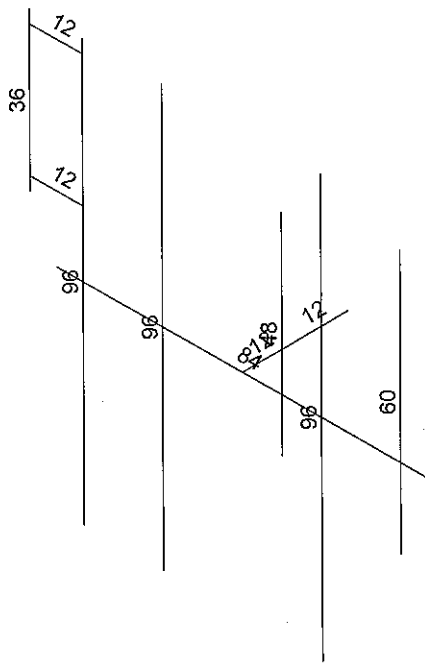
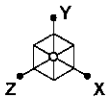


Section Sets	
	Mount Pipe
	Frame Rail
	Arm
	RIGID



Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Section Sets
CLK		Dec 14, 2018 at 6:48 PM
1039-A0002-B		10092035-CLK.r3d



Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC

CLK

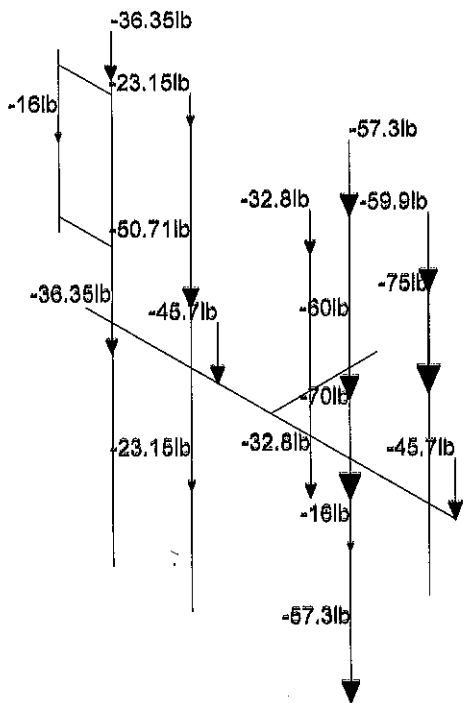
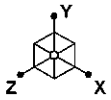
1039-A0002-B

CTL05264

Member Lengths

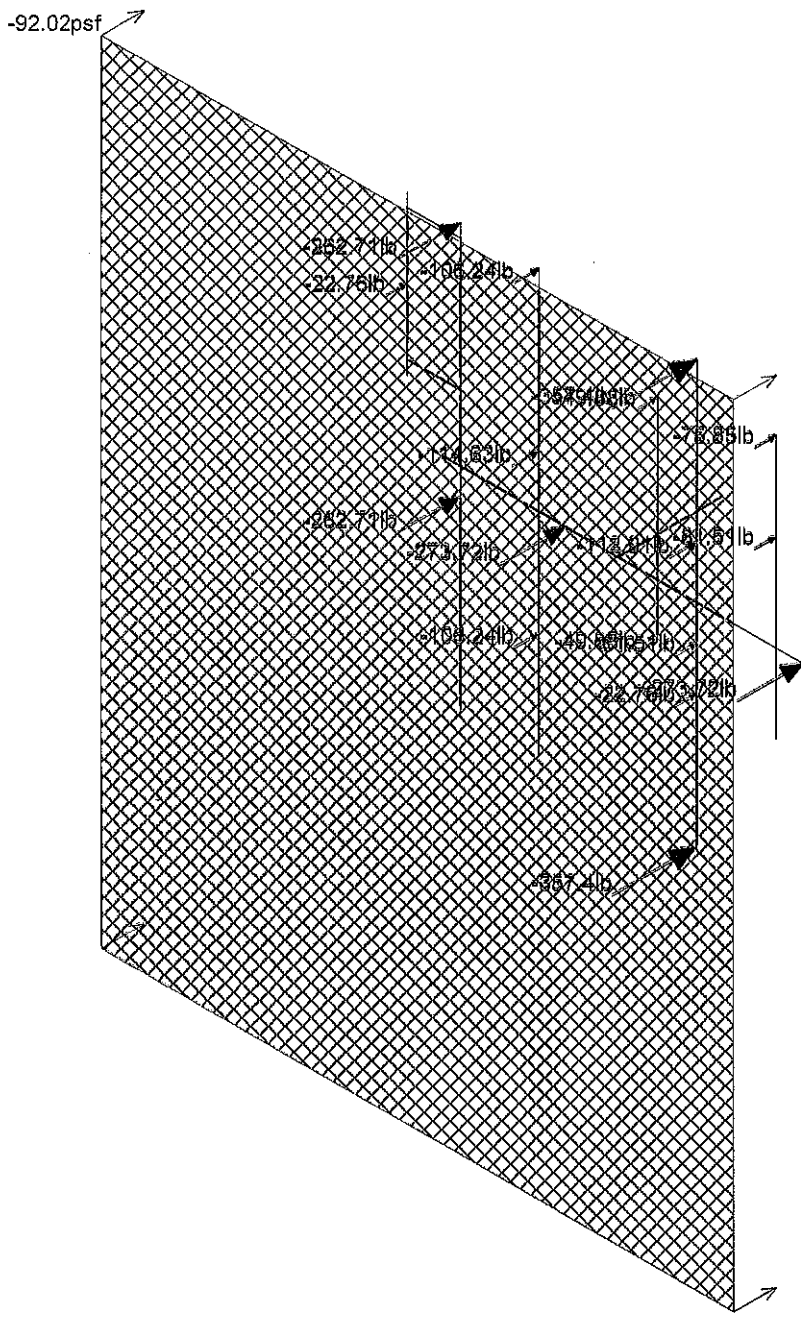
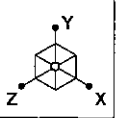
Dec 14, 2018 at 6:47 PM

10092035-CLK.r3d



Loads: BLC 1, Self Weight
Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Dead Load
CLK		Dec 14, 2018 at 6:48 PM
1039-A0002-B		10092035-CLK.r3d

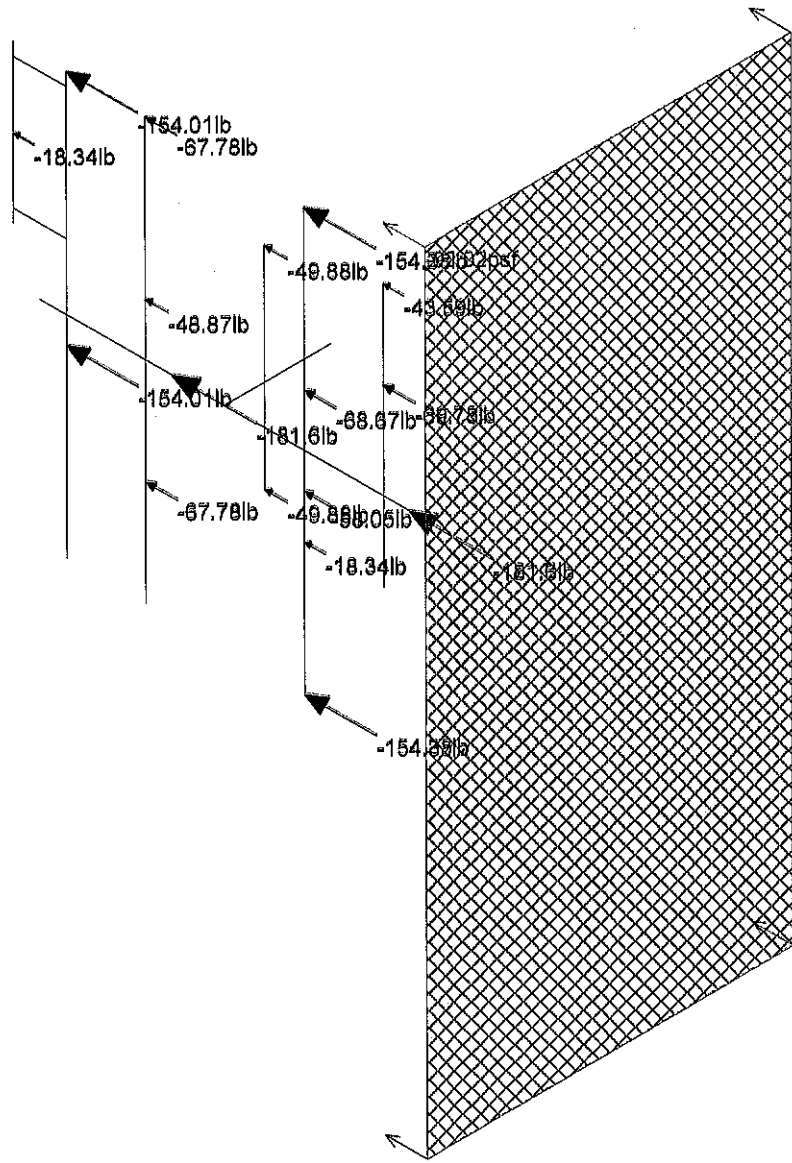
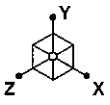


Loads: BLC 2, Wind Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC
CLK
1039-A0002-B

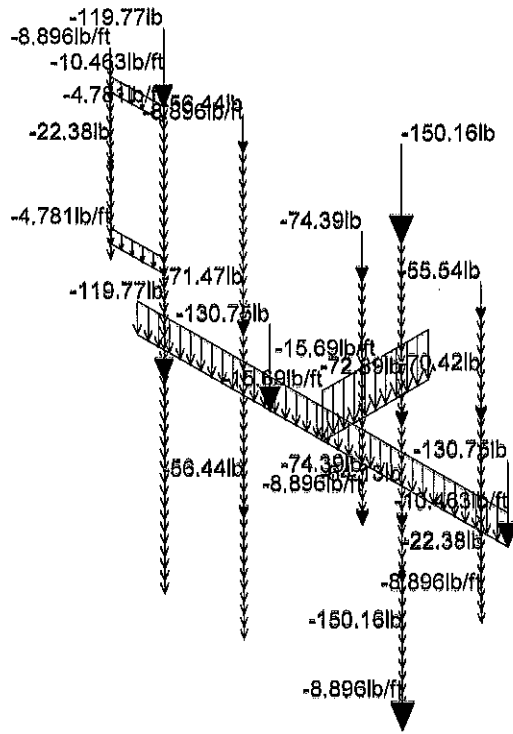
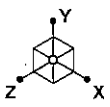
CTL05264

Wind Load 000
Dec 14, 2018 at 6:48 PM
10092035-CLK.r3d



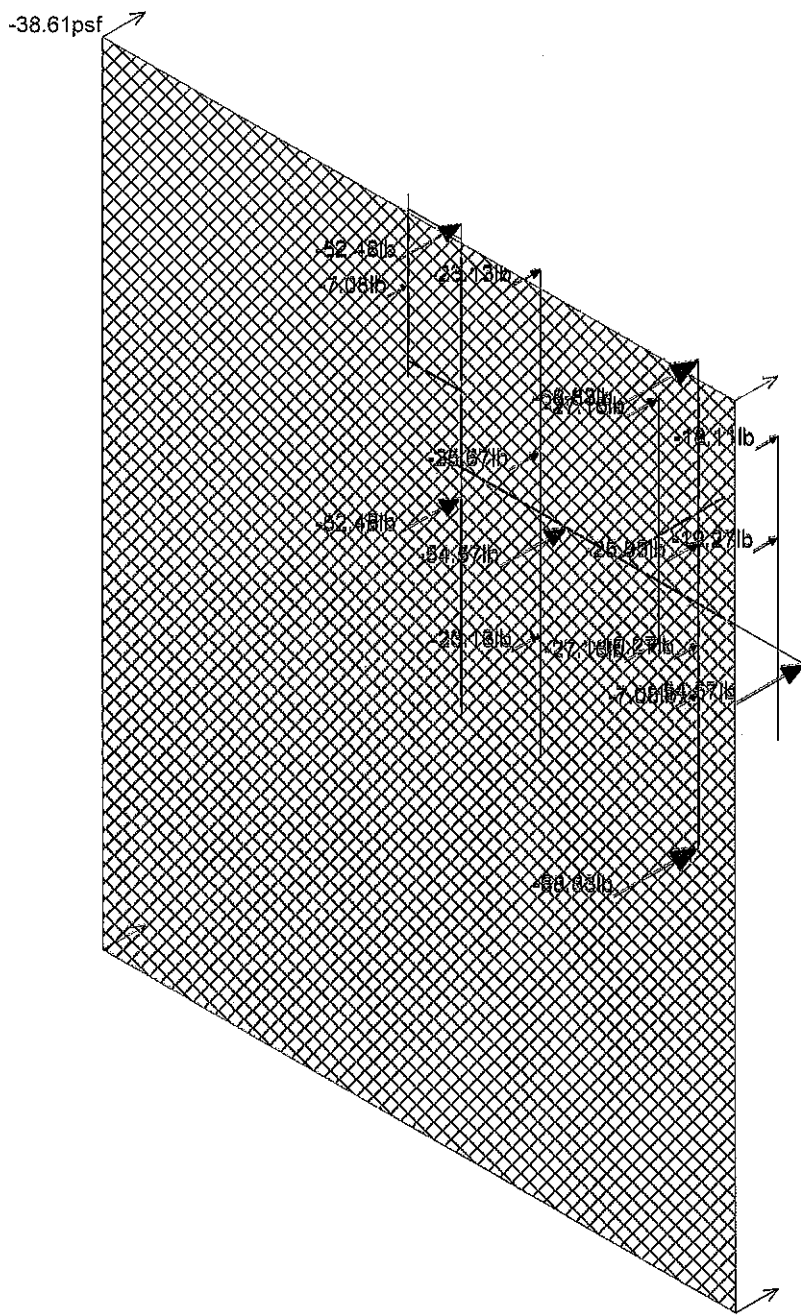
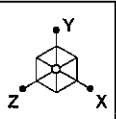
Loads: BLC 3, Wind Load AZI 090
Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Wind Load 090
CLK		Dec 14, 2018 at 6:48 PM
1039-A0002-B		10092035-CLK.r3d



Loads: BLC 4, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Ice Load
CLK		Dec 14, 2018 at 6:48 PM
1039-A0002-B		10092035-CLK.r3d

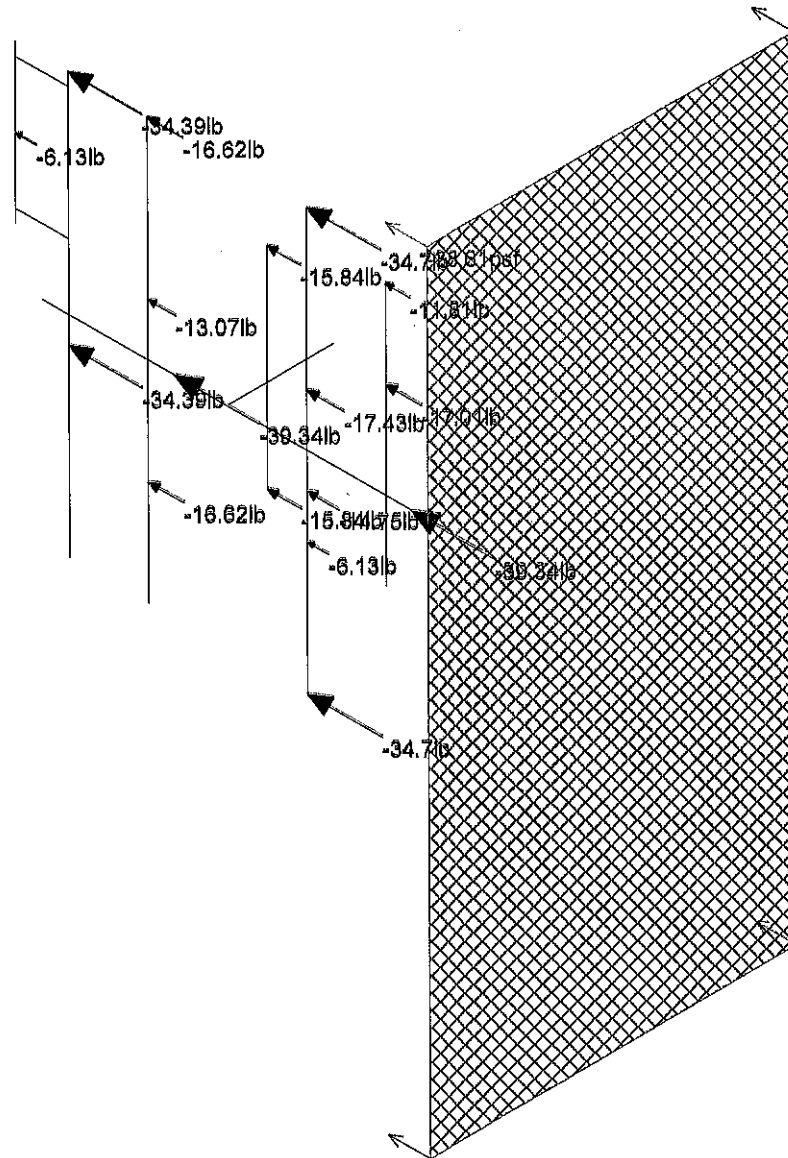
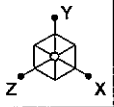


Loads: BLC 5, Wind + Ice Load AZI 000
Envelope Only Solution

Infinigy Engineering, PLLC
CLK
1039-A0002-B

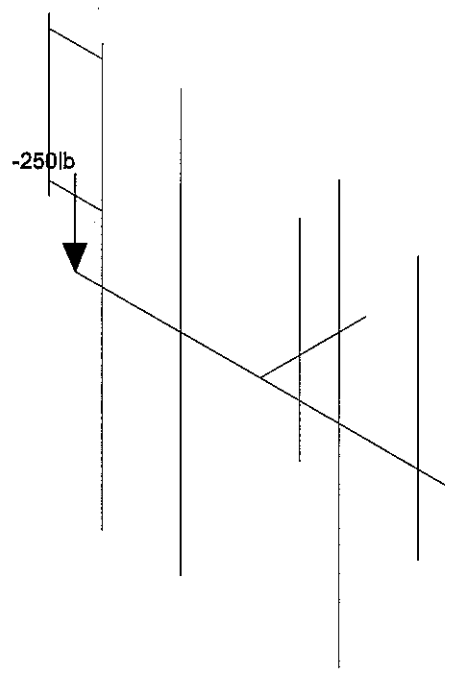
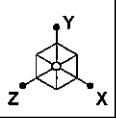
CTL05264

Wind + Ice Load 000
Dec 14, 2018 at 6:48 PM
10092035-CLK.r3d



Loads: BLC 6, Wind + Ice Load AZI 090
Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Wind + Ice Load 090
CLK		Dec 14, 2018 at 6:49 PM
1039-A0002-B		10092035-CLK.r3d



Loads: BLC 7, Service Live 1
Envelope Only Solution

Infinigy Engineering, PLLC	CTL05264	Service load
CLK		Dec 14, 2018 at 6:49 PM
1039-A0002-B		10092035-CLK.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Frame Rail	Beam	Pipe	A53 Gr.B	Typical
2	M2	N4	N3			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
3	M3	N6	N5			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
4	M4	N7	N8			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
5	M5	N9	N10			Arm	Beam	Tube	A500 Gr.B...	Typical
6	M6	N10	N11			Arm	Beam	Tube	A500 Gr.B...	Typical
7	M7	N12	N13			RIGID	None	None	RIGID	Typical
8	M8	N14	N15			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
9	M9	N16	N17			RIGID	None	None	RIGID	Typical
10	M10	N18	N19			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
11	M11	N24	N25			Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		2	24	0
3	Total General		2	24	0
4					
5	Hot Rolled Steel				
6	A500 Gr.B Rect	HSS4X4X4	2	24	24.7
7	A53 Gr.B	PIPE 2.0	6	432	125
8	A53 Gr.B	PIPE 3.5	1	84	59.5
9	Total HR Steel		9	540	209.2

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Self Weight	DL		-1			17		
2	Wind Load AZI 000	WLZ					17	1	
3	Wind Load AZI 090	WLX					17	1	
4	Ice Weight	OL1					17	11	
5	Wind + Ice Load AZI ...	OL2					17	1	
6	Wind + Ice Load AZI ...	OL3					17	1	
7	Service Live 1	LL				1			
8	BLC 2 Transient Area...	None						9	
9	BLC 3 Transient Area...	None						8	
10	BLC 5 Transient Area...	None						9	
11	BLC 6 Transient Area...	None						8	

Load Combinations

	Description	So...PDe...	SR...	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Fa...	BLC F.....	F.....	F.....	F.....	F.....	F.....	F.....
1	1.4D	Yes	Y	DL	1.4										
2	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	1								
3	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	.866	WLX	.5						
4	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	.5	WLX	.866						
5	1.2D + 1W AZI ...	Yes	Y	DL	1.2			WLX	1						
6	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	-.5	WLX	.866						
7	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	-.866	WLX	.5						
8	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	-1								
9	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	-.866	WLX	-.5						
10	1.2D + 1W AZI ...	Yes	Y	DL	1.2	WLZ	-.5	WLX	-.866						
11	1.2D + 1W AZI ...	Yes	Y	DL	1.2			WLX	-1						

Load Combinations (Continued)

	Description	So...	PDe...	SR...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Fa...	BLC	F.....	F.....	F.....	F.....	F.....	F.....
12	1.2D + 1W AZI ...	Yes	Y		DL	1.2	WLZ	.5	WLX	-.866									
13	1.2D + 1W AZI ...	Yes	Y		DL	1.2	WLZ	.866	WLX	-.5									
14	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	1											
15	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	.866	WLX	.5									
16	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	.5	WLX	.866									
17	0.9D + 1W AZI ...	Yes	Y		DL	.9			WLX	1									
18	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	-.5	WLX	.866									
19	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	-.866	WLX	.5									
20	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	-1											
21	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	-.866	WLX	-.5									
22	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	-.5	WLX	-.866									
23	0.9D + 1W AZI ...	Yes	Y		DL	.9			WLX	-1									
24	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	.5	WLX	-.866									
25	0.9D + 1W AZI ...	Yes	Y		DL	.9	WLZ	.866	WLX	-.5									
26	1.2D + 1.0Di	Yes	Y		DL	1.2	OL1	1											
27	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	1									
28	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	.5							
29	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	.866							
30	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1			OL3	1							
31	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	.866							
32	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	.5							
33	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	-1									
34	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	-.866	OL3	-.5							
35	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	-.5	OL3	-.8...							
36	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1			OL3	-1							
37	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	.5	OL3	-.8...							
38	1.2D + 1.0Di + ...	Yes	Y		DL	1.2	OL1	1	OL2	.866	OL3	-.5							
39	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	.099									
40	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	.086	WLX	.05							
41	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	.05	WLX	.086							
42	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5			WLX	.099							
43	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.05	WLX	.086							
44	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.086	WLX	.05							
45	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.099									
46	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.086	WLX	-.05							
47	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	-.05	WLX	-.0...							
48	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5			WLX	-.0...							
49	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	.05	WLX	-.0...							
50	1.2D + 1.5L + 1...	Yes	Y		DL	1.2	LL	1.5	WLZ	.086	WLX	-.05							

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	N11	max	2257.909	17	3026.055	36	3482.187	14	.491	14	4.454	17	2.034	11
2		min	-2257.91	11	852.637	17	-3482.187	8	-6.571	33	-4.455	11	-1.038	17
3	Totals:	max	2257.909	17	3026.055	36	3482.187	14						
4		min	-2257.91	11	852.637	17	-3482.187	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

Member	Shape	Code Ch...	Loc[in]	LC	Shear Check	Loc.....	LC	phi*Pnc [lb]	phi*Pn...	phi*M...	phi*M...	Eqn	
1	M1	PIPE_3.5	.490	42	8	.289	42	8	64491.424	78750	7.954	7.954	1..H1-1b
2	M2	PIPE_2.0	.750	48	8	.090	48	8	14916.096	32130	1.872	1.872	1..H1-1b
3	M3	PIPE_2.0	.372	48	8	.031	48	8	14916.096	32130	1.872	1.872	1..H1-1b
4	M4	PIPE_2.0	.287	18.125	8	.023	18...	8	23808.54	32130	1.872	1.872	1..H1-1b
5	M5	HSS4X4X4	.272	12	7	.207	12 z	11	138935.324	139518	16.181	16.181	1..H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

Member	Shape	Code Ch...	Loc[in]	LC	Shear Check	Loc.....	LC	phi*Pnc [lb]	phi*Pn...	phi*M...	phi*M...	Eqn	
6	M6	HSS4X4X4	.461	12	35	.208	12 z	11	138935.324	139518	16.181	16.181	1..H1-1b
7	M8	PIPE_2.0	.214	33	8	.042	33	8	28843.414	32130	1.872	1.872	1..H1-1b
8	M10	PIPE_2.0	.125	12	9	.011	12	9	26521.424	32130	1.872	1.872	1..H1-1b
9	M11	PIPE_2.0	.912	48	8	.057	48	8	14916.096	32130	1.872	1.872	1..H1-1b

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design R...	A [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]	
1	Mount Pipe	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Frame Rail	PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
3	Arm	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8

Joint Boundary Conditions

Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N11	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1					Yes				None
2	M2					Yes	** NA **			None
3	M3					Yes	** NA **			None
4	M4					Yes	** NA **			None
5	M5					Yes				None
6	M6					Yes				None
7	M7					Yes	** NA **			None
8	M8					Yes	** NA **			None
9	M9					Yes	** NA **			None
10	M10					Yes	** NA **			None
11	M11					Yes	** NA **			None

Hot Rolled Steel Design Parameters

Label	Shape	Length[in]	L _{byy} [in]	L _{bzz} [in]	L _{comp top} [in]	L _{comp bot} [in]	L-torqu...	K _{yy}	K _{zz}	C _b	Function
1	M1	Frame Rail	84			L _{byy}					Lateral
2	M2	Mount Pipe	96			L _{byy}					Lateral
3	M3	Mount Pipe	96			L _{byy}					Lateral
4	M4	Mount Pipe	60			L _{byy}					Lateral
5	M5	Arm	12			L _{byy}					Lateral
6	M6	Arm	12			L _{byy}					Lateral
7	M8	Mount Pipe	36			L _{byy}					Lateral
8	M10	Mount Pipe	48			L _{byy}					Lateral
9	M11	Mount Pipe	96			L _{byy}					Lateral

Joint Loads and Enforced Displacements (BLC 7 : Service Live 1)

Joint Label	L.D.M	Direction	Magnitude[(lb.k-ft), (in.rad), (lb*s^2/...	
1	N2	L	Y	-250

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in.%]
1	M1	Y	-45.7	0
2	M2	Y	-36.35	0
3	M3	Y	-23.15	0
4	M11	Y	-57.3	0
5	M3	Y	-50.71	36
6	M11	Y	-60	60
7	M11	Y	-70	40
8	M4	Y	-59.9	60
9	M4	Y	-75	40
10	M11	Y	-16	30
11	M10	Y	-32.8	0
12	M1	Y	-45.7	54
13	M2	Y	-36.35	54
14	M3	Y	-23.15	72
15	M11	Y	-57.3	96
16	M8	Y	-16	18
17	M10	Y	-32.8	%100

Member Point Loads (BLC 2 : Wind Load AZI 000)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in.%]
1	M1	Z	-273.72	0
2	M2	Z	-262.71	0
3	M3	Z	-106.24	0
4	M11	Z	-357.4	0
5	M3	Z	-114.63	36
6	M11	Z	-112.91	60
7	M11	Z	-81.51	40
8	M4	Z	-75.85	60
9	M4	Z	-81.51	40
10	M11	Z	-22.76	30
11	M10	Z	-49.88	0
12	M1	Z	-273.72	54
13	M2	Z	-262.71	54
14	M3	Z	-106.24	72
15	M11	Z	-357.4	96
16	M8	Z	-22.76	18
17	M10	Z	-49.88	%100

Member Point Loads (BLC 3 : Wind Load AZI 090)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in.%]
1	M1	X	-181.6	0
2	M2	X	-154.01	0
3	M3	X	-67.78	0
4	M11	X	-154.38	0
5	M3	X	-48.87	36
6	M11	X	-68.67	60
7	M11	X	-58.05	40
8	M4	X	-43.59	60
9	M4	X	-69.78	40
10	M11	X	-18.34	30
11	M10	X	-49.88	0
12	M1	X	-181.6	54
13	M2	X	-154.01	54
14	M3	X	-67.78	72
15	M11	X	-154.38	96

Member Point Loads (BLC 3 : Wind Load AZI 090) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in. %]
16	M8	X	-18.34	18
17	M10	X	-49.88	%100

Member Point Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in. %]
1	M1	Y	-130.75	0
2	M2	Y	-119.77	0
3	M3	Y	-56.44	0
4	M11	Y	-150.16	0
5	M3	Y	-71.47	36
6	M11	Y	-72.89	60
7	M11	Y	-64.13	40
8	M4	Y	-55.54	60
9	M4	Y	-70.42	40
10	M11	Y	-22.38	30
11	M10	Y	-74.39	0
12	M1	Y	-130.75	54
13	M2	Y	-119.77	54
14	M3	Y	-56.44	72
15	M11	Y	-150.16	96
16	M8	Y	-22.38	18
17	M10	Y	-74.39	%100

Member Point Loads (BLC 5 : Wind + Ice Load AZI 000)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in. %]
1	M1	Z	-54.57	0
2	M2	Z	-52.48	0
3	M3	Z	-23.13	0
4	M11	Z	-68.83	0
5	M3	Z	-25.67	36
6	M11	Z	-25.83	60
7	M11	Z	-19.27	40
8	M4	Z	-18.11	60
9	M4	Z	-19.27	40
10	M11	Z	-7.08	30
11	M10	Z	-27.16	0
12	M1	Z	-54.57	54
13	M2	Z	-52.48	54
14	M3	Z	-23.13	72
15	M11	Z	-68.83	96
16	M8	Z	-7.08	18
17	M10	Z	-27.16	%100

Member Point Loads (BLC 6 : Wind + Ice Load AZI 090)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in. %]
1	M1	X	-39.34	0
2	M2	X	-34.39	0
3	M3	X	-16.62	0
4	M11	X	-34.7	0
5	M3	X	-13.07	36
6	M11	X	-17.43	60
7	M11	X	-14.75	40
8	M4	X	-11.81	60
9	M4	X	-17.01	40
10	M11	X	-6.13	30

Member Point Loads (BLC 6 : Wind + Ice Load AZI 090) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[in.%]
11	M10	X	-15.84	0
12	M1	X	-39.34	54
13	M2	X	-34.39	54
14	M3	X	-16.62	72
15	M11	X	-34.7	96
16	M8	X	-6.13	18
17	M10	X	-15.84	%100

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
1	M1	Y	-10.463	-10.463	0	%100
2	M2	Y	-10.463	-10.463	0	%100
3	M3	Y	-8.896	-8.896	0	%100
4	M4	Y	-8.896	-8.896	0	%100
5	M5	Y	-15.69	-15.69	0	%100
6	M6	Y	-15.69	-15.69	0	%100
7	M7	Y	-4.781	-4.781	0	%100
8	M8	Y	-8.896	-8.896	0	%100
9	M9	Y	-4.781	-4.781	0	%100
10	M10	Y	-8.896	-8.896	0	%100
11	M11	Y	-8.896	-8.896	0	%100

Member Distributed Loads (BLC 8 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
1	M1	Z	-30.673	-30.673	0	84
2	M2	Z	-18.212	-18.212	0	96
3	M3	Z	-18.212	-18.212	0	96
4	M4	Z	-18.212	-18.212	0	60
5	M7	Z	0	0	0	12
6	M8	Z	-18.212	-18.212	0	36
7	M9	Z	0	0	0	12
8	M10	Z	-18.212	-18.212	0	48
9	M11	Z	-18.212	-18.212	0	96

Member Distributed Loads (BLC 9 : BLC 3 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
1	M2	X	-18.212	-18.212	0	96
2	M3	X	-18.212	-18.212	0	96
3	M4	X	-18.212	-18.212	0	60
4	M5	X	-30.673	-30.673	0	12
5	M6	X	-30.673	-30.673	0	12
6	M8	X	-18.212	-18.212	0	36
7	M10	X	-18.212	-18.212	0	48
8	M11	X	-18.212	-18.212	0	96

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
1	M1	Z	-12.87	-12.87	0	84
2	M2	Z	-7.642	-7.642	0	96
3	M3	Z	-7.642	-7.642	0	96
4	M4	Z	-7.642	-7.642	0	60
5	M7	Z	0	0	0	12
6	M8	Z	-7.642	-7.642	0	36
7	M9	Z	0	0	0	12

Member Distributed Loads (BLC 10 : BLC 5 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
8	M10	Z	-7.642	-7.642	0	48
9	M11	Z	-7.642	-7.642	0	96

Member Distributed Loads (BLC 11 : BLC 6 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft.F.psf]	End Magnitude[lb/ft.F.psf]	Start Location[in...]	End Location[in.%]
1	M2	X	-7.642	-7.642	0	96
2	M3	X	-7.642	-7.642	0	96
3	M4	X	-7.642	-7.642	0	60
4	M5	X	-12.87	-12.87	0	12
5	M6	X	-12.87	-12.87	0	12
6	M8	X	-7.642	-7.642	0	36
7	M10	X	-7.642	-7.642	0	48
8	M11	X	-7.642	-7.642	0	96

Member Area Loads (BLC 2 : Wind Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N31	N27	N28	N32	Z	Open Structure	-92.02

Member Area Loads (BLC 3 : Wind Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N27	N29	N30	N28	X	Open Structure	-92.02

Member Area Loads (BLC 5 : Wind + Ice Load AZI 000)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N31	N27	N28	N32	Z	Open Structure	-38.61

Member Area Loads (BLC 6 : Wind + Ice Load AZI 090)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N27	N29	N30	N28	X	Open Structure	-38.61

APPENDIX D
ADDITIONAL CALCUATIONS

Date:	12/14/2018
Client	Crown Castle
Carrier	Sprint
Engineer:	CLK
Site:	876313
Job #:	1039-A0002-B

Code:	LRFD
Axial:	3026.00 lbs
Shear:	3482.00 lbs

Bolt Capacity (1/2" A307 Bolt)				
	Ult Load / Bolt	Factored Load ($\phi=0.75$)	# of Bolts	Factor Joint Capacity
Axial (lb)	8226.7	6170.0	2	12340
Shear(lb)	5133.3	3850.0	2	7700

Interaction Check	
$T / \phi T_n$	24.5%
$V / \phi V_n$	45.2%
≤ 1.0	26.5%
	OK



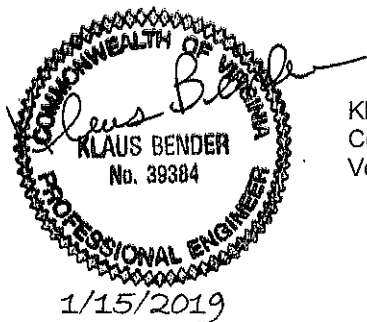
RF EMISSIONS COMPLIANCE REPORT

Crown Castle on behalf of AT&T Mobility, LLC

Crown Castle Site Name: WEST JOHNSON AVE. BURNT HOUSE
Crown Castle Site ID: 876313
AT&T Mobility, LLC FA #: 10092035
1394 Meriden Waterbury Tpk
SOUTHINGTON, CT
1/14/2019

Report Status:

AT&T Mobility, LLC Is Compliant



Klaus Bender, P.E.
Commonwealth of Virginia PE#: 0402039384
Velocitel LLC (License #: 0404007330)

Prepared By:

Sitesafe, LLC

8618 Westwood Center Drive,
Suite 315

Vienna, VA 22182

Voice 703-276-1100
Fax 703-276-1169

Engineering Statement in Re:
Electromagnetic Energy Analysis
Crown Castle
SOUTHINGTON, 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 Sitesafe, 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 Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Crown Castle (See attached Site Summary and Carrier documents), and that AT&T Mobility, LLC's installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "WEST JOHNSON AVE. BURNT HOUSE" ("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 have been assumed; 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 radiation 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," defined as 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 frequency 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 2.129% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent 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 4.739% 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 and frequency range 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.

In summary, it is stated here that the proposed operation at the site would 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 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 the 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
WEST JOHNSON AVE. BURNT HOUSE
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.181 %
AT&T Mobility, LLC	0.26 %
AT&T Mobility, LLC	0.24 %
AT&T Mobility, LLC	0.347 %
AT&T Mobility, LLC (Proposed)	0.375 %
AT&T Mobility, LLC (Proposed)	0.358 %
AT&T Mobility, LLC (Proposed)	0.368 %
MetroPCS (Decommissioned)	0 %
Sprint	0.551 %
Sprint	0.1 %
Sprint	0.365 %
T-Mobile	0.127 %
T-Mobile	0.255 %
T-Mobile	0.127 %
Verizon Wireless	0.184 %
Verizon Wireless	0.317 %
Verizon Wireless	0.242 %
Verizon Wireless	0.343 %
 Composite Site MPE:	 4.739 %

AT&T Mobility, LLC
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.80906 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.18091 %

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	TPA-65R-LCUUUU-H8	158	10	3892	0.776117	0.077612	1.764511	0.176451
CCI Antennas	TPA-65R-LCUUUU-H8	158	140	3892	0.788378	0.078838	1.764511	0.176451
CCI Antennas	TPA-65R-LCUUUU-H8	158	260	3892	0.788378	0.078838	1.764511	0.176451

AT&T Mobility, LLC
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 737 MHz
Maximum Permissible Exposure (MPE): 491.33 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.27517 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.25953 %

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	TPA-65R-LCUUUU-H8	158	10	3632	0.846909	0.17237	0.883801	0.179878
CCI Antennas	TPA-65R-LCUUUU-H8	158	140	3632	0.844538	0.171887	0.883801	0.179878
CCI Antennas	TPA-65R-LCUUUU-H8	158	260	3632	0.844538	0.171887	0.883801	0.179878

AT&T Mobility, LLC
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 2300 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 2.39827 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.23983 %

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	HPA-85R-BUU-H8	158	10	2270	1.900799	0.19008	2.261722	0.226172
CCI Antennas	HPA-85R-BUU-H8	158	140	2270	1.900799	0.19008	2.261722	0.226172
CCI Antennas	HPA-85R-BUU-H8	158	260	2270	1.917831	0.191783	2.261722	0.226172

AT&T Mobility, LLC
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 850 MHz
Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.96377 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.34655 %

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
Kathrein-Scala	800-10121	158	10	1043	0.409797	0.072317	0.624919	0.11028
CCI Antennas	TPA-65R-LCUUUU-H8	158	10	3632	0.738784	0.130374	1.433832	0.253029
Kathrein-Scala	800-10121	158	140	1043	0.409275	0.072225	0.624919	0.11028
CCI Antennas	TPA-65R-LCUUUU-H8	158	140	3632	0.738784	0.130374	1.433832	0.253029
Kathrein-Scala	800-10121	158	260	1043	0.409275	0.072225	0.624919	0.11028
CCI Antennas	TPA-65R-LCUUUU-H8	158	260	3632	0.738313	0.130291	1.433832	0.253029

**AT&T Mobility, LLC (Proposed)
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary**

Frequency: 2100 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 3.75139 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.37514 %

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
Kathrein-Scala	800-10966	158	10	7364	1.726904	0.17269	3.437691	0.343769
Kathrein-Scala	800-10966	158	140	7364	1.726904	0.17269	3.437691	0.343769
Kathrein-Scala	800-10966	158	260	7364	1.744822	0.174482	3.437691	0.343769

AT&T Mobility, LLC (Proposed)
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 3.58478 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.35848 %

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
Kathrein-Scala	800-10966	158	10	6168	1.519639	0.151964	2.603796	0.26038
Kathrein-Scala	800-10966	158	140	6168	1.519639	0.151964	2.603796	0.26038
Kathrein-Scala	800-10966	158	260	6168	1.519639	0.151964	2.603796	0.26038

AT&T Mobility, LLC (Proposed)
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 763 MHz
 Maximum Permissible Exposure (MPE): 508.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.87294 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.36821 %

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
Kathrein-Scala	800-10966	158	10	3623	1.098958	0.216047	1.446585	0.284388
Kathrein-Scala	800-10966	158	140	3623	1.10387	0.217012	1.446585	0.284388
Kathrein-Scala	800-10966	158	260	3623	1.10387	0.217013	1.446585	0.284388

MetroPCS (Decommissioned)
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0 %

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	HBX-6516DS-VTM	119	30	0	0	0	0	0
ANDREW	HBX-6516DS-VTM	119	140	0	0	0	0	0
ANDREW	HBX-6516DS-VTM	119	270	0	0	0	0	0

Sprint
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 5.51123 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.55112 %

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
RFS	APXVSP18-C-A20	148	345	3804	0.851228	0.085123	1.558027	0.155803
RFS	APXVSP18-C-A20	148	345	3804	0.851228	0.085123	1.558027	0.155803
RFS	APXVSP18-C-A20	148	155	3804	0.855013	0.085501	1.558027	0.155803
RFS	APXVSP18-C-A20	148	155	3804	0.855013	0.085501	1.558027	0.155803
RFS	APXVSP18-C-A20	148	235	3804	0.851228	0.085123	1.558027	0.155803
RFS	APXVSP18-C-A20	148	235	3804	0.851228	0.085123	1.558027	0.155803

Sprint
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 862 MHz
Maximum Permissible Exposure (MPE): 574.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.57745 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.10048 %

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
RFS	APXVSP18-C-A20	148	345	1084	0.353934	0.061589	0.359829	0.062615
RFS	APXVSP18-C-A20	148	155	1084	0.353934	0.061589	0.359829	0.062615
RFS	APXVSP18-C-A20	148	235	1084	0.352879	0.061406	0.359829	0.062615

Sprint
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 2500 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 3.65022 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.36502 %

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
RFS	APXVTM14-C-I20	148	345	6168	1.015633	0.101563	1.931853	0.193185
RFS	APXVTM14-C-I20	148	155	6168	1.015633	0.101563	1.931853	0.193185
RFS	APXVTM14-C-I20	148	235	6168	1.015633	0.101563	1.931853	0.193185

**T-Mobile
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary**

Frequency: 2100 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.26798 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.1268 %

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
Ericsson	AIR 21 B4A B2P	129	30	2061	0.602857	0.060286	0.693769	0.069377
Ericsson	AIR 21 B4A B2P	129	160	2061	0.603034	0.060303	0.69377	0.069377
Ericsson	AIR 21 B4A B2P	129	220	2061	0.602857	0.060286	0.693769	0.069377

**T-Mobile
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary**

Frequency: 700 MHz
Maximum Permissible Exposure (MPE): 466.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.18783 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.25453 %

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	LNX-6515DS-VTM	129	30	2109	0.607277	0.130131	0.647672	0.138787
ANDREW	LNX-6515DS-VTM	129	160	2109	0.607277	0.130131	0.647672	0.138787
ANDREW	LNX-6515DS-VTM	129	220	2109	0.607277	0.130131	0.647672	0.138787

T-Mobile
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.26803 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.1268 %

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
Ericsson	AIR 21 B2A B4P	129	30	2061	0.602857	0.060286	0.693769	0.069377
Ericsson	AIR 21 B2A B4P	129	160	2061	0.603034	0.060303	0.693777	0.069377
Ericsson	AIR 21 B2A B4P	129	220	2061	0.602857	0.060286	0.693769	0.069377

Verizon Wireless
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.83781 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.18378 %

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	NNHH-65B-R4	138	0	3848	0.873867	0.087387	1.812717	0.181272
Commscope	NNHH-65B-R4	138	120	3848	0.873867	0.087387	1.812718	0.181272
Commscope	NNHH-65B-R4	138	240	3848	0.871693	0.087169	1.812717	0.181272

Verizon Wireless
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 2100 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 3.16728 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.31673 %

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	NNHH-65B-R4	138	0	3591	1.635611	0.163561	2.868971	0.286897
Commscope	NNHH-65B-R4	138	110	3591	1.635611	0.163561	2.868971	0.286897
Commscope	NNHH-65B-R4	138	200	3591	1.635611	0.163561	2.868971	0.286897

Verizon Wireless
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 751 MHz
Maximum Permissible Exposure (MPE): 500.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.2111 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.2419 %

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	NNHH-65B-R4	138	0	840	0.340652	0.06804	0.412269	0.082344
Commscope	NNHH-65B-R4	138	0	840	0.340652	0.06804	0.412269	0.082344
Commscope	NNHH-65B-R4	138	110	840	0.339785	0.067867	0.412269	0.082344
Commscope	NNHH-65B-R4	138	110	840	0.339785	0.067867	0.412269	0.082344
Commscope	NNHH-65B-R4	138	200	840	0.339785	0.067867	0.412269	0.082344
Commscope	NNHH-65B-R4	138	200	840	0.339785	0.067867	0.412269	0.082344

Verizon Wireless
WEST JOHNSON AVE. BURNT HOUSE
Carrier Summary

Frequency: 850 MHz
Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.94379 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.34302 %

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-80063-6CF	138	0	2255	0.945175	0.166796	0.970259	0.171222
Antel	BXA-80063-6CF	138	0	2255	0.945175	0.166796	0.970259	0.171222
Antel	BXA-80063-6CF	138	110	2255	0.94463	0.166699	0.970259	0.171222
Antel	BXA-80063-6CF	138	120	2255	0.945176	0.166796	0.970259	0.171222
Antel	BXA-80063-6CF	138	200	2255	0.94463	0.166699	0.970259	0.171222
Antel	BXA-80063-6CF	138	240	2255	0.944631	0.166699	0.970259	0.171222